

# Merging Power BI into Azure Devops

**Start collaborating when developing  
Power BI solutions**

**Hylke Peek**

# Hylke Peek



## Data Consultant



Peek Data Consultancy



@hylkepeek




Linkedin.com/hylkepeek

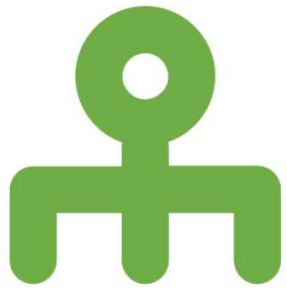
I'm working on a lot of different stuff. Focus on **Azure** and **Power Platform**.

- Data Platform
- Datawarehousing
- Analytics
- Azure data solutions
- Power Platform

# Topics

- Power BI dev without Azure DevOps
  - Merging Power BI into Azure Devops **in action**
  - Wrap-up
- 
- A solid dark blue horizontal bar spanning the width of the slide at the bottom.

# Professionalize your Power BI development



Central source location



Versioning



Track and merge changes



Easy deployment

# Other ways of work




Central source location



Versioning

Create a workspace


Workspace image

 [Upload](#) [Delete](#)

Workspace name

Description

[Learn more about workspace settings](#)


Advanced 

Contact list

☒ Workspace admins


















☐ Specific users and groups

Workspace OneDrive

Finance mode 

Bestand Start Delen Beeld

< > > Deze pc > DFS (t) > APPDATA > PowerBI > Datamodel

Naam	Gewijzigd op	Type	Grootte
 DataModel v0.16	14-9-2021 20:05	Microsoft Power BL...	3.112 kB
 DataModel v0.17	15-9-2021 08:40	Microsoft Power BL...	3.029 kB
 DataModel v0.18	15-9-2021 14:27	Microsoft Power BL...	11.384 kB
 DataModel v0.19	16-9-2021 07:55	Microsoft Power BL...	3.204 kB
 DataModel v0.20	16-9-2021 13:18	Microsoft Power BL...	3.222 kB
 DataModel v0.21	16-9-2021 17:24	Microsoft Power BL...	3.209 kB
 DataModel v0.22	16-9-2021 18:24	Microsoft Power BL...	3.209 kB
 DataModel v0.23	17-9-2021 17:19	Microsoft Power BL...	3.396 kB
 DataModel v0.24	20-9-2021 17:23	Microsoft Power BL...	3.725 kB
 DataModel v0.25	21-9-2021 16:58	Microsoft Power BL...	3.907 kB
 DataModel v0.26	23-9-2021 10:04	Microsoft Power BL...	4.120 kB
 DataModel v0.27	24-9-2021 08:55	Microsoft Power BL...	3.935 kB
 DataModel v0.28	29-9-2021 10:00	Microsoft Power BL...	5.285 kB
 DataModel v0.29	1-10-2021 22:56	Microsoft Power BL...	5.667 kB
 DataModel v0.30	5-10-2021 09:31	Microsoft Power BL...	5.630 kB
 DataModel v0.31	8-10-2021 16:33	Microsoft Power BL...	5.635 kB
 DataModel v0.32	15-10-2021 16:02	Microsoft Power BL...	5.836 kB

# Other ways of work



Track and merge changes

ALM Toolkit

File Home Help

Compare Select Actions Validate Selection Update Generate Script Options Report Differences

MAQ Software Power BI

Source: PBI Desktop: localhost:63197;Datamodel Sales Target: Dataset: powerbi://api.powerbi.com/v1.0/vxcompany.com/United FC [Dev];Datamodel Sales

Table	Source	Target	Relationship	Source	Target	Action
Measure	Sales Amount	Missing in target				Create
Table	Product Group	Different Definitions		Product Group		Update
Table	Sales Order Details	Different Definitions		Sales Order Details		Update
Relationship	'Sales Order Details'[productid]->'Product'[productid]	Same Definition		'Sales Order Details'[productid]->'Product'[productid]		Skip
Relationship	'Sales Order Details'[salesorderid]->'Sales Order Header'[salesorderid]	Same Definition		'Sales Order Details'[salesorderid]->'Sales Order Header'[salesorderid]		Skip
Table	Sales Order Header	Different Definitions		Sales Order Header		Update
Relationship	'Sales Order Header'[customerid]->'Customer'[customerid]	Same Definition		'Sales Order Header'[customerid]->'Customer'[customerid]		Skip

```
1 {
2   "name": "Sales Order Header",
3   "lineageTag": "84704d28-8f96-443e-8077-bfbf9f56d68f",
4   "columns": [
5     {
6       "name": "customerid",
7       "dataType": "int64",
8       "isHidden": true,
9       "sourceColumn": "customerid",
10      "formatString": "0",
11      "lineageTag": "c049a60e-a3b8-4c27-82c3-4256c2db04f0",
12      "summarizeBy": "none"
13    },
14    {
15      "name": "Order Date",
16      "dataType": "dateTime",
17      "sourceColumn": "Order Date",
18      "formatString": "Long Date",
19      "lineageTag": "ba7e4fcf-5f78-4022-b2a2-0b6c14a3e174",
20      "summarizeBy": "none"
21    },
22    {
23      "name": "Order Number",
24      "dataType": "string",
25      "sourceColumn": "Order Number",
26      "lineageTag": "c7948ed2-3271-46c2-9641-952d5aecd2d",
27      "summarizeBy": "none"
28    }
29  ]
30 }
```

ALM Toolkit - finished comparing datasets

# Other ways of work



Easy deployment

ALM Toolkit

File Home Help

Compare Select Actions Validate Selection Update Generate Script Options Report Differences

MAQ Software Power BI

Source: PBI Desktop: localhost:63197;Datamodel Sales Target: Dataset: powerbi://api.powerbi.com/v1.0/vxcompany.com/United FC [Dev];Datamodel Sales

Table	Measure	Relationship	Target	Action
Table	Sales Amount	Product Group	Product Group	Create
Table	Sales Order Details	Sales Order Details	Sales Order Details	Update
Relationship	'Sales Order Details'[productid]->'Product'[productid]	'Sales Order Details'[productid]->'Product'[productid]	'Sales Order Details'[productid]->'Product'[productid]	Skip
Relationship	'Sales Order Details'[salesorderid]->'Sales Order Header'[salesorderid]	'Sales Order Details'[salesorderid]->'Sales Order Header'[salesorderid]	'Sales Order Details'[salesorderid]->'Sales Order Header'[salesorderid]	Skip
Table	Sales Order Header	Sales Order Header	Sales Order Header	Update
Relationship	'Sales Order Header'[customerid]->'Customer'[customerid]	'Sales Order Header'[customerid]->'Customer'[customerid]	'Sales Order Header'[customerid]->'Customer'[customerid]	Skip

```
1 {
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12      "summarizeBy": "none"
13    },
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17      "sourceColumn": "Order Date",
18      "formatString": "Long Date",
19      "lineageTag": "ba7e4fcf-5f78-4022-b2a2-0b6c14a3e174",
20      "summarizeBy": "none"
21    },
22    {
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24      "dataType": "string",
25      "sourceColumn": "Order Number",
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27      "summarizeBy": "none"
28    }
29  ]
30 }
```

ALM Toolkit - finished comparing datasets


# Other ways of work



Easy deployment

### Create a workspace

Workspace image

 ↑ Upload  
🗑 Delete

Workspace name

Description

[Learn more about workspace settings](#)

Advanced ^

Contact list

☒ Workspace admins  
☐ Specific users and groups

Workspace OneDrive

Finance mode ⓘ

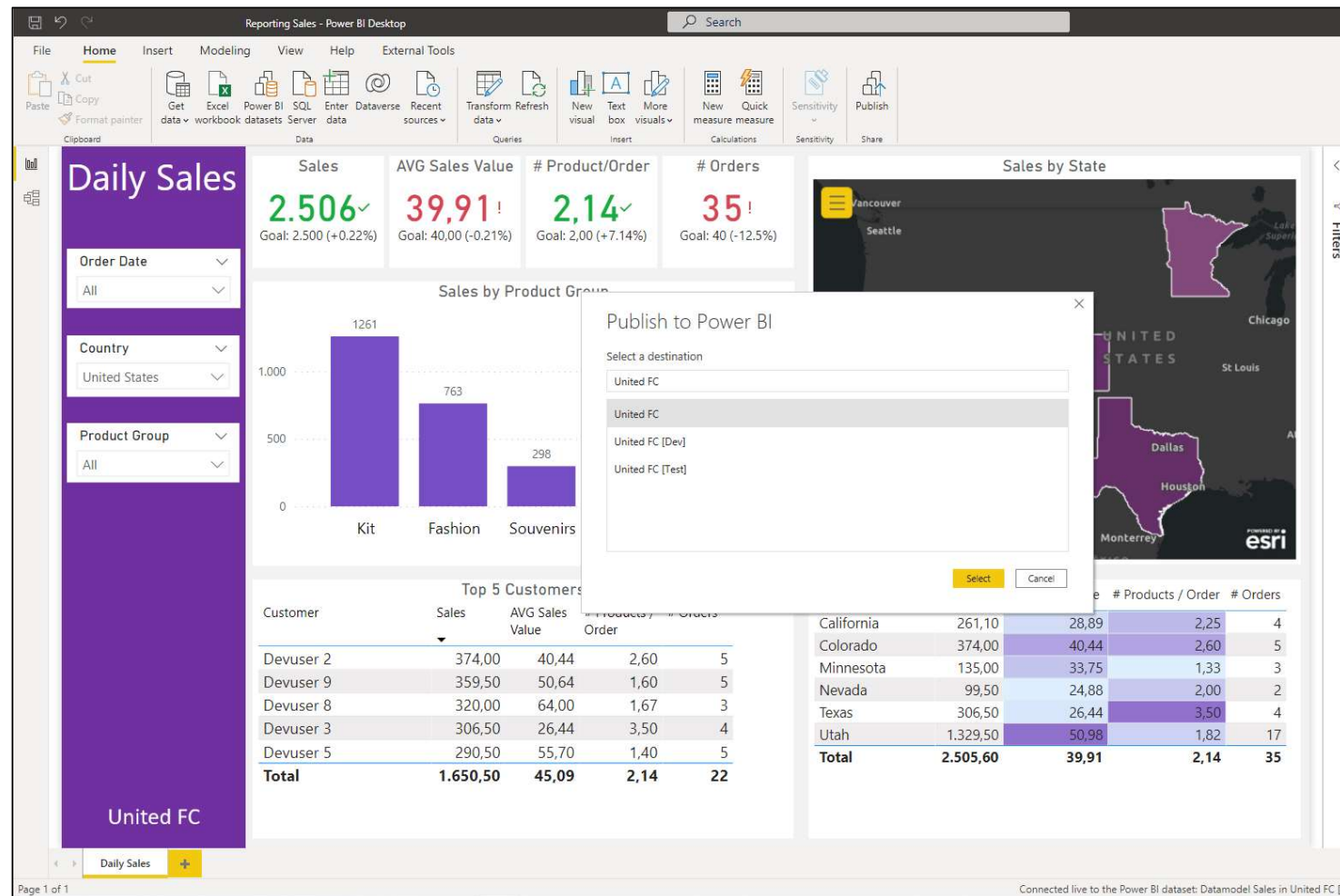
SaveCancel



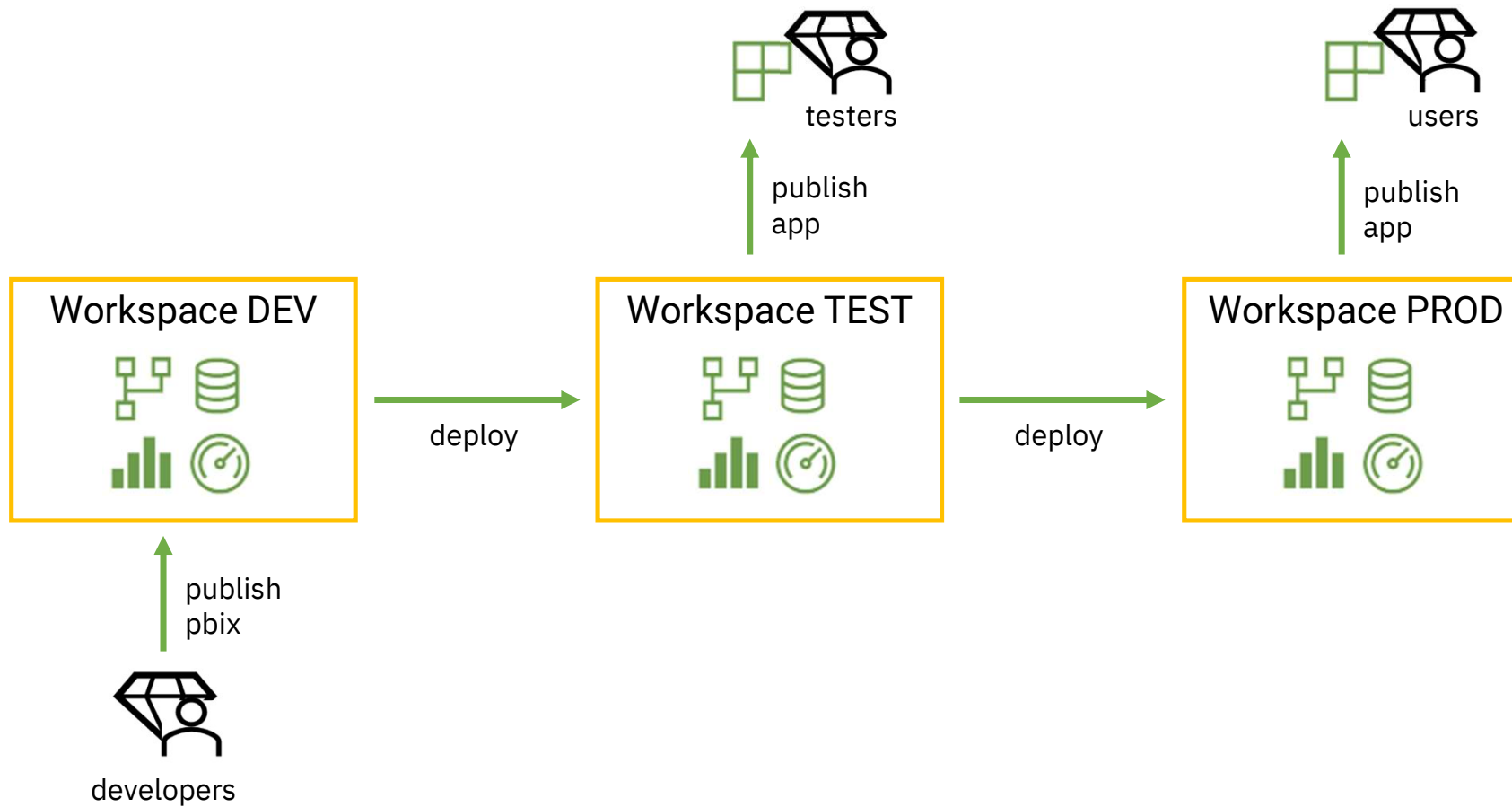
# Other ways of work



Easy deployment



# Power BI Deployment Pipelines



# Merging Power BI into Azure Devops



Pro  
license



Premium (per user)  
license

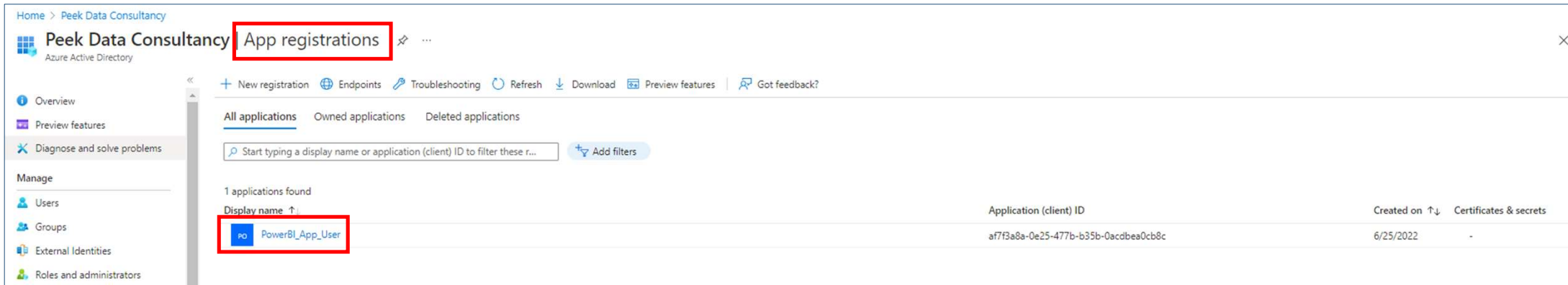
# Prerequisites

A user doing all the  
action in the background



# Prerequisites

## Create a Service Principal (SPN) in Azure portal



Home > Peek Data Consultancy

Peek Data Consultancy App registrations

Overview  
Preview features  
Diagnose and solve problems

Manage  
Users  
Groups  
External Identities  
Roles and administrators

+ New registration | Endpoints | Troubleshooting | Refresh | Download | Preview features | Got feedback?

All applications | Owned applications | Deleted applications

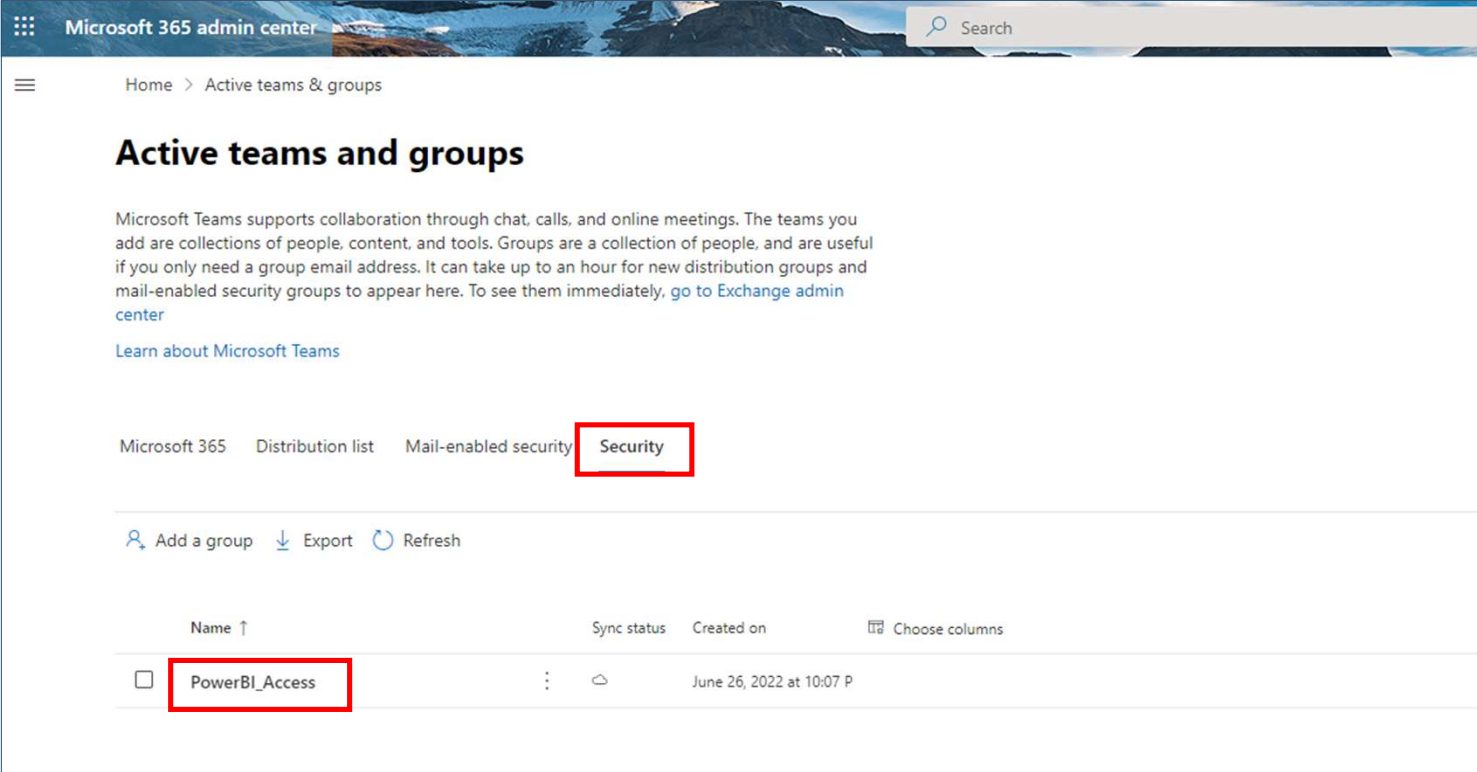
Start typing a display name or application (client) ID to filter these r... Add filters

1 applications found

Display name ↑	Application (client) ID	Created on ↑↓	Certificates & secrets
PowerBI_App_User	af7f3a8a-0e25-477b-b35b-0acdbea0cb8c	6/25/2022	-

# Prerequisites

Create a Security Group and add the SPN to the group in Microsoft 365 Admin center

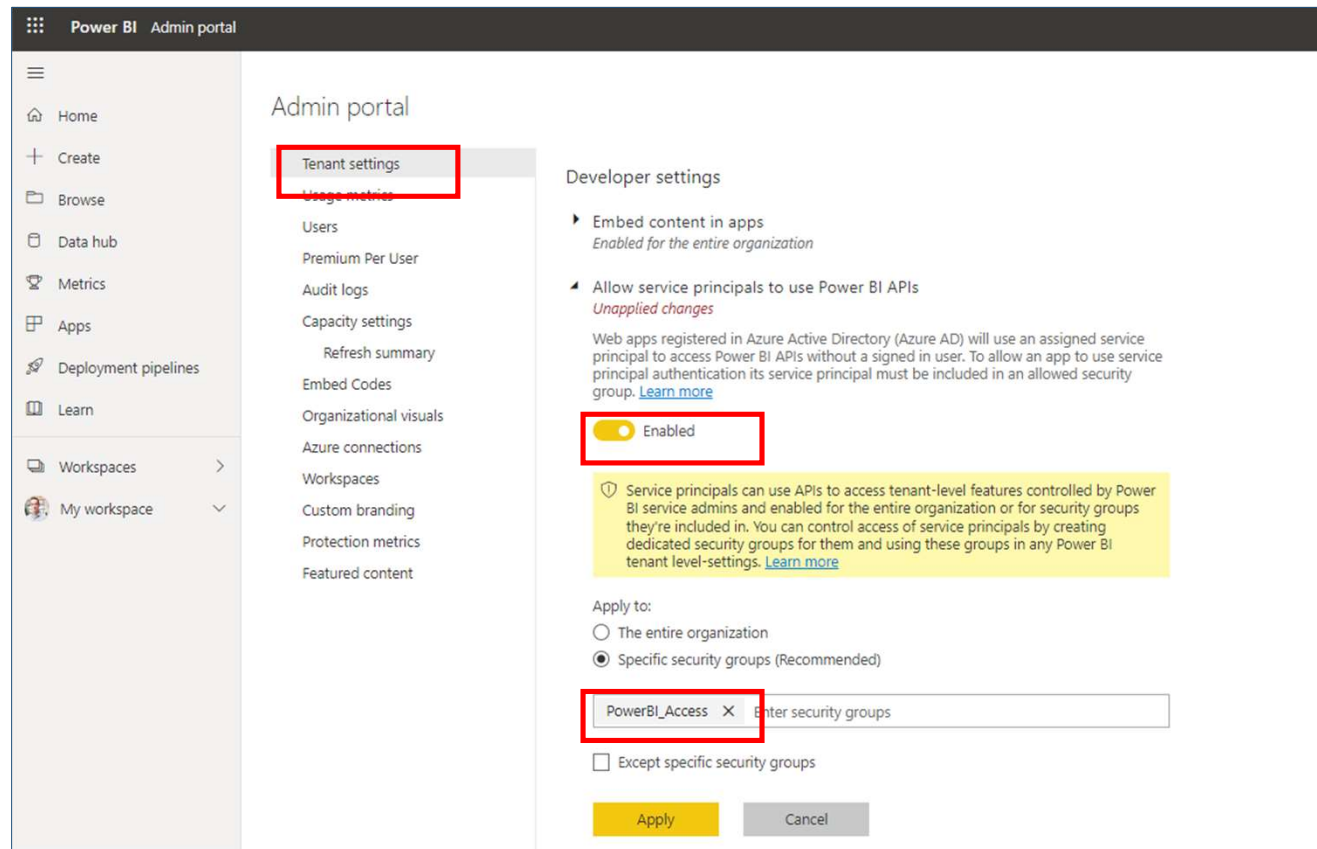


The screenshot shows the Microsoft 365 Admin Center interface. The breadcrumb navigation indicates the path: Home > Active teams & groups. The main heading is "Active teams and groups". Below this, there is a description of Microsoft Teams and a link to "Exchange admin center". A navigation bar contains tabs for "Microsoft 365", "Distribution list", "Mail-enabled security", and "Security". The "Security" tab is highlighted with a red box. Below the tabs, there are action buttons: "Add a group", "Export", and "Refresh". A table lists the security groups. The first row shows a group named "PowerBI\_Access", which is highlighted with a red box. The table has columns for "Name", "Sync status", "Created on", and "Choose columns".

	Name ↑	Sync status	Created on	Choose columns
<input type="checkbox"/>	PowerBI_Access	⋮	June 26, 2022 at 10:07 P	

# Prerequisites

## Allow service principals to use Power BI APIs in Power BI Admin Portal





# Prerequisites

Assign security group as member to the workspace

Access  
United FC [Development]

Add admins, members, or contributors. [Learn more](#)

Enter email addresses

Member

Add

Search

NAME	PERMISSION
Hylke Peek ⓘ	Admin ...
PowerBI_Access ⓘ	Admin ...

Close



A large, dark blue arrow pointing from the left side of the slide towards the right. The word "Demo" is written in white inside the arrow.

Demo

So...



Central source location



Versioning

Onedrive has similar functionalities

Azure DevOps useful when using Azure Devops for other projects

So...



Track and merge changes

ALM Toolkit has similar functionalities

BIM-files only

So...



Easy deployment

Advanced deployment capabilities

Automating Power BI Deployment Pipelines (Power BI premium license)

So...



Central source location



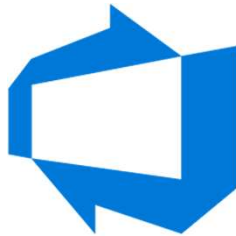
Versioning



Track and merge changes



Easy deployment



Azure DevOps

# Merging Power BI into Azure Devops

Thank you

**Hylke Peek**