Reveal your Power BI platform: Tenant Manager and Data Access Catalogue

Andrea Martorana Tusa, Jolanta Garlacz

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Introduction

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PANDORA

Agenda

1. Admin workspace
2. Purview vs custom solution
3. Tenant Manager
4. Data and Access Catalogue

Platform in numbers

Enterprise Solution

Premium capacity
P1
P2, P4

PROD WSPs
22

Users
~4000

Reports
250

Self-Service Solution – the controlled part

Premium capacity + Pro
Part of P2

WSPs govern by D&A
45

Users
~1500

Reports
420+

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Admin workspace

25 min.

Your troubles as Admin …

1. Users left the company without handing over a report?
2. Who is owning a dataset/report ?
3. Who can access a workspace? How can I limit or control access to it?
4. ……..

What are YOUR troubles as Admin?

DEMO

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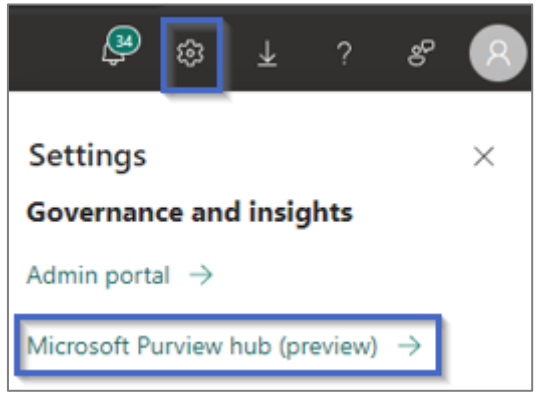
Admin Monitoring workspace

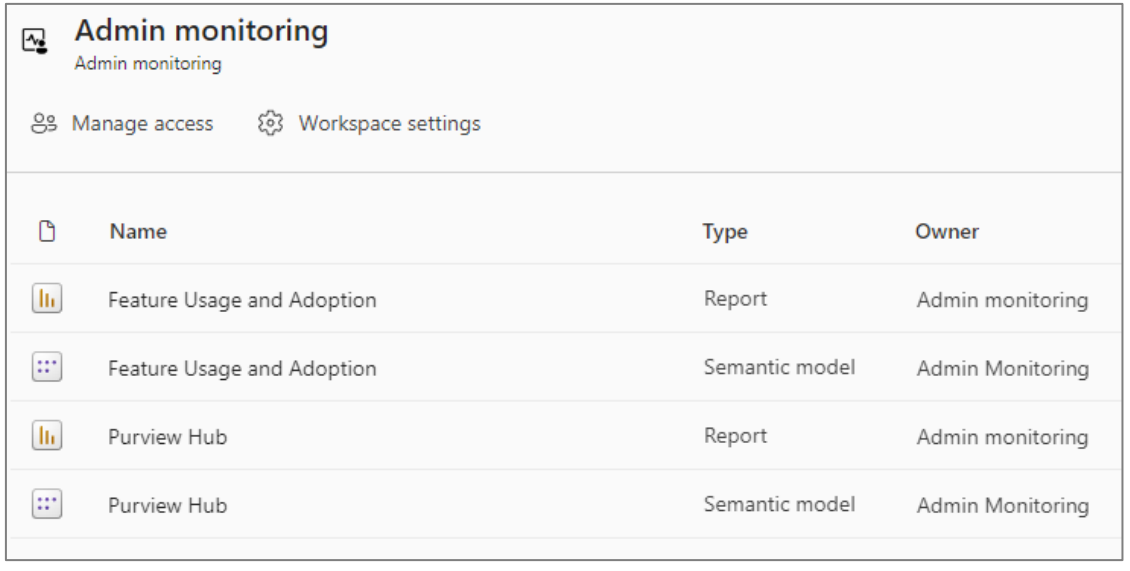
The Admin monitoring workspace is designed to provide admins with monitoring capabilities for their organization. Using the admin monitoring workspace resources, admins can perform security and governance tasks such as audits and usage checks.

Two interesting reports:

1. Feature Usage and Adoption
2. Purview Hub Insights (Preview)

Fun fact:
Purview Hub can be also accessed from settings pane

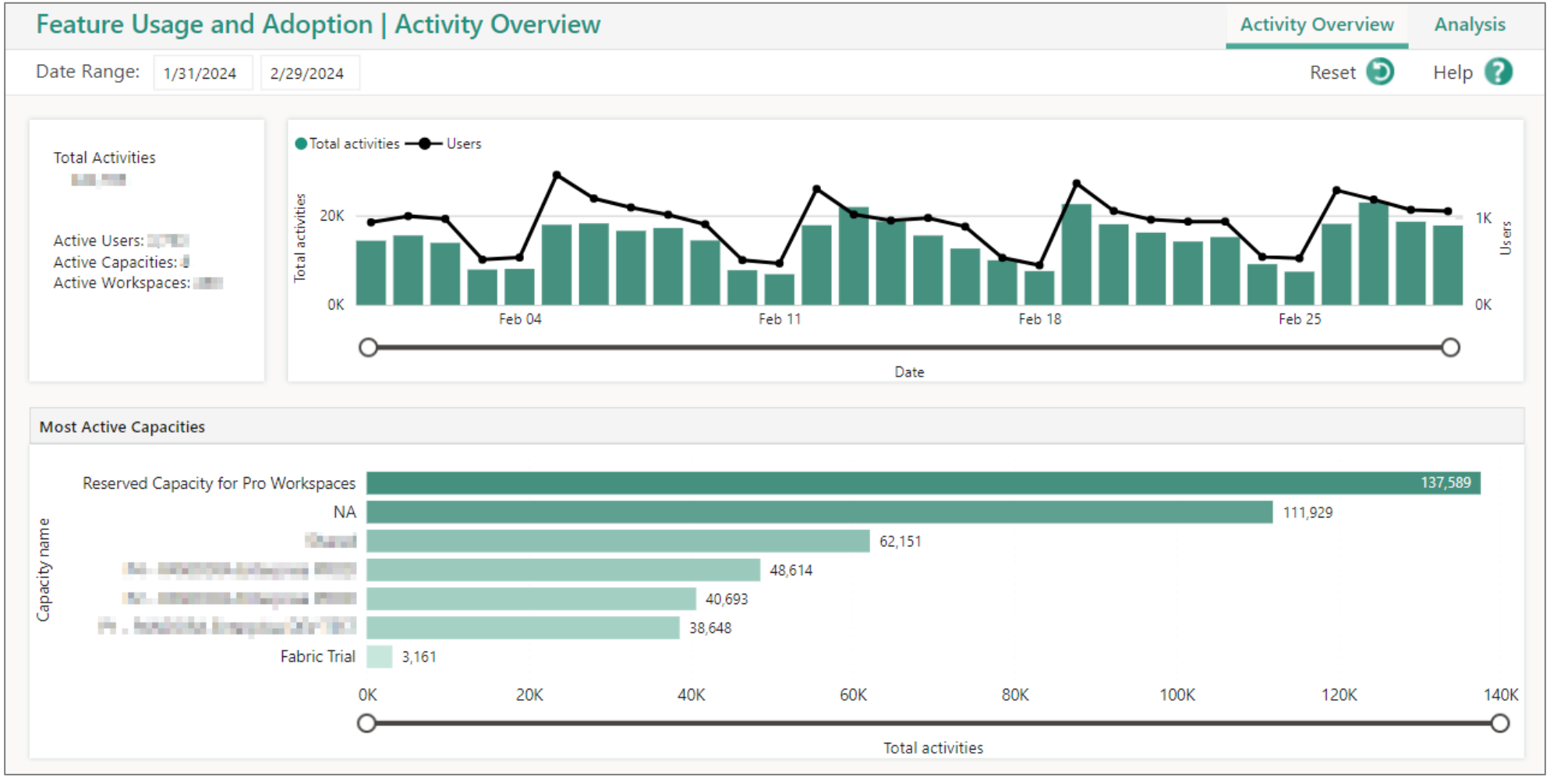




https://learn.microsoft.com/en-us/fabric/admin/monitoring-workspace

DEMO

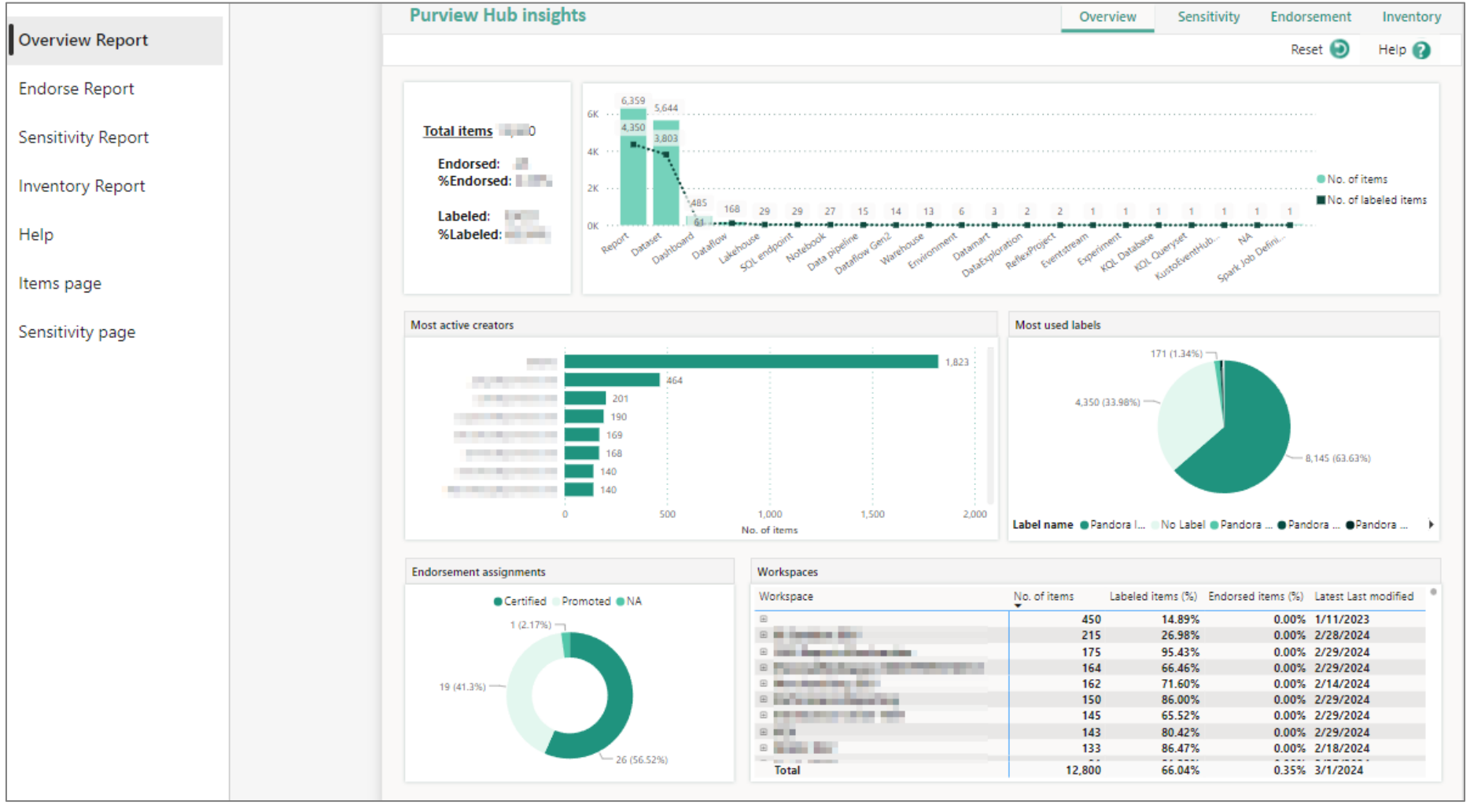
Admin Monitoring workspace



https://learn.microsoft.com/en-us/fabric/admin/feature-usage-adoption

DEMO

Admin Monitoring workspace



https://learn.microsoft.com/en-us/fabric/governance/use-microsoft-purview-hub?tabs=admin-view

Real life case

A user would like to get access to a report (or dashboard – he does not know what it is). He is not the owner of the object. He requested access but got no answer. He only knows:

- the report/dashboard name (‘test1 – excel’)
- and the report/dashboard link

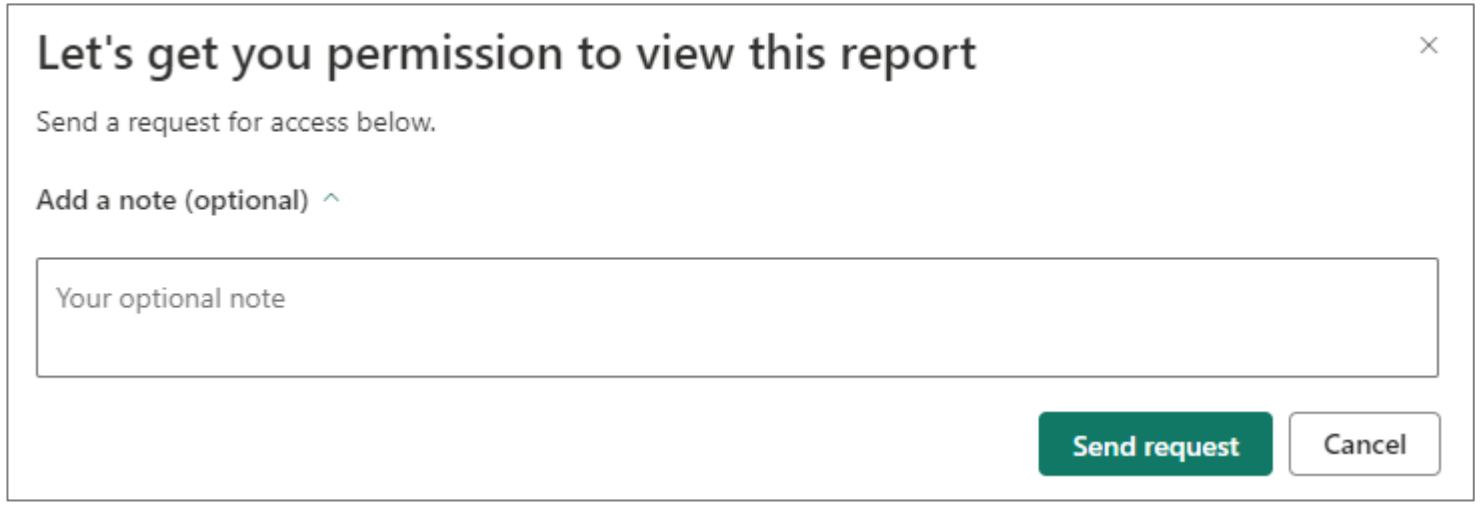
How do YOU find it?

DEMO

Real life case

1. The easy way – use the link and see where it goes:

`https://app.powerbi.com/groups/me/reports/bffbdf00-a1a1-438b-ae02-882b087957f2/ReportSection?ctid=656793e6-d51d-4bb2-b5fa-c66ddd181a40&experience=power-bi`



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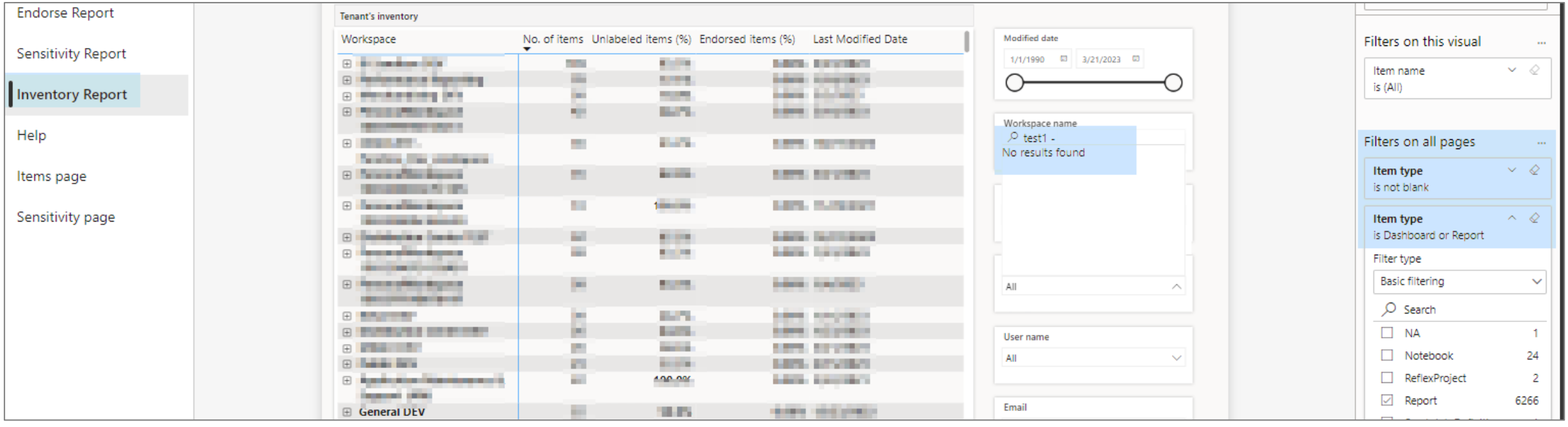
Real life case

2. Let's check Purview Hub → Inventory Report (filter by item type and search by item name)



Sometimes filters do not help you, remove item type.
You can then find related dataset BUT dataset name are not always the same as report name.
Better use **Item ID in 'Explore Data'** feature

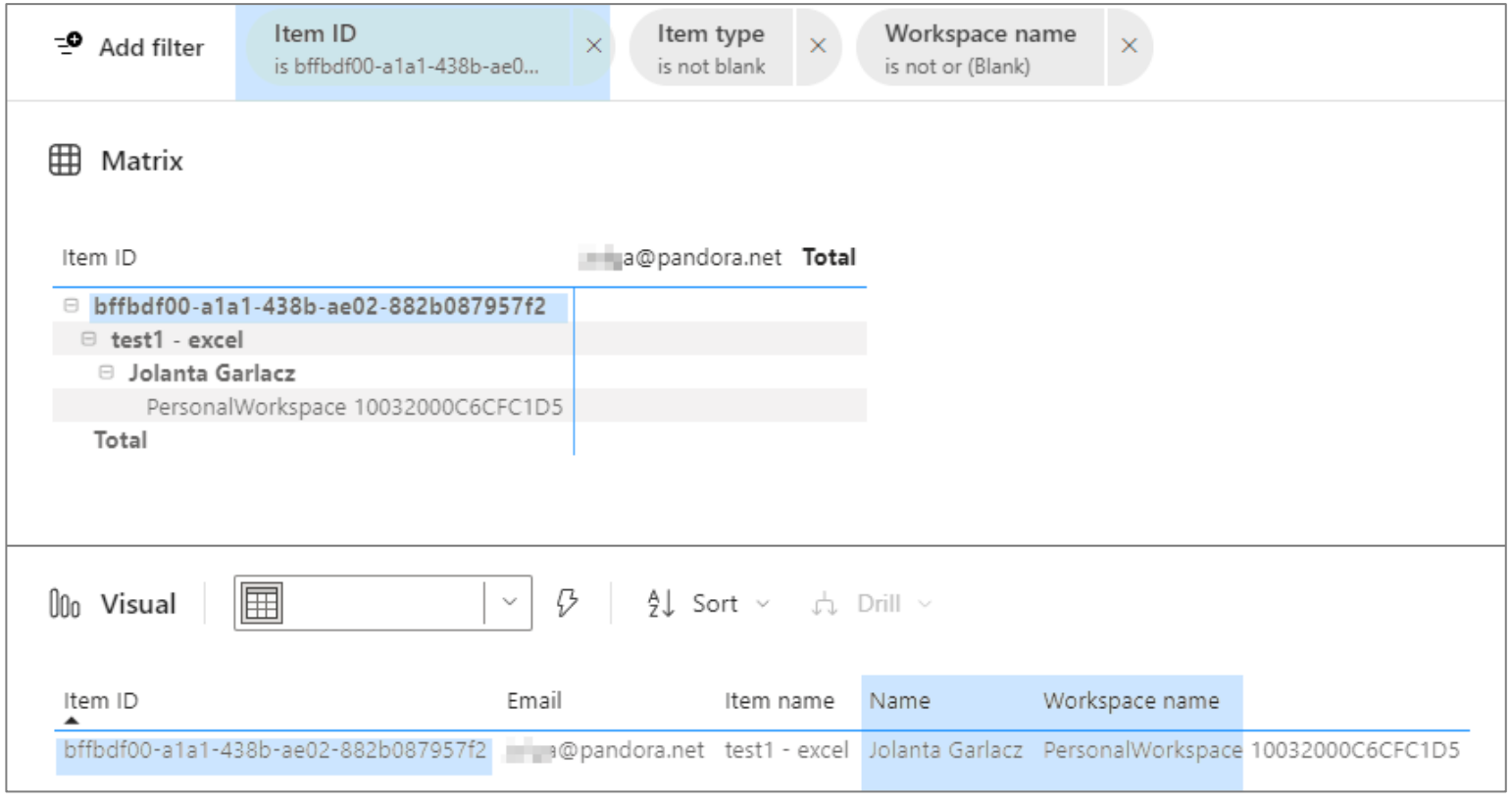
DEMO

Real life case

3. Let's check Purview Hub → Inventory Report → Explore Data (preview)

User may send you different links, but the object ID is somewhere there:

https://app.powerbi.com/groups/me/reports/bffbdf00-a1a1-438b-ae02-882b087957f2/ReportSection?ctid=656793e6-d51d-4bb2-b5fa-c66ddd181a40&experience=power-bi



Use the user name or workspace name to find out more about the workspace status and if necessary, overtake it to get the report

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Q&A

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Purview vs custom solution

10 min.

What is missing admin workspace?

What is missing?

1. Historical records (Usage and Adoption).
2. No comparison to previous period – for example last year – to be checked.
3. Users' access and details.
4. Limited options of slicing and dicing data.
5. Data model is a black box

Our solution vs admin workspace

Why not Microsoft Purview/Admin workspace?

1. We wanted full control over our tenant and full governance over our data
2. We started the Tenant Manager project when Purview/admin WSP was at an early stage
3. Purview is still missing some metadata about Capacities, Apps, Gateways, … (March 2024)
4. Purview is based on the same set of API we are running daily. The Scanner API – but our is more up to date.
5. Active Directory data is not included in Purview. It is crucial for our assessment.
6. Endorsement and sensitivity labels for datasets, not available at the time we started.
7. Overall basic reporting on sensitivity labels but we needed more sophisticated solution
8. As a company we do not use Purview, we can only see insights available in Admin workspace. We do not have access to the full features that Purview offers.

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Tenant Manager

45 min.

Tenant Manager

The **Tenant Manager** is an in-house, fully automated solution to collect metadata for the Power BI tenant.

The data collection is achieved through a series of calls for the Power BI Admin APIs.
The ouput of each call is saved, transformed and stored into a datawarehouse.

Tenant Manager

What kind of questions we want to address with the Tenant Manager?

- Give *high level overview about our platform* (Premium capacity, WSPs, SSBI vs Enterprise, users, real data and number of datasets and reports etc.) …
- We can *drill through* to different levels of *WSPs or datasets* to validate if they are compliant
- *Access* – who has access to what in our platform – lineage *user-report-dataset-datasource*
- *Data catalogue* – very important for our Self-service BI users
- Useful for *clean-up* exercise (important especially on Premium capacity)
- …

The Tenant Manager goes along with the *adoption & measurement* metrics we collect from the *Power BI audit logs* to have a fully managed environment where all the data we need is stored is the same location.

Tenant Manager

What are we collecting?

Pandora's Power BI tenant metadata:

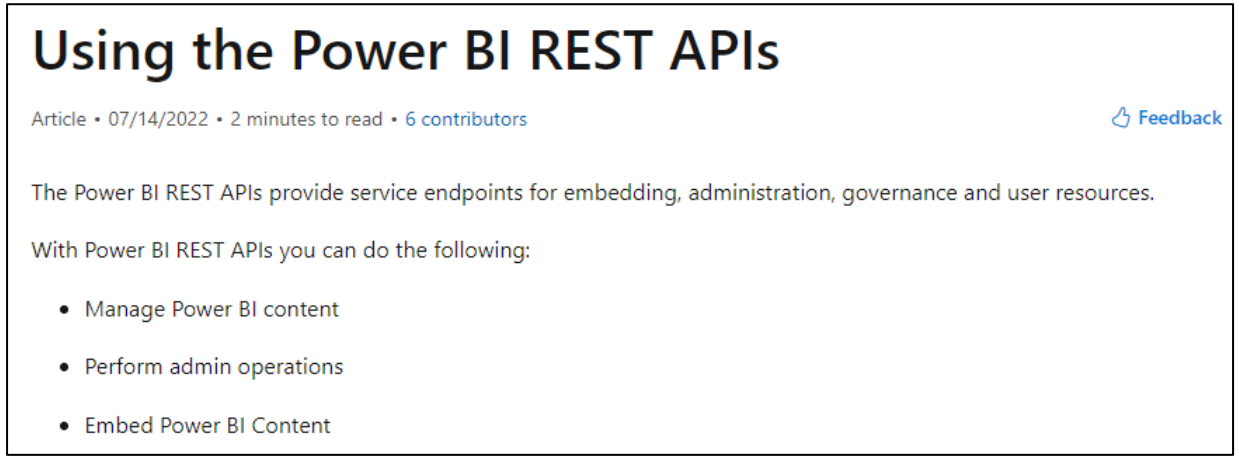
- Workspaces
- Workspace users
- Capacities
- Capacity admins
- Reports
- Dashboards
- Apps
- App users
- Dataflows
- Datasets
- Dataset Users
- Datasources
- Dataset refresh schedule
- Dataset refresh history
- …

Tenant Manager

How do we collect? -> Through REST APIs

- **Power BI API**
  - Admin
  - Capacities
  - Datasets
- **MS Graph API**
  - AAD Groups
  - AAD Groups members
  - AAD Users
- **Power BI Scanner API** (we collect the same sets as Purview does)

Power BI REST API



Using the Power BI REST APIs

Article • 07/14/2022 • 2 minutes to read • 6 contributors

Feedback

The Power BI REST APIs provide service endpoints for embedding, administration, governance and user resources.

With Power BI REST APIs you can do the following:

- Manage Power BI content
- Perform admin operations
- Embed Power BI Content

https://learn.microsoft.com/en-us/rest/api/power-bi/

Power BI REST API

REST Operation groups

This table lists the Power BI REST API operation groups.

Operation group	Description
Admin	Operations for working with administrative tasks.
Apps	Operations for working with Apps.
Available Features	Operations that return available features.
Capacities	Operations for working with capacities.
Dashboards	Operations for working with dashboards.
Dataflow Storage Accounts	Operations for working with dataflow storage accounts.
Dataflows	Operations for working with dataflows.
Datasets	Operations for working with datasets.
Embed Token	Operations for working with embed tokens.
Gateways	Operations for working with gateways.
Groups	Operations for working with groups.
Imports	Operations for working with imports.
Pipelines	Operations for working with deployment pipelines.
Push Datasets	Operations for working with push datasets.
Reports	Operations for working with reports.
Template Apps	Operations for working with Template Apps.
Users	Operations for working with users.

https://learn.microsoft.com/en-us/rest/api/power-bi/

Scanner API

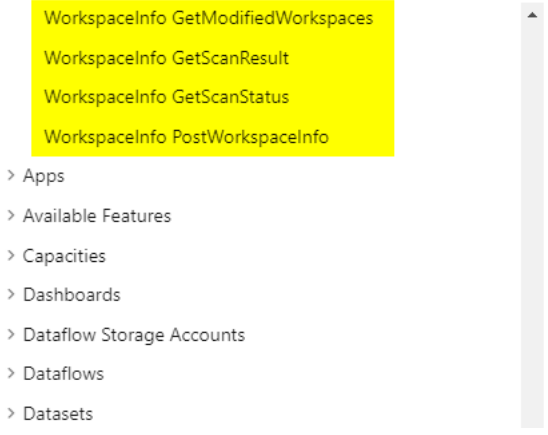
The **Power BI scanner API** is a set of admin APIs which allows you to collect and catalogue metadata from your tenant.

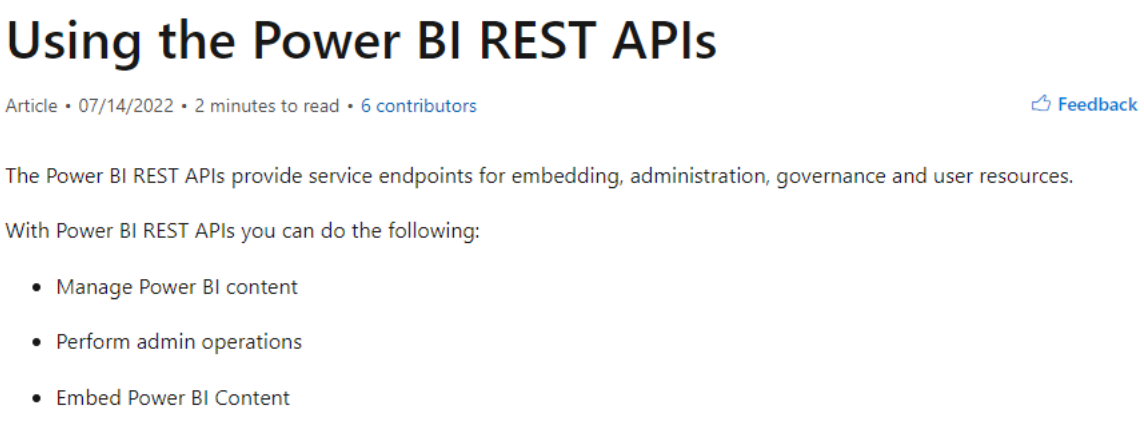
With the scanner API you can extract information about your entire Power BI tenant such as:

- Workspaces
- Datasets with details for each table
- Data sources
- Sensitivity label
- Endorsement status
- …

Scanner API

The **scanner API** set is made of four different REST APIs under the “Admin” domain





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- Perform admin operations
- Embed Power BI Content

- **GetModifiedWorkspaces**
- **WorkspaceGetInfo**
- **WorkspaceScanStatus**
- **WorkspaceScanResult**

Scanner API

Get Modified Workspaces

Gets a list of workspace IDs in the organization.

With parameters:

- `excludeInActiveWorkspaces`
- `excludePersonalWorkspaces`
- `modifiedSince`

The use of the parameter `modifiedSince` enables to return only the workspaces that are changed after the set date-time.

In this way you can perform an **incremental refresh** for your environment, rather than a full load every time you call the API.

Scanner API

Get Modified Workspaces

Sample request

```
GET https://api.powerbi.com/v1.0/myorg/admin/workspaces/modified?modifiedSince=2020-10-02T05:51:30.0000000Z&excludePersonalWorkspaces=True&excludeInActiveWorkspaces=True
```

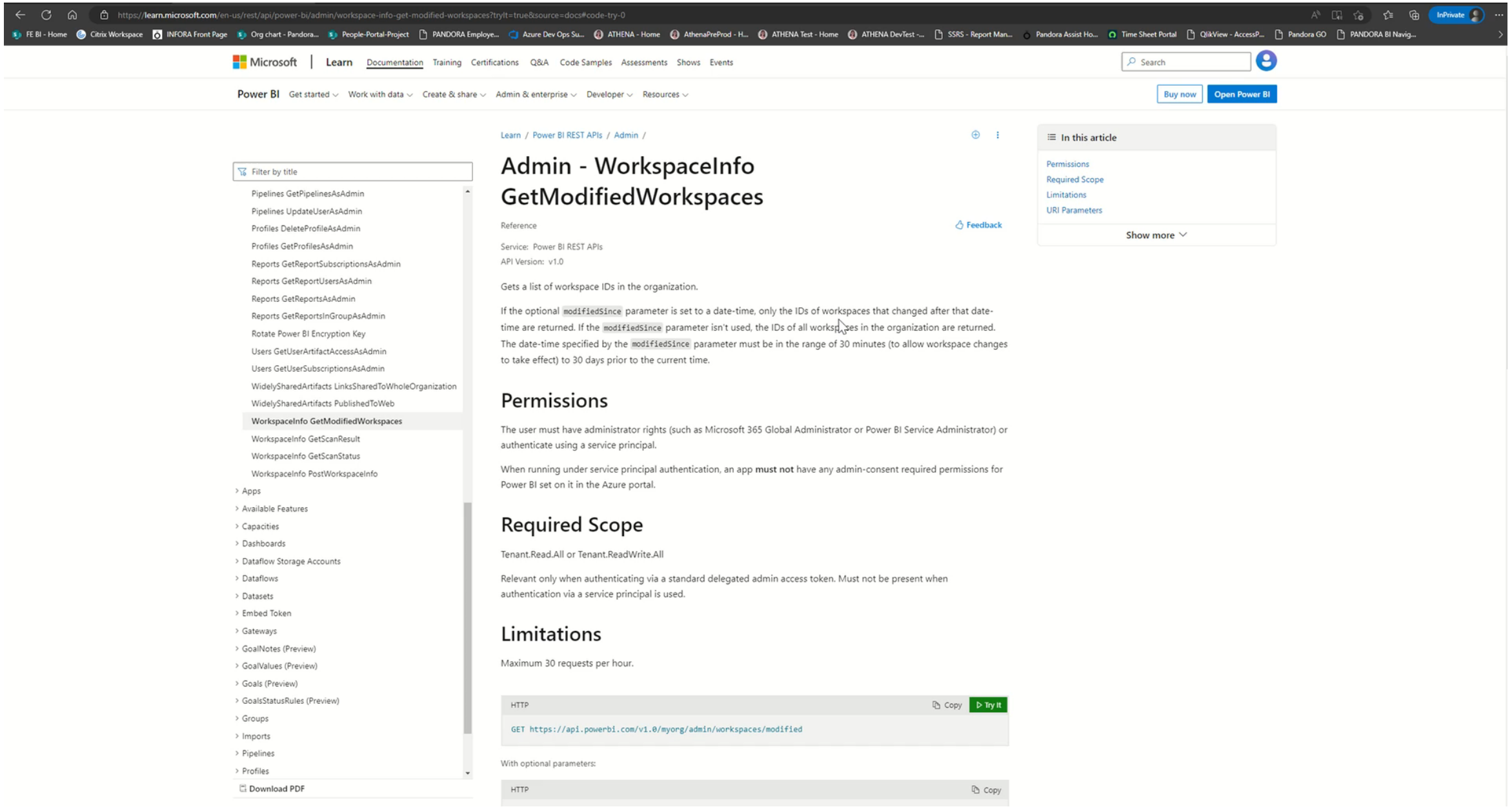
Sample response

JSON Copy

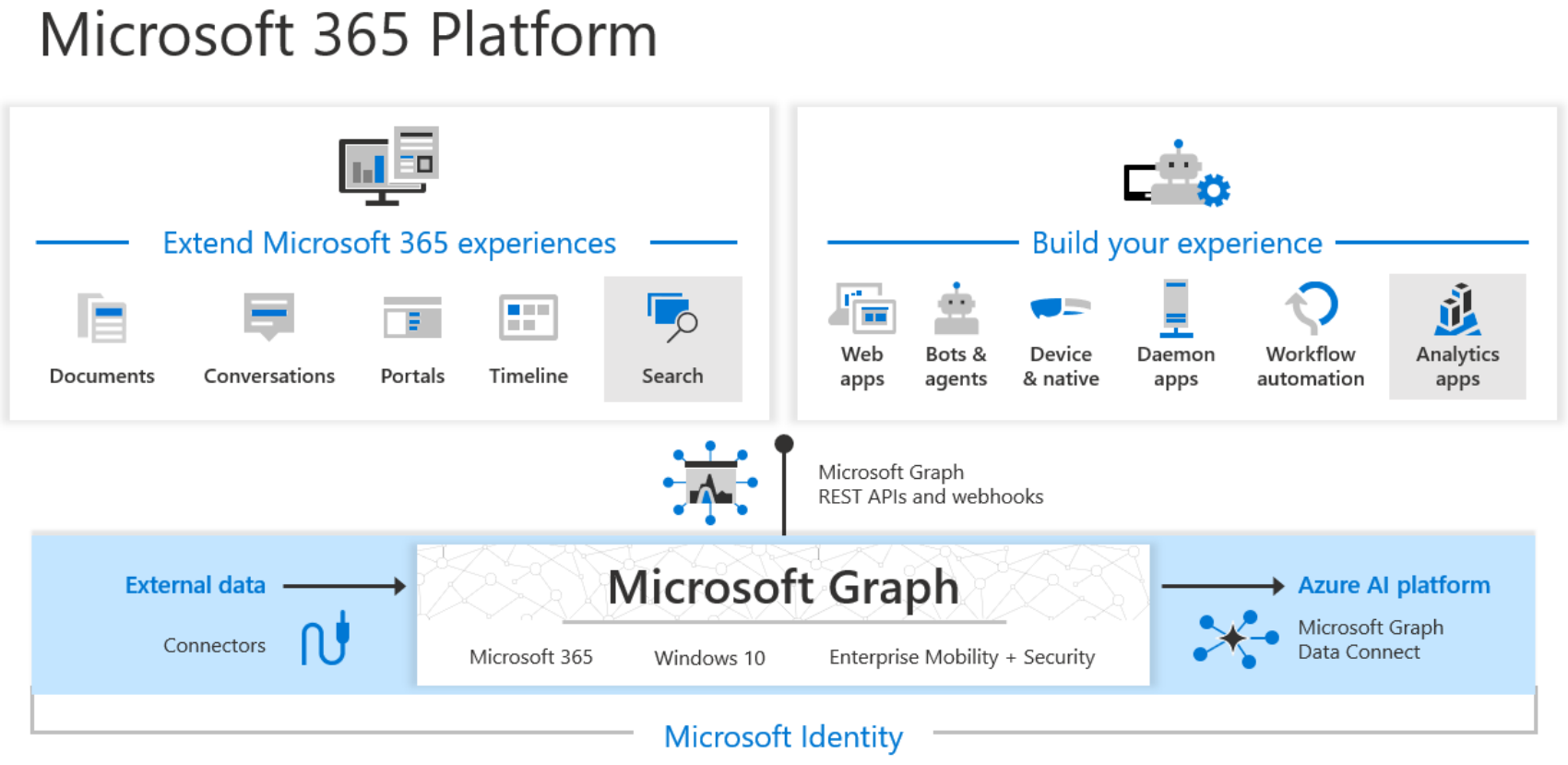

```
[
  {
    "Id": "3740504d-1f93-42f9-8e9d-c8ba9b787a3b"
  },
  {
    "Id": "19cb346c-9839-4e19-81e6-76364d0b836f"
  }
]
```

Scanner API

DEMO



Graph API

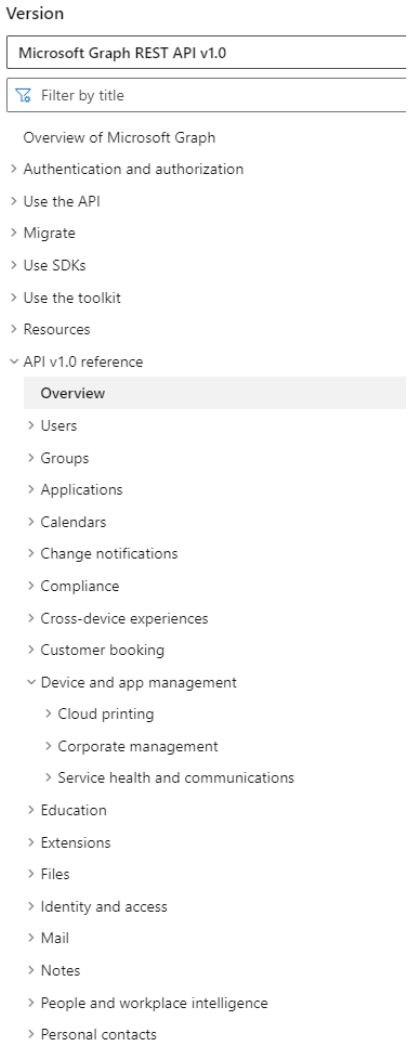


Microsoft Graph is a Microsoft API developer platform that connects multiple services and devices such as Windows, Microsoft 365, Azure …

https://learn.microsoft.com/en-us/graph/api/overview

https://en.wikipedia.org/wiki/Microsoft_Graph

Graph API



Learn /

Microsoft Graph REST API v1.0 endpoint reference

Article • 07/01/2022 • 2 minutes to read • 10 contributors

Feedback

Welcome to Microsoft Graph REST API reference for the v1.0 endpoint.

API sets on the v1.0 endpoint (`https://graph.microsoft.com/v1.0`) are in general availability (GA) status, and have gone through a rigorous review-and-feedback process with customers to meet practical, production needs. Updates to APIs on this endpoint are additive in nature and do not break existing app scenarios.

Common use cases

The power of Microsoft Graph lies in easy navigation of entities and relationships across different services exposed on a single Microsoft Graph REST endpoint.

A number of these services are designed to enable rich scenarios around a user and around a group.

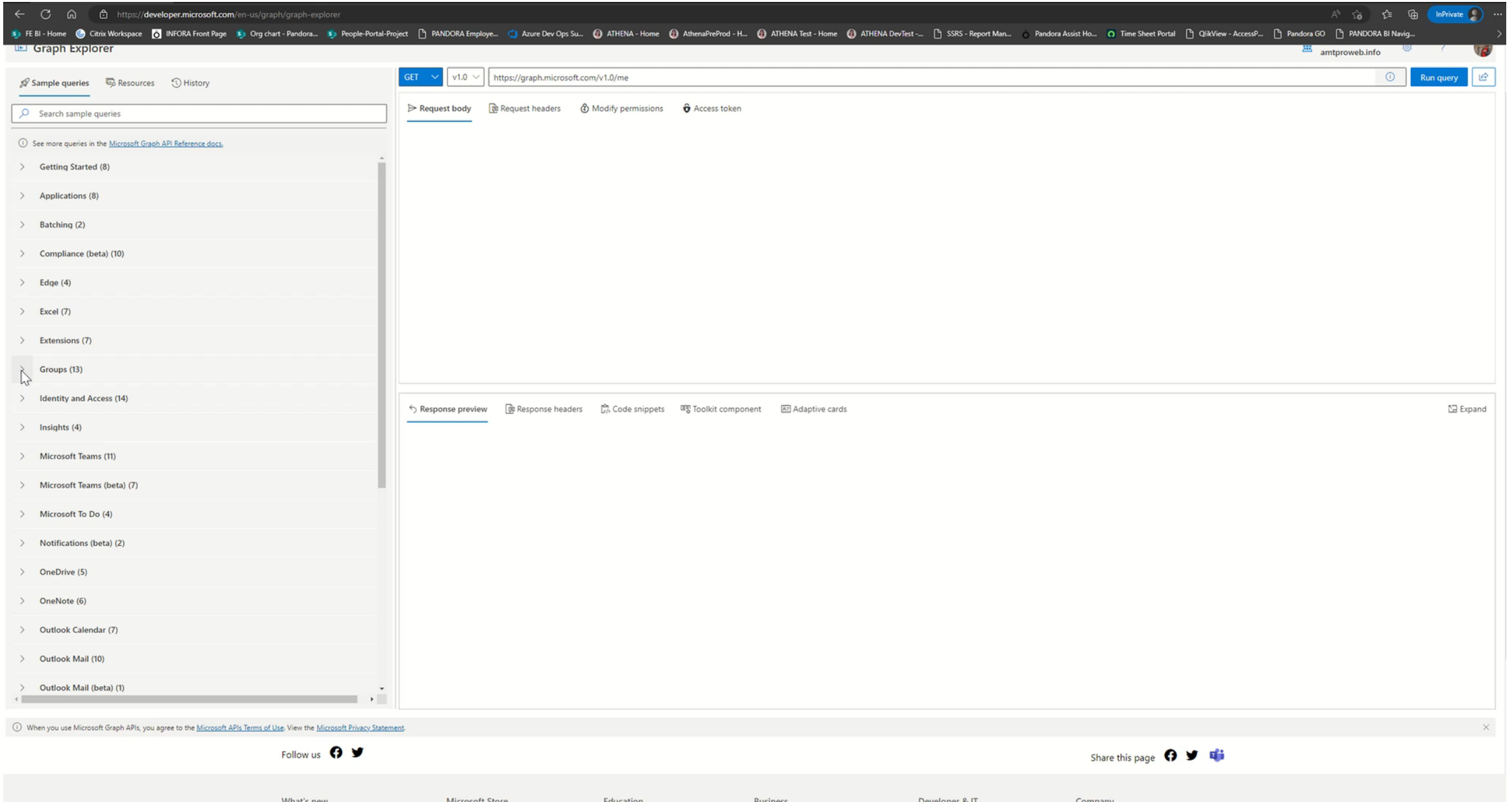
User-centric use cases in v1.0

1. Get the profile and photo of a user, Lisa.
2. Get the profile information about Lisa's manager and IDs of her direct reports, all stored in Azure Active Directory.
3. Access Lisa's files on OneDrive for Business, find the identity of the last person who modified a file there, and navigate to that person's profile.
4. Access Lisa's calendar on Exchange Online and determine the best time for Lisa to meet with her team in the next two weeks.
5. Subscribe to and track changes in Lisa's calendar, tell Lisa when she is spending more than 80% of her time in meetings.
6. Set automatic replies when Lisa is away from the office.
7. Get the people who are most relevant to Lisa, based on communication, collaboration, and business relationships.
8. Get the latest sales projection from a chart in an Excel file in Lisa's OneDrive for Business.
9. Find the tasks assigned to Lisa in Planner.

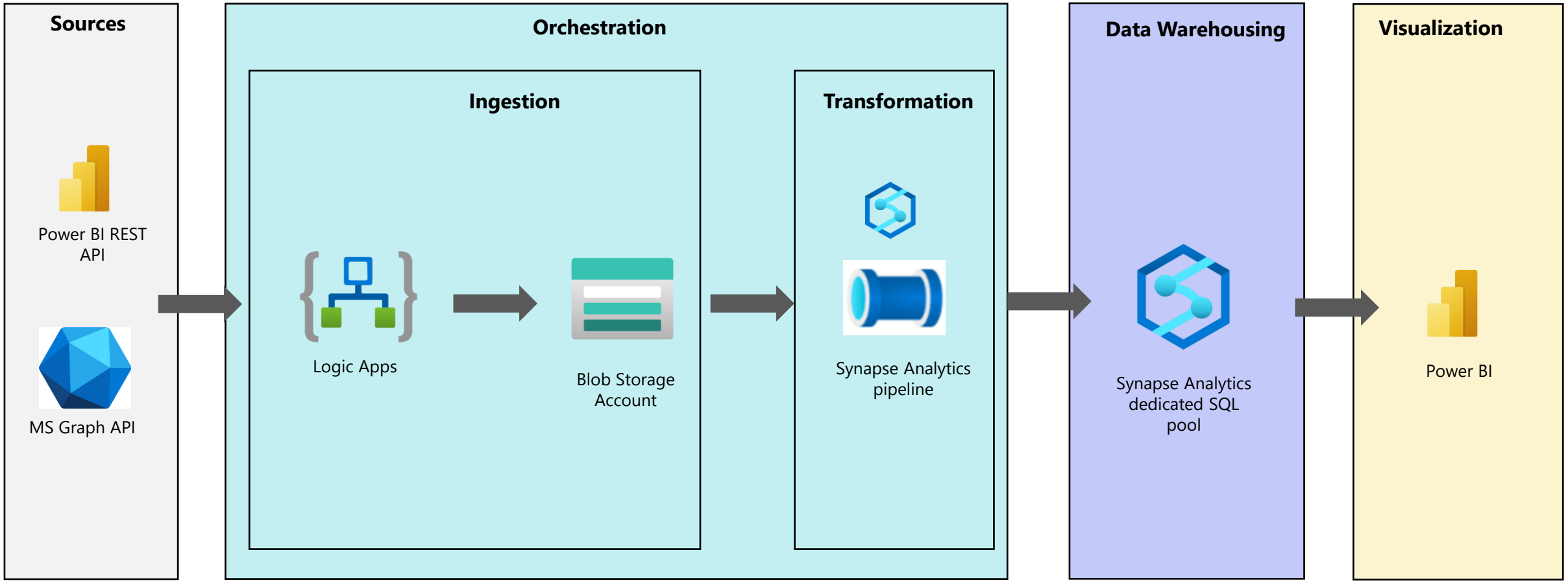
https://learn.microsoft.com/en-us/graph/api/overview?view=graph-rest-1.0

DEMO

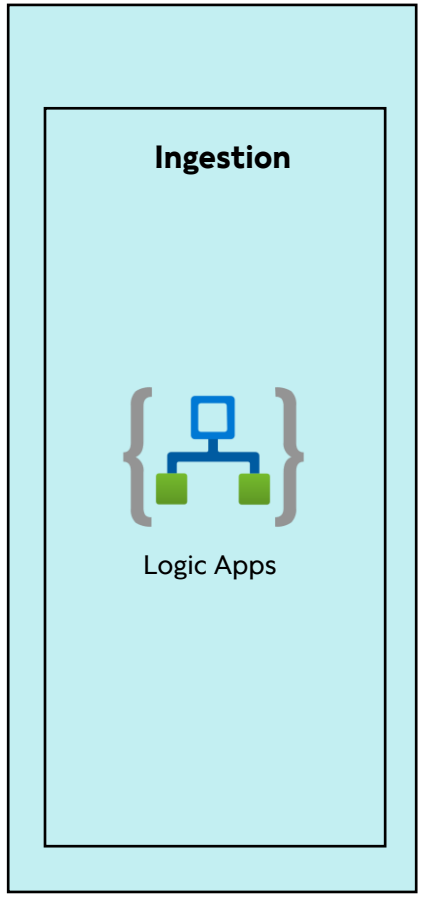
Graph API



Solution blueprint

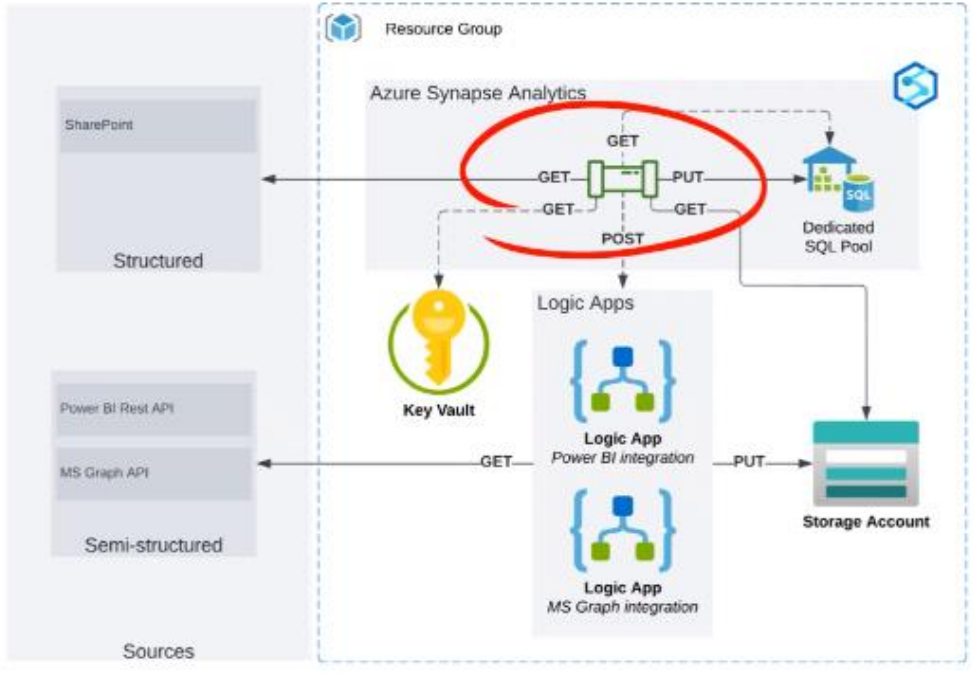


Logic Apps



The full set of API calls is handled through two Logic Apps: one for **Power BI**, one for MS **Graph**.

Logic Apps are fully parameterized and can handle several cases in the same app, based on the input parameters.



Why using Logic App, rather than pipelines for calling the API? Because they are way cheaper!

Power BI Logic Apps

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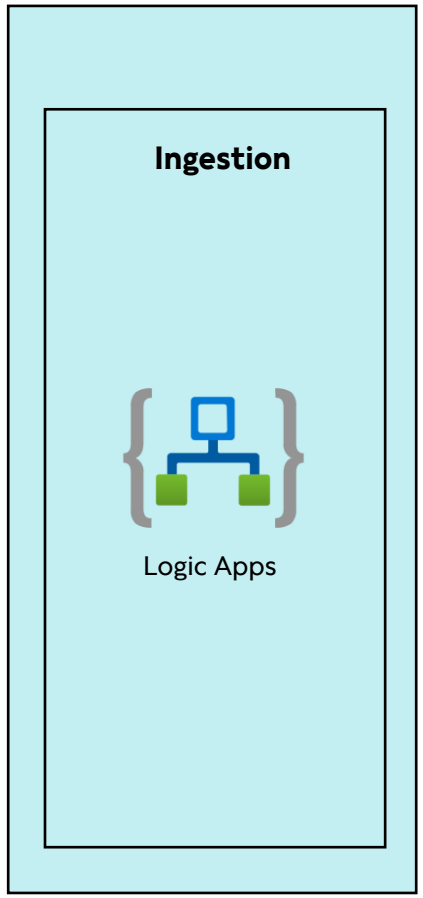

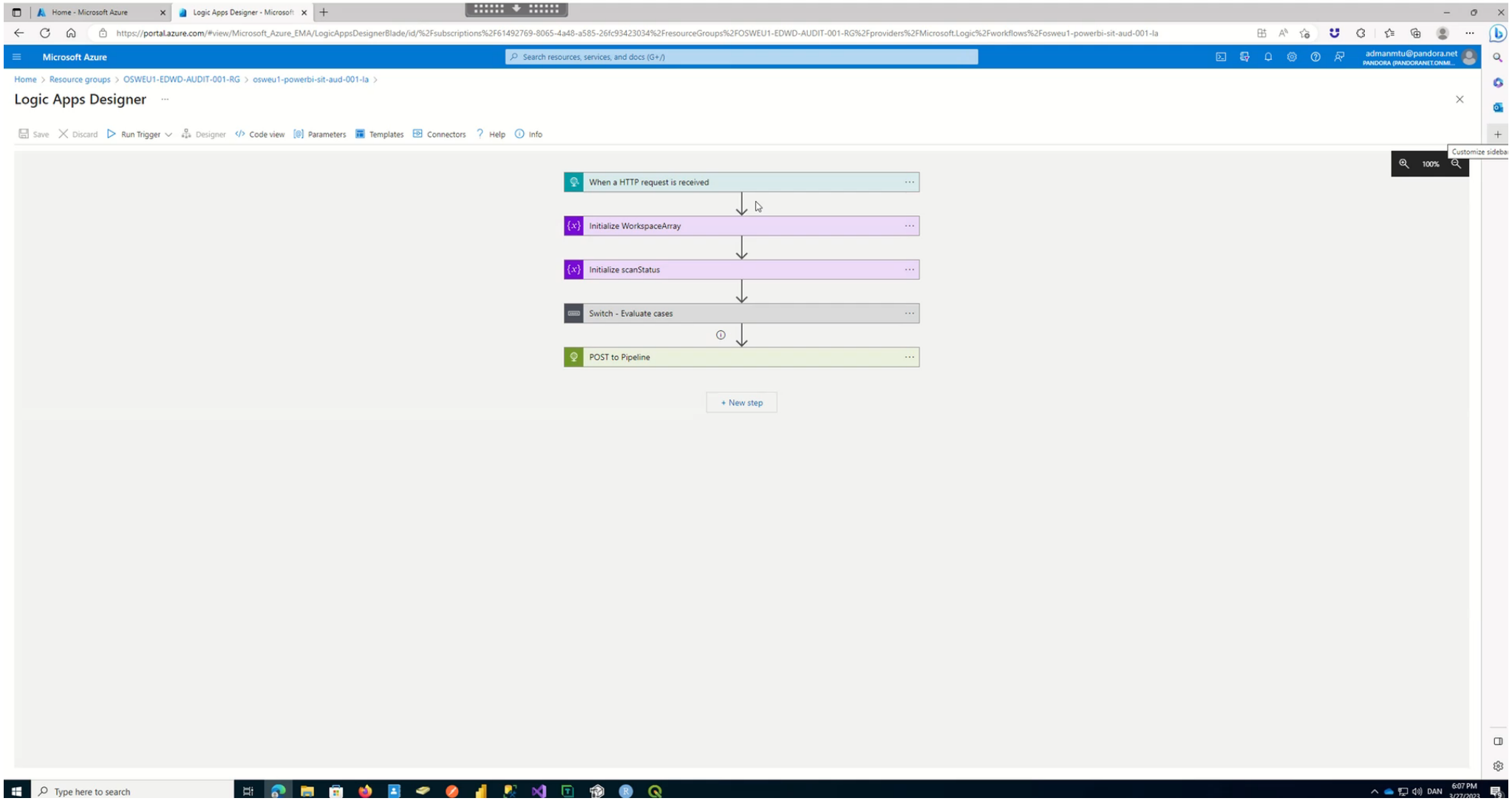

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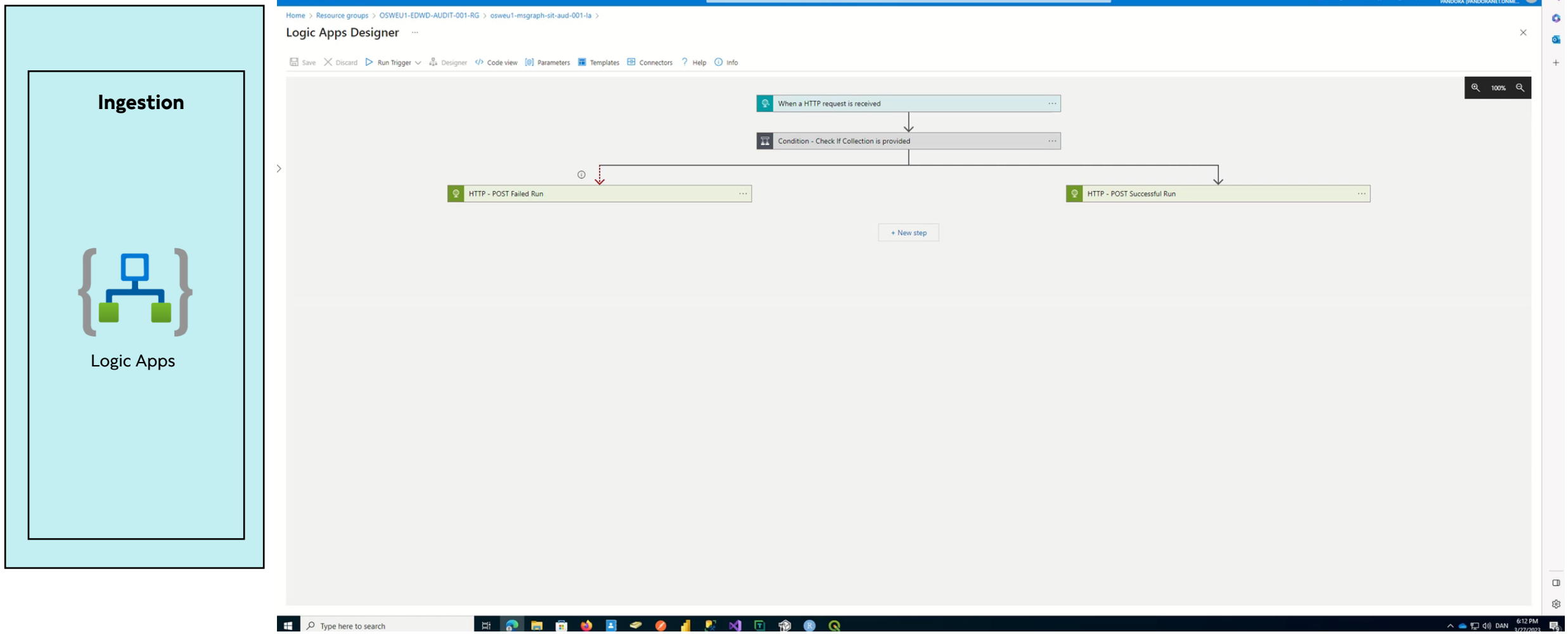
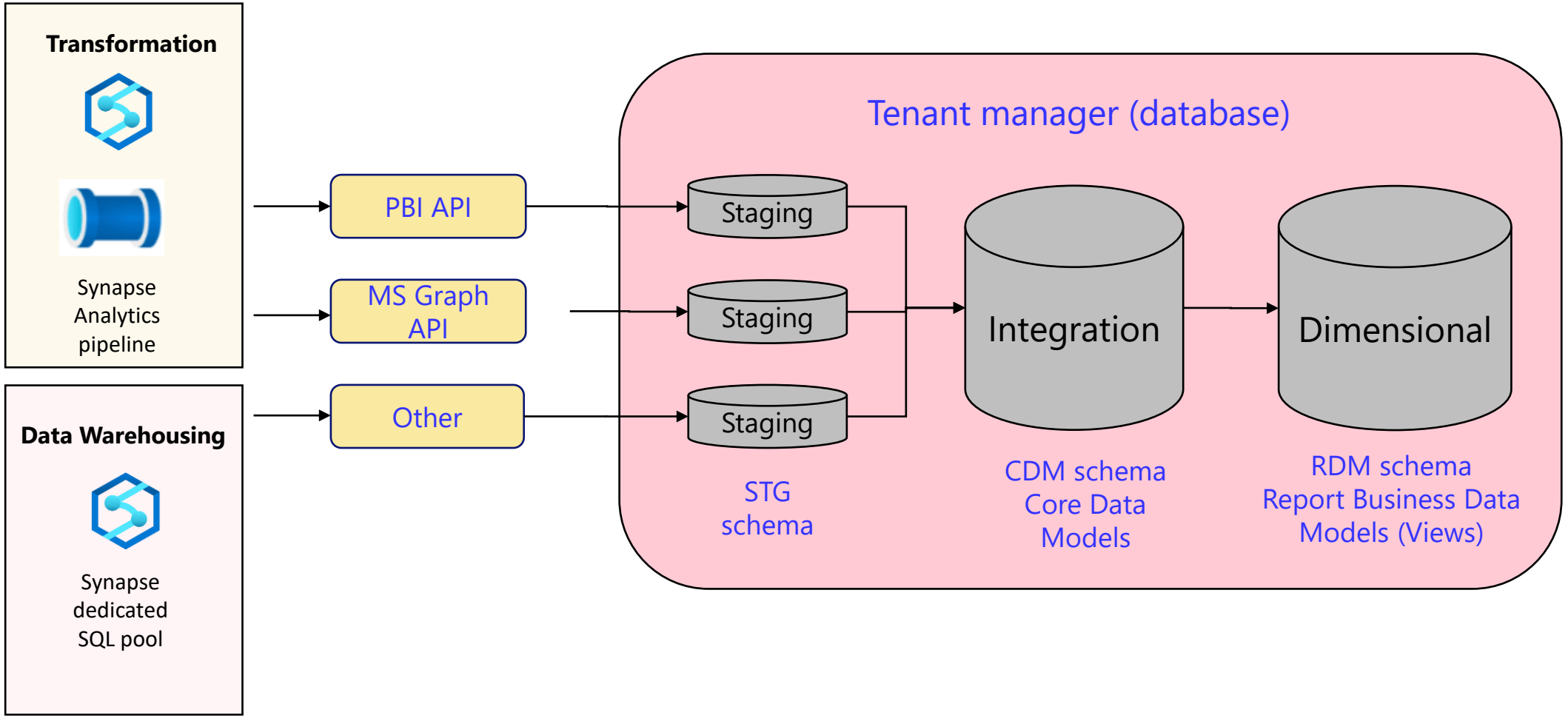
MS Graph Logic App



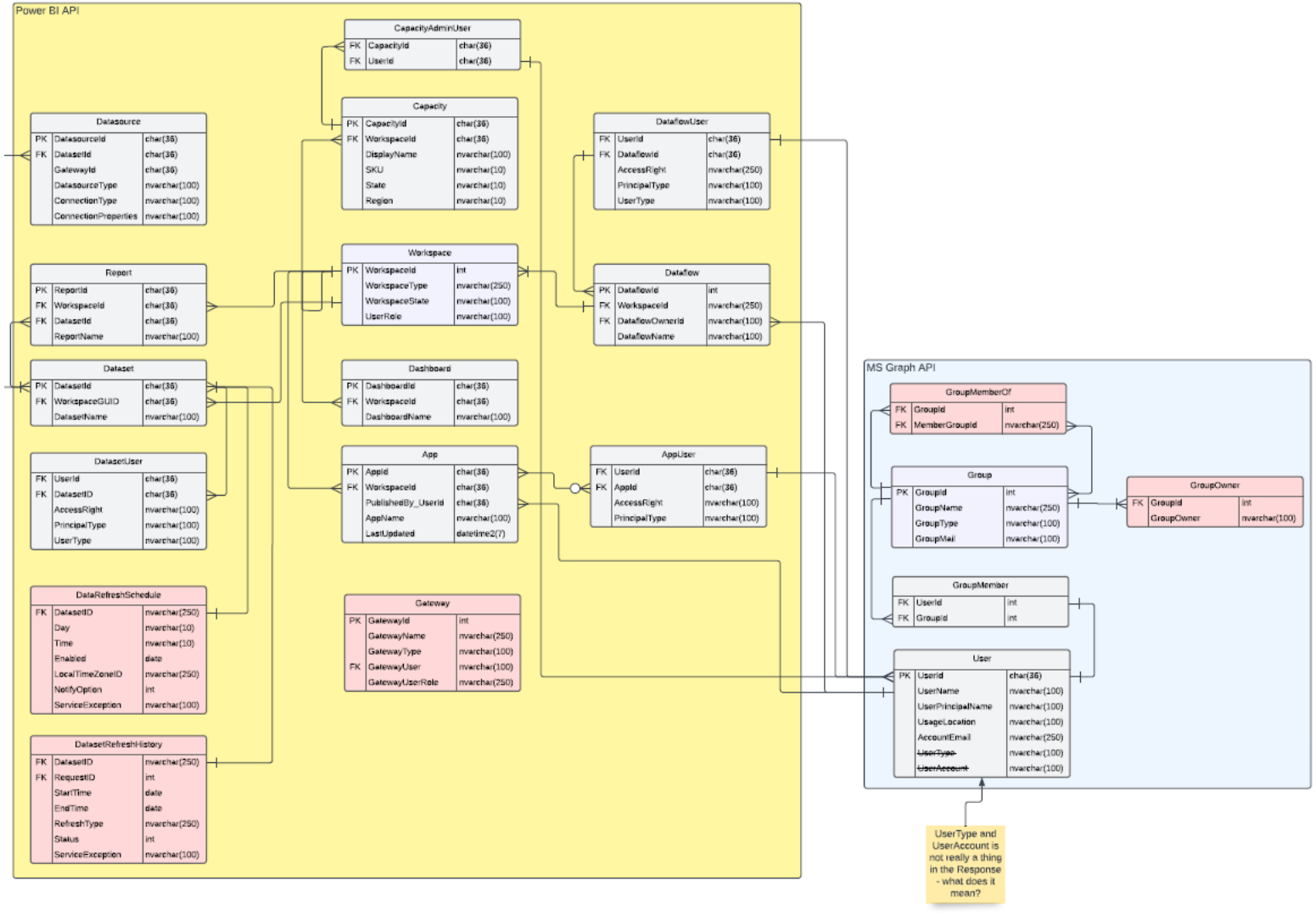
Transformation



Data Model

Data Warehousing

Synapse dedicated SQL pool

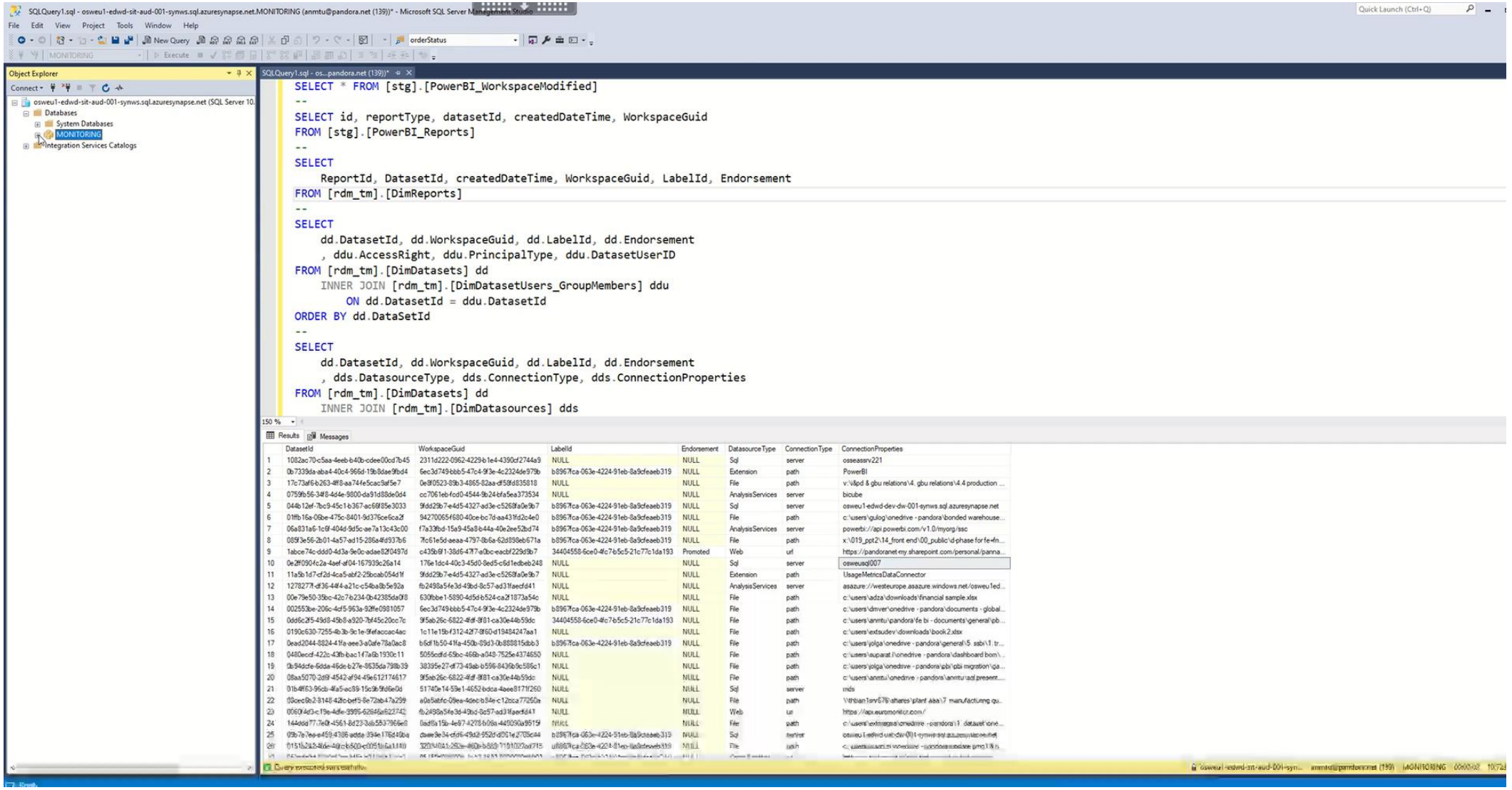


Data Warehouse

DEMO

Data Warehousing

Synapse dedicated SQL pool



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Q&A

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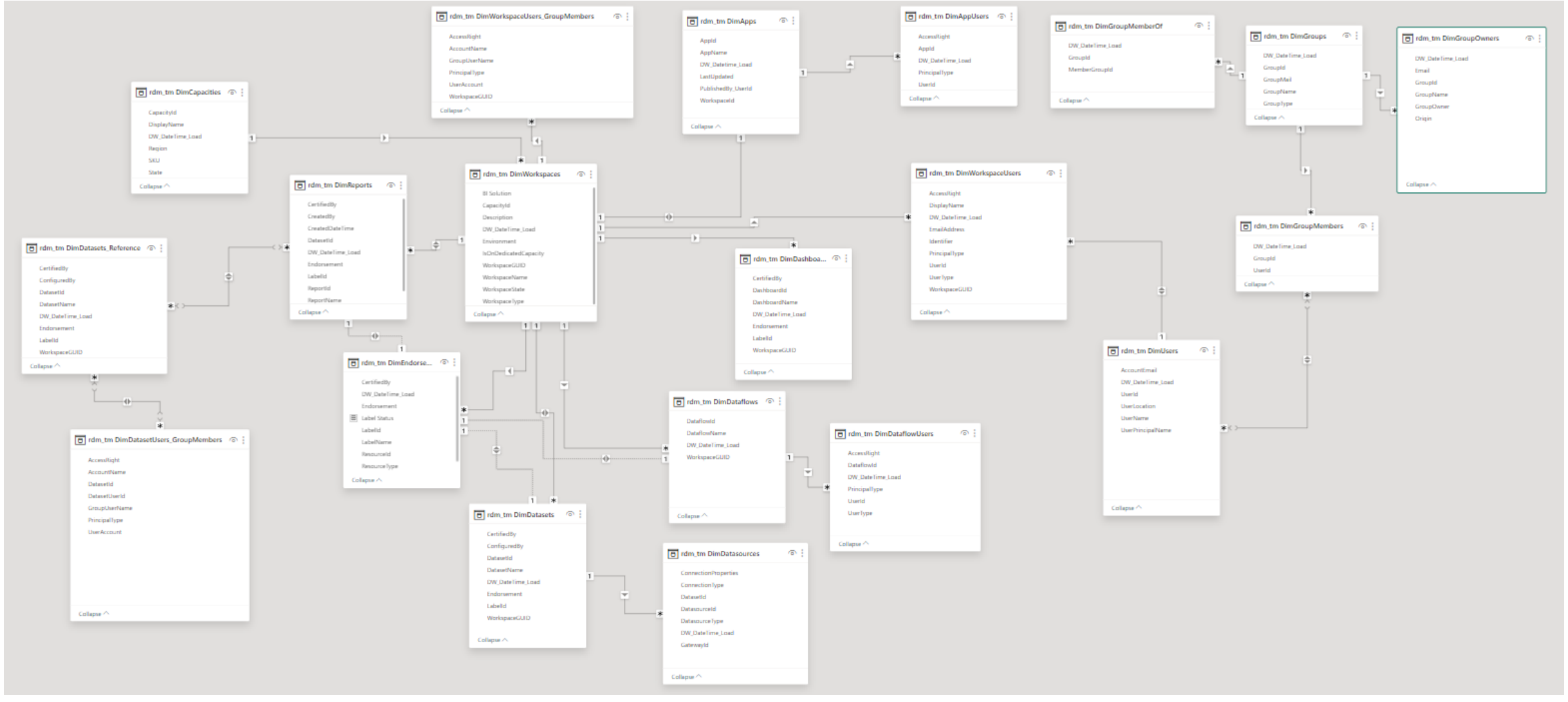
Data and Access Catalogue

20 min.

Tenant Manager Model



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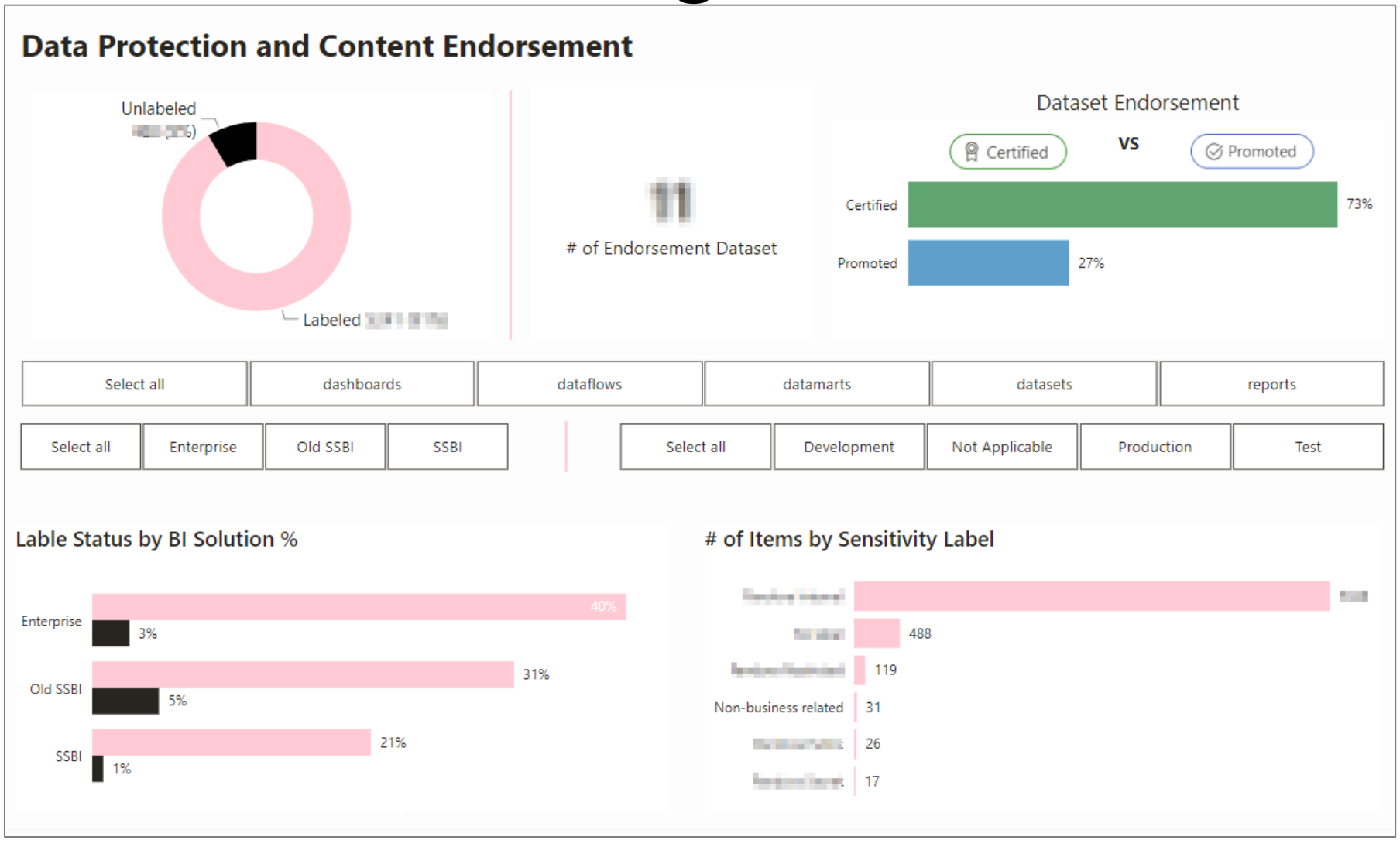
Data and Access Catalogue



DEMO

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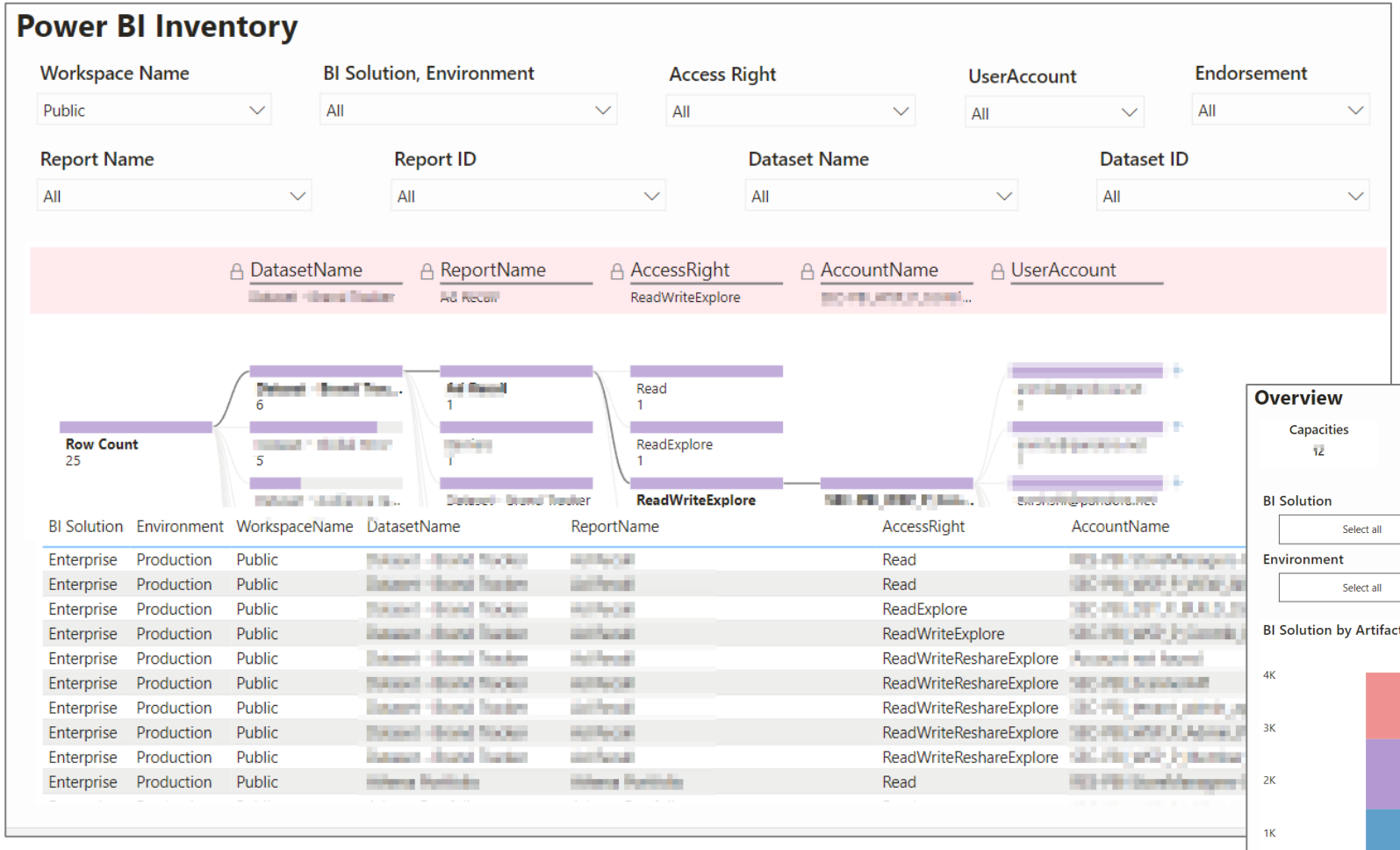

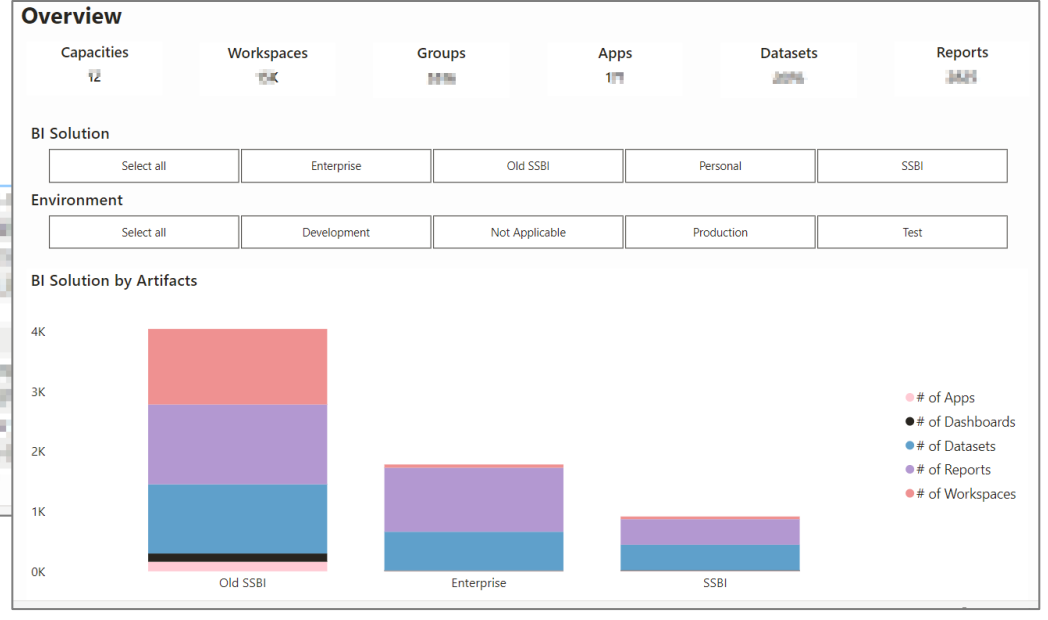

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Session evaluation

Event evaluation