

Building Dynamic Synapse Pipelines Using Metadata Tables

IN MULTIPLE ENVIRONMENT SETUP

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Agenda


- About me
- Brief intro to Synapse pipelines
- Brief intro to multiple environments
- Use case on dynamic ingestion
- Use case on PowerBI refresh
- Takeaway and summary

About Me

 Data Engineer in Novo Nordisk Engineering

 Based in Copenhagen, Denmark

 Azure DP-900 certified

 Azure DP-203 certified

 Tool stack includes Synapse Analytics Pipelines and Notebooks using PySpark

  Previously worked as Data Analyst and Product Owner of Data Management delivery team

  Alteryx and Tableau

Synapse Analytics Pipelines



- Pipelines are the lifeblood of data analytics solution
- Extract, transform and load data
- Orchestrate data pipelines
- A logical group of activities that together to perform a task

Single

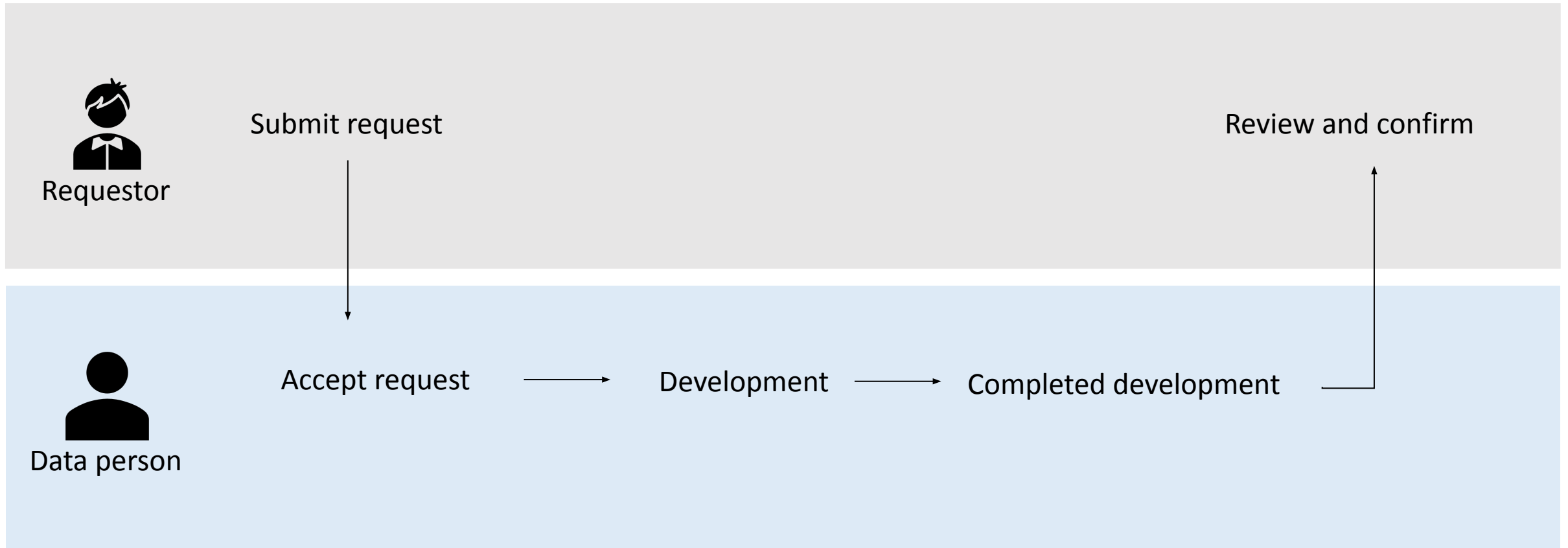


Multiple Environment Setup

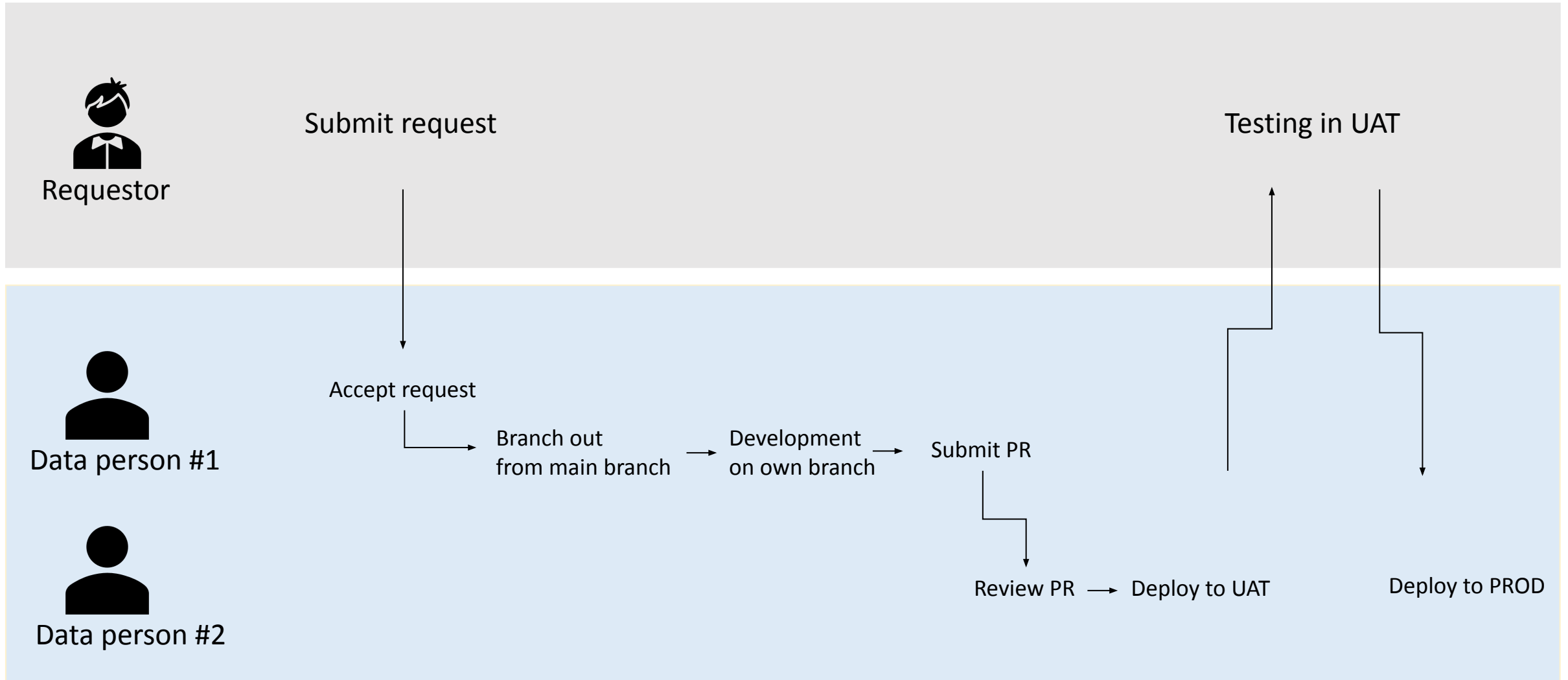
Time-to-market

Quality

Example- single environment setup



Example- multiple environment setup



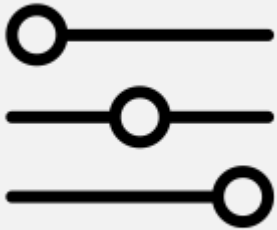
Use Case on Data Ingestion



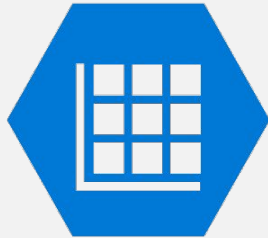
Request description

- Ingest [SalesLT].[Customer] and [SalesLT].[Address]
- More tables to be ingested in the future with short delivery time expected

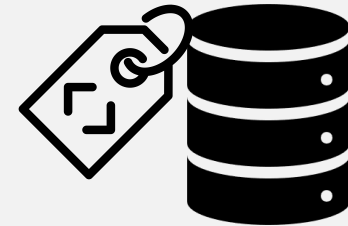
Alternatives in Synapse Pipelines



Parameter



Data lake table storage



DB metadata table



Demo

Comparison

	Parameter	Table storage	Azure SQL db meta data table
Fast time-to-market in single env.	✓	✓	✓
Fast time-to-market in multiple env.		✓	✓
Ease of initial setup	✓		
Ease of maintenance		⌋	✓

Other metadata that can be maintained

- Databases
- Schema
- Table
- Columns
- Frequency of ingest
-

Use Case on Power BI Refresh



Request description

- Refresh PowerBI dataset from Synapse directly
- Multiple datasets to be built in the future with fast-time to market

Alternatives in PowerBI Refresh



Schedule refresh
In PowerBI



Automatic refresh
In Synapse pipelines



Demo

Takeaway and summary

- Metadata tables can help to make pipelines more dynamic and future-proof
- Data requestors appreciate speed whereas developers appreciate bug-free deployments

Connect with me



[Ivanna Jurkiv Ditlevsen's Speaker Profile @ Sessionize](#)



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[Ivanna Ditlevsen Jurkiv – Medium](#)

References

- [How To Trigger A Power BI Dataset Refresh Using Data Factory \(moderndata.ai\)](#)
- [Refresh Power BI Dataset from Azure Data Factory - Part 1 \(mssqltips.com\)](#)
- [How to refresh a Power BI dataset from within your ETL pipelines - Vorsers](#)