

DESERT ISLE
GROUP

ADVANCED DATA REALIZED

Data Lake Management with Azure Synapse and Delta Lake

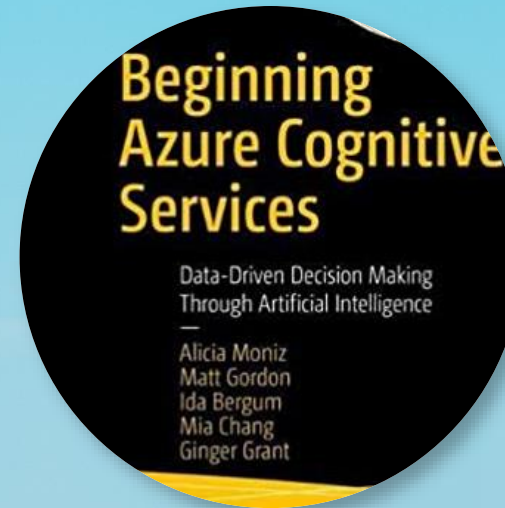
Toronto Data Professionals
Community

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Data Lake Management



The diagram consists of five chevron-shaped blocks arranged horizontally. Each block is a different color and contains a label. From left to right, the colors are cyan, grey, pink, blue, and green. The labels are 'Organization', 'Transformation', 'Monitoring', 'Data Use', and 'Security'. The chevrons are all pointing to the right, creating a sense of flow or sequence.

Organi-
zation

Transfor-
mation

Monitor-
ing

Data Use

Security



Sample Environment

Student records stored in Raw area

Want to create a Delta Lake

Specify a folder for Delta Lake Files

Partition Data

Organization for Transformation

C
o
r
e

Raw

Structured

Reference

Curated

Stage

User

Archive



File formats

CSV

Parquet

Delta Lake



Spark Delta Lake

Schema Enforcement

Compaction

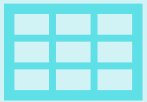
Time Travel

Data Skipping

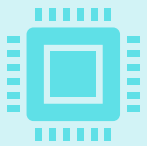
Delta Lake Areas



Spark



Serverless



Integration Runtime



Delta Lake in Spark

Using Spark to create Delta Tables

Create a Warehouse in SQL

Synapse Default Location

`synapse/workspaces/ADFS2Name/Warehouse/DBName`

Specify location, separately specify table

Demonstration

Azure Synapse Integration with Delta Lake



Integrate Pipeline

Using Delta Lake Workspace DB

Create a table then write to it

Does not work with Partitioned tables

Upserting presently inserts



Serverless Pool

Spark database supports all formats
Delta Integrates with SQL Serverless
Write SQL in Notebooks



Demonstration

Azure Synapse Integration with Delta Lake



Things To Remember

Best implementation of Delta is in Spark

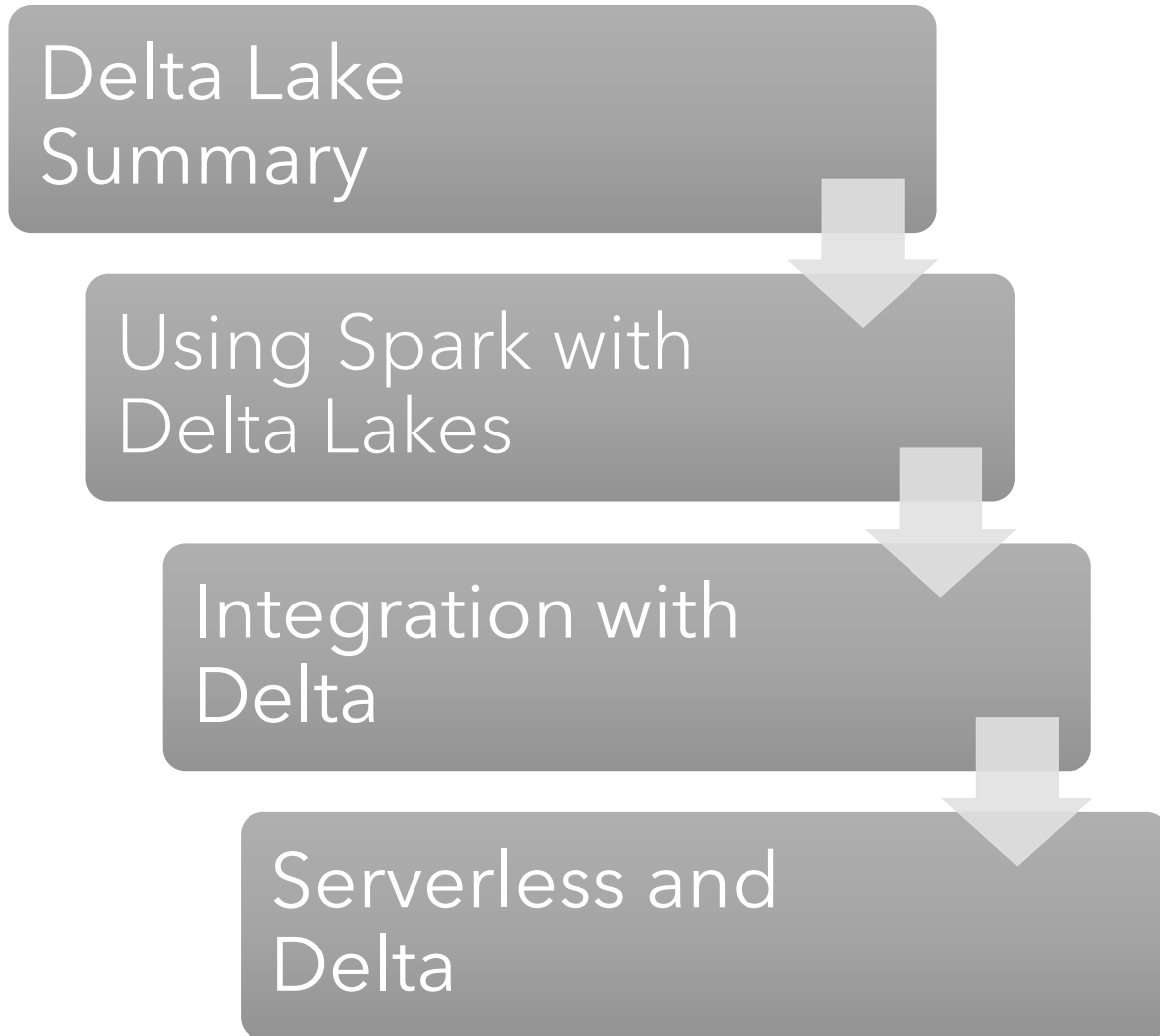
May need to write Spark ETL

Delta is in preview in Integration

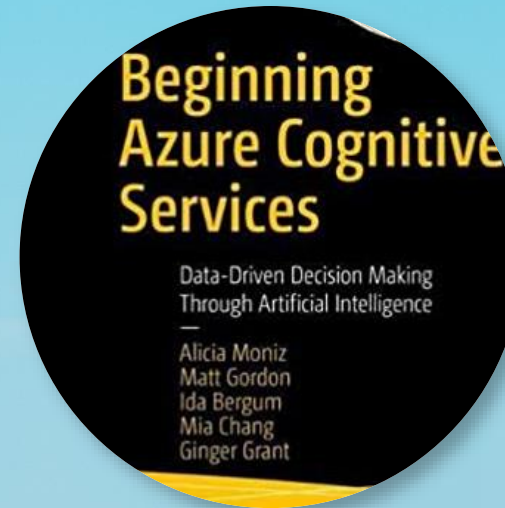
Create in Spark works great in Serverless



Delta Lakes in Azure Synapse Analytics



Questions and Contact information



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