Ingesting Real-Time Data with MS FABRIC and KUSTO

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Speaker Bio:

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- Data Engineer
- Columnist in several tech portals with +250 publications

Agenda

What is MS FABRIC

Streaming Data

About KUSTO

Demo

Reviewing Steps

Summary

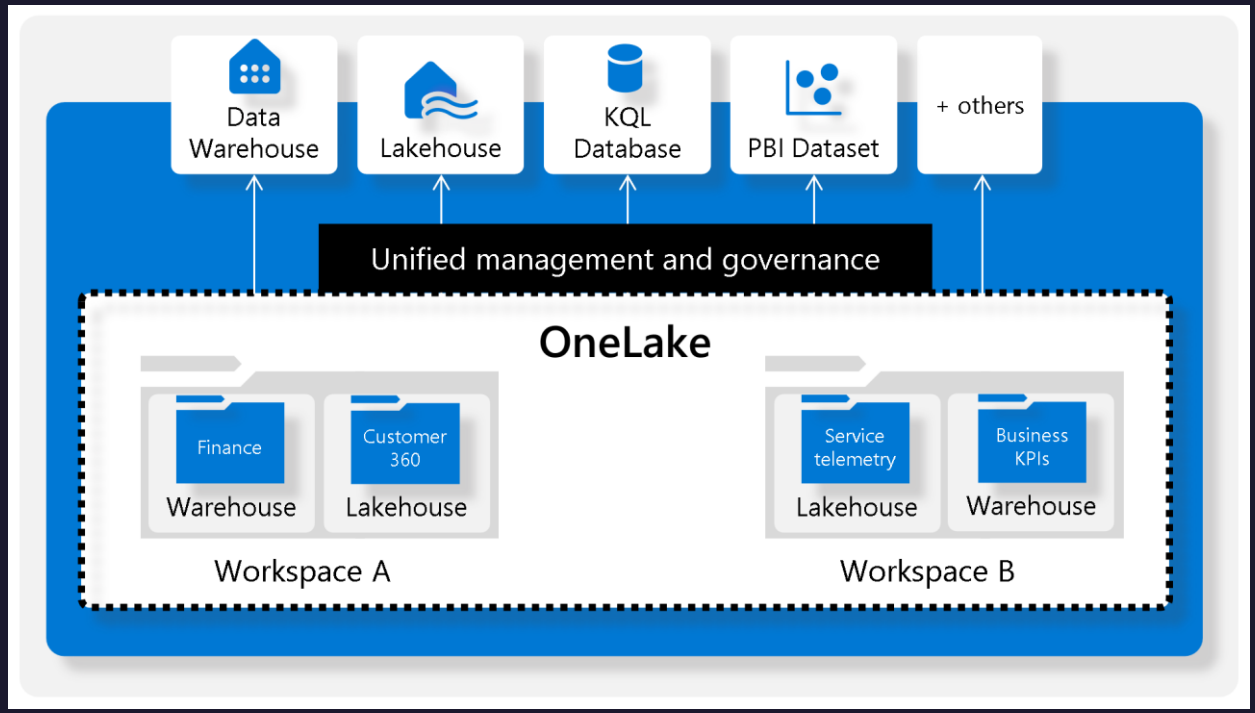



What is MS FABRIC

- It's a SAAS Analytical Solution that provides an end-to-end platform
- It offers a complete analytical solution based on MS cloud resources
- MS believes FABRIC will be a game changer in Analytical realm
- FABRIC is now on public preview

MS FABRIC & OneLake

- "OneLake is a single, unified, logical data lake for your whole organization"
- One single place for all your analytics data
- Like OneDrive, it uses the concept of Distributed Ownership
- So, you can share data from your workspace with other collaborators
- Collaboration **avoid duplicating data**



Streaming Data

- Wikipedia: “data that is continuously generated by different sources”
- Data that is collected and analyzed in near real time
- Widely used for monitoring purposes, triggering preventive and/or reactive measures

Batch vs Near Real-Time Analysis

BATCH

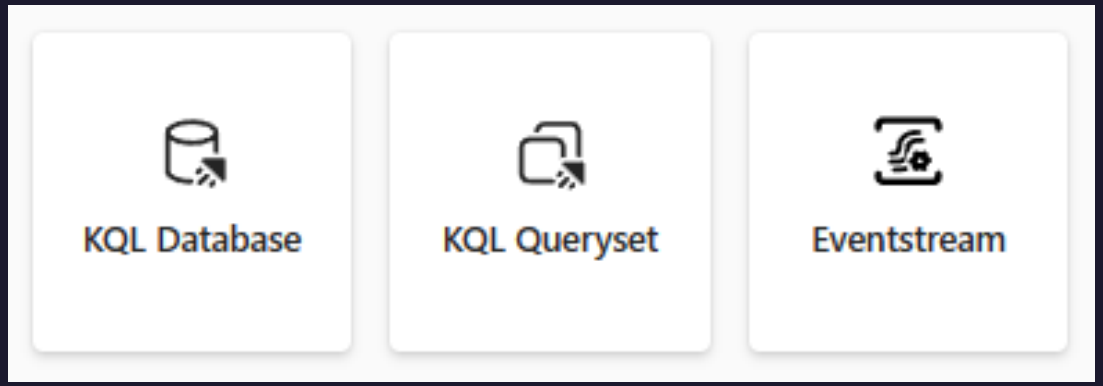
- How many yellow cars are there in the parking lot?

NEAR REAL-TIME

- How many yellow cars exit the parking lot each hour?

About KUSTO

- One can understand KUSTO as a staging area to collect incoming measures, save it to a special database and execute queries over the data streaming.
- It is designed to handle near real-time data (example: telemetry)
- BUT you can combine real-time and batch processing
- It offers dozens of built-in statistical functions (and you can add your own UDF)



Writing KUSTO Queries

- At first sight, KUSTO queries look like SQL queries
- But you will soon find out that KUSTO is focused on statistics and data is frequently handled as **arrays**.
- Language is case sensitive, sequence of clauses is important, and pipes are required

Kusto Query 1

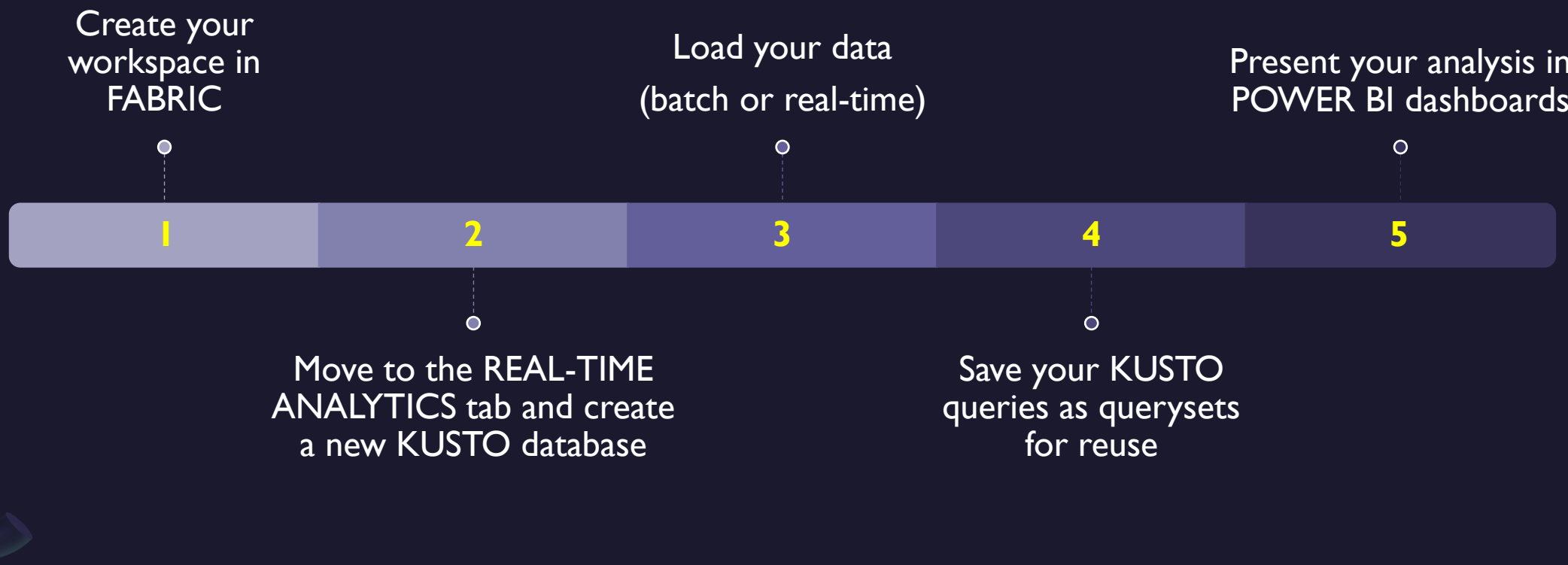
```
// filter activity for the last 10 min from table Traffic, and show the plates moving cars
Traffic
| where Timestamp >= ago(10m)
| distinct VIN
```

Kusto Query 2

```
// filter activity for the last 10 min from table Traffic, and show the plates moving cars
Traffic
| where VIN in (“vin1",“vin2",“vin3")
| summarize Ave = make_list(Ave), Street = make_list(Street) by VIN
| render scatterchart
```

Time for the DEMO!

Reviewing Steps



Summary

MICROSOFT FABRIC:

- Speeds up the implementation of Modern Analytics
- Enhances collaboration within the company

KUSTO

- Offers powerful resources to analyze data
- Scalability
- Performance

Suggested Learning Paths

FABRIC

- Get started with Microsoft Fabric - Training | Microsoft Learn

KUSTO

- Tutorial: Learn common Kusto Query Language operators - Azure Data Explorer | Microsoft Learn.
- KUSTO DETECTIVE AGENCY

Thank You

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