Power BI

Tenant API report

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1. History and usage
   1. Document history

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| --- | --- | --- | --- |
| Version | Date | Initials | Comment |
| 0.1 | 30-05-2023 | Brian.boenk | Document started |

* 1. Usage

This document describes Fellowminds approach to using the Power BI tenant API to extract and report on the Power BI tenant settings.

The document is intended for Power BI and Fabric users who would like to get a detailed and automatic report of the tenant settings in an easily readable format and to use it for documentation.

1. The GetTenantSettings API endpoint
   1. Access to the API

The API reads out all settings of the tenant, and the access to do so is needed on Admin level.

Either Office 365 Global Administrator, Power BI Service Administrator or Fabric Service Administrator.

* 1. The API endpoint

The API endpoint has two address:

Power BI: [https://api.powerbi.com/v1/admin/tenantsettings](https://nam06.safelinks.protection.outlook.com/?url=https%3A%2F%2Fapi.powerbi.microsoft.com%2Fv1%2Fadmin%2Ftenantsettings&data=05%7C01%7Cradhsrin%40microsoft.com%7C7bf05cdf64d94d0608c008db5c9cd2e1%7C72f988bf86f141af91ab2d7cd011db47%7C1%7C0%7C638205600845547189%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=5SS%2B7xeskOZJ7xBlwjQNwrhZLMe7turNqFPe0upGXDw%3D&reserved=0)

Fabric: <https://api.fabric.microsoft.com/v1/admin/tenantsettings>

The two endpoints return the same content and can be used interchangeably without breaking needed input and output.

* 1. API result set content

For convenience the result set and output from the API endpoint is referred to in this link from the Microsoft documentation:

[Tenants - Get Tenant Settings - REST API (Fabric REST APIs) | Microsoft Learn](https://learn.microsoft.com/en-us/rest/api/fabric/admin/tenants/get-tenant-settings?tabs=HTTP)

* 1. Usage
     1. Example request:

GET <https://api.fabric.microsoft.com/v1/admin/tenantsettings>

* + 1. Example resultset:

{

"tenantSettings": [

{

"settingName": "AdminApisIncludeDetailedMetadata",

"title": "Enhance admin APIs responses with detailed metadata",

"enabled": true,

"canSpecifySecurityGroups": true,

"tenantSettingGroup": "AdminApiSettings"

},

{

"settingName": "DatamartTenant",

"title": "Create Datamarts (Preview)",

"enabled": true,

"canSpecifySecurityGroups": true,

"enabledSecurityGroups": [

{

"graphId": "f51b705f-a409-4d40-9197-c5d5f349e2f0",

"name": "TestComputeCdsa"

},

{

"graphId": "1fecf19f-6e33-41b3-89fa-de8c821f3b79",

"name": "TestComputeGroup2"

},

{

"graphId": "64bc10f1-1f1b-4a7e-b7a0-c87d89cba2b4",

"name": "TestCertifiers"

}

],

"tenantSettingGroup": "DatamartSettings"

},

{

"settingName": "CertifyDatasets",

"title": "Certification",

"enabled": true,

"canSpecifySecurityGroups": true,

"tenantSettingGroup": "ExportAndSharing"

}

]

}

1. Get API Bearer token manually

Follow this link and hit the TRY IT button

[Groups - Get Groups - REST API (Power BI Power BI REST APIs) | Microsoft Learn](https://learn.microsoft.com/en-us/rest/api/power-bi/groups/get-groups)

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Description automatically generated

Log in to the portal with your credentials.

The Bearer token can be found in the bottom “Request preview”.

Cope the Bearer token and save it.

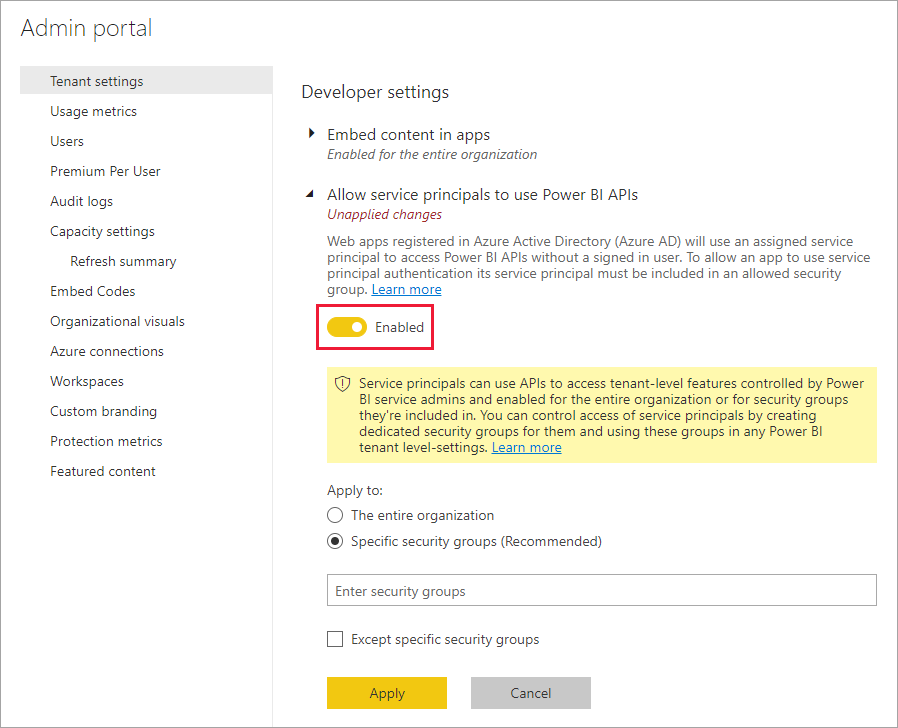
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Description automatically generated with medium confidence

1. Setup Power BI report
   1. Enable REST API in Power BI portal

In order for the REST APIs to be used from the Power BI portal – they need to be enabled.

This is done in the Power BI administration portal in the Developer Settings section as shown below.



* 1. Get data – version 1 – manual token

Choose Get Data and select the WEB source from the source list in Power BI.

Insert data as below – the Bearer token is the one you copied from the section above.

Remember the text “Bearer” before the token.

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Description automatically generated with medium confidence

* 1. Get data – version 2 – automatic token from Power Query
     1. Create Service Principal in Azure AD

Create a new service principal in Azure AD and make sure it has the correct access to the API endpoints in Azure.

As a minimum the Tenant.Read.All in the Power BI service is needed.

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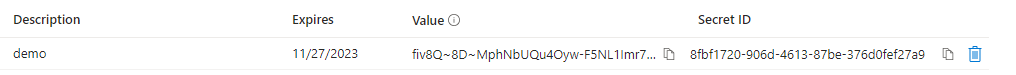
Description automatically generated

* + 1. Create secret for Service Principal

Create a new secret and configure the expiration date as needed.

Copy the information from the portal as shown below.

You need both the Value and the Secret ID.



* + 1. Create function in Power Query to get Bearer Token

Create 3 parameters:

1. ClientID
2. ClientSecret
3. TenantID

And fill in the copied values from your service principal secrets and your tenant id.

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Description automatically generated with medium confidence

Create a new blank query in Power Query and use below query snippet to create the function to get a Bearer token from the API:

() =>

let

TenantGUID = TenantID,

ApplicationID = ClientID,

ApplicationSecret = ClientSecret,

OAuthUrl = Text.Combine({"https://login.microsoftonline.com/",TenantGUID,"/oauth2/token"}),

webClientId = Text.Combine({"client\_id",ApplicationID}, "="),

webClientSecret = Text.Combine({"client\_secret", Uri.EscapeDataString(ApplicationSecret)}, "="),

GrantType = Text.Combine({"grant\_type", "client\_credentials"}, "="),

Body = Text.Combine({"resource=https://analysis.windows.net/powerbi/api", webClientId, webClientSecret, GrantType}, "&"),

AuthResponse= Json.Document(Web.Contents(

OAuthUrl,

[

Content=Text.ToBinary(Body)

]

)),

AccessToken= AuthResponse[access\_token],

Bearer = Text.Combine({"Bearer", AccessToken}, " ")

in

Bearer

Rename the function to GetToken

Change the tenantSettings PowerQuery to use the new function with below query:

let

Source = Json.Document(Web.Contents("https://api.powerbi.com/v1/admin/tenantsettings", [Headers=[Authorization=***GetToken()***]])),

#"Converted to Table" = Table.FromRecords({Source}),

#"Expanded tenantSettings" = Table.ExpandListColumn(#"Converted to Table", "tenantSettings"),

#"Expanded tenantSettings1" = Table.ExpandRecordColumn(#"Expanded tenantSettings", "tenantSettings", {"settingName", "title", "enabled", "canSpecifySecurityGroups", "tenantSettingGroup"}, {"tenantSettings.settingName", "tenantSettings.title", "tenantSettings.enabled", "tenantSettings.canSpecifySecurityGroups", "tenantSettings.tenantSettingGroup"}),

#"Changed Type" = Table.TransformColumnTypes(#"Expanded tenantSettings1",{{"tenantSettings.settingName", type text}, {"tenantSettings.title", type text}, {"tenantSettings.enabled", type logical}, {"tenantSettings.canSpecifySecurityGroups", type logical}, {"tenantSettings.tenantSettingGroup", type text}})

in

#"Changed Type"

1. Build the report

The provided report is only drafty setup – this can be changed to the current needs.

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