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Enterprise Power BI deployments with Azure DevOps

Marc Lelijveld

Marc Lelijveld

Data & AI consultant
Macaw Netherlands



Marc.Lelijveld@outlook.com



@MarcLelijveld



linkedin.com/in/MarcLelijveld



Data-Marc.com



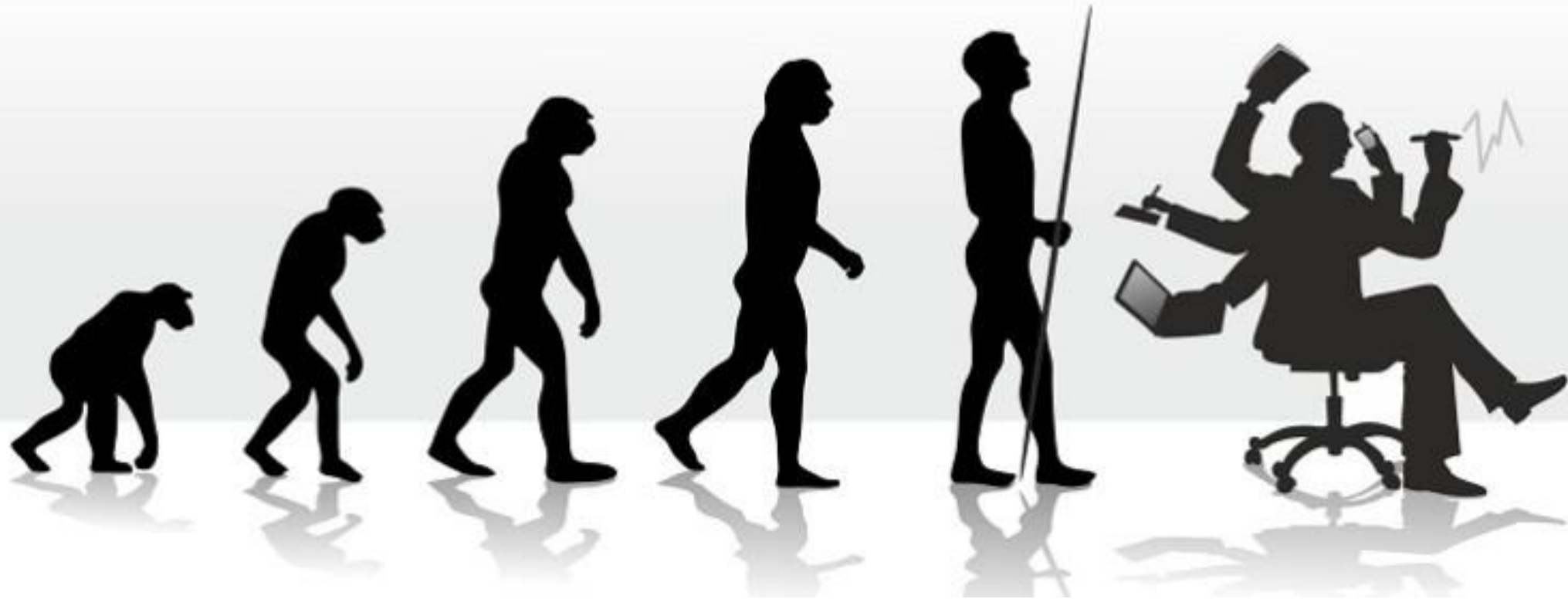
What we cover today

- Our way of working
- The evolution of BI
- Deployment framework
- Demo time!
- What about dataflows?
- Azure DevOps vs Deployment Pipelines
- XMLA endpoints & roadmap

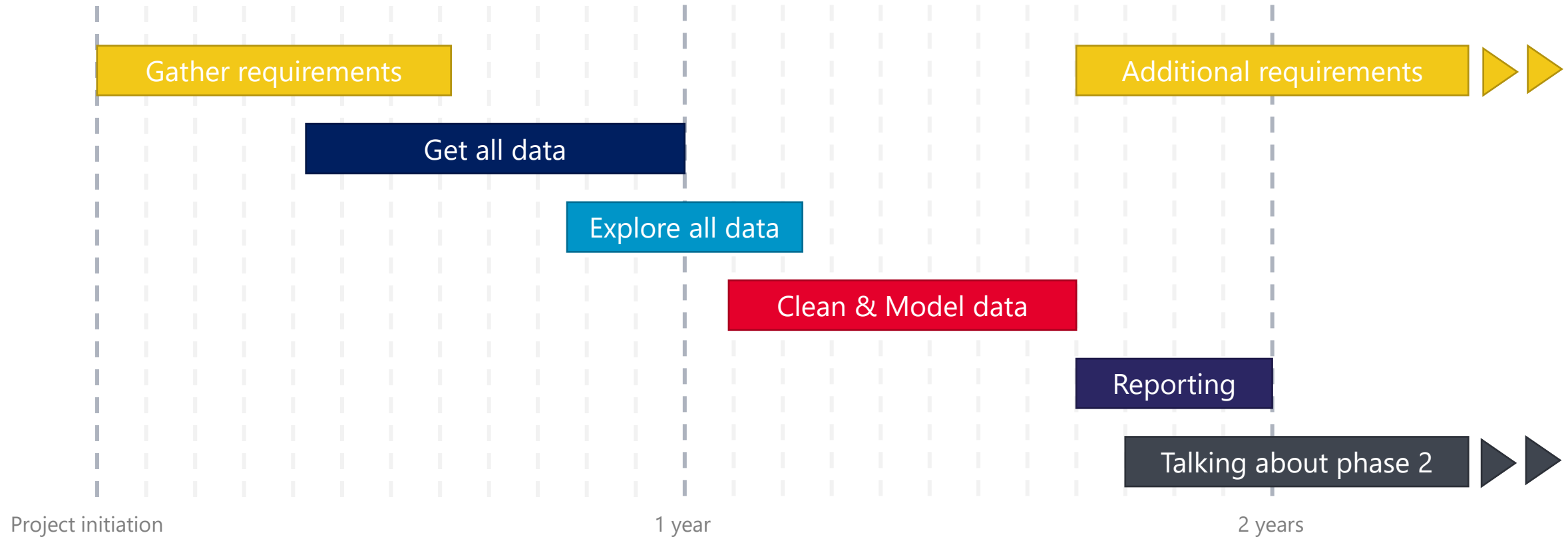
A man in a white shirt and dark trousers is running across a light-colored surface, holding a laptop in his outstretched hands. The background is a light, textured wall with various business-related sketches floating around him, including a lightbulb, envelopes, a bar chart, a pie chart, a magnifying glass, and a telephone. The overall scene conveys a sense of dynamic movement and productivity.

Our way of working

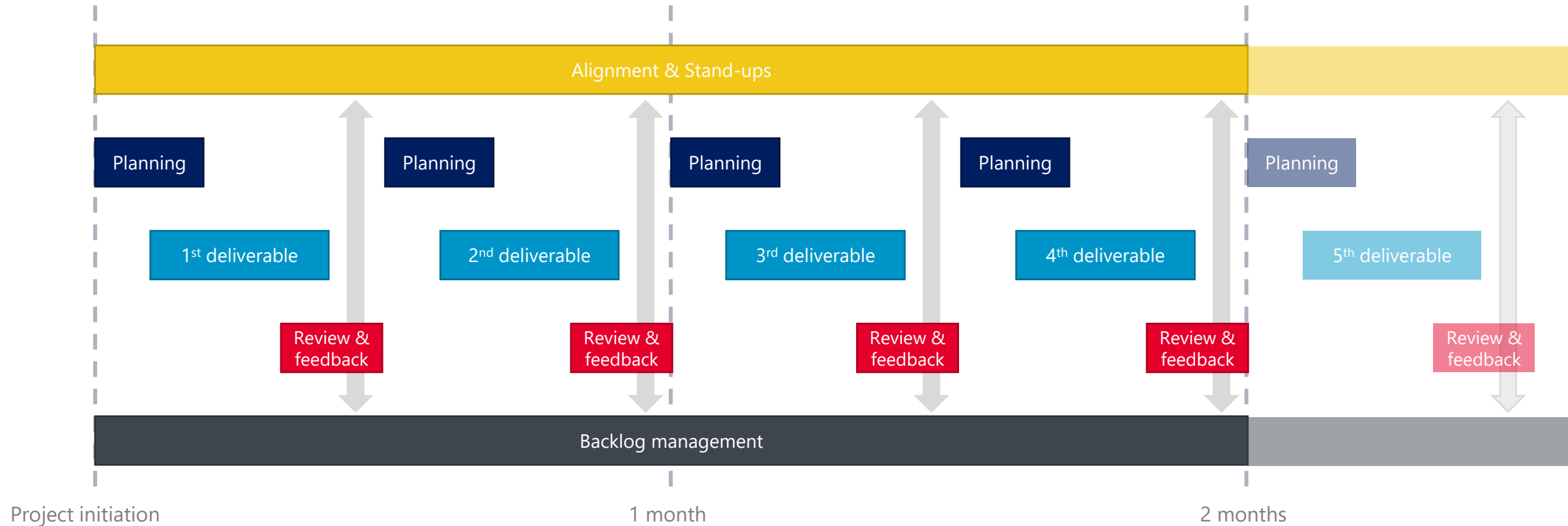
Busy era



Classic approach



Start working agile



The evolution of BI



The evolution of BI

1st wave
Corporate BI



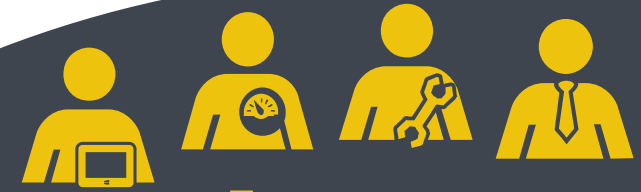
IT to end user

2nd wave
Self-service BI



Analyst to end user

3rd wave
End user BI






Everyone




Self-service vs End-user BI



Deployment scenarios

	Corporate BI	IT-Managed Self-Service BI	Business-Led Self-Service BI
Approach	 Top-Down	 Blended	 Bottom-Up
Data sources	Published by IT	Only governed sources	Any type of data source
Ownership	Fully supported by IT	IT for data model, Business for reports	Business supports all elements of the solution
Governed by	IT	IT for data, business for reports	Business
Usage scope of business	Only use of content	Creation of (custom) reports and dashboards	Data prep, modelling, reports and dashboards

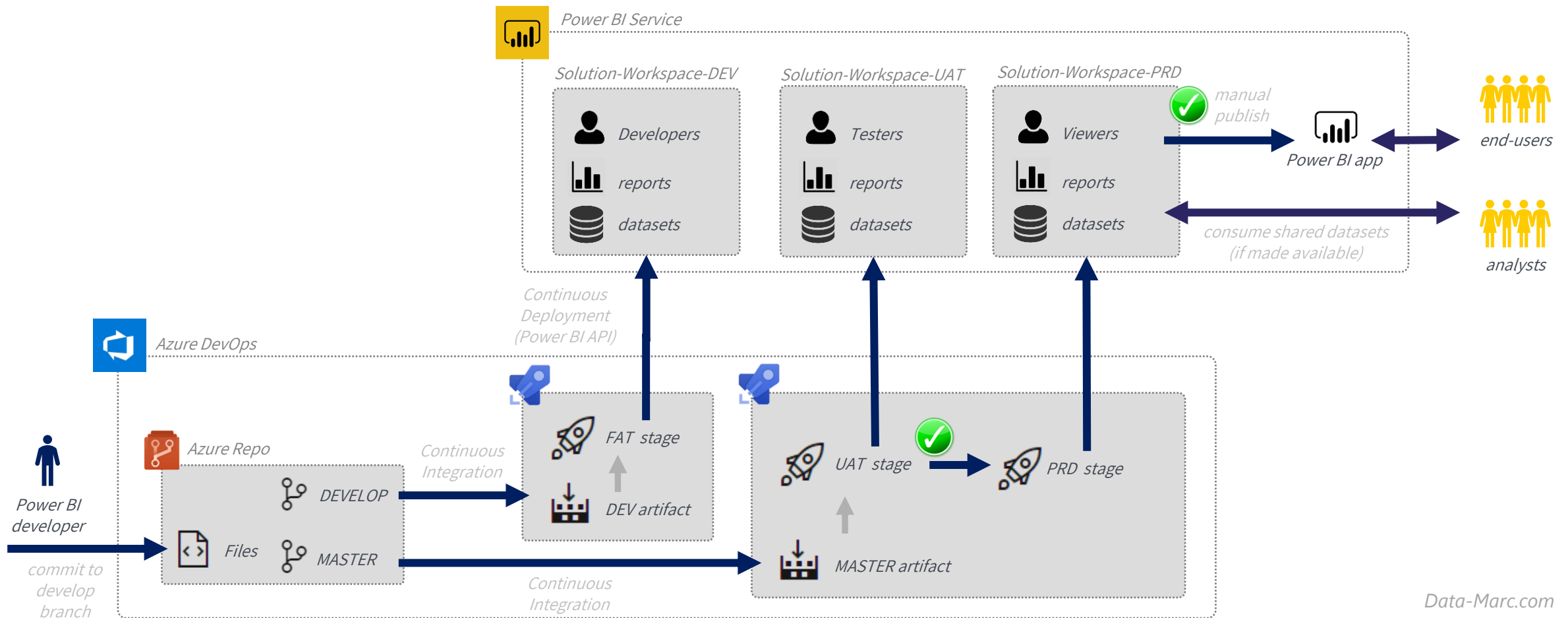
Deployment scenarios

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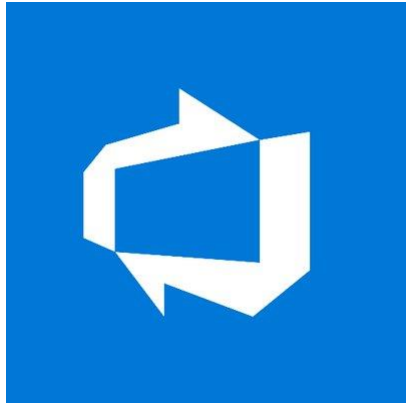


Deployment framework

Deployment scenario



Deployment scenario



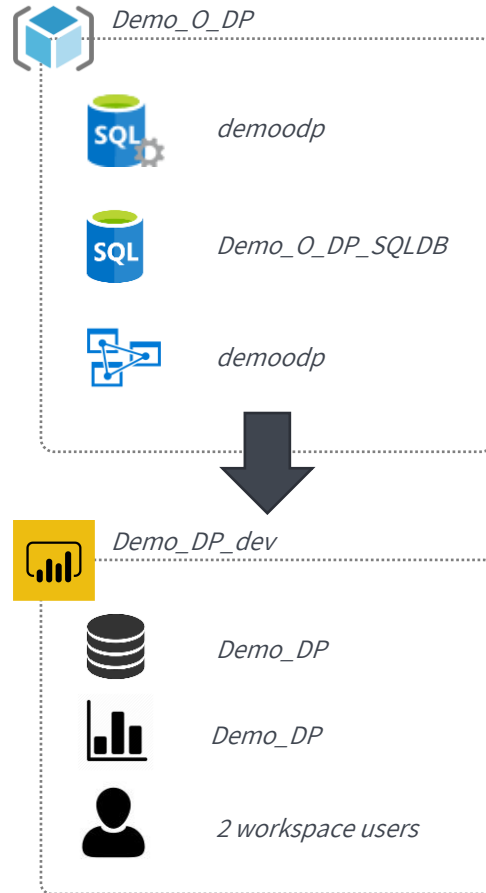
Azure DevOps



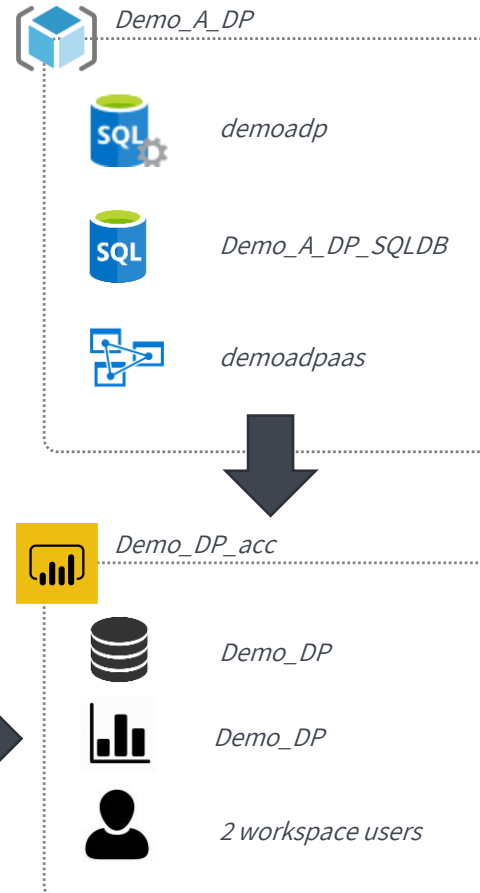
Power BI Service

Demo context

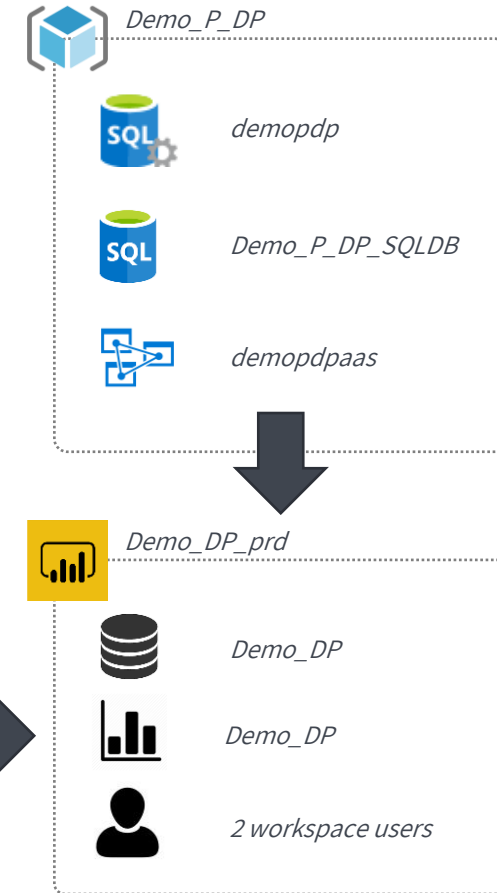
Development



Acceptance



Production



Demo time!

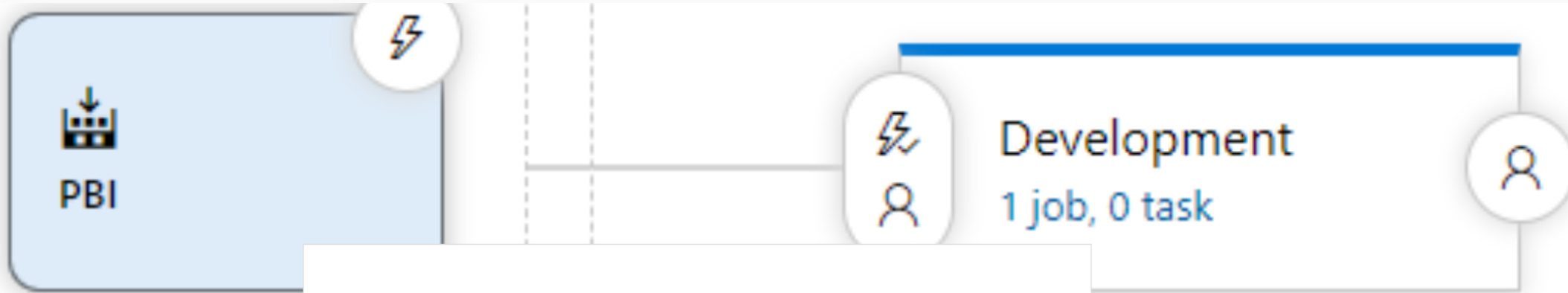
Because life is boring without risks



Data – Marc

Blogging about everything related to Data and AI based on Microsoft technology

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Versioning and CI/CD for Power BI with Azure DevOps

ON [NOVEMBER 12, 2019](#) / BY [MARC](#)

/ IN [AZURE](#), [DEVELOPING](#), [POWER BI REST API](#), [POWER BI SERVICE](#), [POWERSHELL](#)
/ [EDIT](#)

Over a year ago, I wrote a [blog](#) about [Multiple tier architecture and continuous delivery with Power BI](#), mainly an overview of the setup and manually creating development and production content. This blog will continue this story in more detail of Power BI CI/CD with Azure DevOps automated deployments. A solution where [Dave Ruijter](#), [Ton Swart](#) and I worked on over the last year. The

SEARCH



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Macaw Power BI Extensions

Macaw | 85 installs | ★★★★★ (0) | Free

Power BI release manager tasks for Azure DevOps.

Get it free

Overview | Q & A | Rating & Review

Macaw Power BI Extensions is a Build and Release Task for Azure Pipelines. With this tasks you can control your Power BI deployment in Azure DevOps

Actions that can be performed with this extension are:

- Group tasks
 - Create or Update Power BI workspace
 - Delete Power BI workspace
 - Write all workspace info to JSON logfile
- Report tasks
 - Create or Update Power BI Report
 - Delete Power BI Report
 - Delete Power BI DataSet
 - Update the datasources of the specified dataset
 - Update the parameters values for the specified dataset

For the custom task to work as it should, you need to configure the following parameters:

- ClientId: The client id of the native Azure Active Directory application. This application should have the appropriate rights in order to use the Power BI Api. To register an application, check the following URL: [Register an Azure AD app to embed Power BI content](#)
- Username: The username of the user that will perform the actions. Make sure the account does not have Multi

Agent phase

Run on agent



Power BI Group Tasks: CreateWorkspace

Power BI: Group Tasks



Power BI Report Task: CreateReport

Power BI: Report Tasks



Power BI Report Task: UpdateParameter

Power BI: Report Tasks

Categories

Azure Pipelines

Works with

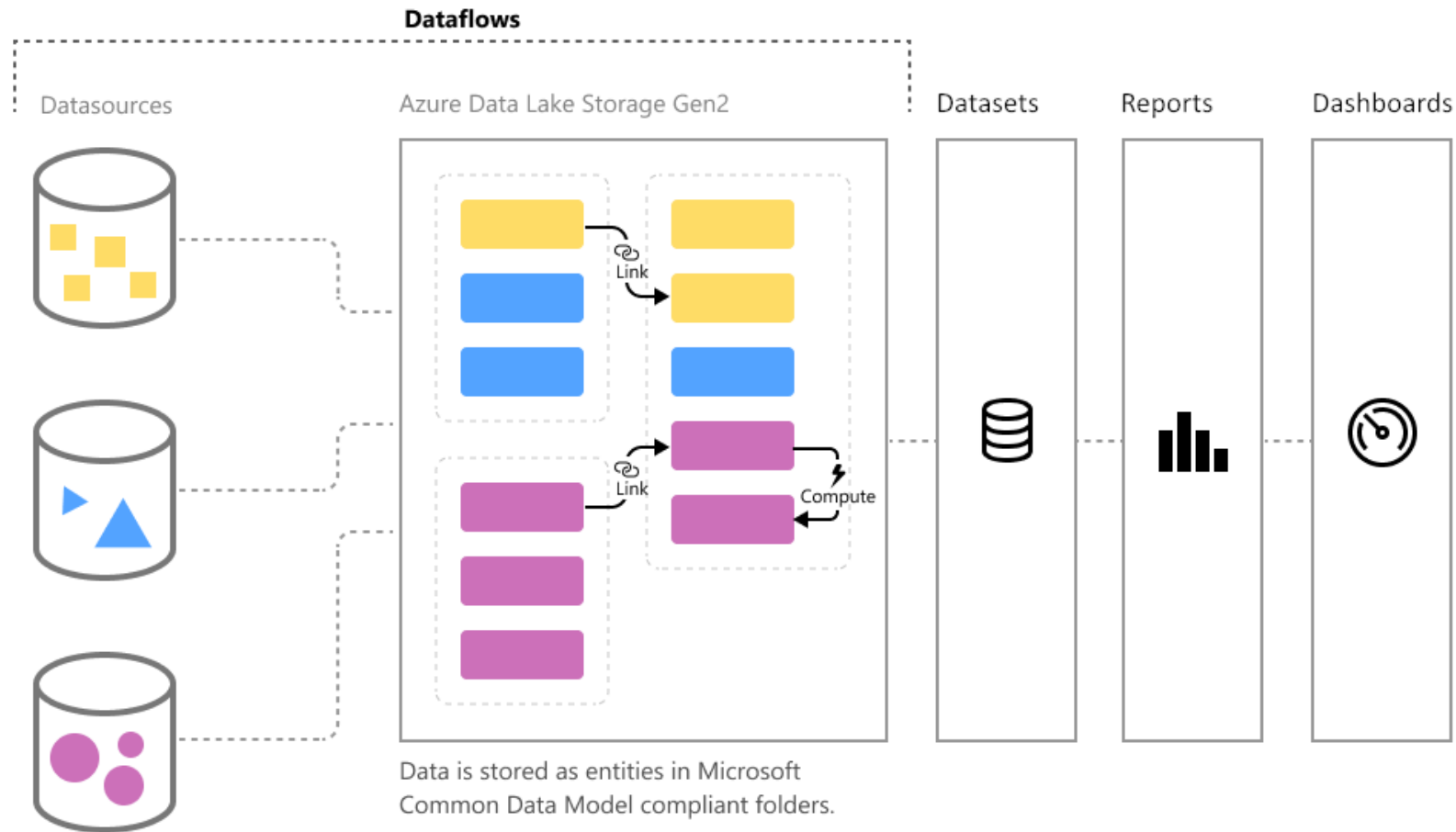
Azure DevOps Services

Azure DevOps Server

Resources

License

But what about dataflows?



Dashboards Reports Workbooks Datasets Dataflows

Move dataflows across workspaces with the Power BI REST API

ON [OCTOBER 22, 2019](#) / BY [MARC](#)
/ IN [DATAFLOWS](#), [DEVELOPING](#), [POWER BI REST API](#), [POWER BI SERVICE](#),
[POWERSHELL](#)
/ [EDIT](#)

Dataflows are part of the Power BI service for a while now. More and more people are starting to benefit from it in multiple perspectives. The two most heard ones are re-use of data (and logic), but also isolate refreshes to avoid dependencies of refresh failures from different sources.

Same as for your data sources, you might have different workspaces setup in different stages of your DTAP development approach. In the past, I wrote a

SEARCH

Search ...	Q
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CATEGORIES

Adoption (1)



Create a deployment pipeline

DevOps vs Deployment Pipelines

1

Create a pipeline

Start by creating the pipeline you'll use for managing and deploying the workspace content

2

Assign your workspace

Select your workspace and assign it to a deployment stage (development, test, or production).

3

Develop and test your content

Manage, preview, and compare your workspace content until its ready for releasing to users

4

Share with your users

Deploy your content to production and share it with your organization

Create a pipeline

How it works

- Meta data deployment
- Incremental deployment
- Requires Premium! (must be P-sku in production!)
- No dataflow support (yet?)
- No versioning (yet?)



Development

Design, review, and revise your content in a development workspace. When it's ready to test and preview, deploy the content to the test stage. [Learn more](#)

Documentation demo

DATASETS REPORTS DASHBOARDS

5 Refresh now

5

5

Select related

3 selected

Historical sales

MyFoods income

Product revenue

✓ Sales analysis drilldown

+ New

✓ Sentiment analysis

Historical sales

✓ MyFoods income

Show less ^

Publish app ↗

Deploy to test

Test

Test and verify your content in a preproduction workspace. When it's ready to distribute, deploy the content to the production stage. [Learn more](#)

Documentation demo [Test]

DATASETS REPORTS DASHBOARDS

4 Refresh now

3

5

Historical sales

MyFoods income

Product revenue

Sentiment analysis

Historical sales

MyFoods income

Show less ^

Publish app ↗

Deploy to production

Production

Your content has been tested and is ready to distribute to your consumers as an app or by access to the production workspace. [Learn more](#)

Documentation demo [Produ...]

DATASETS REPORTS DASHBOARDS

4 Refresh now

3

5

Show more v

Publish app ↗

Update app

Deployment settings

Documentation demo

Development

Design, review, and revise your content in a development workspace. When it's ready to test and preview, deploy the content to the test stage. [Learn more](#)

Documentation demo

DATASETS 5 [Refresh now](#) | REPORTS 5 | DASHBOARDS 5

Show more ▾ [Publish app](#) [Deploy to test](#)

Test

Test and verify your content in a preproduction workspace. When it's ready to distribute, deploy the content to the production stage. [Learn more](#)

Documentation demo [Test]

DATASETS 5 [Refresh now](#) | REPORTS 5 | DASHBOARDS 5

Show more ▾ [Publish app](#) [Deploy to production](#)

← Sales analysis drilldown

Create rules defining parameter values and data sources for this dataset. These rules will be applied when deploying to this stage. You can go to [dataset settings](#) to edit parameters and data sources directly. [Learn more](#)

▾ Data source rules



No rules were added yet

Define the data source that will be connected to this dataset.

[+ Add rule](#)

▸ Parameters rules

Comparison

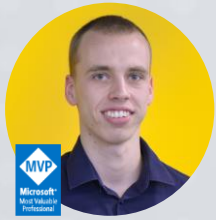
Functionality	Azure DevOps	Deployment Pipelines	Better option
Working with multiple users	Yes	Yes	-
Incremental deployment	No	Yes	Deployment pipelines
Meta data deployment	No	Yes	Deployment pipelines
Requires Power BI Premium	No	Yes	DevOps
Versioning	Yes	No	DevOps
Dataflow support	Yes	No	DevOps
Integration with other processes	Yes	No	DevOps
Customization	Yes	No	-

Recap

LET'S
RECAP...

- Version history done automatically
- Professionalize your deployment process
- Easy roll-back if needed
- Roll-out more than only Power BI in one go!
- Deployment pipelines is promising! But not complete yet.
- XMLA read/write will be even more awesome!

Thanks!



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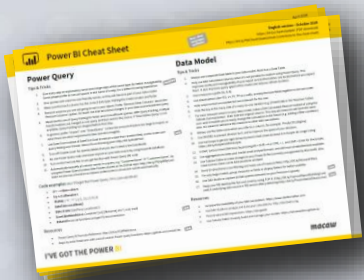
@MarcLelijveld



linkedin.com/in/MarcLelijveld



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<http://mcw.ms/askyourquestion>

