Data Mesh Codebreakfast

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Delta Sharing

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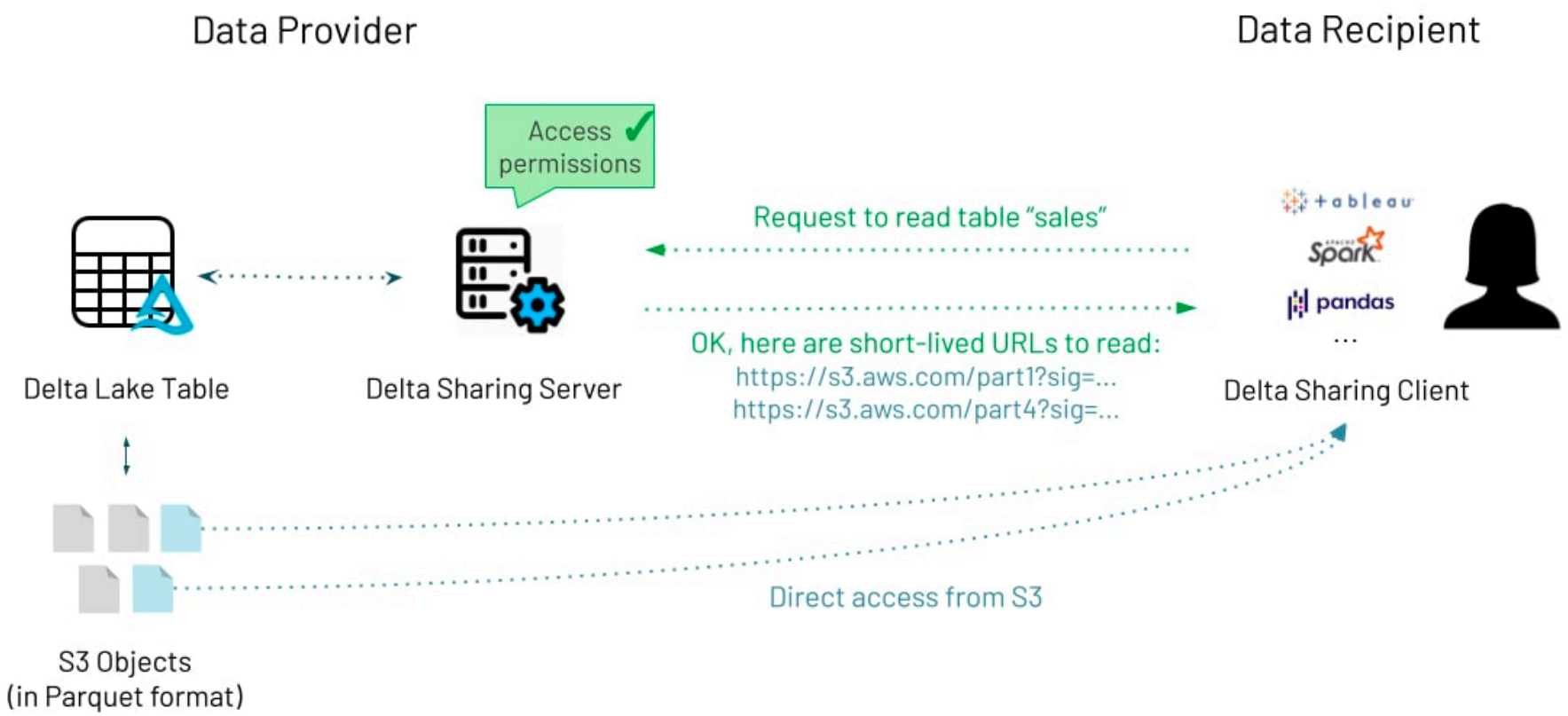
Delta Sharing



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A Quick word on Delta Lake

- Delta Sharing works with tables in the Delta Lake format

The Delta Lake format

- Open Source storage layer for your data lake
- Based upon the parquet file format
- Adds the `_delta_log` metadata

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The Delta Lake format

- Brings you ACID transactions on your data (just like a database)
- Checkpoints
- Transaction log and Time travel

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Delta Sharing server

- Delta Sharing server is not a bottleneck in sharing data
- You don’t share security details to your data

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No Bottleneck

- Data does not pass your Delta sharing server

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Security details

- Delta Sharing gives you signed url's to the dataset

s3://demodata/silver/world/cities/part-00000-file1.snappy.parquet

->

http://s3server:4563/demodata/silver/world/cities/part-00000-file1.snappy.parquet?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20211101T200043Z&X-Amz-SignedHeaders=host&X-Amz-Expires=900&X-Amz-Credential=test%2F20211101%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Signature=e2290dcf59172649362a4e982889ab2e34e633ca9ae3b34a2e3bf79ce7ae386a

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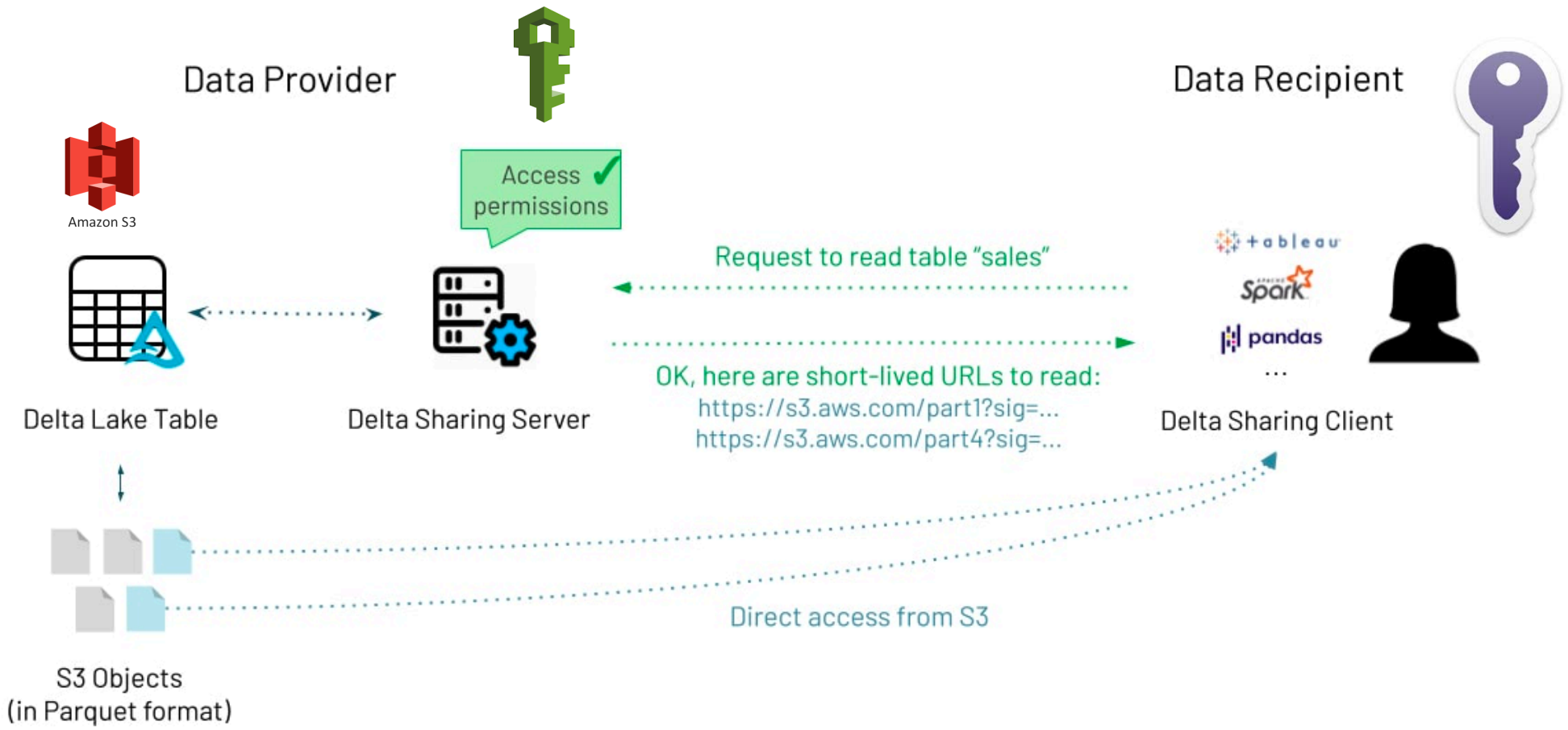
Delta Sharing



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Delta Sharing protocol

- Delta Sharing concepts:
  - Share: Combination of different datasets to share
  - Schema: Subdomain inside a share
  - Table: Delta table storage location

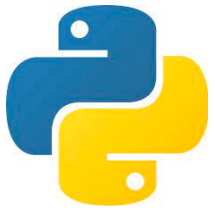
Demo Environment

Amazon S3

Azure Blob Storage

Cloud Storage

Delta sharing server



Python interpreter

Spark shell

Notebooks

Data preparation server

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Demo: Delta Sharing Protocol

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Reading data with Delta Sharing

- The profile file
  - Endpoint
  - Authorization token
- Built your table url
  - Profile file + #share.schema.table
  - load_as_pandas
  - format(“deltaSharing”).load

Demo: Read data with python

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Demo: Read data with spark

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Delta Sharing the future

- Support adding shares/schemas/tables dynamically (Available in the rust based implementation called riverbank)

Delta Sharing workshop

- Instruqt
  - https://play.instruqt.com/
  - Each participant get's a separate environment

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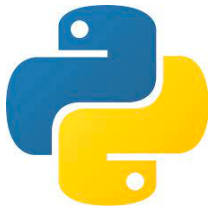
Recap: Demo Environment

Amazon S3

Azure Blob Storage

Cloud Storage

Delta sharing server



Python interpreter

Spark shell

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Data preparation server

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Workshop

Challenges:

- Verify running services
- Environment in depth
- Protocol notebook
- Protocol terminal
- Read data python notebook
- Read data python terminal
- Read data spark notebook
- Read data spark terminal
- Playtime

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Instruqt: Workshop environment

https://gdd.li/datamesh

Start the track and wait for about 5 minutes to let the virtual machine boot.

When the machine is ready hit **Start** to get started

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Challenge 1

The first challenge is just a simple docker command to verify that all services are running correctly

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Challenge 2

This next challenge is to get you a bit more familiar with how this workshop environment is setup.

We open a Jupiter notebook where a explanation of the environment is available.

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Challenge 3

This next challenge is to guide you through the Delta Sharing Protocol.

There is a Jupiter notebook (same as the one demoed) to guide you.

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Challenge 4

This next challenge is to guide you through the Delta Sharing Protocol again.

This time without a notebook but through plain old curl requests.

A few hints are available in the challenge sidebar. Feel free to experiment a bit further.

Challenge 5

This next challenge is to guide you through reading data with python with Delta Sharing.

There is a Jupiter notebook (same as the one demoed) to guide you.

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Challenge 6

This next challenge is to guide you through reading data with python with Delta Sharing.

This time without a notebook but through starting a python interpreter and executing code yourself.

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Challenge 7

This next challenge is to guide you through reading data with spark with Delta Sharing.

There is a Jupiter notebook (same as the one demoed) to guide you.

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Challenge 8

This next challenge is to guide you through reading data with spark with Delta Sharing.

This time without a notebook but through starting a spark shell and executing code yourself.

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Challenge 9

This is a free format challenge.

Extend your knowledge by extending the previous challenges. Or explore all files available in the Editor tab to get a better understanding how this environment works together.

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Instruqt: Workshop environment (Recap)

https://gdd.li/datamesh

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Questions?

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Material

https://github.com/godatadriven/datamesh

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