March 10, 2020

# An Introduction to Databricks and Informatica Data Engineering Integration

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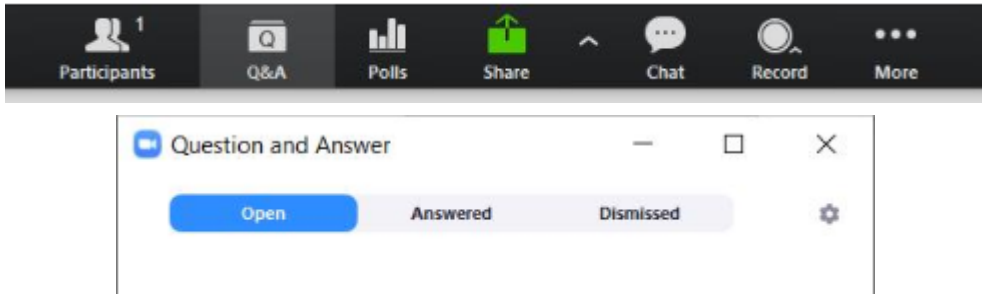
# Housekeeping Tips

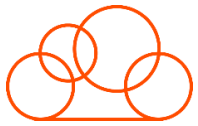



- Todays Webinar is scheduled to last 1 hour including Q&A
- All dial-in participants will be muted to enable the speakers to present without interruption
- Questions can be submitted to “All Panelists" via the Q&A option and we will respond at the end of the presentation
- The webinar is being recorded and will be available to view on our INFASupport YouTube channel and Success Portal. The link will be emailed as well.
- Please take time to complete the post-webinar survey and provide your feedback and suggestions for upcoming topics.

# Success Portal

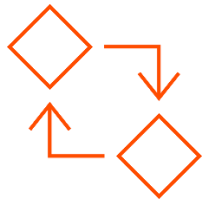
# https://success.informatica.com

## Learn. Adopt. Succeed.



Bootstrap product trial experience

Enriched Onboarding experience



FREE Product Learning Paths and weekly Expert sessions

Informatica Concierge with Chatbot integrations

Tailored training and content recommendations



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# Safe Harbor

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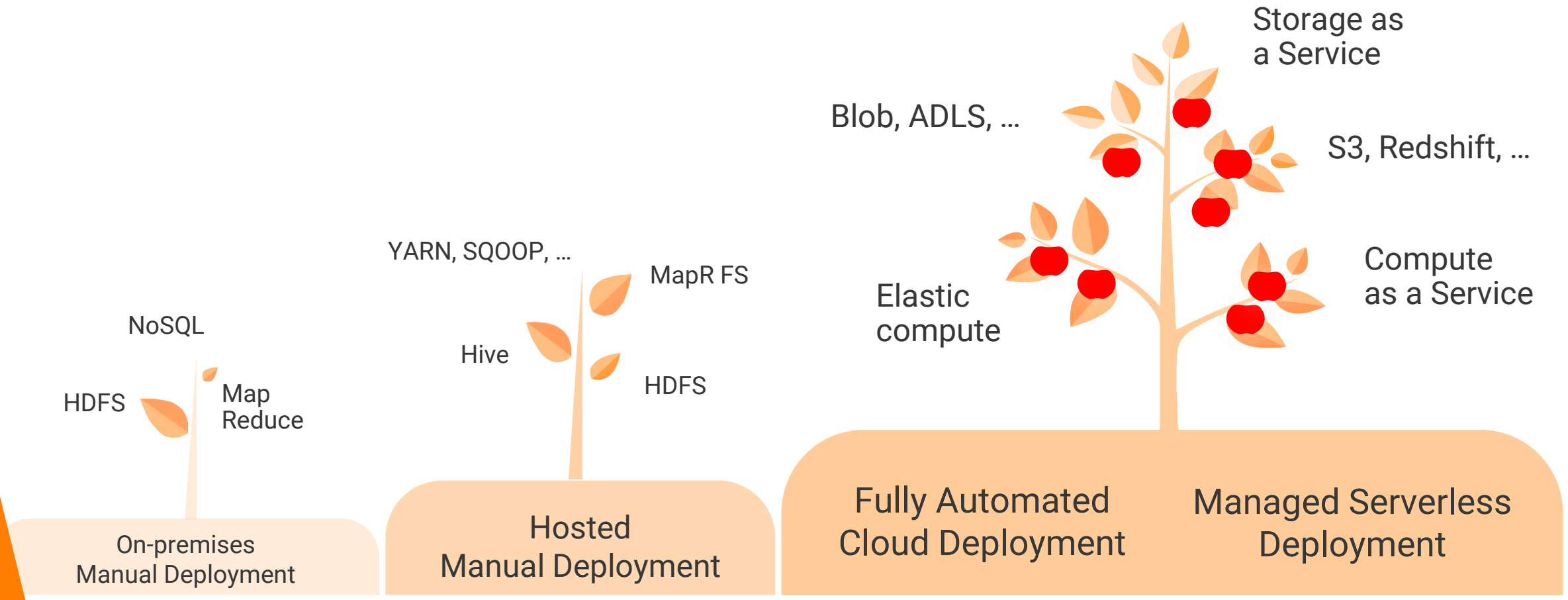
Statements made today are based on currently available information, which is subject to change. Such statements should not be relied upon as a representation, warranty or commitment to deliver specific products or functionality in the future.

# Agenda

- Databricks Introduction
- Databricks Delta Lake Introduction
- Informatica Data Engineering Configuration for Databricks
- Databricks Delta Lake Source/Targets in Informatica Data Engineering
- Demo
- Troubleshooting and self-service
- Q&A

# Databricks Introduction

# Ever-Evolving Big Data Technology







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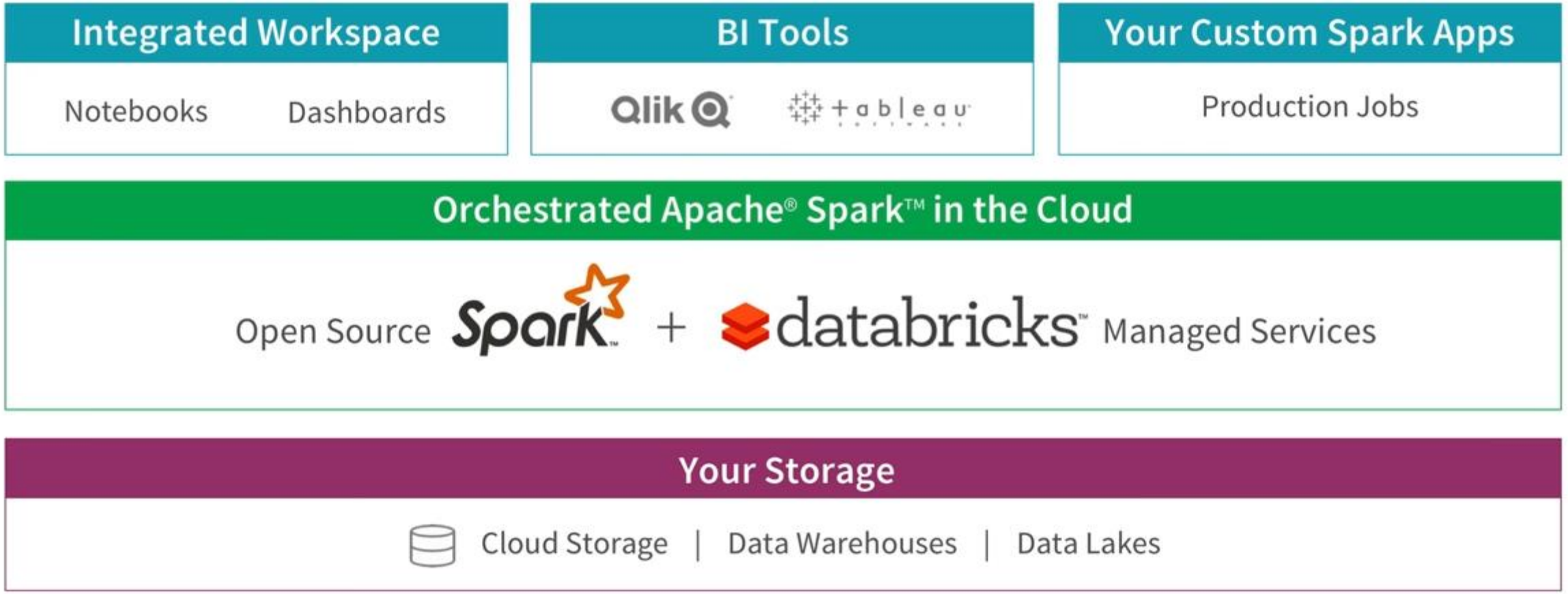
# Databricks Introduction

- Company founded by the Creators of Apache Spark (late 2013)
- Cloud/Web based platform for working with Spark, providing automated cluster management
- Available on Azure and AWS as a service (screenshots/demo Azure-based)
- Start Spark Cluster in few clicks/minutes, allowing scaling on demand

# Databricks Introduction







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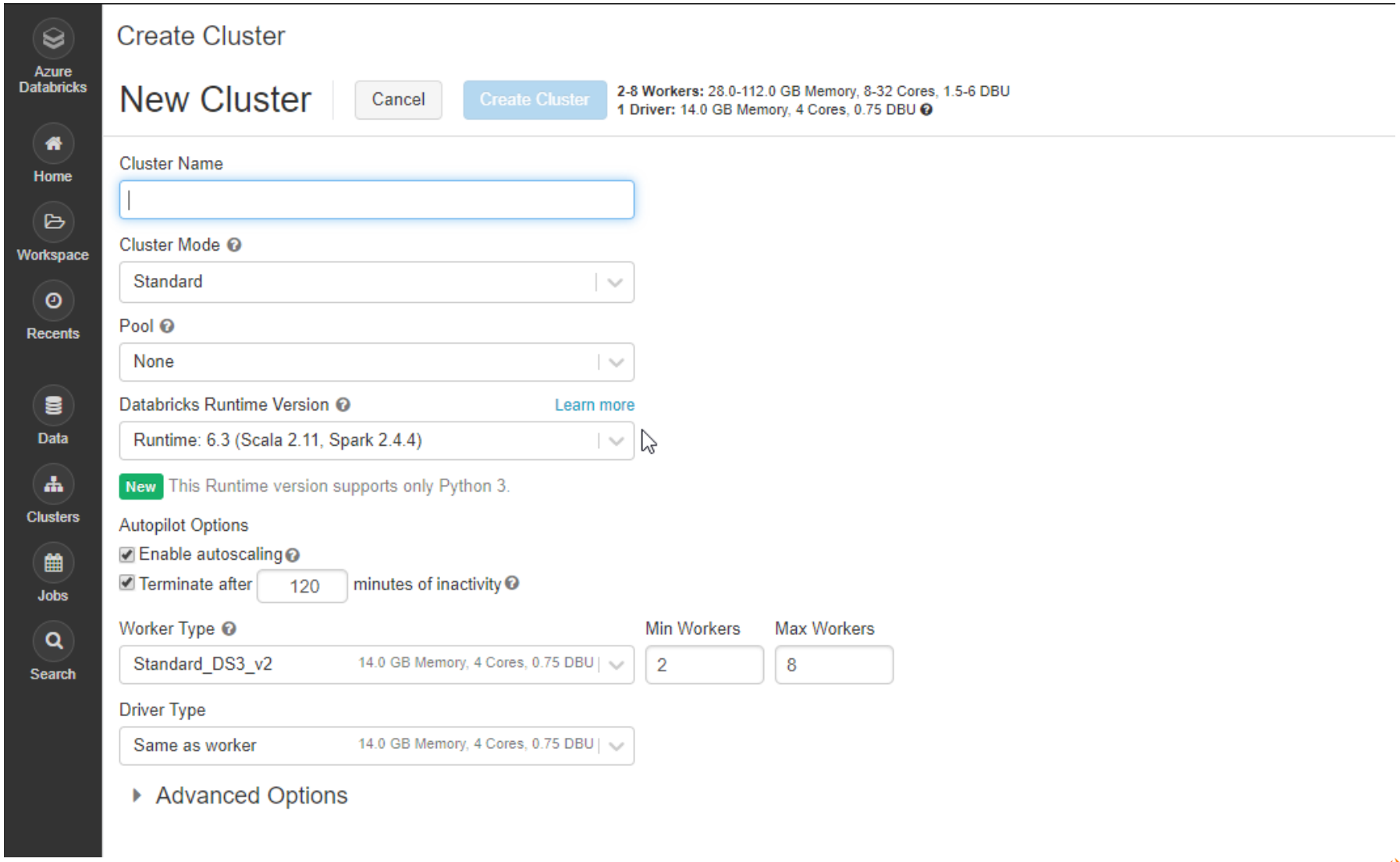
# Databricks Introduction







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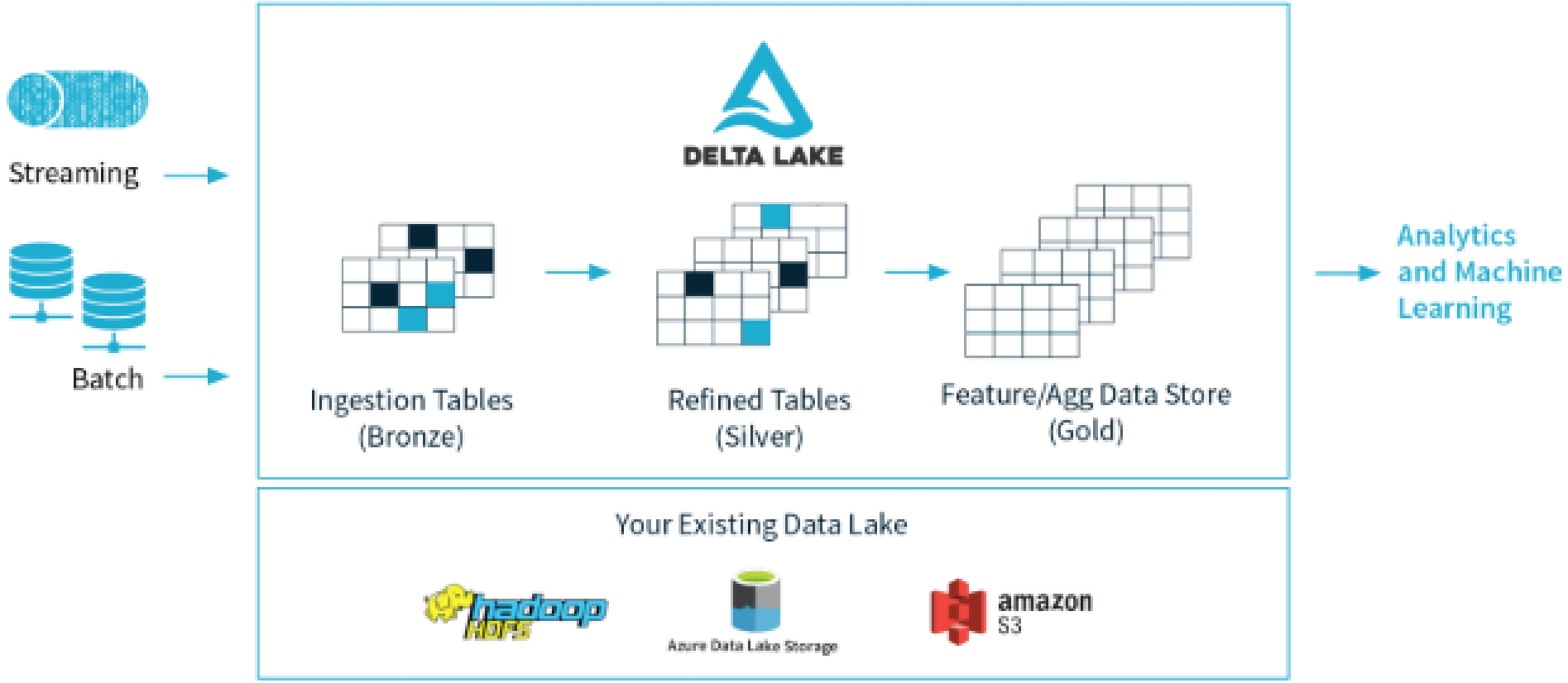
# Databricks Delta Lake Introduction

# Databricks Delta Lake Introduction

- Sits on top of your existing Data Lake (HDFS/Cloud Storage)
- Delta Lake brings ACID transactions to your data lakes
  - Achieved by using a transaction log of all the commits made to the table
- Delta Lake provides snapshots of data enabling developers to access and revert to earlier versions of data for audits, rollbacks or to reproduce experiments.
- All data in Delta lake is store in Apache Parquet format

# Databricks Delta Lake Introduction







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# Informatica Data Engineering Configuration for Databricks

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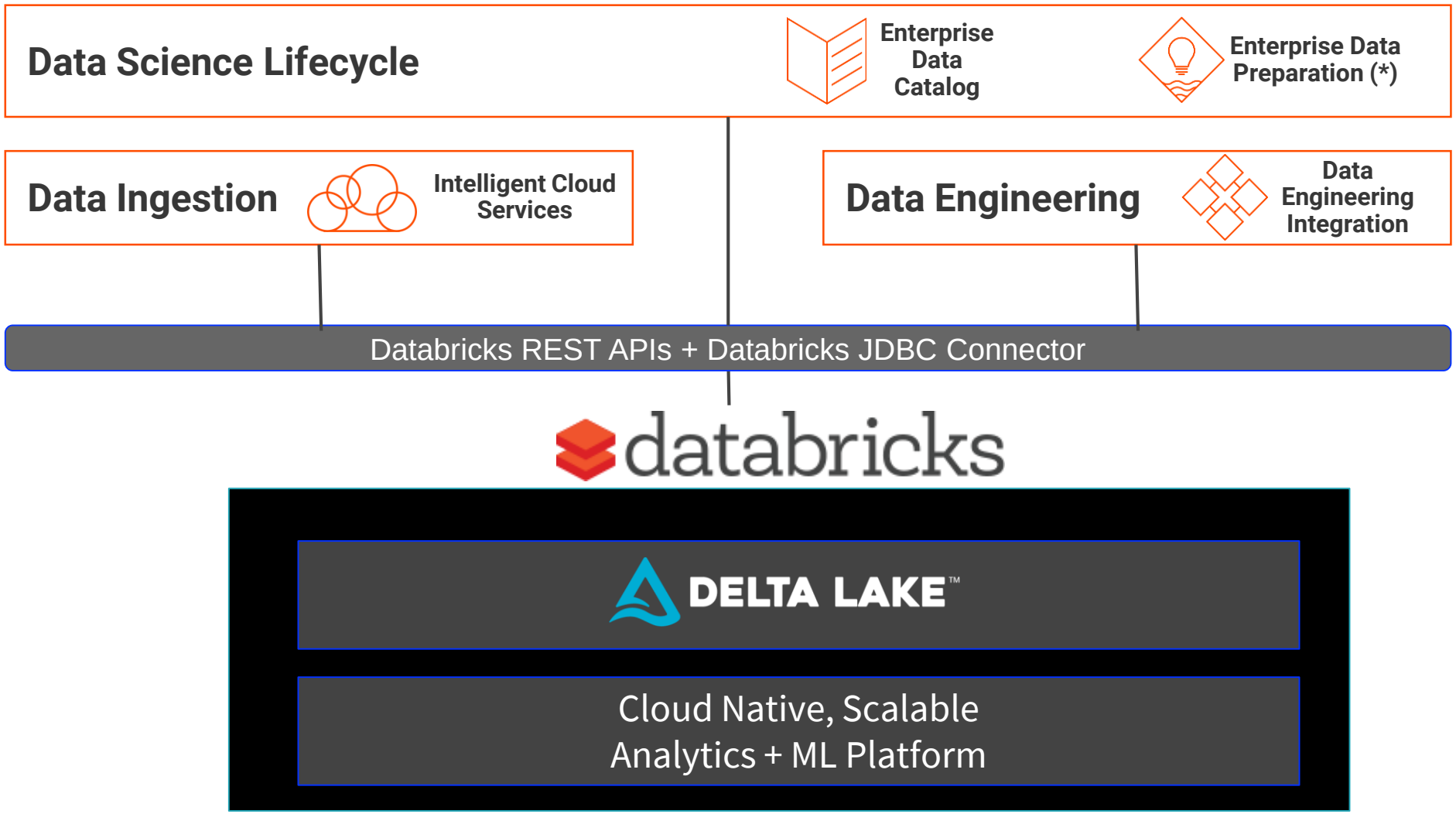
# Informatica Data Engineering

- Informatica 10.4.0 was released in December 2019
  - 10.4.0.1 available as of 28 February 2020
  - 10.4.0.2 scheduled for release in April 2020
  - 10.4.1.0 scheduled for release in June 2020
- Informatica 10.4.x currently supports Databricks 5.5
- Informatica 10.4 Docs: https://docs.informatica.com/data-engineering/data-engineering-integration/10-4-0.html

# Informatica Data Engineering

- Quick Overview on supported sources/targets
  - JDBC V2
  - Snowflake
  - Azure Blob / ADLS Gen1+Gen2 / AWS S3
    - Flat Files, Avro, Parquet, JSON
  - Azure Cosmos DB, Azure DW
  - Azure Event Hubs
  - AWS Redshift
- For Full Product Availability Matrix refer to https://network.informatica.com/docs/DOC-18443

# Three main product integrations




*(*) Roadmap*

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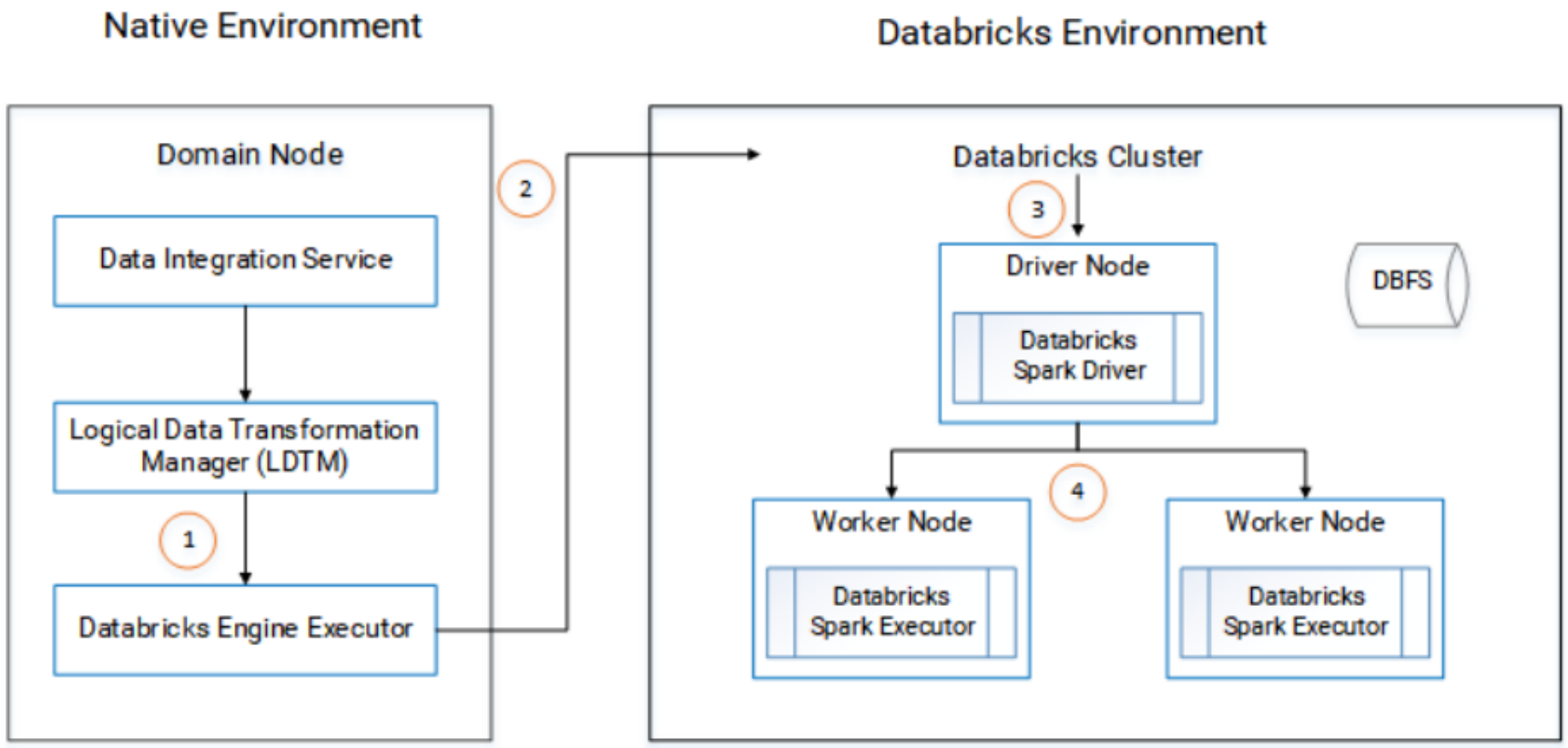
# Informatica Data Engineering Configuration for Databricks







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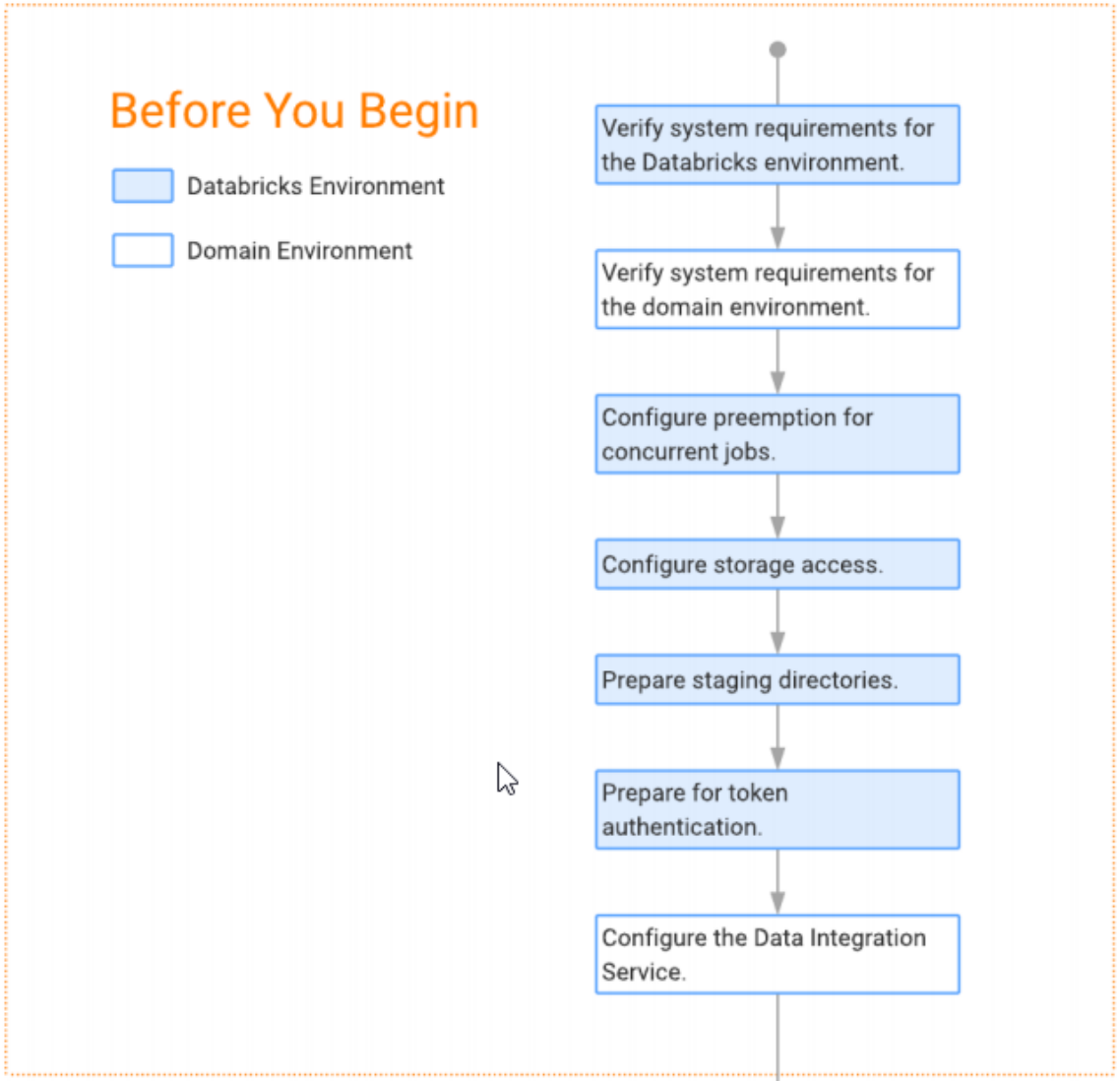
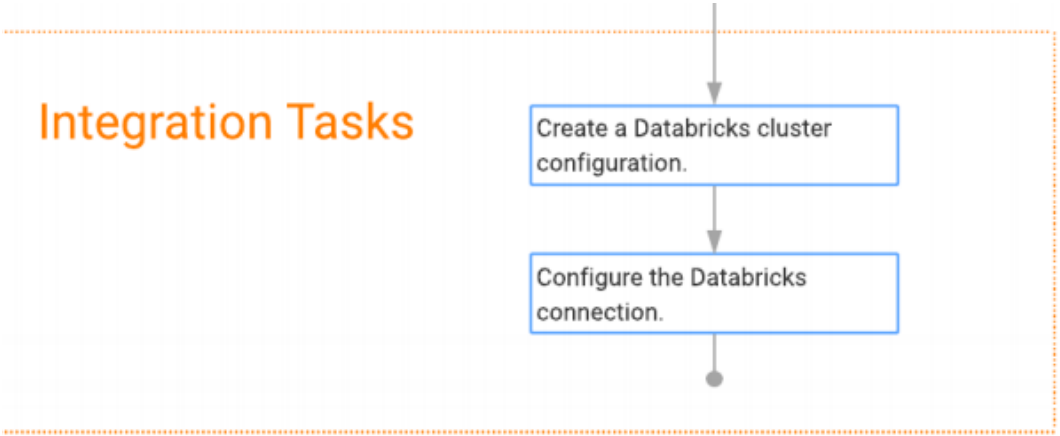
# Informatica Data Engineering Configuration for Databricks







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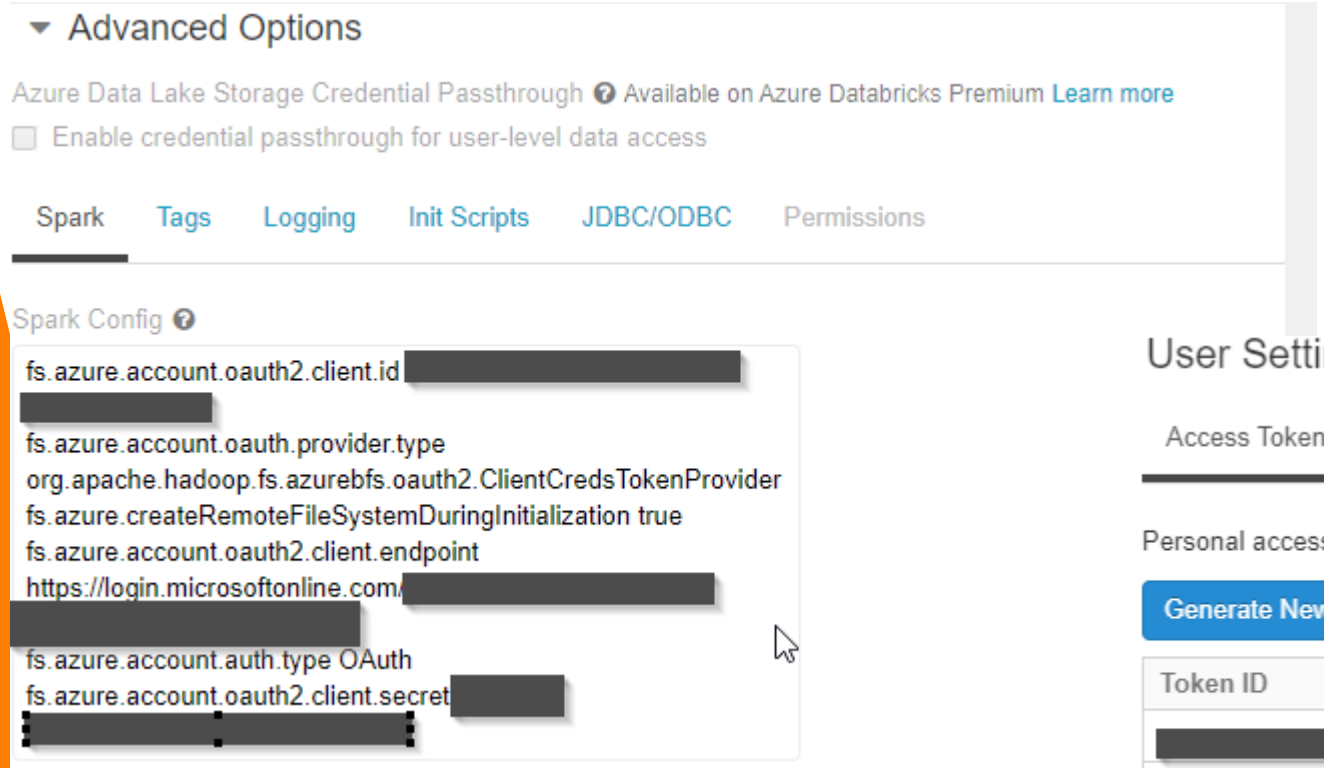
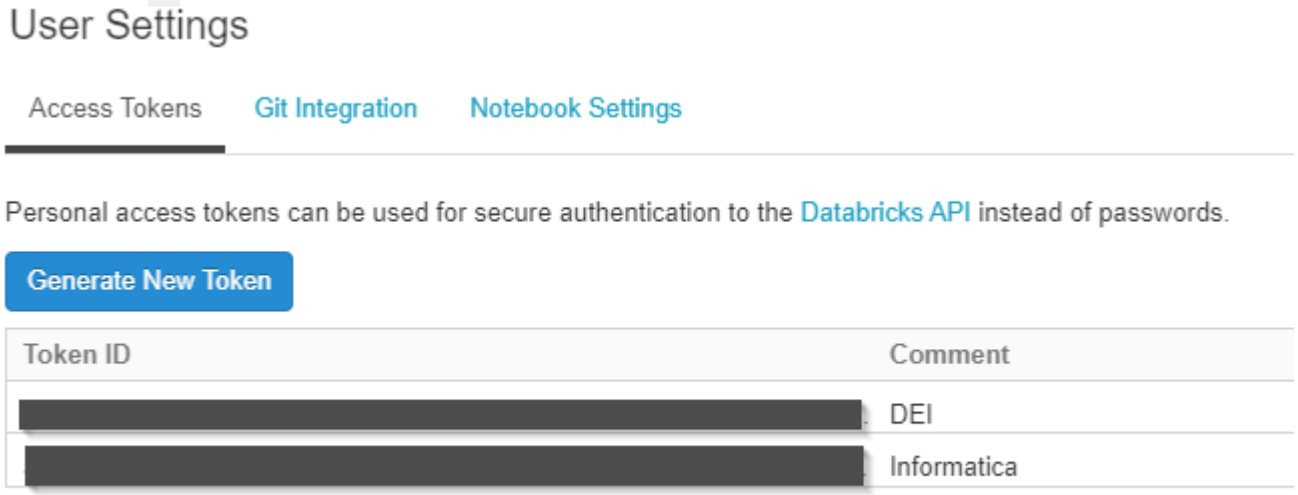
# Informatica Data Engineering Configuration for Databricks







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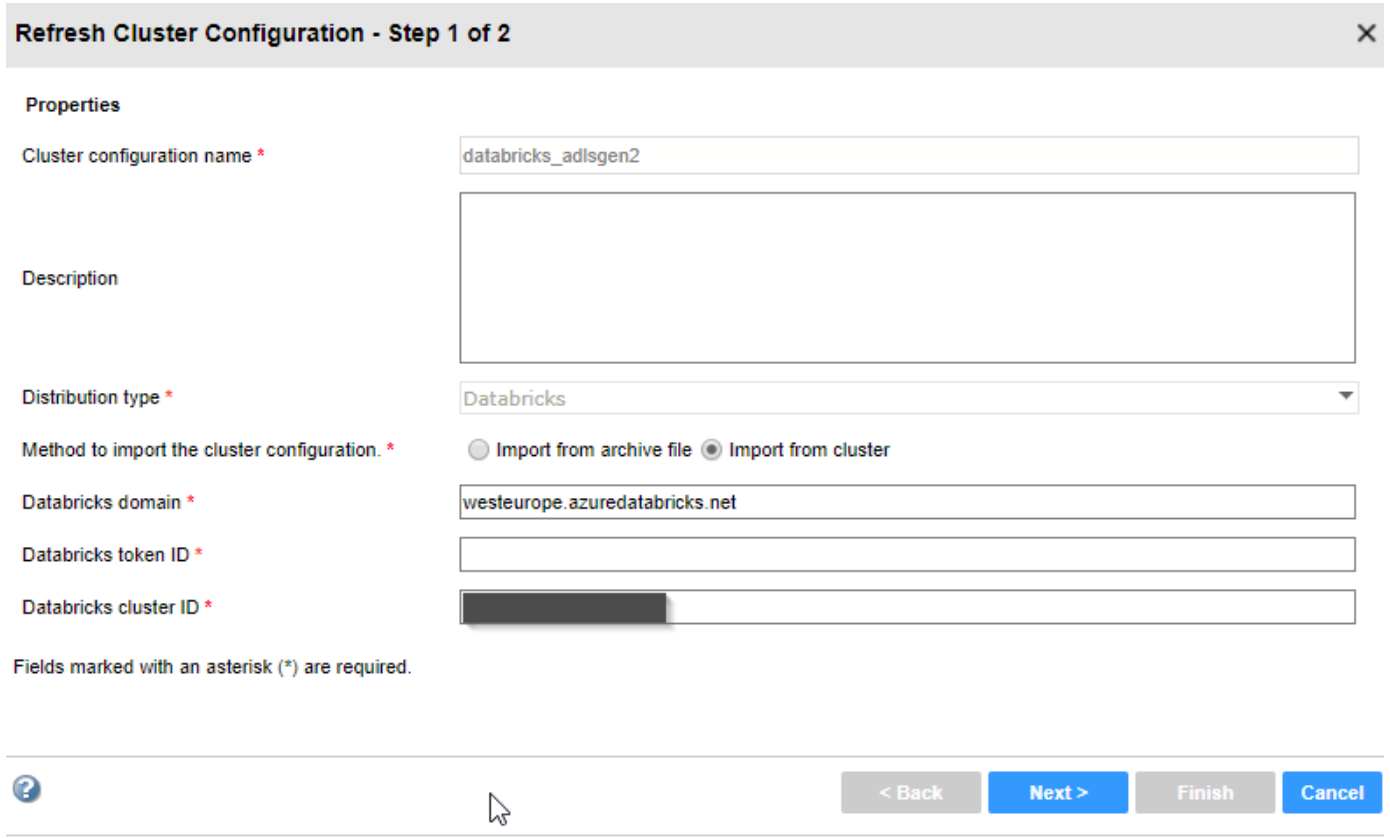
# Informatica Data Engineering Configuration for Databricks







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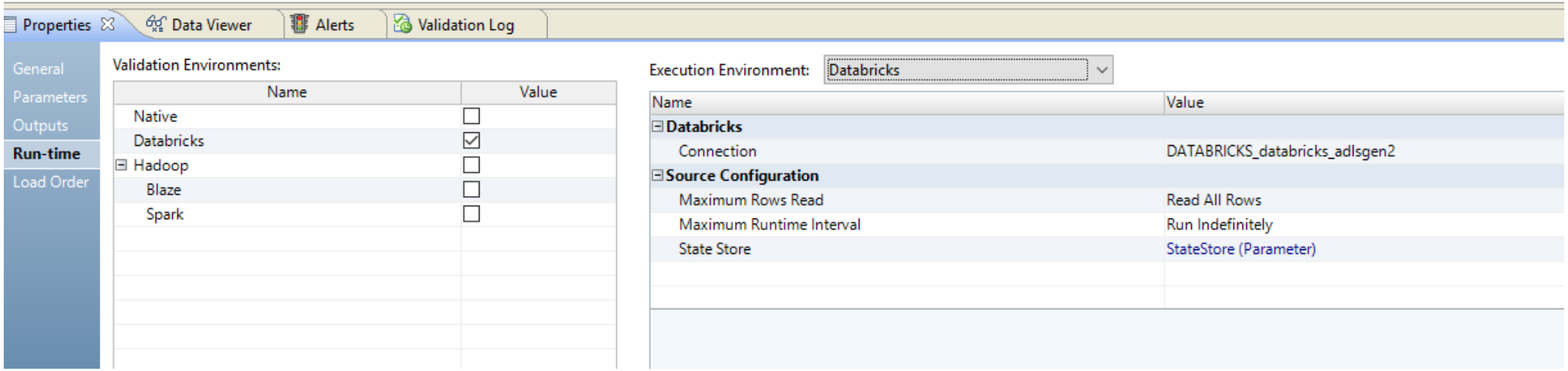
# Informatica Data Engineering Configuration for Databricks

**DATABRICKS_databricks_adlsgen2**

**Cluster Properties**

| | |
|---|---|
| **Name** | DATABRICKS_databricks_adlsgen2 |
| **ID** | DATABRICKS_databricks_adlsgen2 |
| **Description** | |
| **Connection Type** | Databricks |
| **Cluster Configuration** | databricks_adlsgen2 |
| **Cloud Provisioning Configuration** | |







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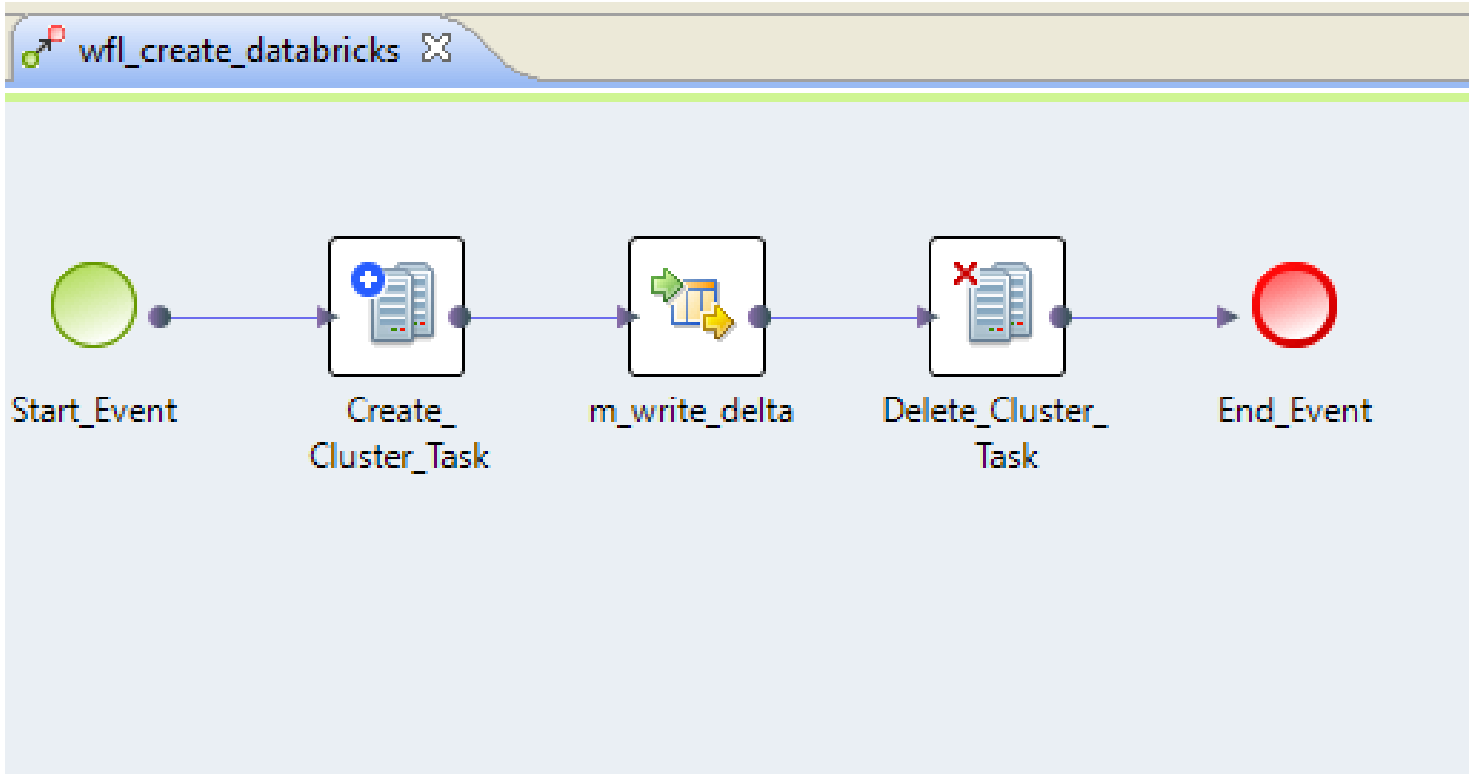
# Informatica Data Engineering Cloud Provisioning Configuration

- Allows Cluster/Delete creation from within an Informatica Workflow

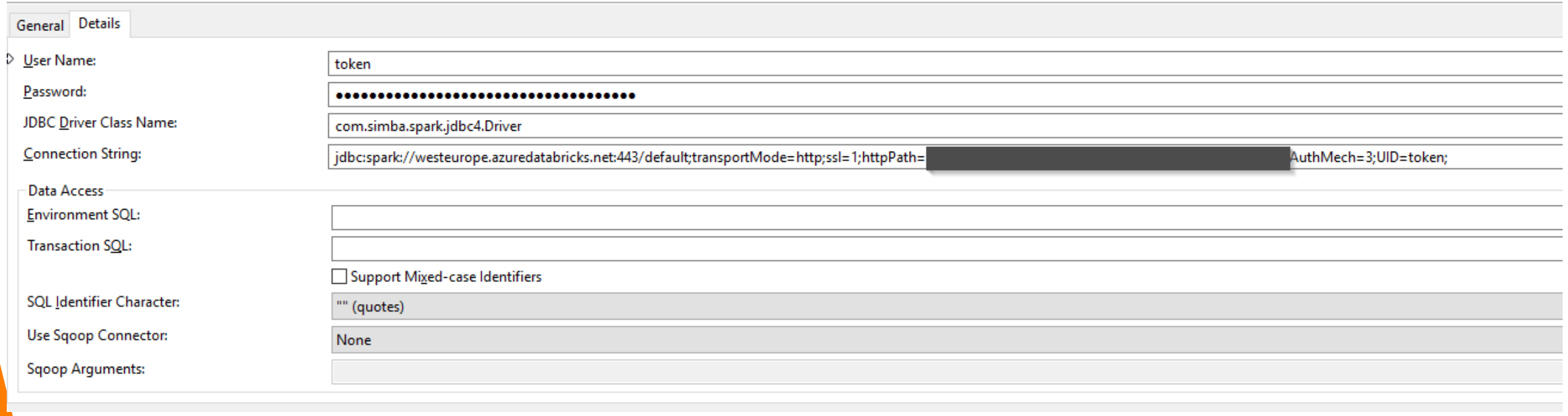


# Databricks Delta Source/Targets in Informatica Data Engineering

# Databricks Delta Source/Targets

- Connectivity is established using the Databricks Spark JDBC Driver. This needs to be present in externalJDBCJars directory on server+client
- Ability to read/write from/to Databricks Delta Lake
- Writing to Delta Lake is only supported while running the Mapping on the Databricks Engine.
- On the fly creation of Delta Lake Tables

# Databricks Delta Source/Targets




| Name | Value |
|---|---|
| Tracing Level | Normal |
| **Target** | |
| Load type | Normal |
| Update override | |
| Delete | ☑ |
| Insert | ☑ |
| Target Schema Strategy | CREATE - Create or replace table at run time |
| DDL query for create or replace | |
| Truncate target table | ☐ |

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# Demo

# Troubleshooting and self-service

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# Troubleshooting and self-service

- Informatica H2L / Knowledge Base
  - Integrating DEI 10.4.0.1 with Databricks and Delta Lake on the Azure Platform
  - Integrating DEI 10.4.0.1 with Databricks and Delta Lake on the AWS Platform
  - JDBC Connection to Databricks Delta is randomly failing with generic Simba SparkJDBC Driver Error
  - HOW TO: Enable Debug Tracing for the Simba Spark JDBC Driver connecting to Databricks Delta
  - HOW TO: Create Cluster Configuration Object (CCO) for Databricks cluster using infacmd command

# Troubleshooting and self-service

- Informatica Video KB:
  - Introduction to Azure Databricks - Part 1
  - How to Integrate Informatica BDM and Azure DataBricks Delta
  - Introduction to Azure Data Lake Storage Gen2 in DEI 10.4
  - Introduction to Databricks Transient and Ephemeral Cluster

# References

- Integrating DEI 10.4.0.1 with Databricks and Delta Lake on the Azure Platform
- Integrating DEI 10.4.0.1 with Databricks and Delta Lake on the AWS Platform
- Informatica® Data Engineering Integration - Integration Guide

# Q&A

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# Thank You

Stijn Carion