Databricks goes Power BI

Laura Richardt
Alexander Karl

Agenda

- Bisher: Vortagsreporting
- Jetzt: Databricks
- Umsetzung
- Delta Sharing



ABOUT ME



Laura Richardt

BI Developer (BWT Wassertechnik GmbH)

B.A. BWL Industrie (DHBW Mannheim)

Mannheim

laura.richardt@bwt.de

Microsoft CERTIFIED POWER BI DATA ANALYST ASSOCIATE

Microsoft CERTIFIED AZURE DATA FUNDAMENTALS

ABOUT ME



Alexander Karl

SQL & BI Developer

Wirt. Ing. (FH)

Stockstadt / PASS RG Rhein-Main

karl@net-CDE.de
& aka@sqlpass.de

Microsoft Certified Trainer – Microsoft MCT Trainer – 2020 - 2021

Microsoft Certified – Azure Database Administrator – Associate

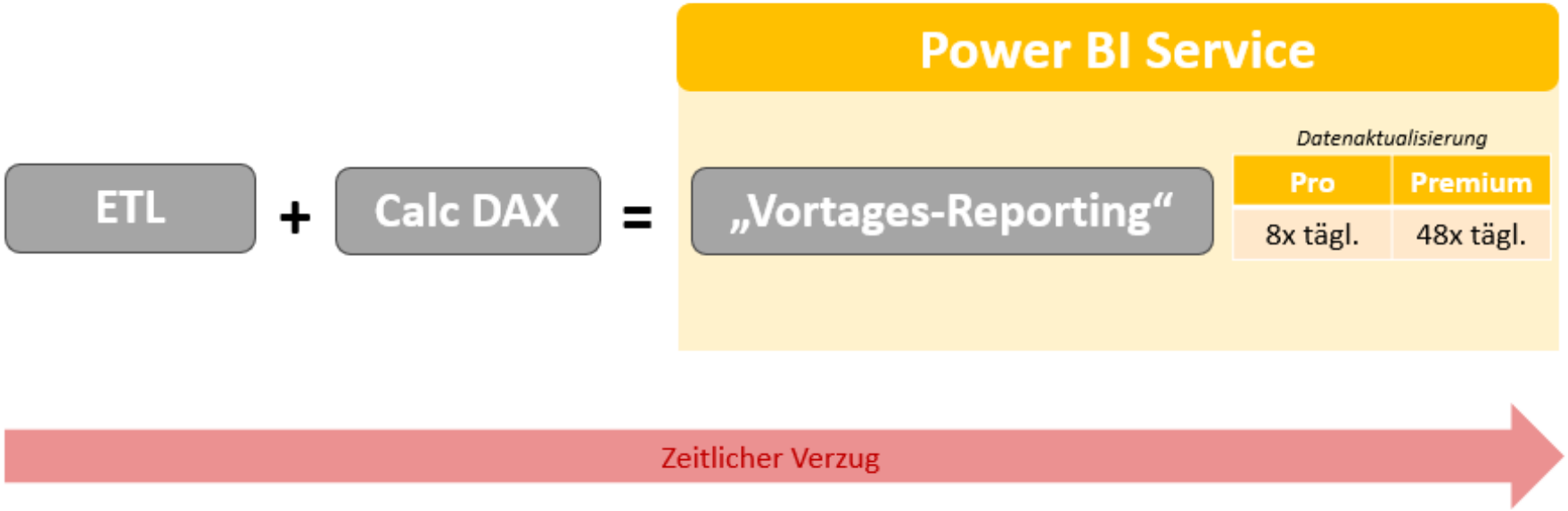
Microsoft Certified – Azure Data Engineer – Associate

Microsoft Certified – Power BI Data Analyst – Associate

BISHER

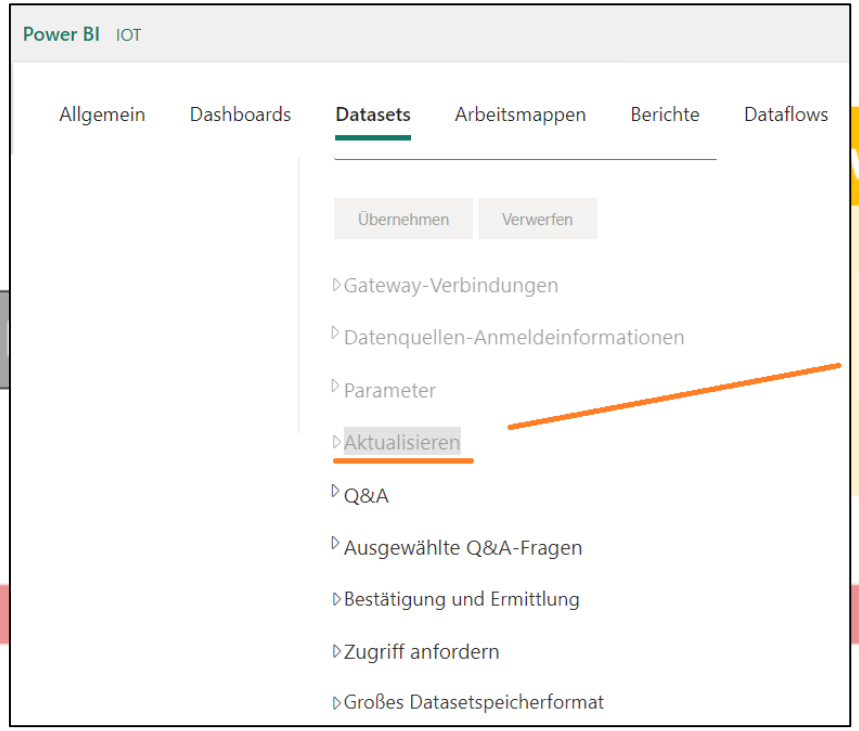

INGEST
STORE
MODEL & SERVE
Dim_load.dtsx
Fact_load.dtsx
DELL EMC
NetApp
Microsoft SQL Server
relational DWH
SSAS
SSRS

BISHER


Power BI Service
ETL
+
Calc DAX
=
„Vortages-Reporting“
Datenaktualisierung
Pro
Premium
8x tägl.
48x tägl.
Zeitlicher Verzug

BISHER

ETL + Calc

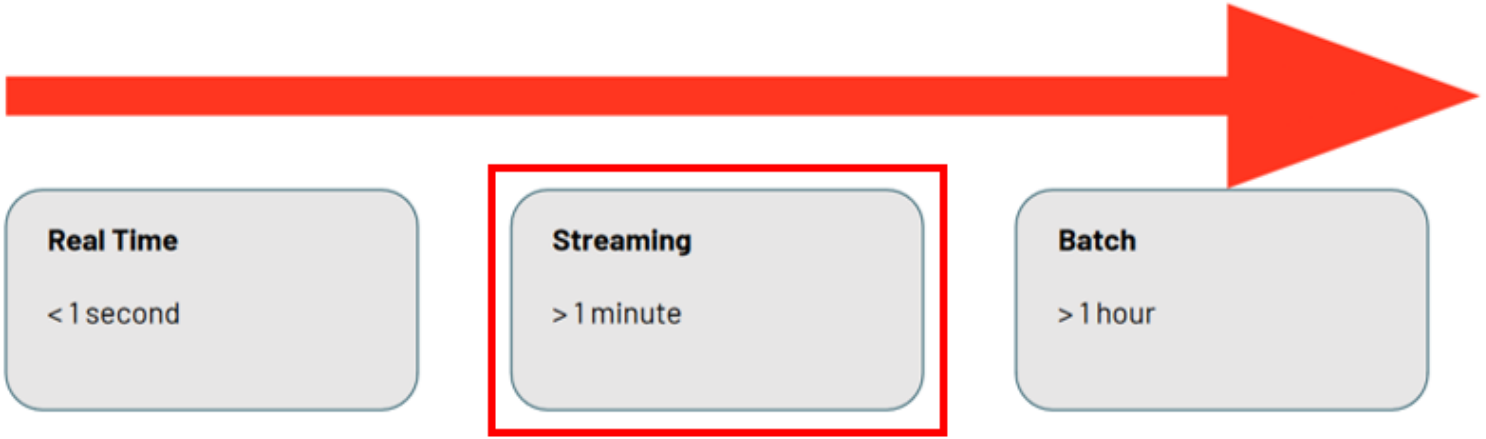


vice

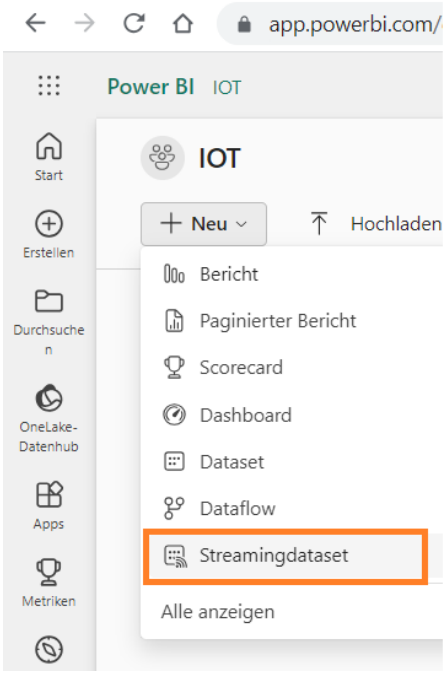
Datenaktualisierung

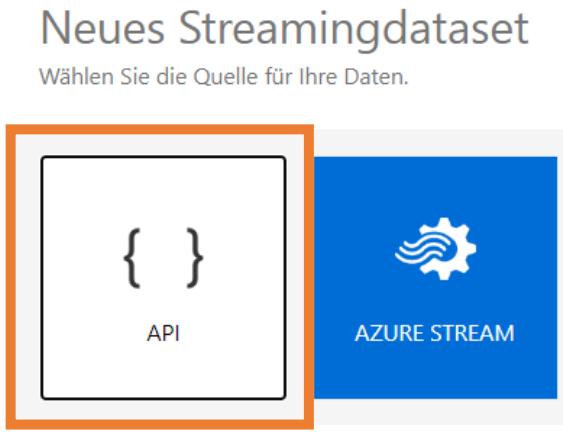
Pro	Premium
8x tägl.	48x tägl.

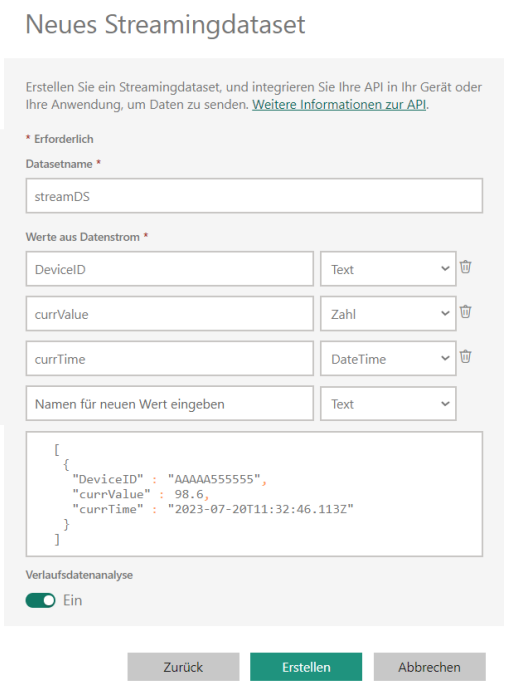
JETZT



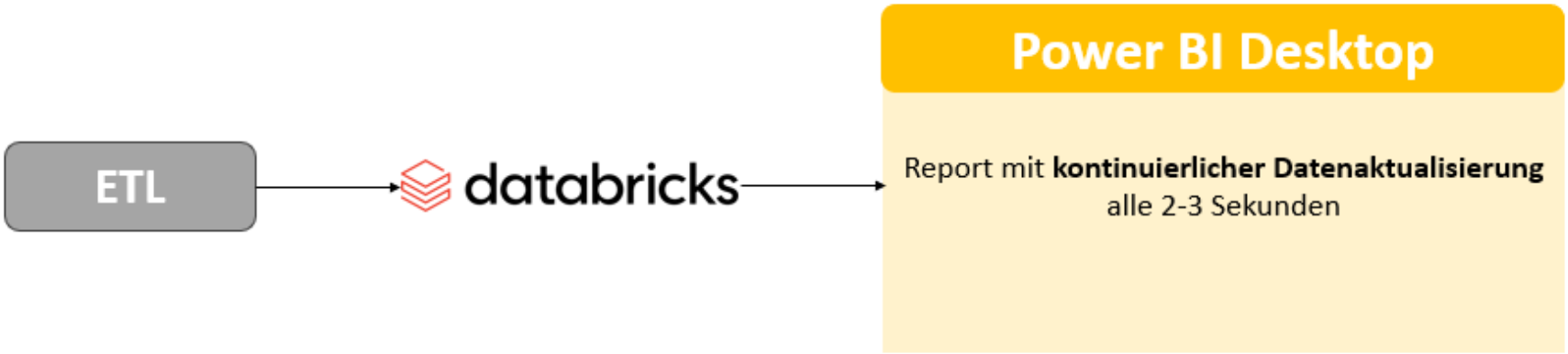
PBI CLOUD-VARIANTE



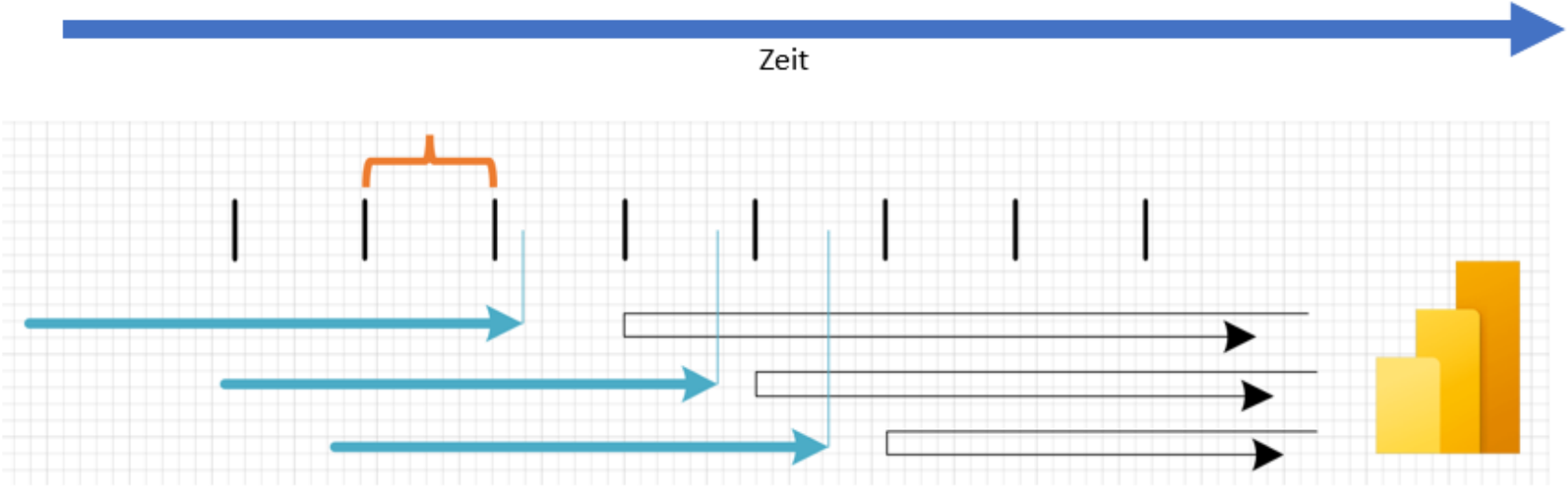




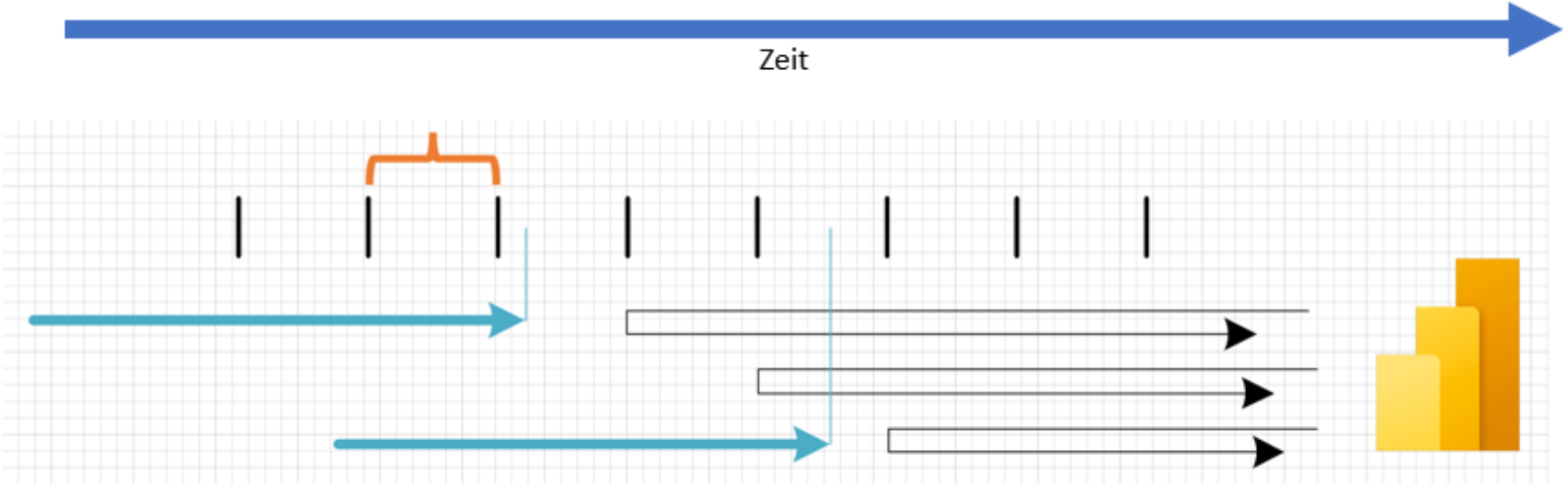
JETZT


ETL
databricks
Power BI Desktop
Report mit **kontinuierlicher Datenaktualisierung**
alle 2-3 Sekunden

ZEITLICHE ABFOLGE



ZEITLICHE ABFOLGE



DEMO

Beispiel 1



FEINHEITEN

- .gif-Animation



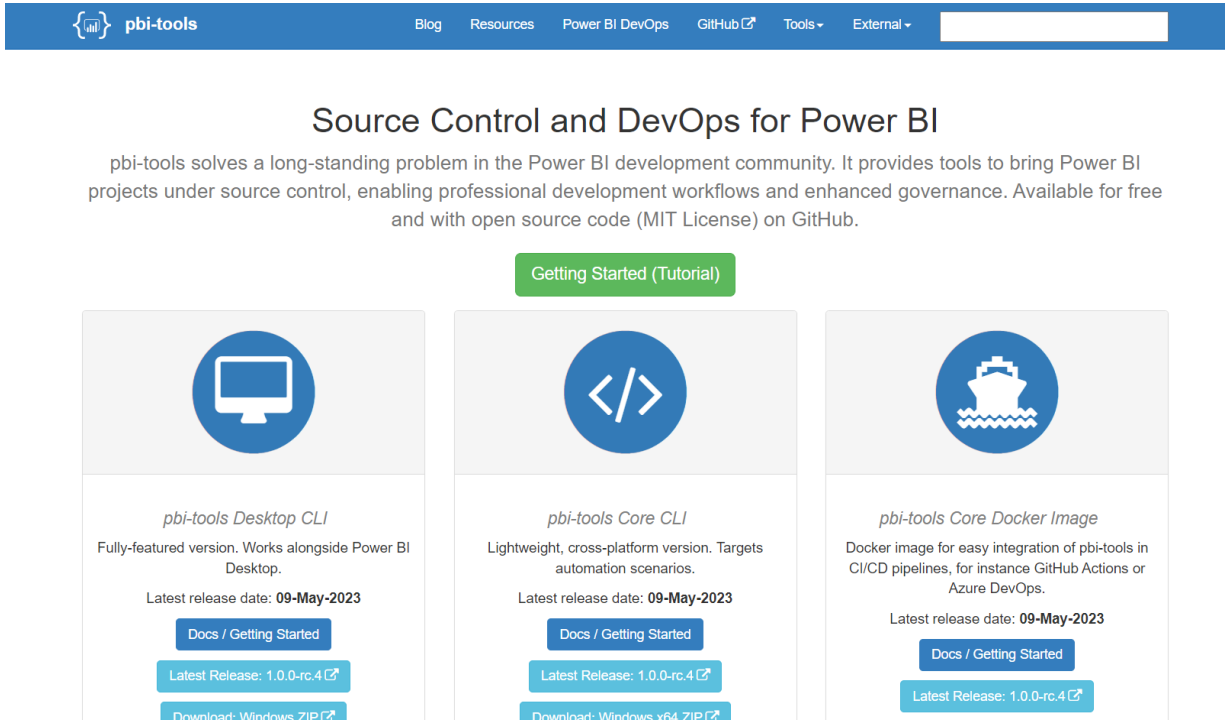
In neuester PBI Version leider nicht mehr verfügbar

- Security im SQL-Server
- SQL Table/ View muss bereits „Struktur“ für charting besitzen (z.B. tsql-Window functions)

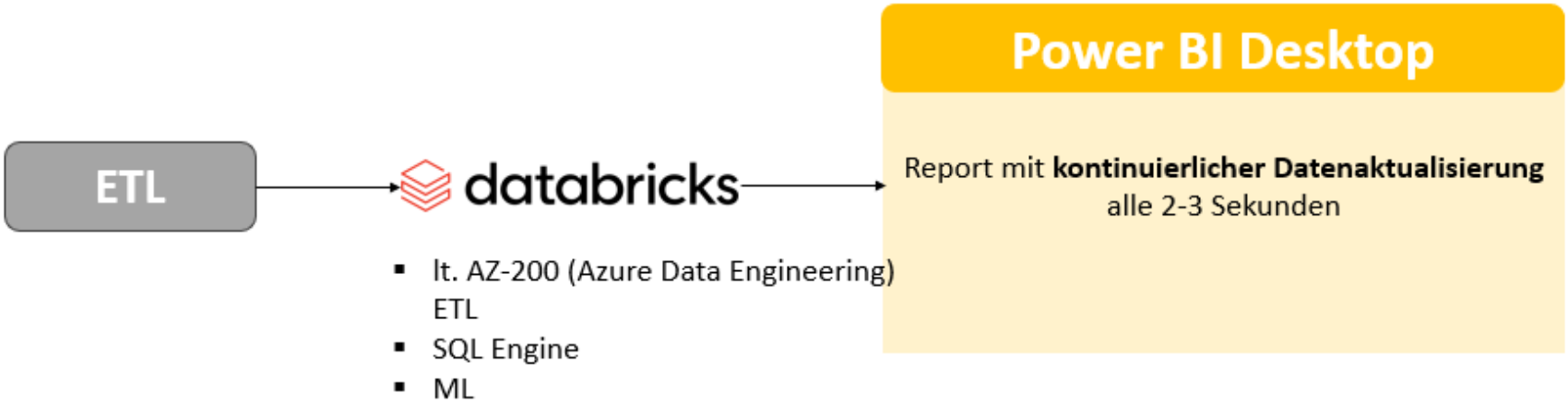
DEPLOYMENT

- Security zentral im SQL-Server
  (PowerBI ist „Desktop-App“, keine Web-Application)
- copy-Deployment (einfach zu realisieren)
- besser mit „Berichtsvorlagen „.pbit“
  vermeidet „unerwünschte“ Datenweitergabe
- .. oder via „DevOps“

DEPLOYMENT


pbi-tools
Blog
Resources
Power BI DevOps
GitHub
Tools
External
Source Control and DevOps for Power BI
pbi-tools solves a long-standing problem in the Power BI development community. It provides tools to bring Power BI projects under source control, enabling professional development workflows and enhanced governance. Available for free and with open source code (MIT License) on GitHub.
Getting Started (Tutorial)
pbi-tools Desktop CLI
Fully-featured version. Works alongside Power BI Desktop.
Latest release date: 09-May-2023
Docs / Getting Started
Latest Release: 1.0.0-rc.4
pbi-tools Core CLI
Lightweight, cross-platform version. Targets automation scenarios.
Latest release date: 09-May-2023
Docs / Getting Started
Latest Release: 1.0.0-rc.4
pbi-tools Core Docker Image
Docker image for easy integration of pbi-tools in CI/CD pipelines, for instance GitHub Actions or Azure DevOps.
Latest release date: 09-May-2023
Docs / Getting Started
Latest Release: 1.0.0-rc.4

JETZT


ETL
databricks
Power BI Desktop
Report mit **kontinuierlicher Datenaktualisierung**
alle 2-3 Sekunden
lt. AZ-200 (Azure Data Engineering)
ETL
SQL Engine
ML

WAS LEIDER NICHT GEHT

- .parquet & .delta

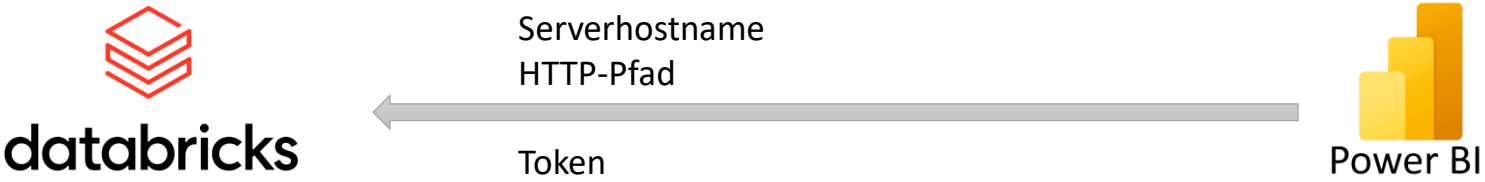
  können in PowerBI verwendet werden, aber NICHT im Direct-Query Mode → der BlobStorage ist keine „intelligente“ Datenquelle

- PowerQuery/ M muss den Import durchführen

UMSETZUNG

1. CREATE DATABASE
2. Dataframe. … .saveAsTable(„DatabaseName.TableName“)
3. JobSchedule

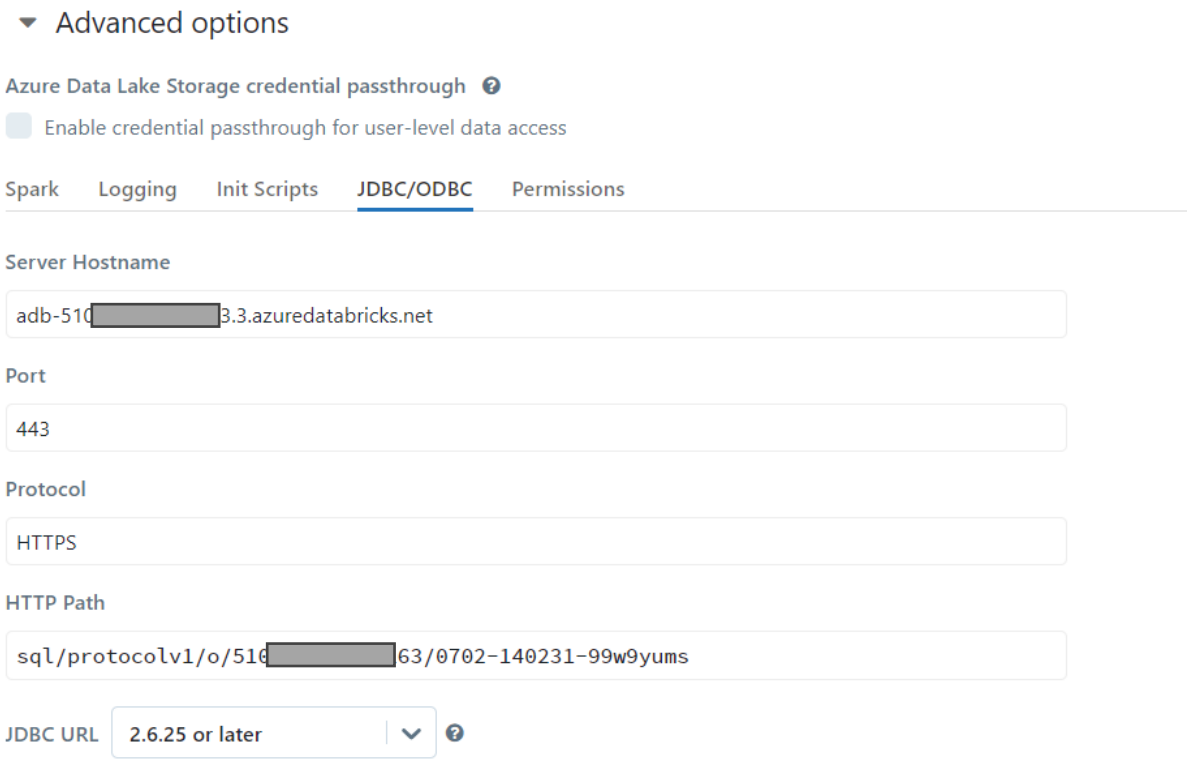
Connect from PowerBI



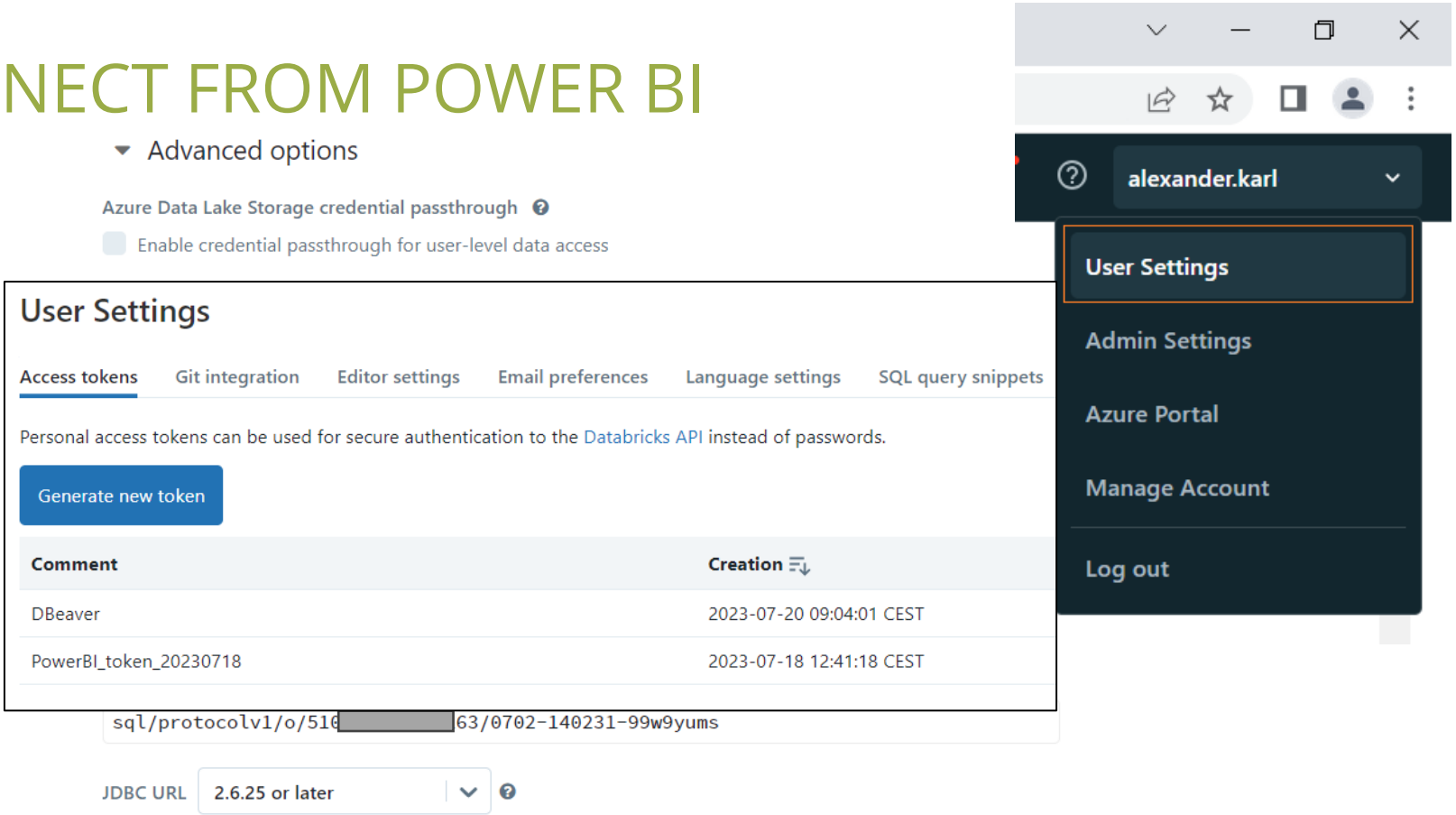
Beispiel:

Server: `adb-7000000000902215.15.azuredatabricks.net`
HTTP: `sql/protocolv1/o/7000000000902215/0905-120717-3vyupm2a`
Token: `dapi7098be000000000bb7cbc76cb989f1f2-2`

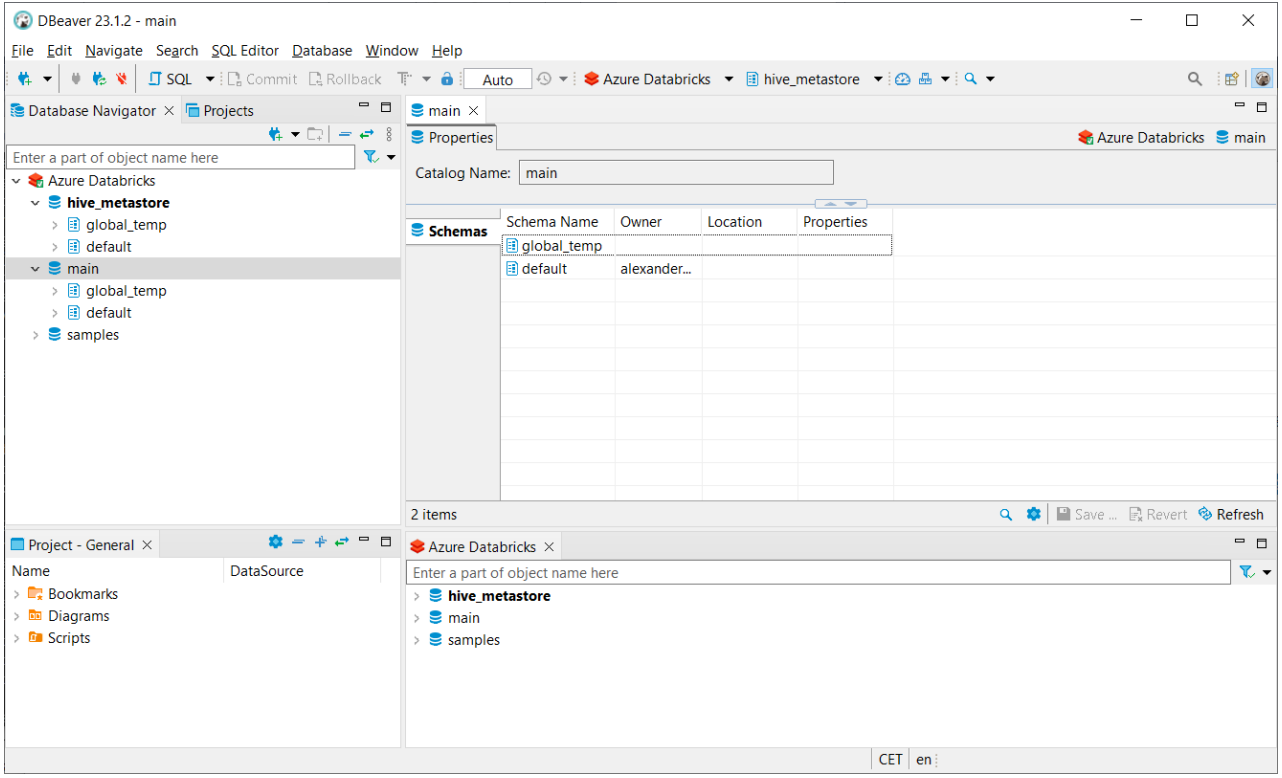
CONNECT FROM POWER BI



CONNECT FROM POWER BI



DBEAVER


DBeaver 23.1.2 - main
File Edit Navigate Search SQL Editor Database Window Help
SQL Commit Rollback Auto Azure Databricks hive_metastore
Database Navigator Projects
Enter a part of object name here
Azure Databricks
hive_metastore
global_temp
default
main
global_temp
default
samples
main
Properties
Azure Databricks main
Catalog Name: main
Schemas
Schema Name Owner Location Properties
global_temp
default alexander...
2 items
Save ... Revert Refresh
Project - General
Name DataSource
Bookmarks
Diagrams
Scripts
Azure Databricks
Enter a part of object name here
hive_metastore
main
samples
CET en

DEMO

Beispiel 2



DATABRICKS SQL

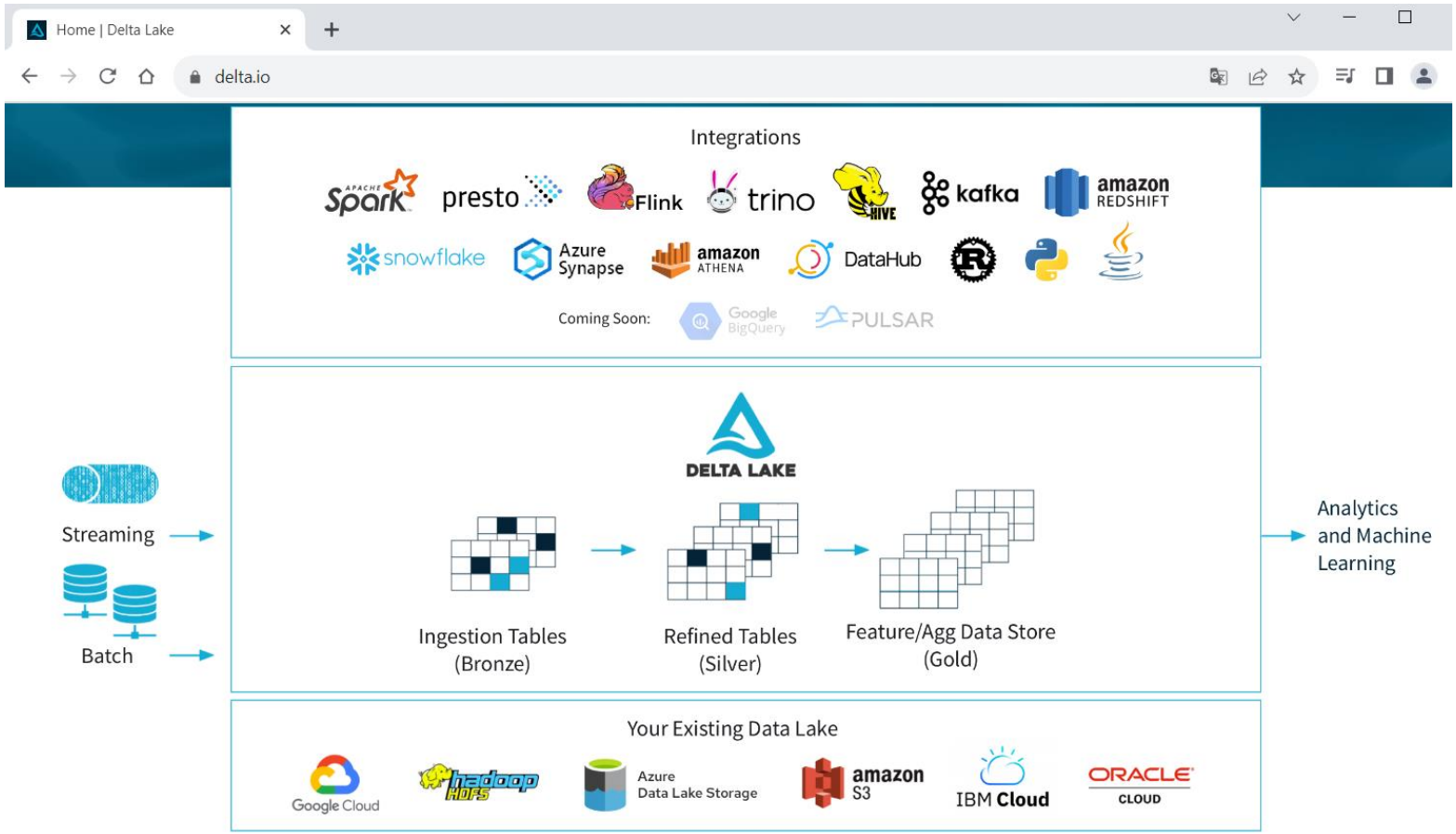
- featureset
  = ANSI-Kompatibel

- date_format
- date_from_unix_date
- date_part
- date_sub
- date_trunc
- dateadd

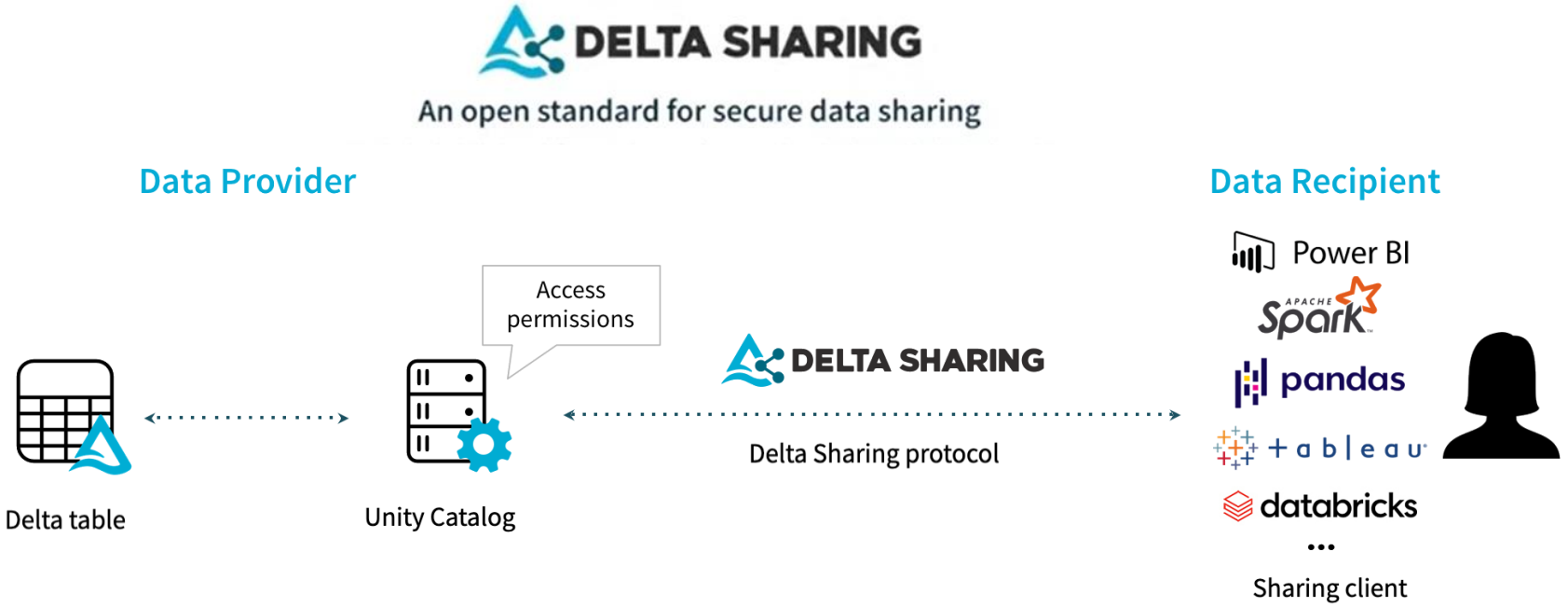
- lag
- last
- last_day
- last_value
- lcase
- lead

- xpath_int
- xpath_long
- xpath_number
- xpath_short
- xpath_string

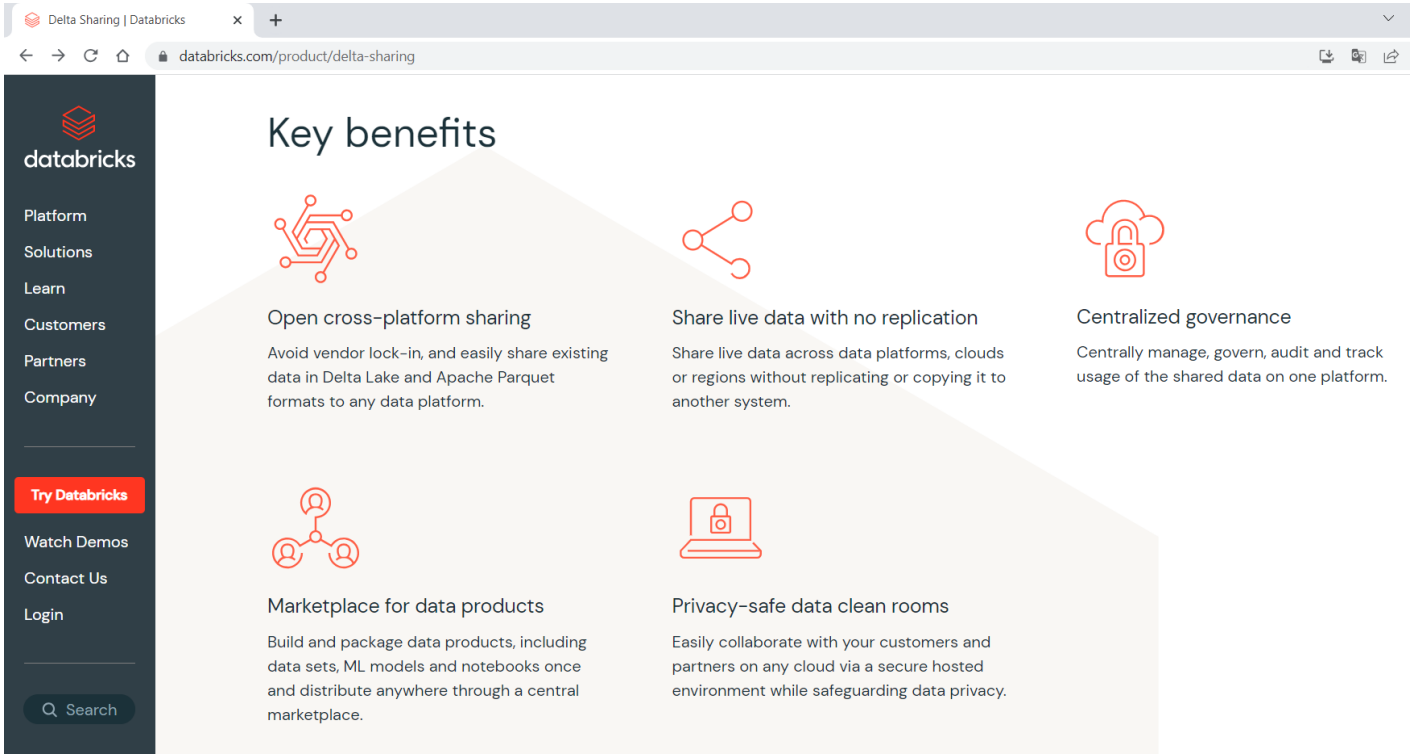
- .. das war der erste Streich


Home | Delta Lake
delta.io
Integrations
Spark
presto
Flink
trino
HIVE
kafka
amazon REDSHIFT
snowflake
Azure Synapse
amazon ATHENA
DataHub
Coming Soon:
Google BigQuery
PULSAR
Streaming
Batch
DELTA LAKE
Ingestion Tables (Bronze)
Refined Tables (Silver)
Feature/Agg Data Store (Gold)
Analytics and Machine Learning
Your Existing Data Lake
Google Cloud
hadoop HDFS
Azure Data Lake Storage
amazon S3
IBM Cloud
ORACLE CLOUD

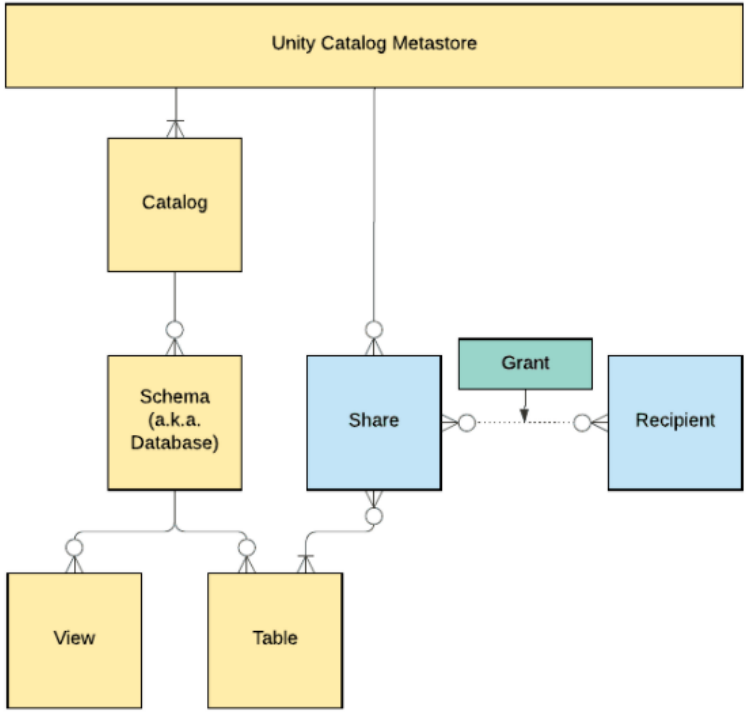
DELTA SHARING



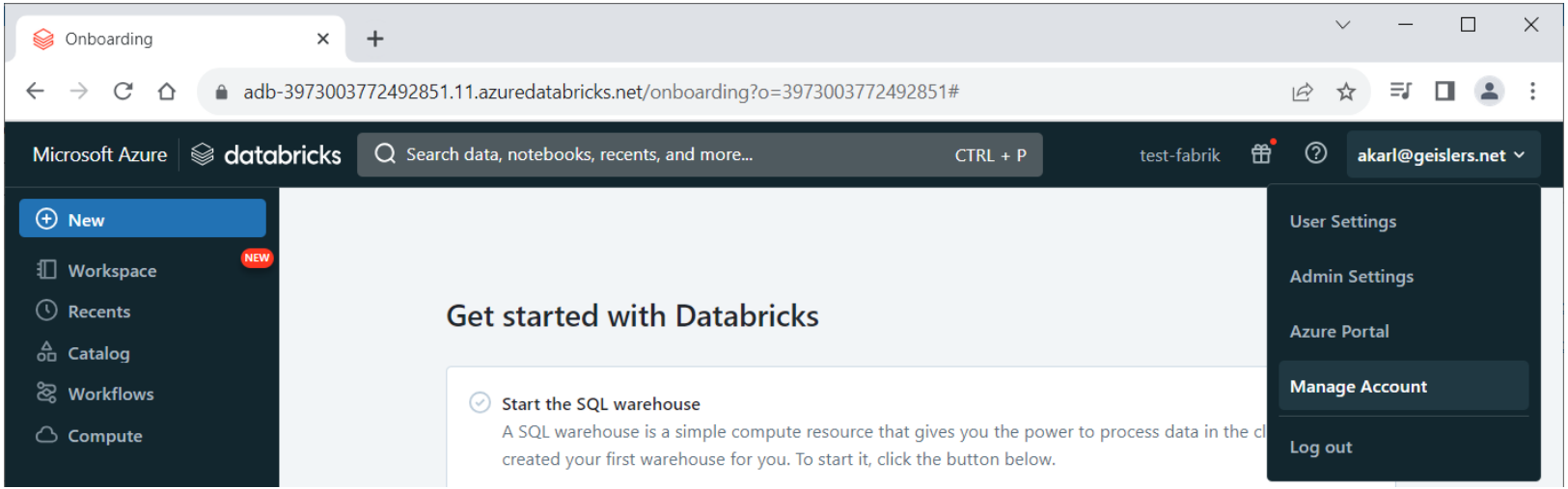
DELTA SHARING



PREREQUISIT: UNITY CATALOG

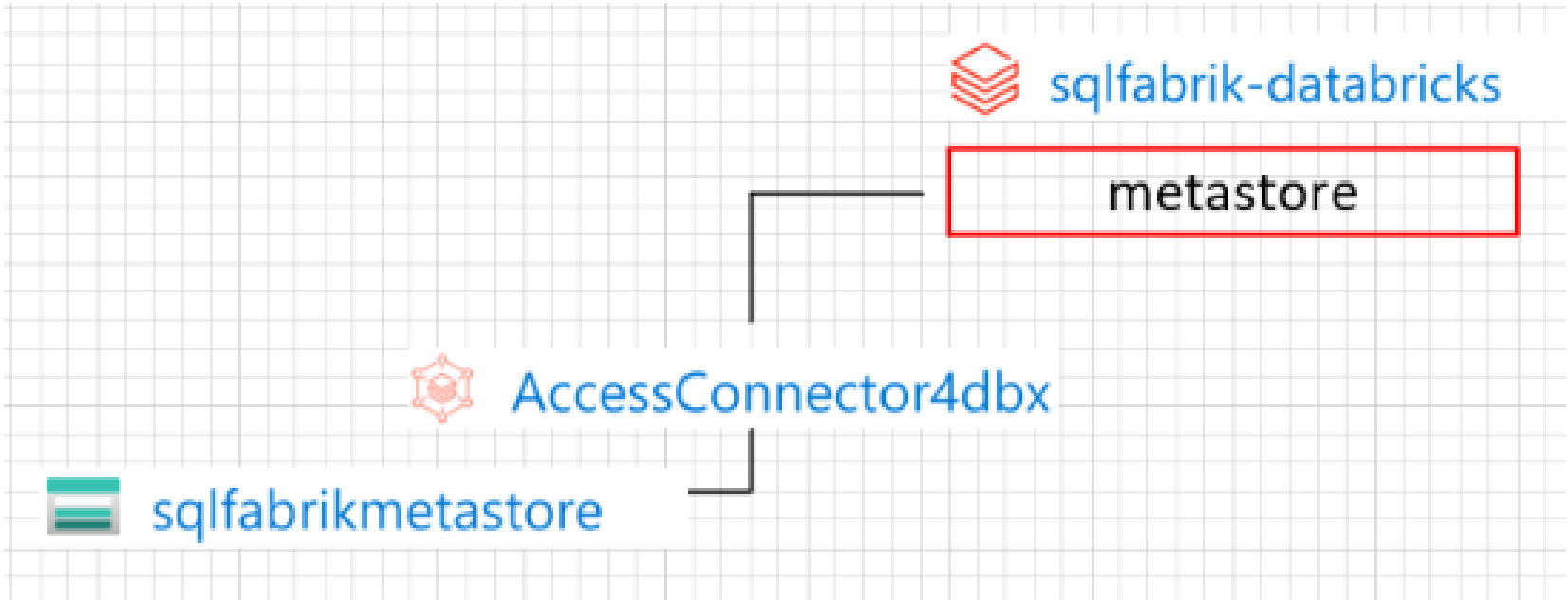


DELTA SHARING



bei fehlender „Admin“ Berechtigung leitet das [Manage Account] wieder zum Workspace ..
https://learn.microsoft.com/de-de/azure/databricks/administration-guide/#account-admins

DELTA SHARING



DEMO

Beispiel 3



LINKS

- https://sql-fabrik.de/Databricks/
- https://sql-fabrik.de/BI-workbook/SQLDB_Verlag__Schema-Information.pdf
- https://github.com/sqlfabrik-pictures



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Thank you very much for your attention.

Vielen Dank für Eure Aufmerksamkeit.