

Getting Started with Real-Time Intelligence In Microsoft Fabric





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- Data Architect

- SQL Server
 - Since 2002
- Microsoft Azure
 - Since 2015
- Microsoft Fabric
 - Since 2022



Slides



<https://tinyurl.com/3zc9u3ze>

Agenda

Introduction

Identify the Source

Setting up the Destination

Connecting the source and destination

Taking action – based on data

Real-Time dashboards

Summary

Introduction



Microsoft Fabric



Data
Factory



Real-Time
Intelligence



Databases



Analytics



Industry
Solutions



Power BI



Partner
solutions



Copilot in Fabric



OneLake



Microsoft Purview



Microsoft Fabric

Intelligent data foundation



Data
Factory



Data
Engineering



Data
Warehouse



Data
Science



Real-Time
Intelligence



Power
BI



Industry
Solutions



Powered by AI with Copilot in Microsoft Fabric



Catalog for data in motion

Real-Time Hub

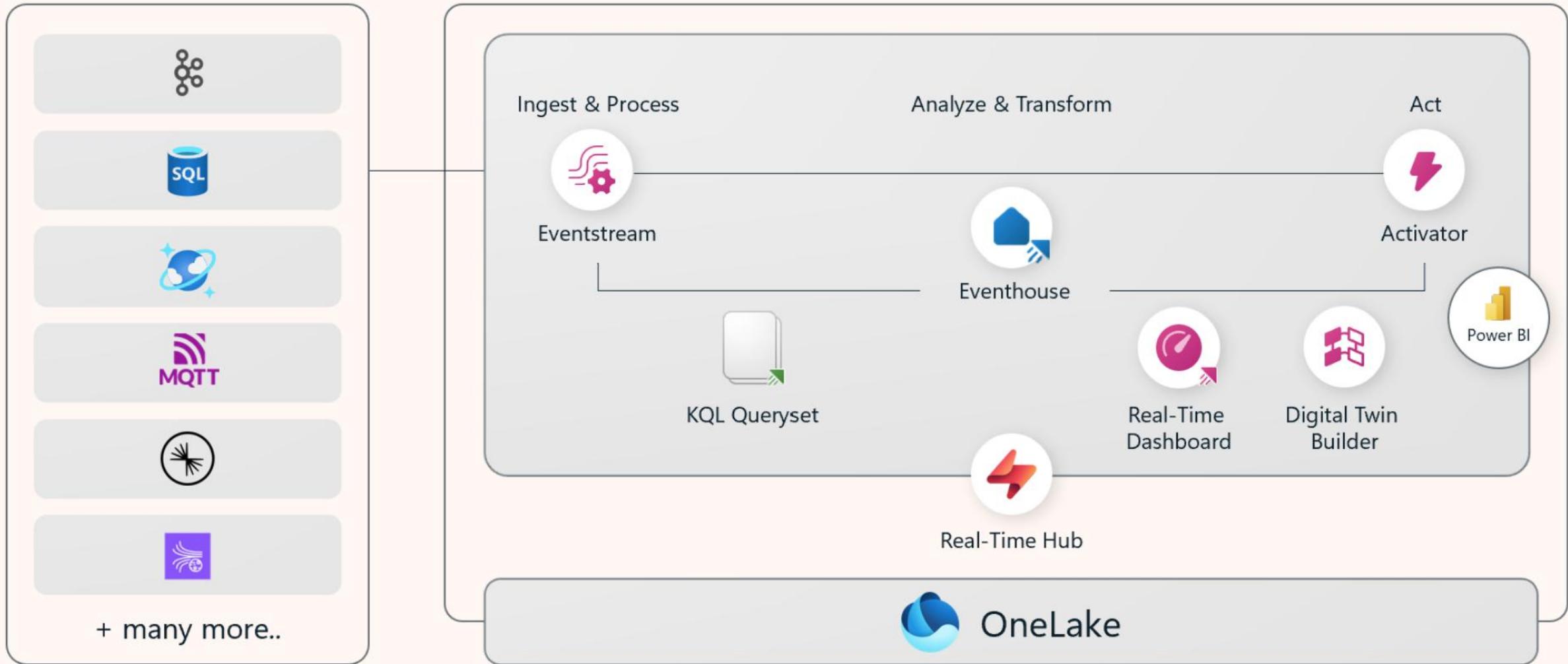


Unified data foundation

OneLake



Real-Time Intelligence in Microsoft Fabric



The Kusto Engine

Internal Microsoft development – began ~2014

Codename “Kusto”

Investigating massive amounts of telemetry data

Public Launch ~2018 – Azure Data Explorer (ADX)

Subsequently incorporated into many products

The Kusto Engine

Appearing in the following products

Azure Monitor (Log Analytics)

Azure Data Explorer (ADX) (Synapse Data Explorer Pools)

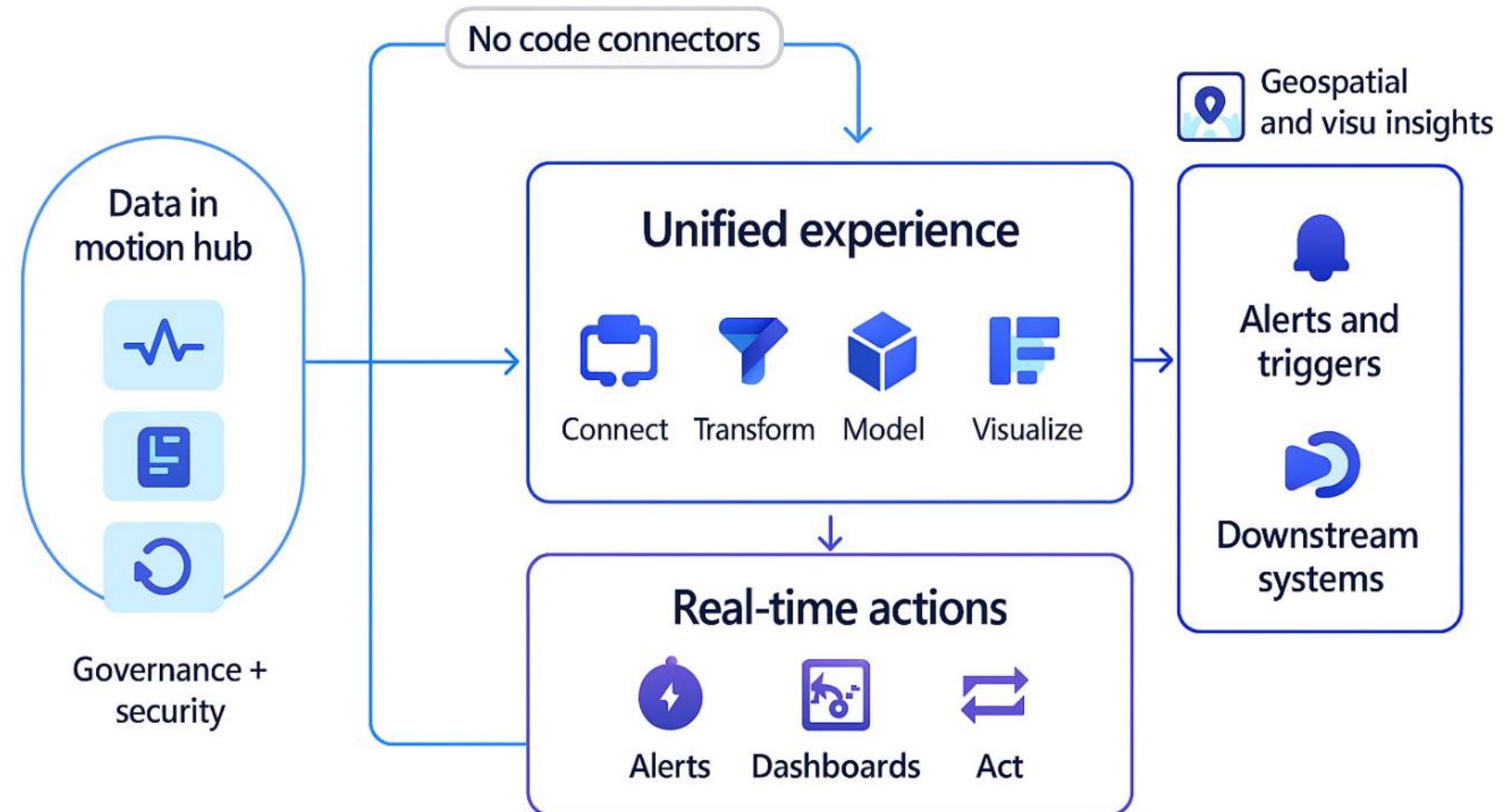
Microsoft Defender

Microsoft Sentinel (Azure Sentinel)

Microsoft Fabric's Real-Time Intelligence capabilities

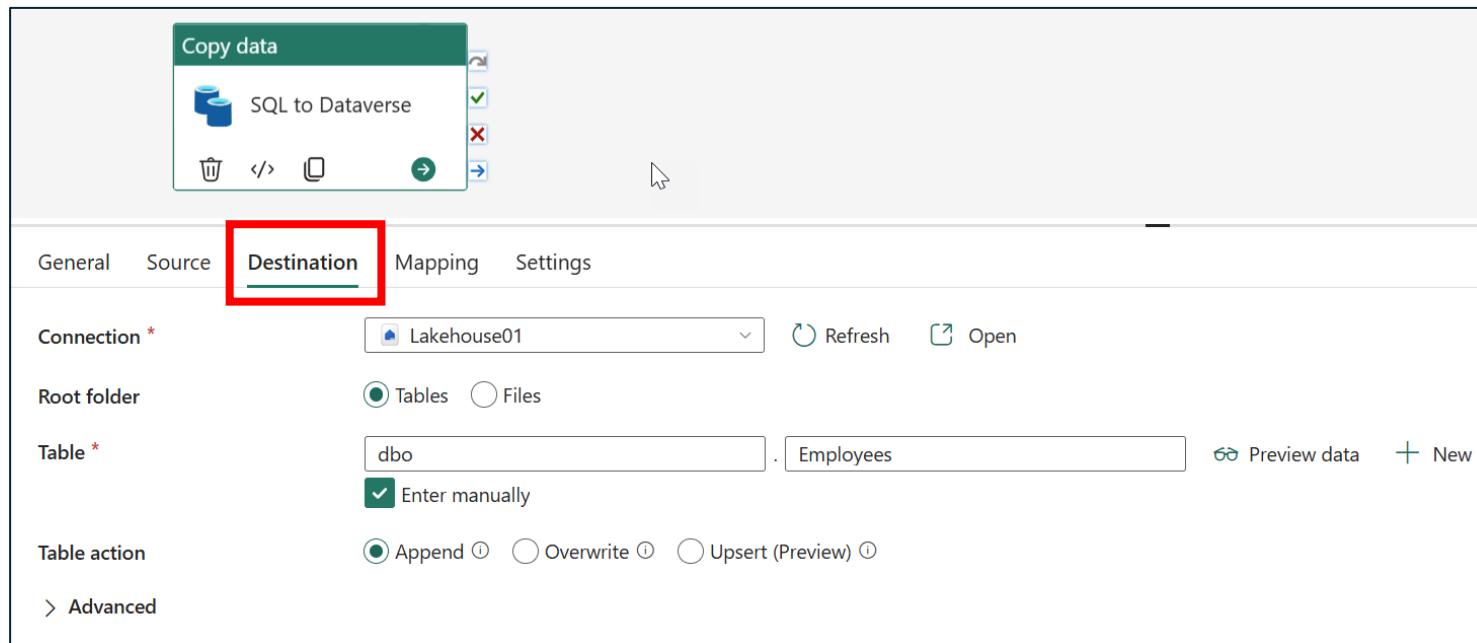
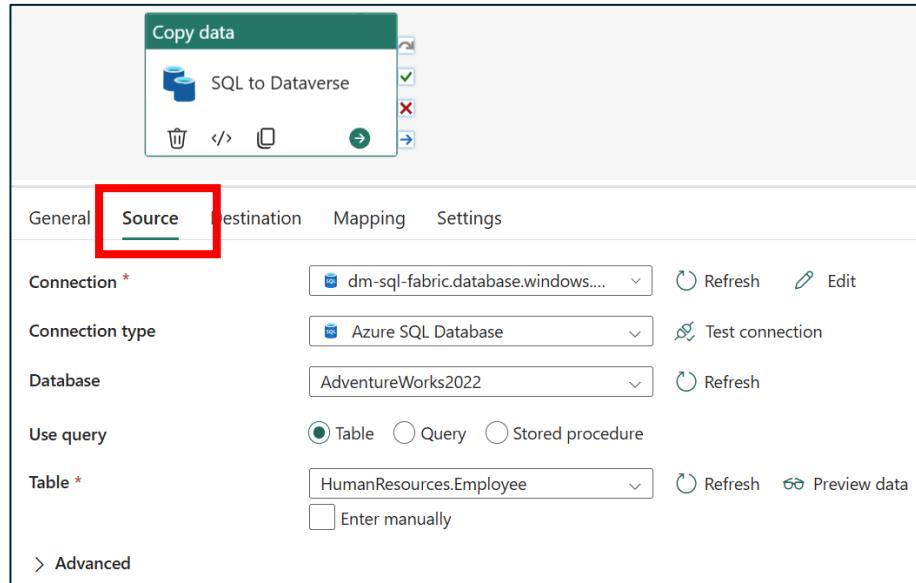
Real-Time Intelligence

Ingest, process, model and act on real-time and event-driven data in Microsoft

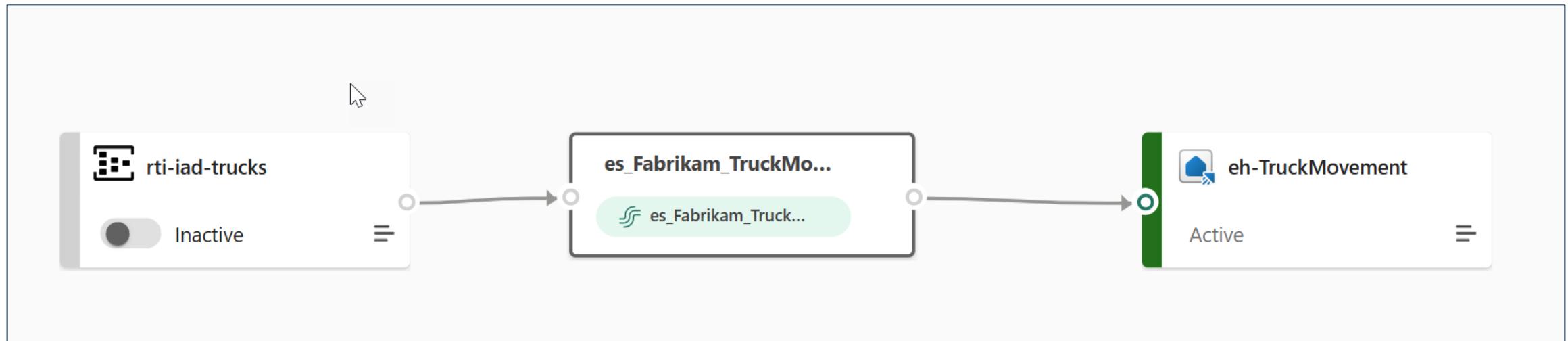


Eventstream

An analogy with Batch Data



The Eventstream



Eventstream Sources

Azure Event Hubs

Azure IoT Hub

Apache Kafka clusters

AWS Kinesis

Google Cloud Pub/Sub (GCP)

Azure Blob Storage events

Custom Source

Eventstream Sources (Events)

Azure SQL Database Change Data Capture (CDC)

Azure Cosmos DB CDC

PostgreSQL DB CDC

Fabric monitor activities - Job events

OneLake events

Workspace item events

Eventstream Destinations

KQL Database

OneLake Availability

Fabric Activator

Teams | Email

Power Automate Cloud flow

OneLake

Eventstreams

Connect to live streaming sources

Ingestion modes

Direct Ingestion

Event processing before ingestion

Schema management

Eventhouse

Eventhouse

An Eventhouse contains KQL Databases

When an Eventhouse is created

So is the first KQL Database (with the same name)

Can add another KQL Databases

Can add a follower KQL database

Link to another KQL database

KQL

```
SilverRapidDeliveryNearestDrivers
| extend OrderTime = ingestion_time()
| join kind=inner (FabrikamDeliveryTrucks) on
$left.TruckID==$right.TruckID
| project
  tostring(SalesOrderNumber), OrderTime, PickupAddressLine1,
  PickupAddressLine2, PickupPostalCode, Fullname, TruckEntranceID
| sort by OrderTime, SalesOrderNumber
| where OrderTime >= ago(5m)
```

Policy

Retention Policy

Update Policy

Capacity Policy

ManagedIdentity Policy

Real-Time Dashboards

Fabrikam, Inc.

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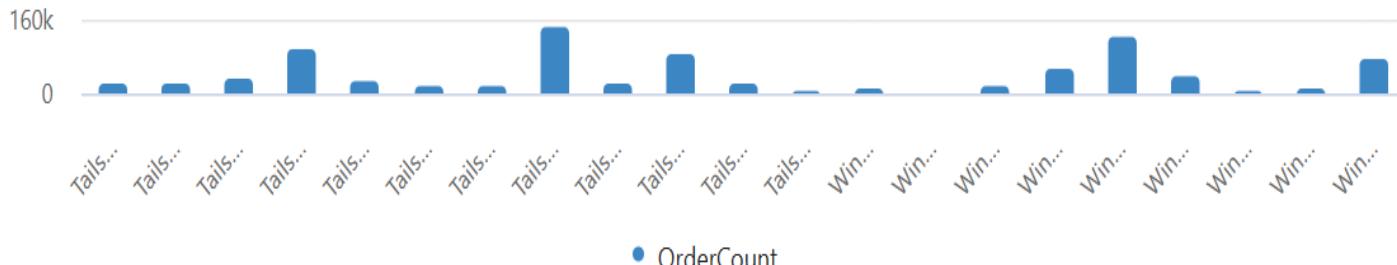
Orders within the Last Hour

As of less than a minute ago

892,324

Orders By Reseller for Last Hour

As of less than a minute ago



Edit

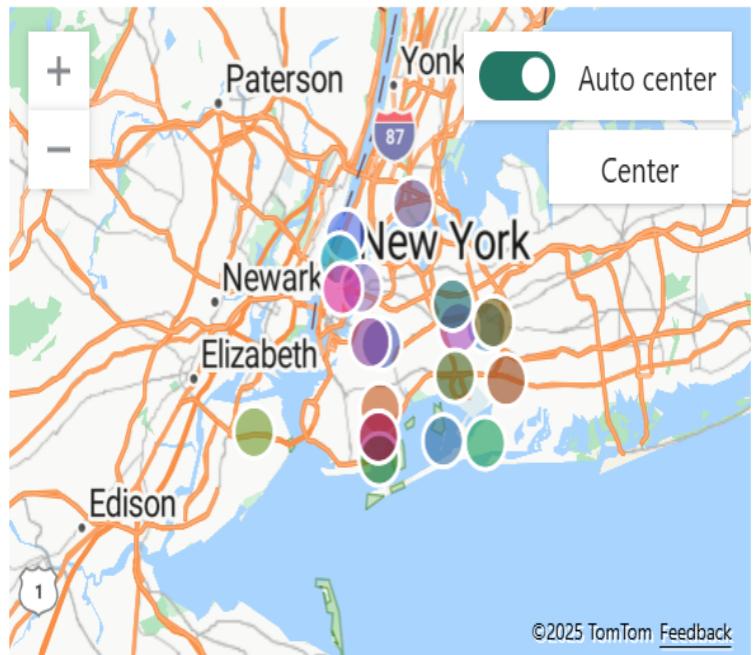
Explore data



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Truck Positions

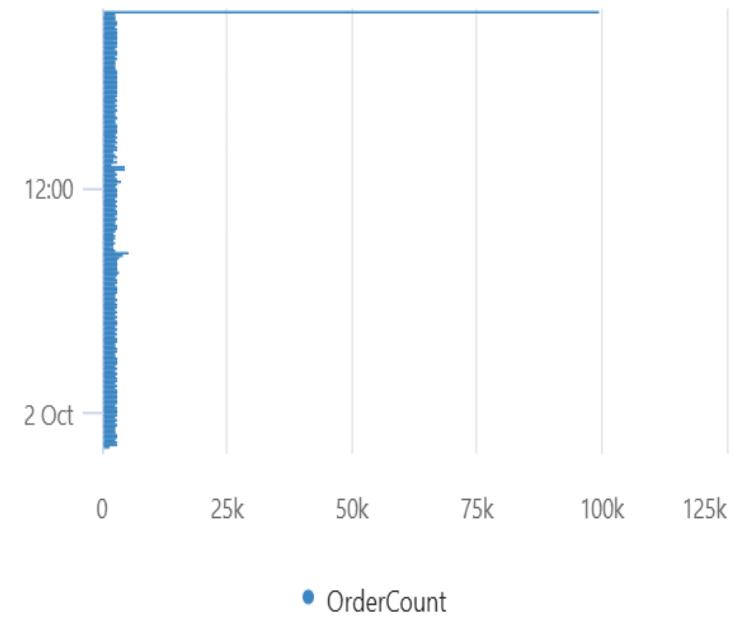
As of less than a minute ago



...

Orders Every 5 Minutes.

As of less than a minute ago



Most Recent 25 orders

25 rows · As of less than a minute ago

SalesOrderNumber	ProductName
> 795078	Tape dispenser (Red)
> 531362	DBA joke mug - daaaaaa-ta (Black)
> 796425	Halloween zombie mask (Light Brown) M
> 15584	IT joke mug - keyboard not found ⚡ pre:
> 993071	20 mm Double sided bubble wrap 20m
> 627667	Shipping carton (Brown) 480x270x320mn
> 744095	Novelty chilli chocolates 250g
> 996493	Shipping carton (Brown) 480x270x320mn
> 702220	Dinosaur battery powered clippers (Green)

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Columns

Data Activator

Stateless

Examine data based on a single discrete value

Filter

Statefull

Examine data a stream of values

Aggregates

Group by

Data Activator

Type Teams message ▼

Recipient(s) * × × ▼

-  Martin Catherall ×
-  ResellerEntralID ×

Headline * edit

A new order has been received and assigned to your store. Sales Order SalesOrderNumber

Message edit

Greetings ResellerName ×, you have a new order that has been assigned to you. See below for details.

Context i ProductName, OrderQuantity ▼

Edit action Send me a test action

Resources

[Microsoft Fabric documentation - Microsoft Fabric | Microsoft Learn](#)

[Real-Time Intelligence in Microsoft Fabric documentation - Microsoft Fabric | Microsoft Learn](#)

[Performance and Cost Benchmarking of Real-Time Data Platforms | GigaOm](#)

[FabricRTA-in-a-Day/Lab1.md at main · microsoft/FabricRTA-in-a-Day · GitHub](#)

Thank You

Slides



<https://tinyurl.com/3zc9u3ze>