



Azure Synapse Analytics

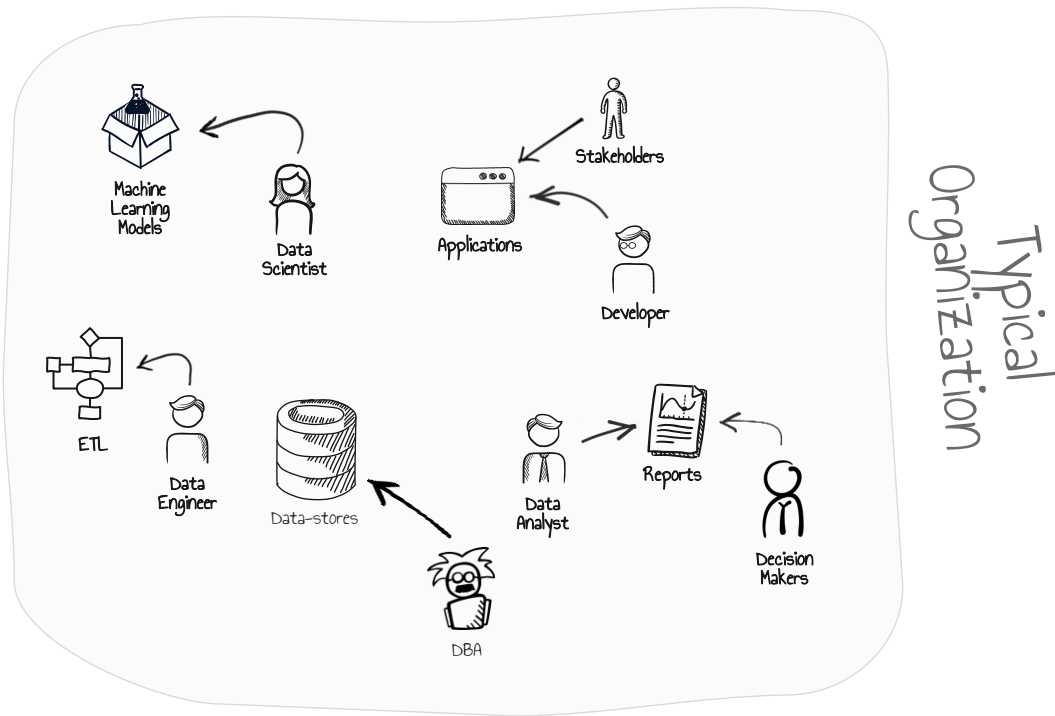
An Overview

Adnan Hashmi

aka.ms/Adnan 
pkstn.co/Adnan 

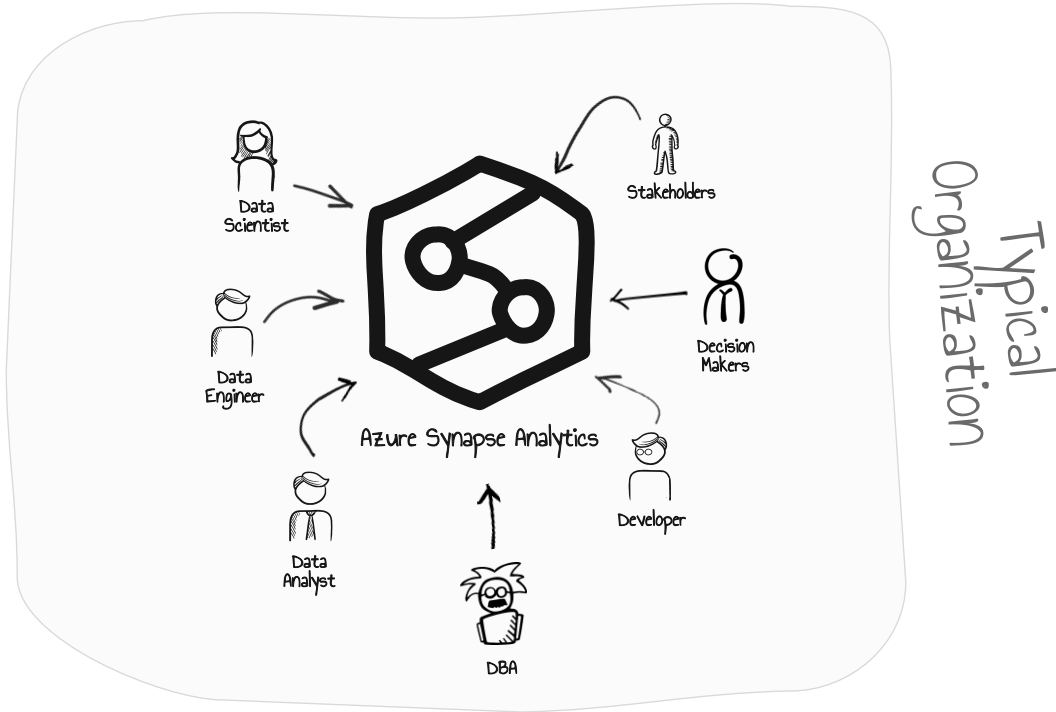
tags: azure, synapse, data, organization

WHY Azure Synapse Analytics?



tags: azure, synapse, data, organization

WHY Azure Synapse Analytics?

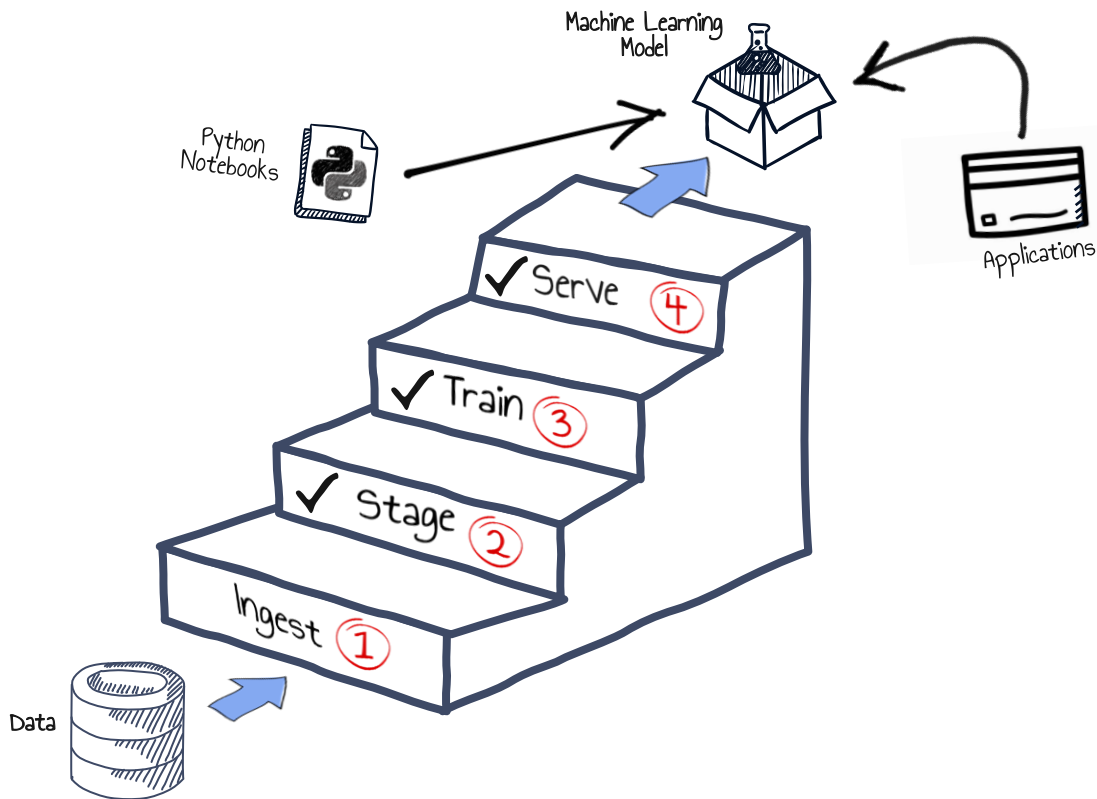




Data Workflow

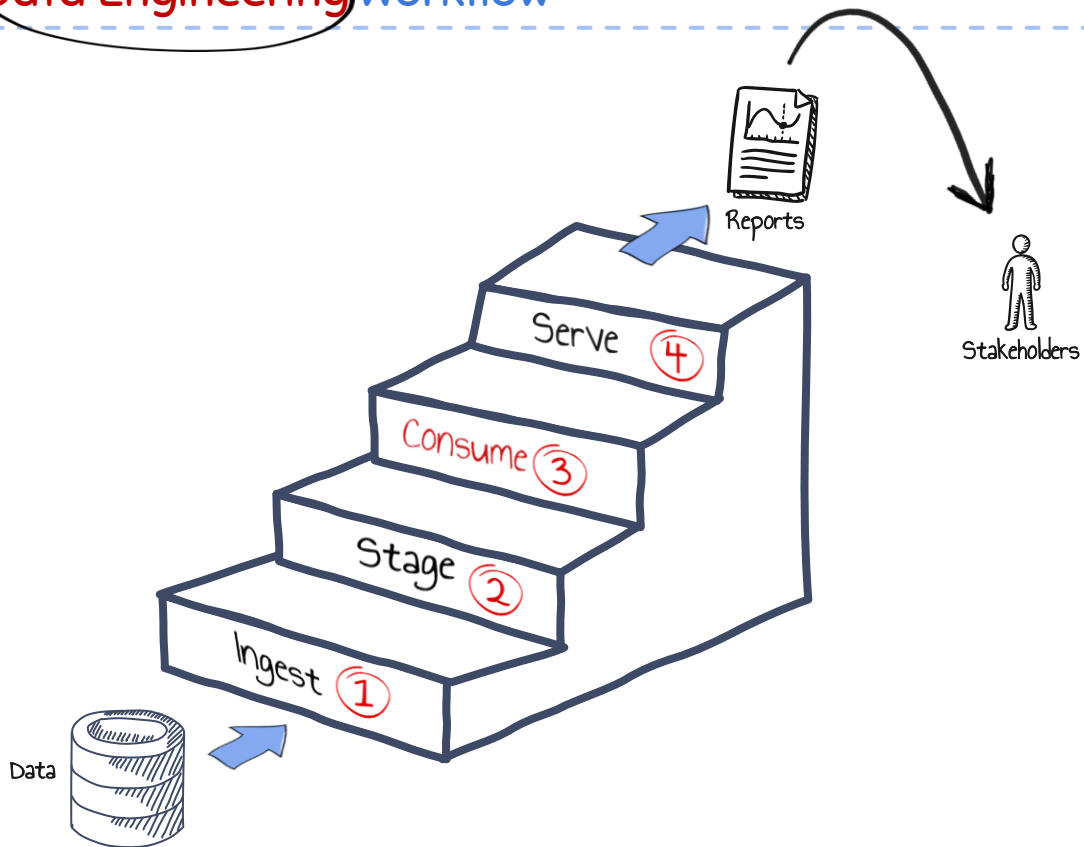
A look at how data flows
within an organization

Typical Machine Learning Workflow

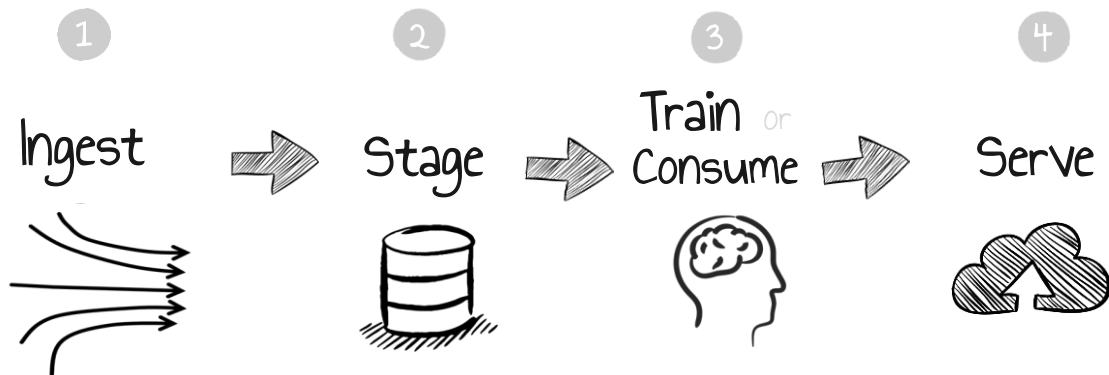


tags: data engineering, workflow, reports

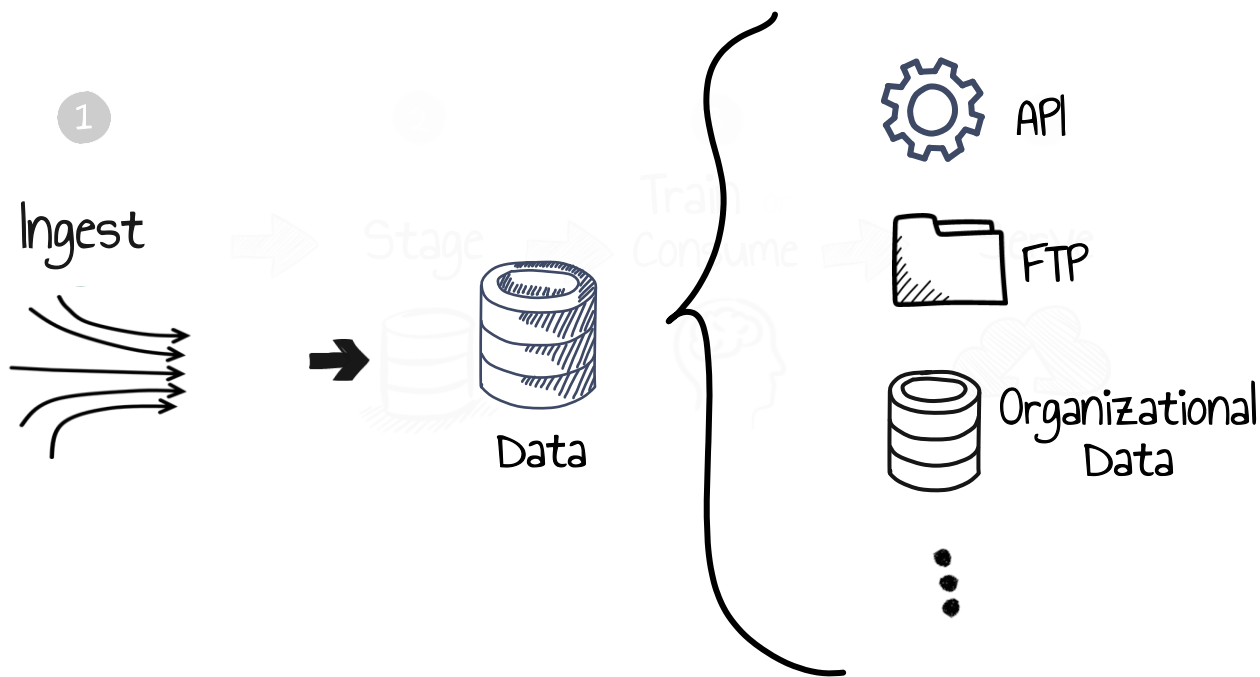
Typical Data Engineering Workflow



✓ Data Workflow

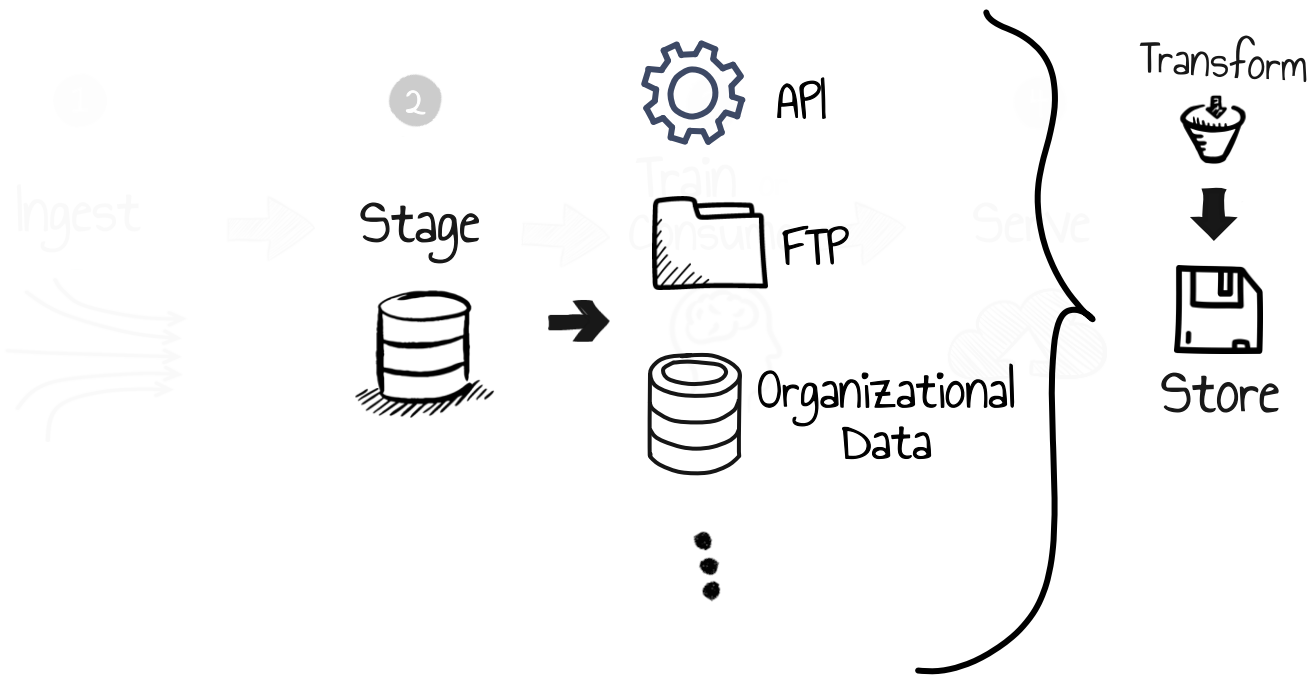


Data Workflow



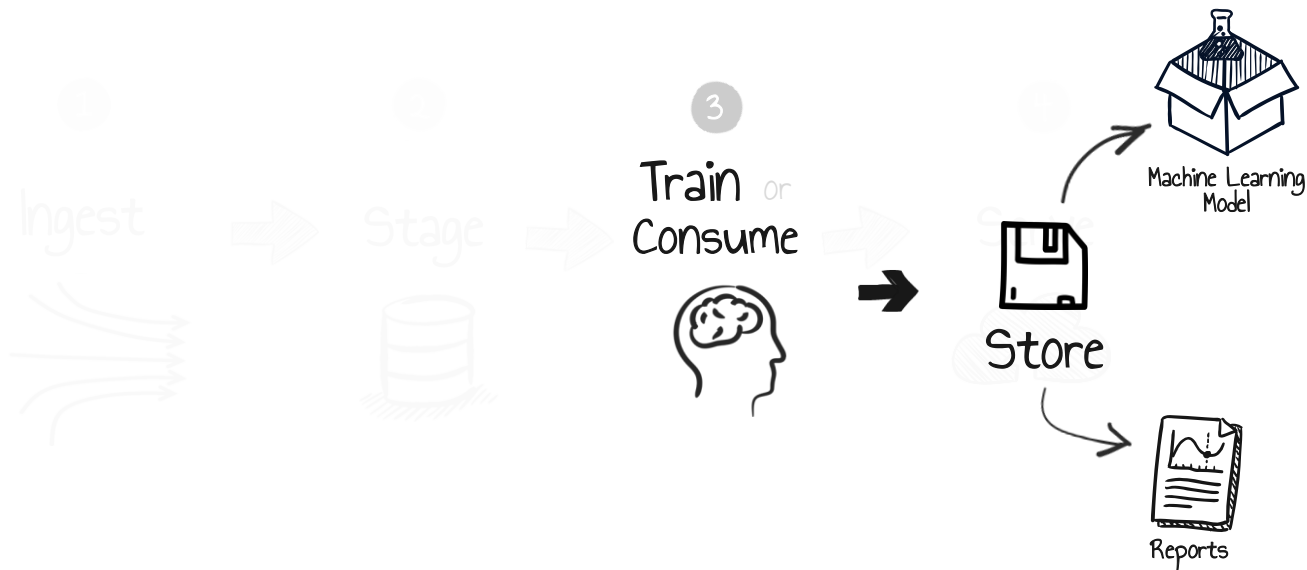
tags: stage, data, workflow, transform, store

Data Workflow



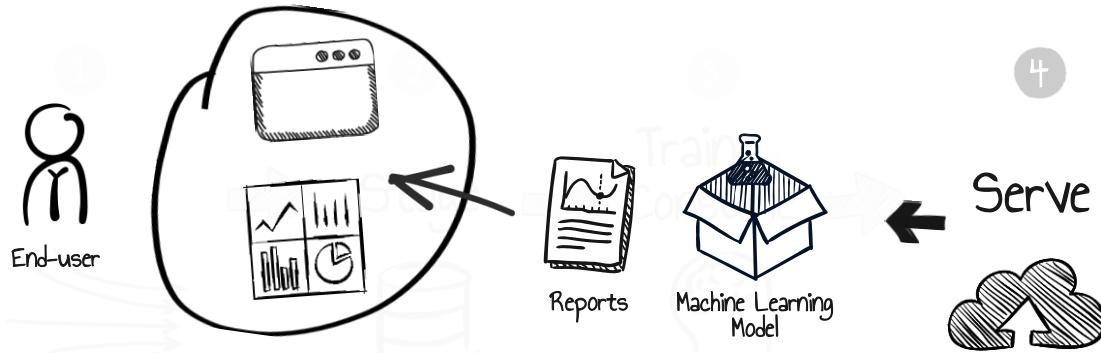
tags: train, consume, data, workflow, store, machine learning, model, reports

Data Workflow



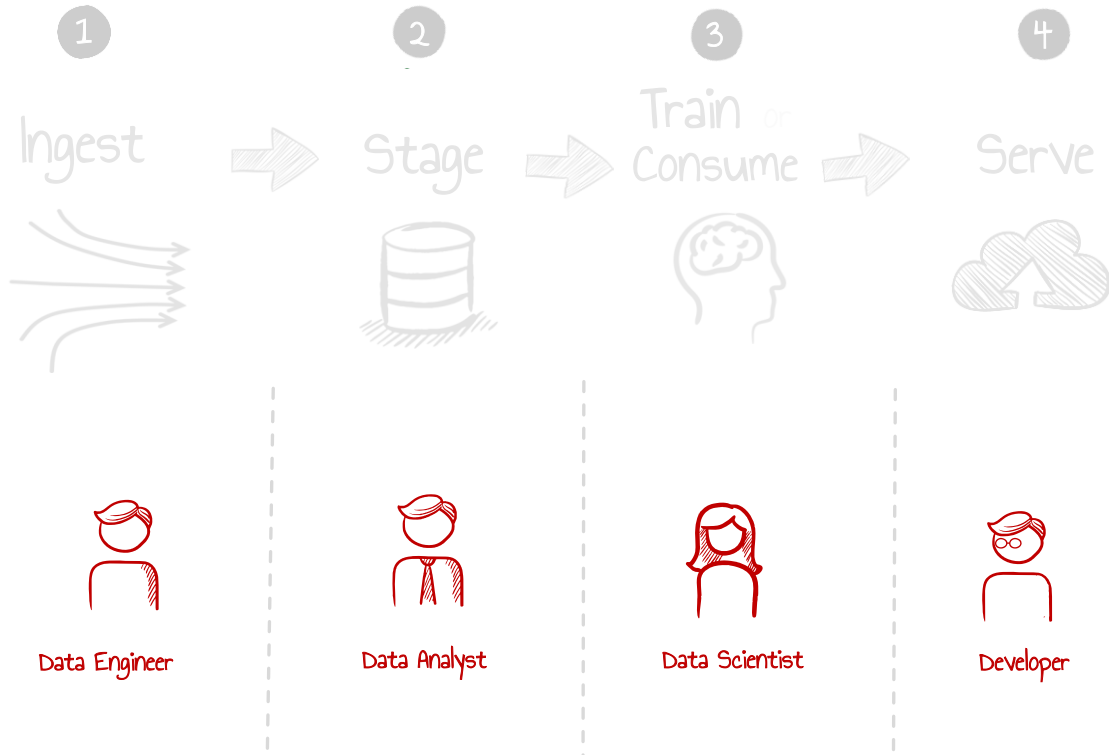
tags: serve, data, workflow, store, machine learning, model, reports, user

Data Workflow



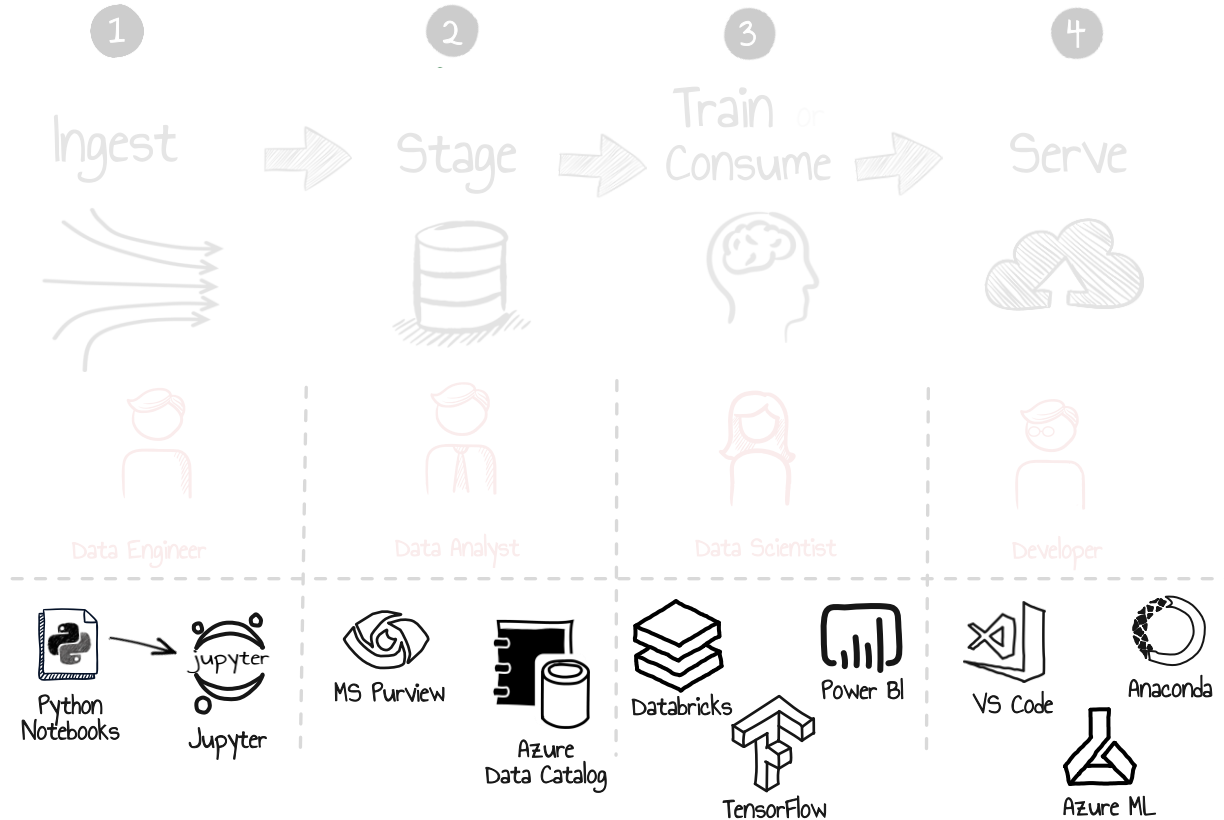
tags: data, workflow, engineer, analyst, scientist, developer

Data Workflow **People**



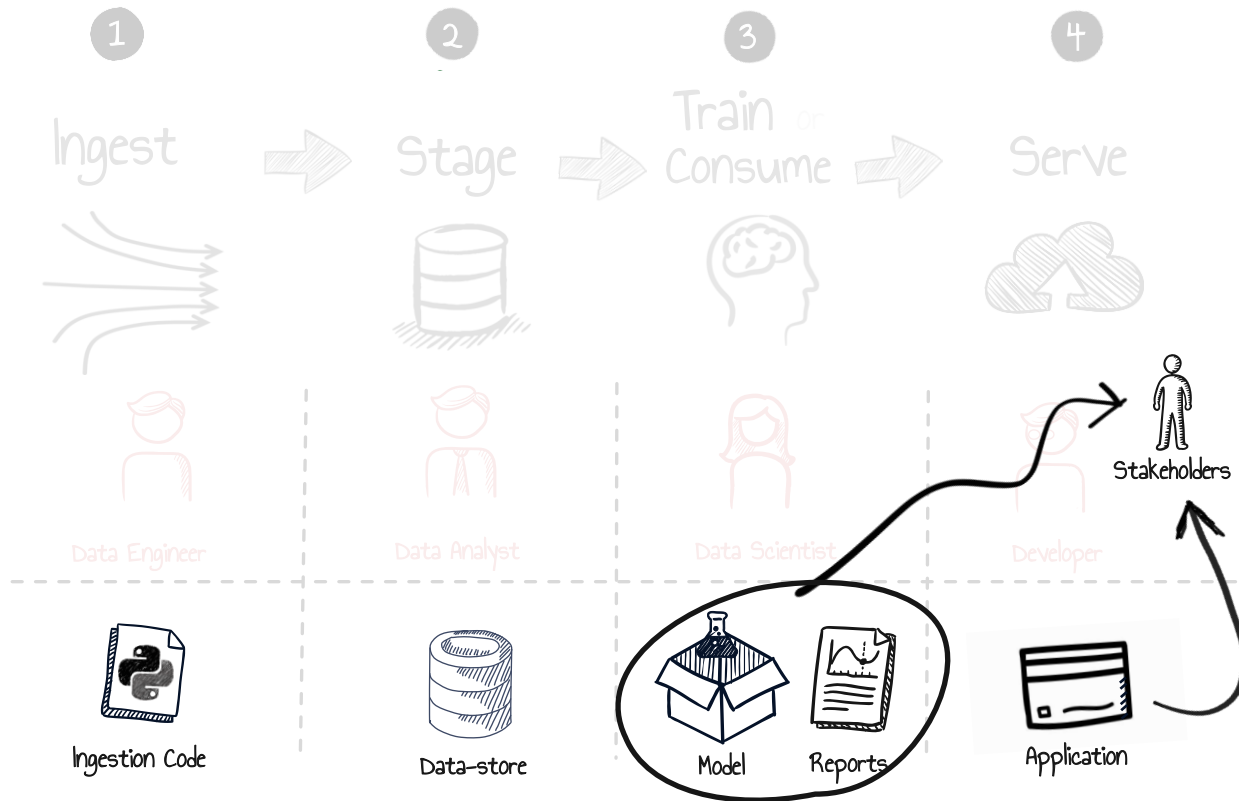
tags: data, workflow, jupyter, purview, databricks, power bi, tensorflow, anaconda, azure

Data Workflow Tools

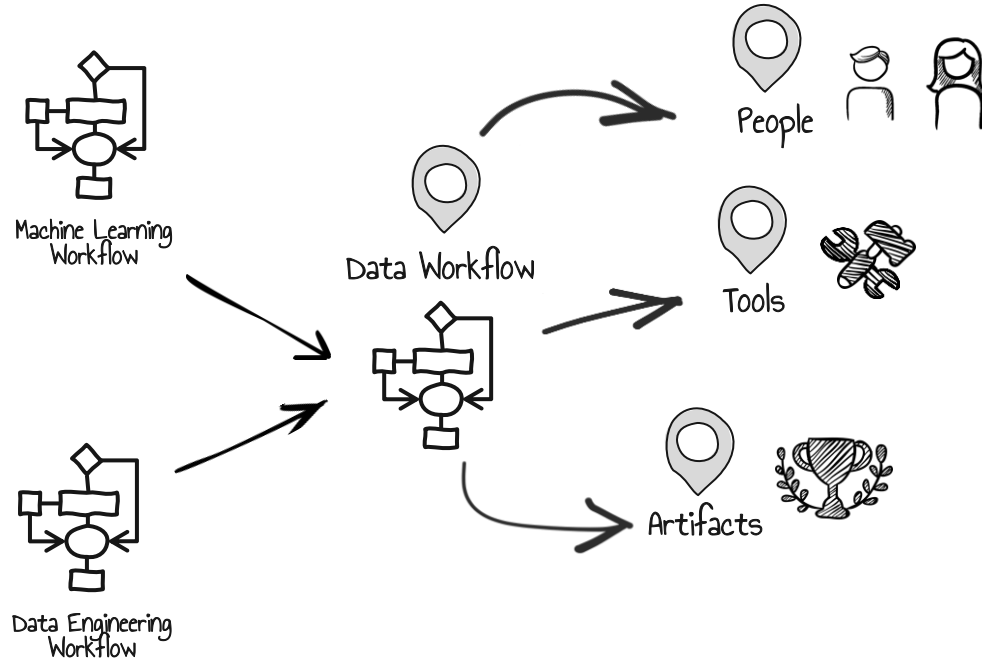


tags: data, workflow, code, datastore, model, report, application, stakeholder

Data Workflow **Artifacts**



Section Recap

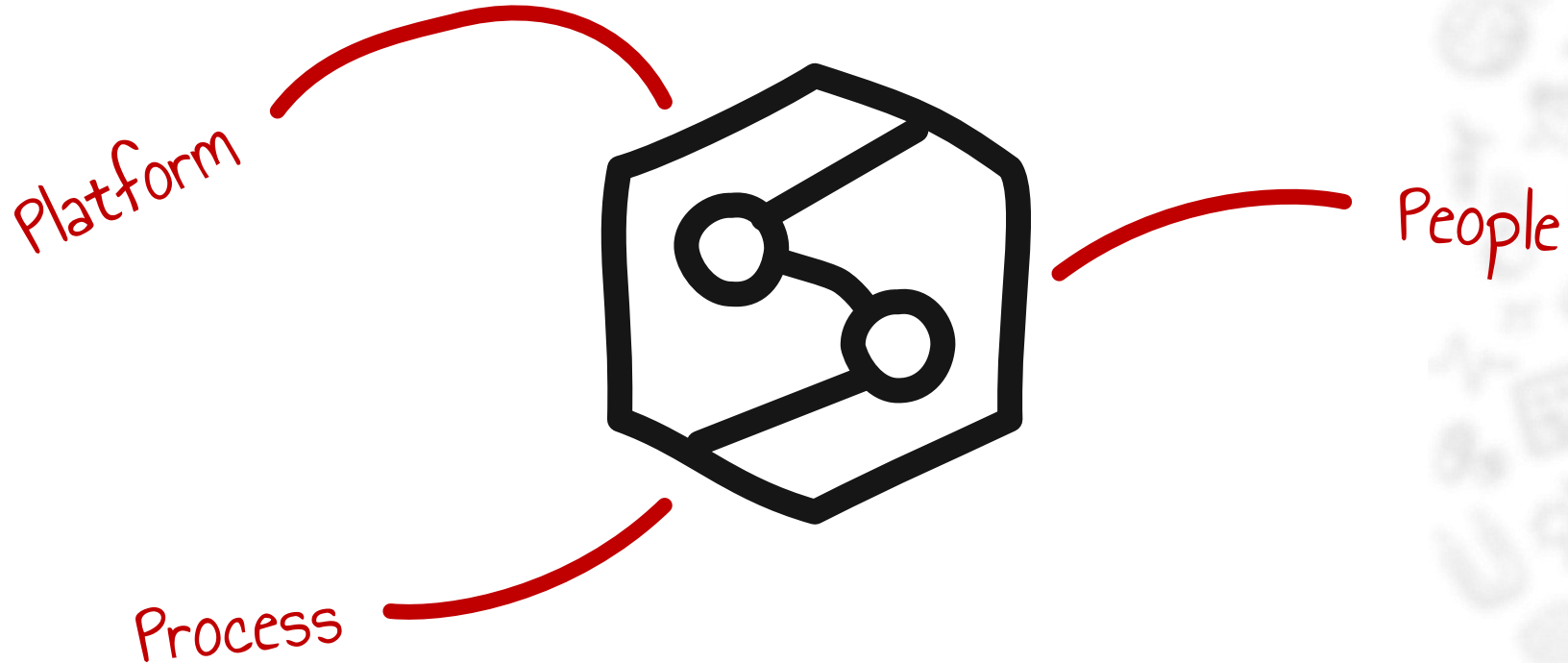




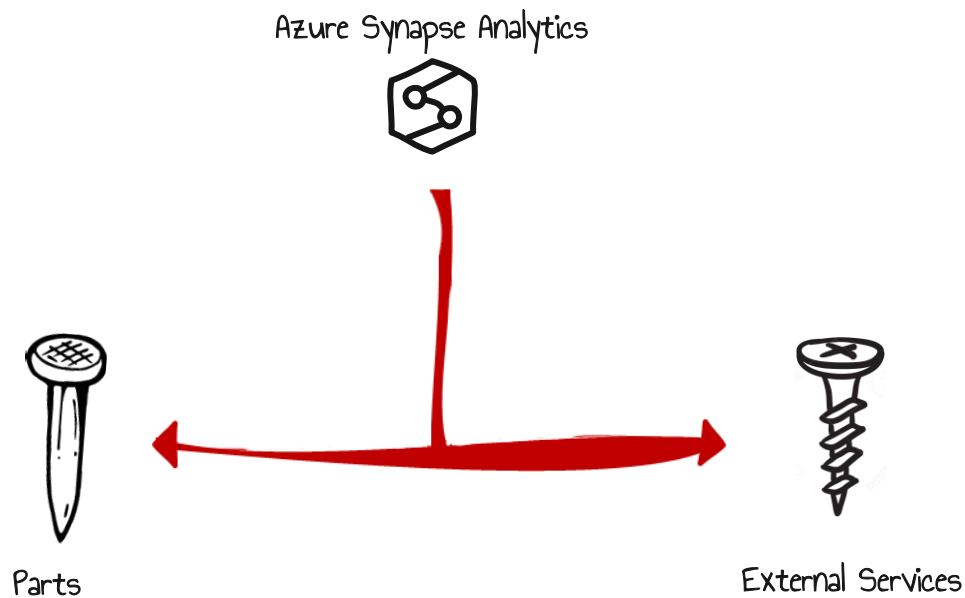
Components

Architecture and pieces that make up
Azure Synapse Analytics

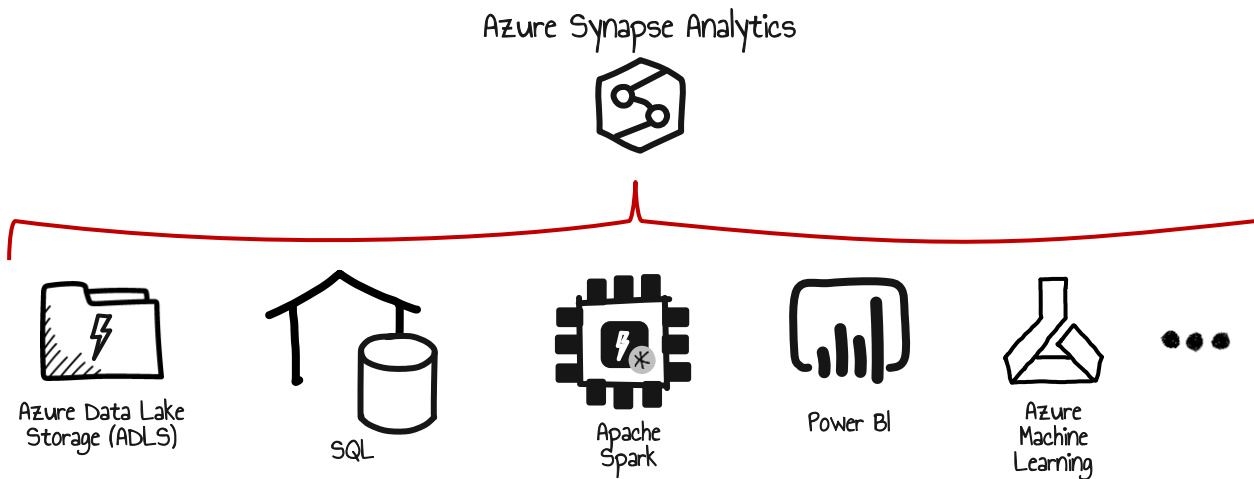
Evaluating a technology



At a high level...



At a high level...



Workspace

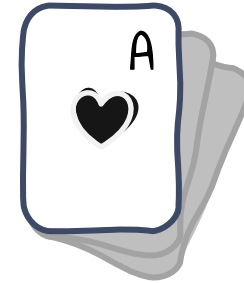
① Create Workspace

Azure Synapse Analytics



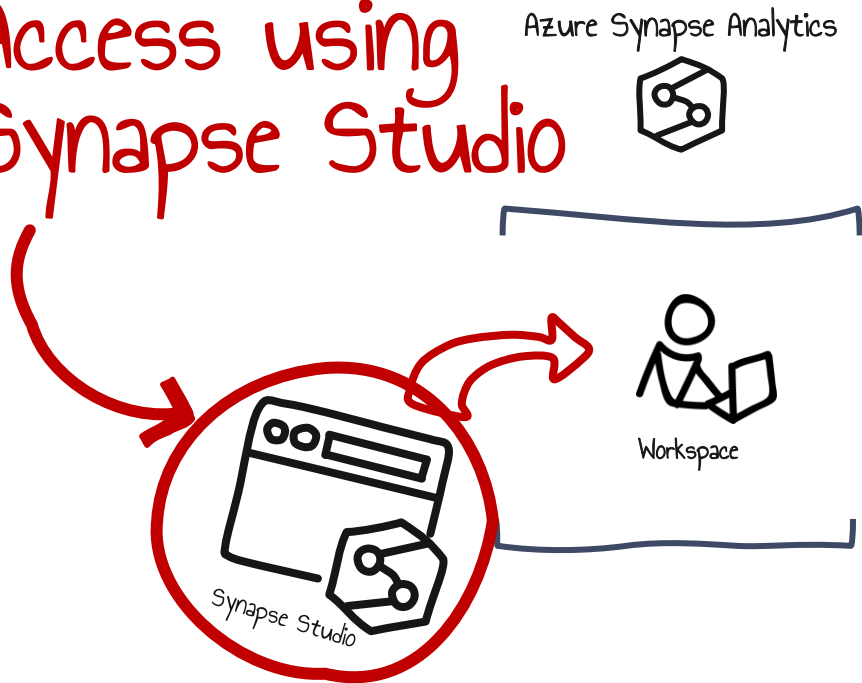
=

Logical Collection
of Azure
Resources



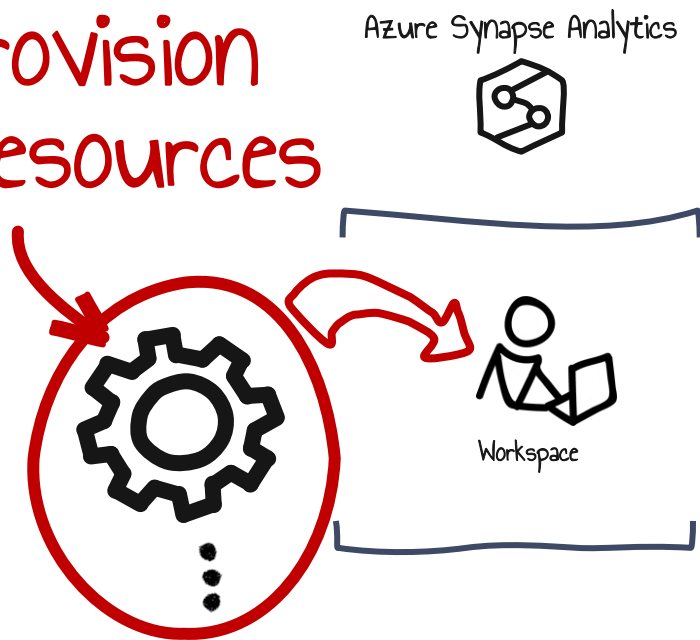
Synapse Studio

② Access using Synapse Studio



Synapse Studio

③ Provision Resources



tags: synapse, platform

Azure Synapse Analytics - Platform

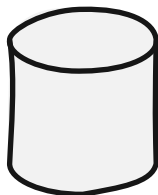
Azure Synapse Analytics



Data Ingestion
Pipelines



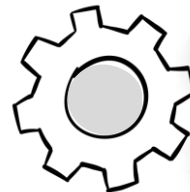
Datastores



Code



Analytics Runtimes
& Tools



tags: synapse, platform, components

Azure Synapse Analytics - Platform

Azure Synapse Analytics



Data Ingestion
Pipelines



Azure Data
Factory (ADF)

Datastores



Azure Data Lake
Store (ADLS)



Cosmos DB



SQL



Code



Notebooks



KQL



Data flow



Analytics Runtimes
& Tools



Apache Spark



Power BI



Azure Machine Learning



tags: synapse, platform, components

Azure Synapse Analytics - Platform

Azure Synapse Analytics



Data Ingestion Pipelines



Azure Data Factory (ADF)



Datastores



Azure Data Lake Store (ADLS)



Cosmos DB



SQL



Code



Notebooks



KQL



Dataflow



Analytics Runtimes & Tools



Apache Spark



Power BI



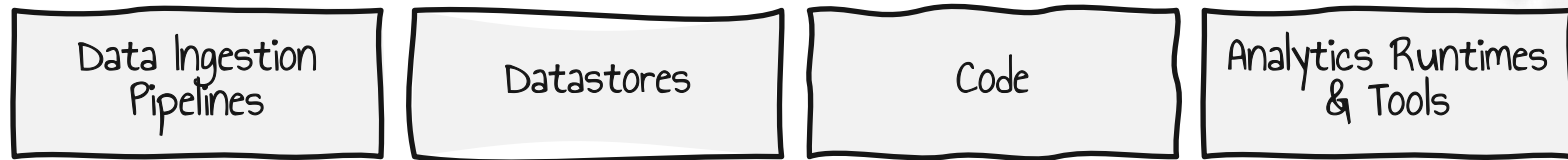
Azure Machine Learning



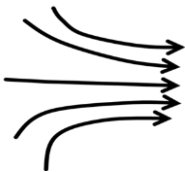
tags: synapse, platform, workflow

Azure Synapse Analytics – Platform

Azure Synapse Analytics



1 Ingest



2 Stage



3 Train or
Consume

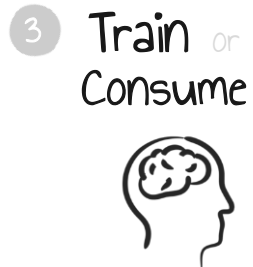
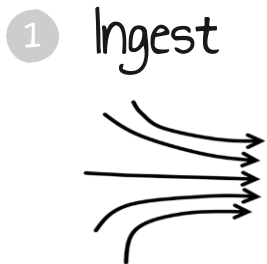


4 Serve



Azure Synapse Analytics – Process

Azure Synapse Analytics

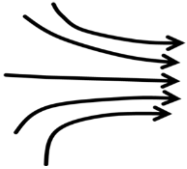


Azure Synapse Analytics – People

Azure Synapse Analytics



1 Ingest



2 Stage



3 Train or Consume



4 Serve



Data Engineer



Data Analyst

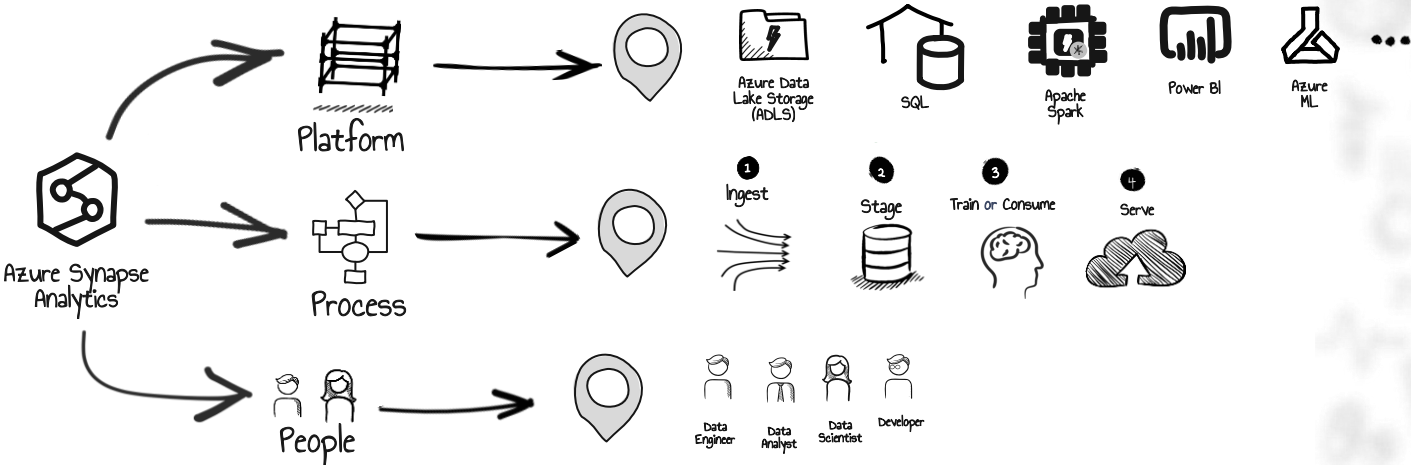


Data Scientist

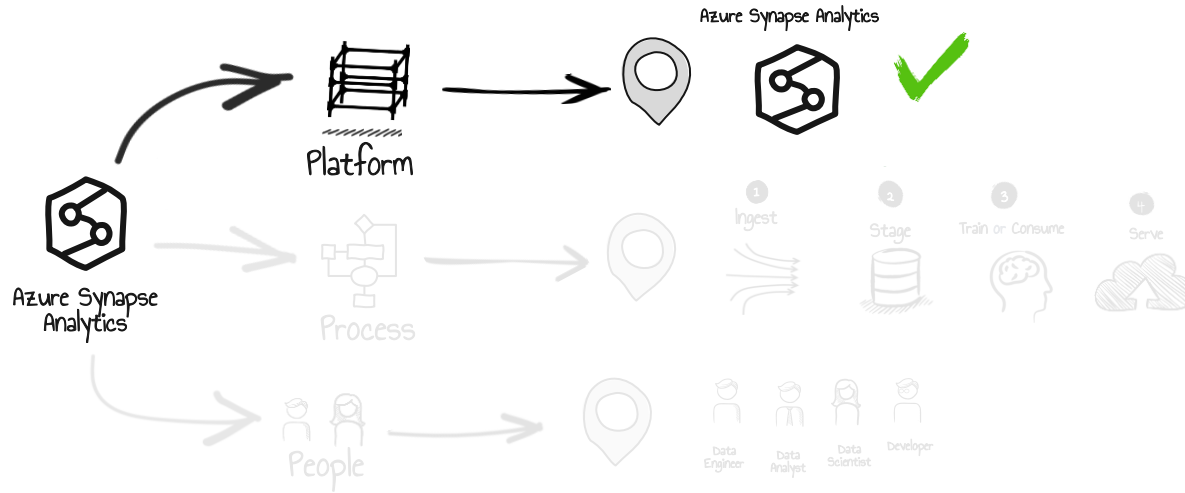


Developer

Section Recap



Section Recap

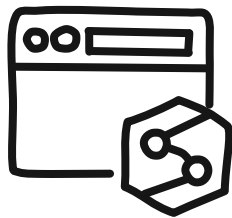




Platform

A closer look at
Azure Synapse Analytics

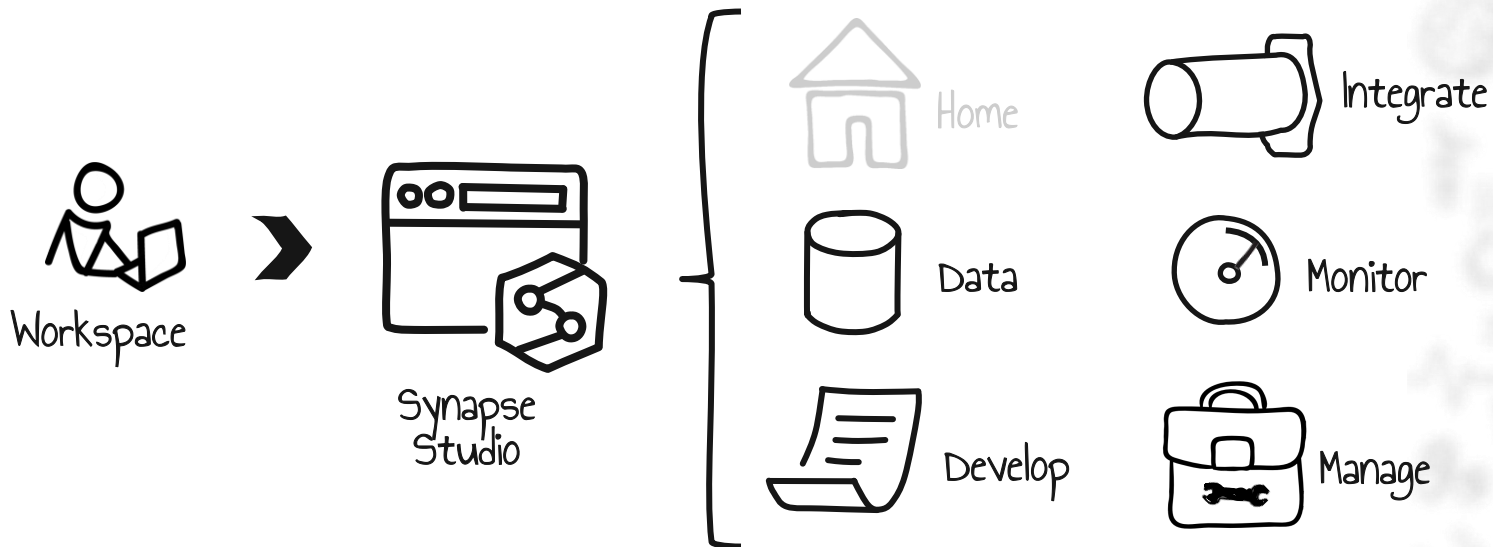
Synapse Studio



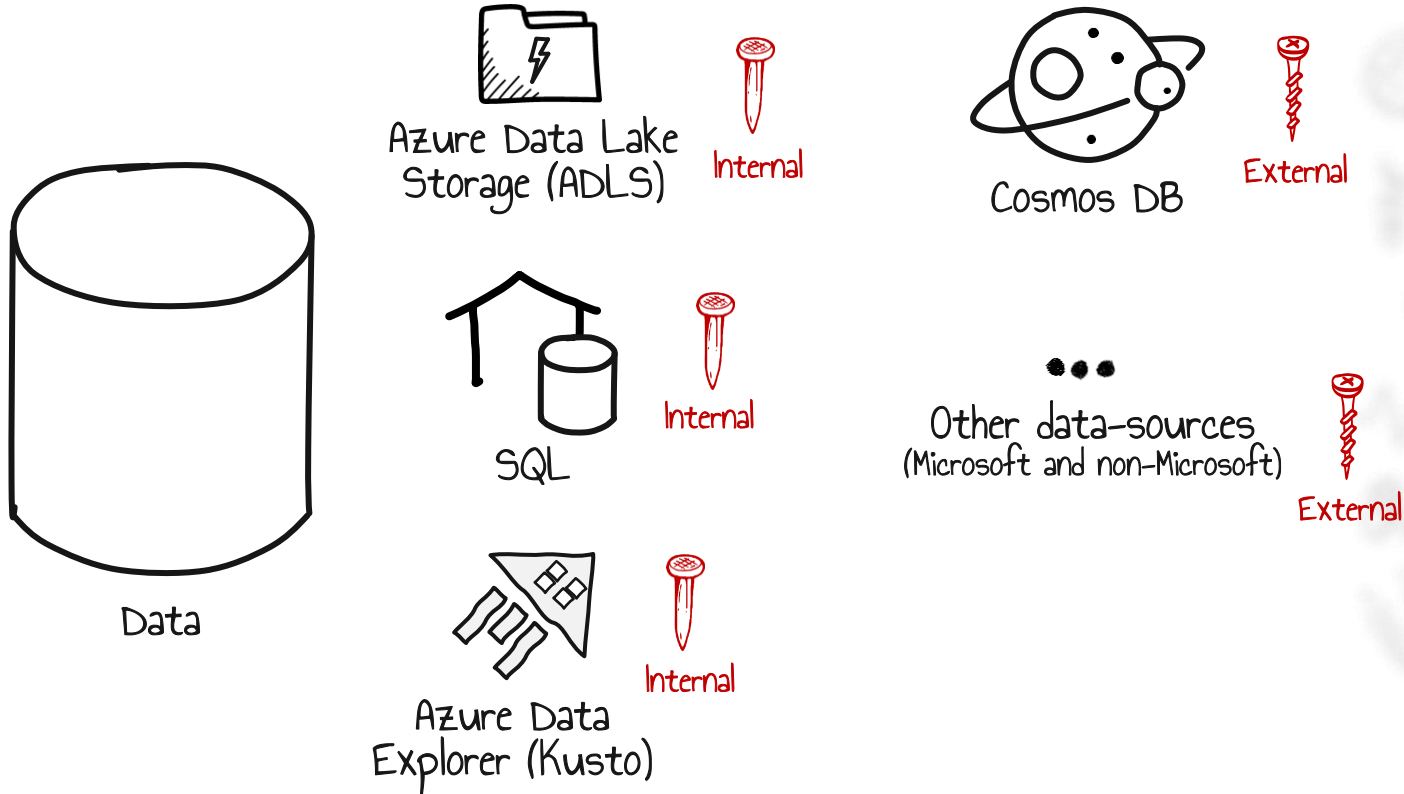
Synapse
Studio



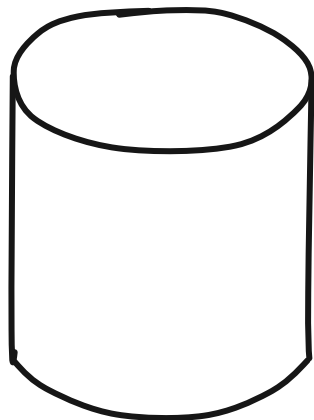
Synapse Studio



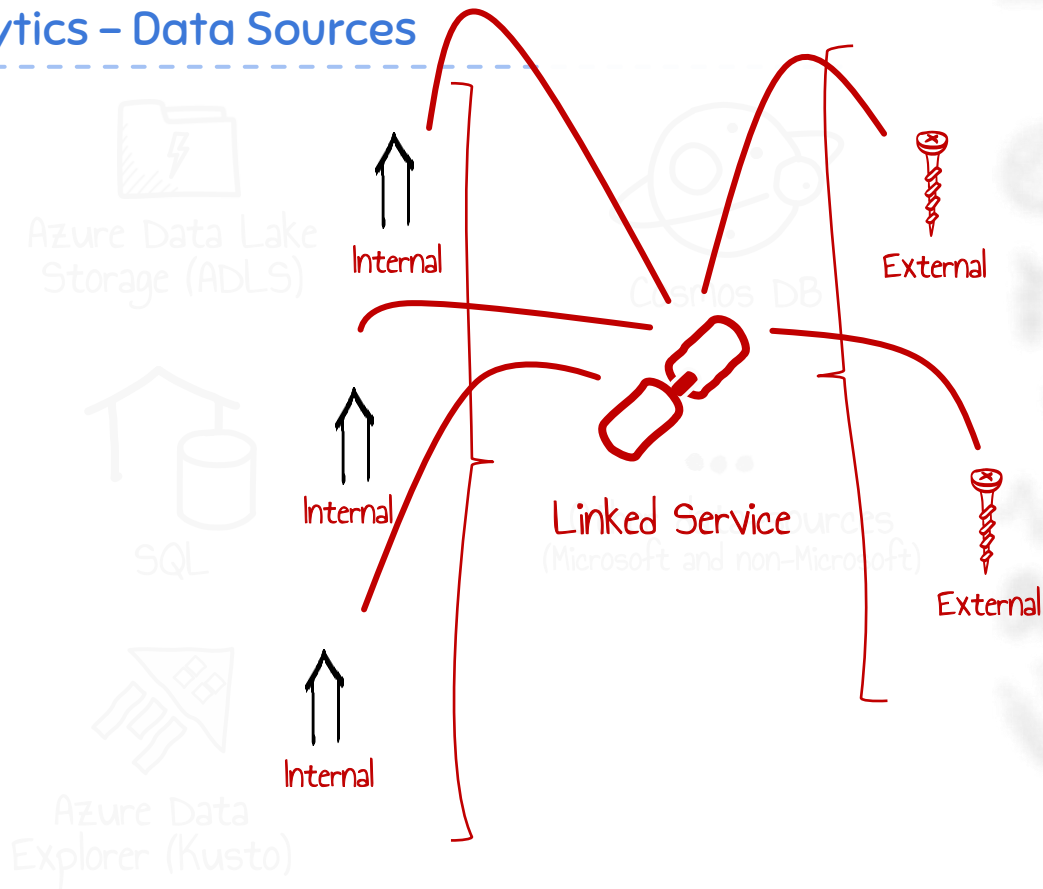
Azure Synapse Analytics – Data Sources



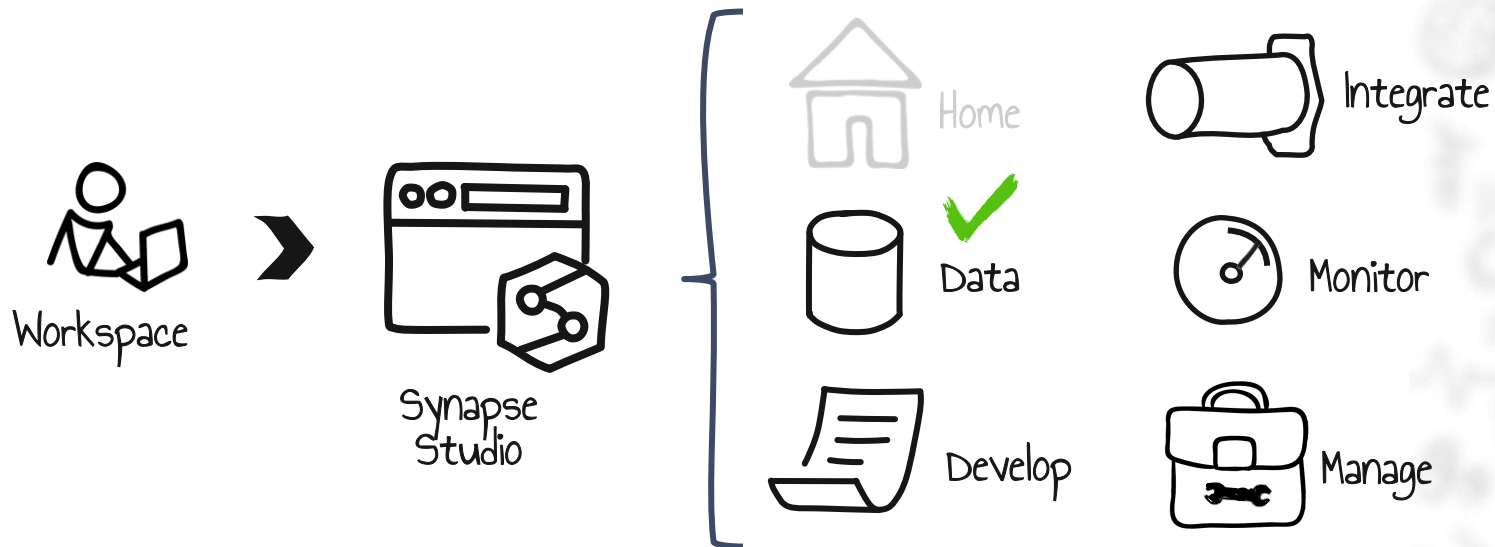
Azure Synapse Analytics – Data Sources



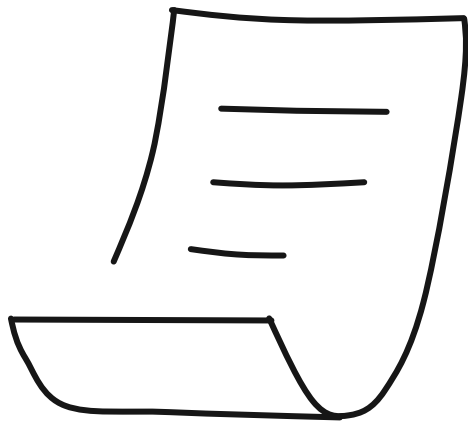
Data



Synapse Studio



Azure Synapse Analytics – Code



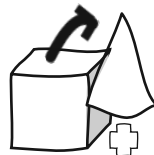
Develop



SQL Script



Internal



Data flow



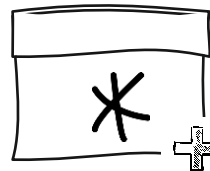
Internal



KQL Script



Internal



Apache Spark
Job Definition



Internal



Notebook



Internal

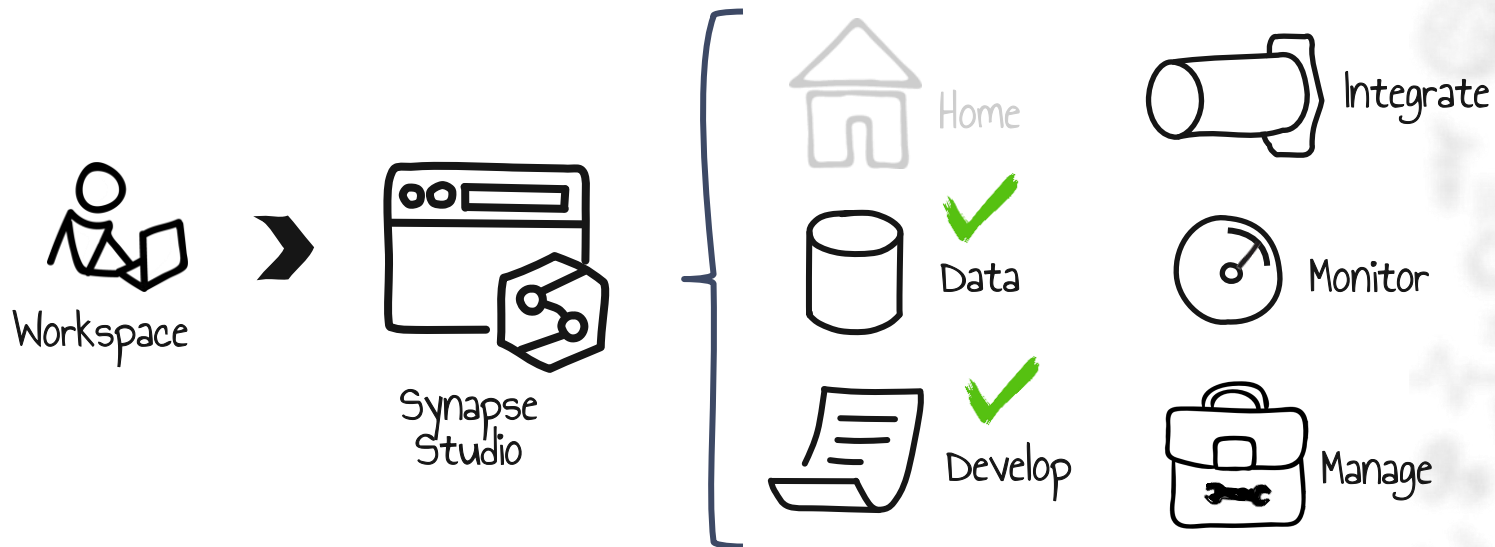


Other development
artifacts
(Imported and from gallery)

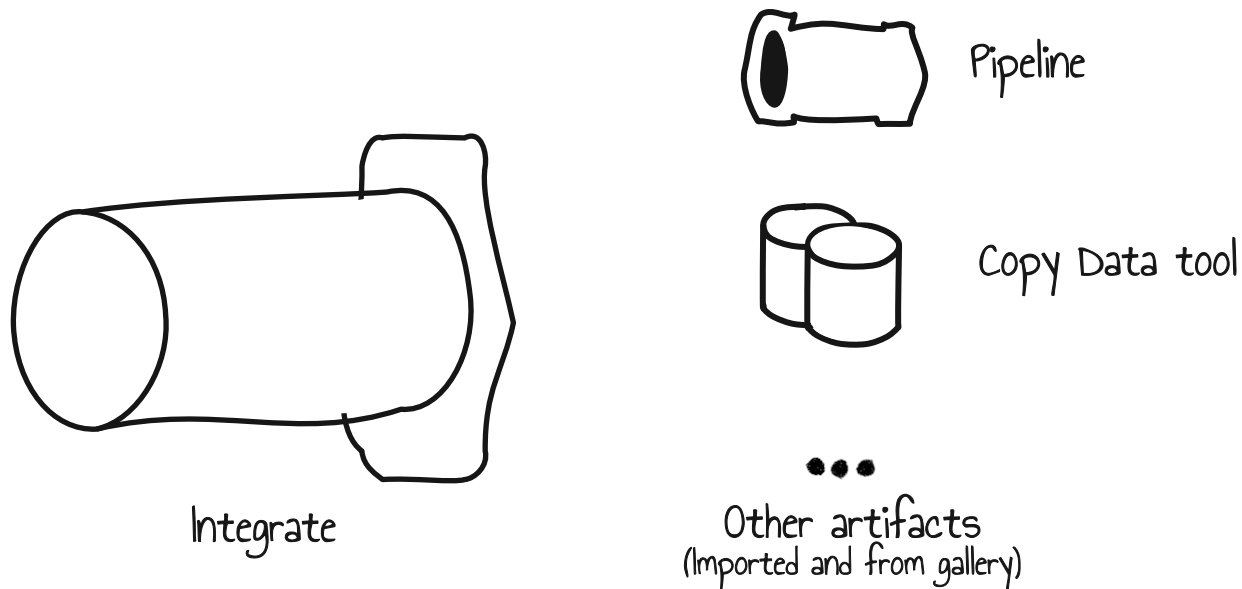


Internal

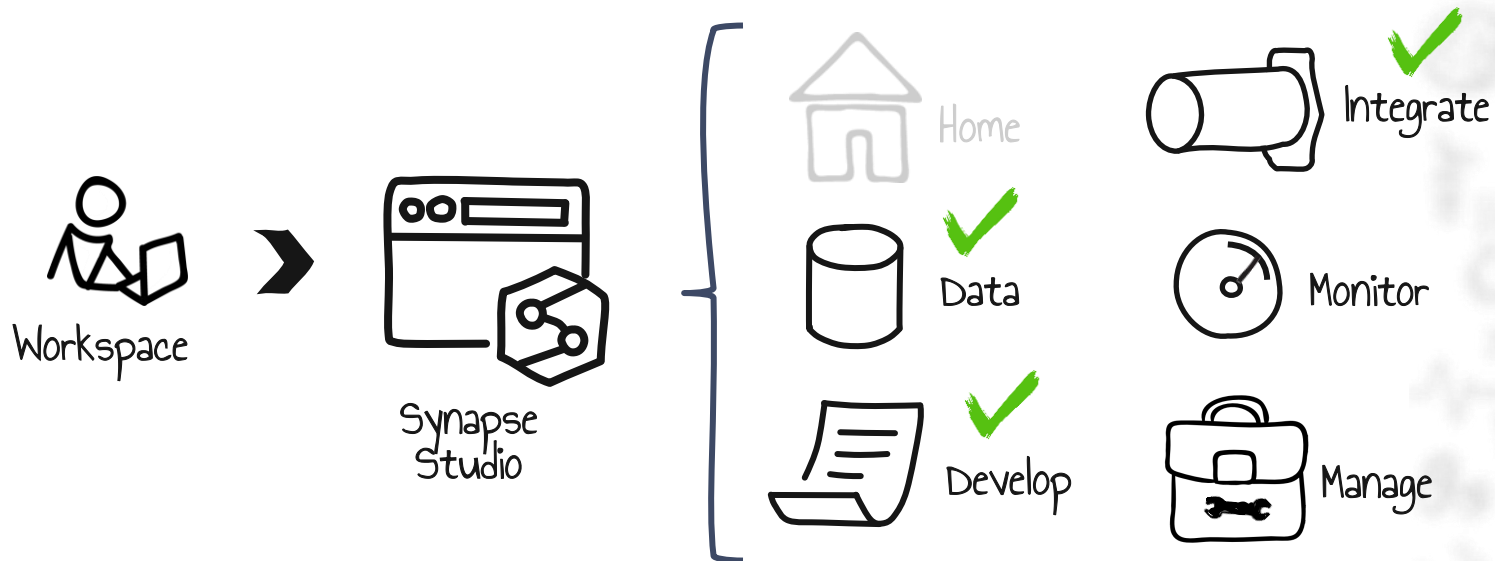
Synapse Studio



Azure Synapse Analytics – Data Movement

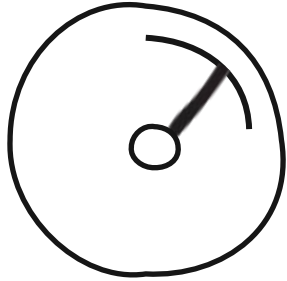


Synapse Studio



tags: synapse, pools, dedicated, serverless

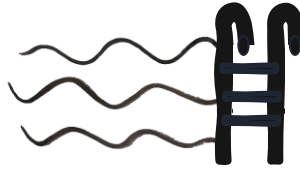
Azure Synapse Analytics – Maintenance



Monitor



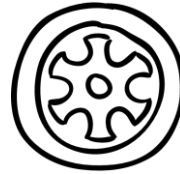
Manage



Analytics Pools



Connections

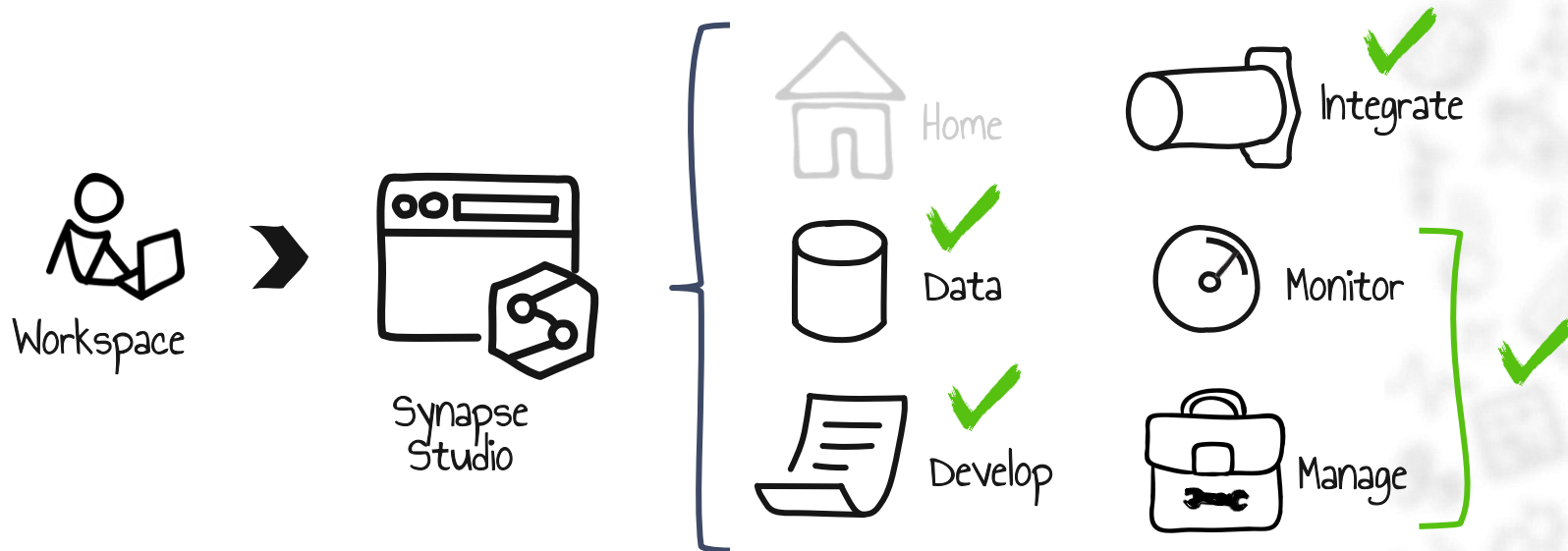


Runtimes



Security

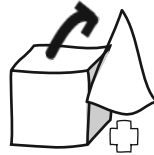
Synapse Studio



Azure Synapse Analytics – Home



SQL Script

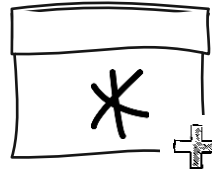


Data flow

← Import



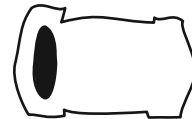
KQL Script



Apache Spark
Job Definition



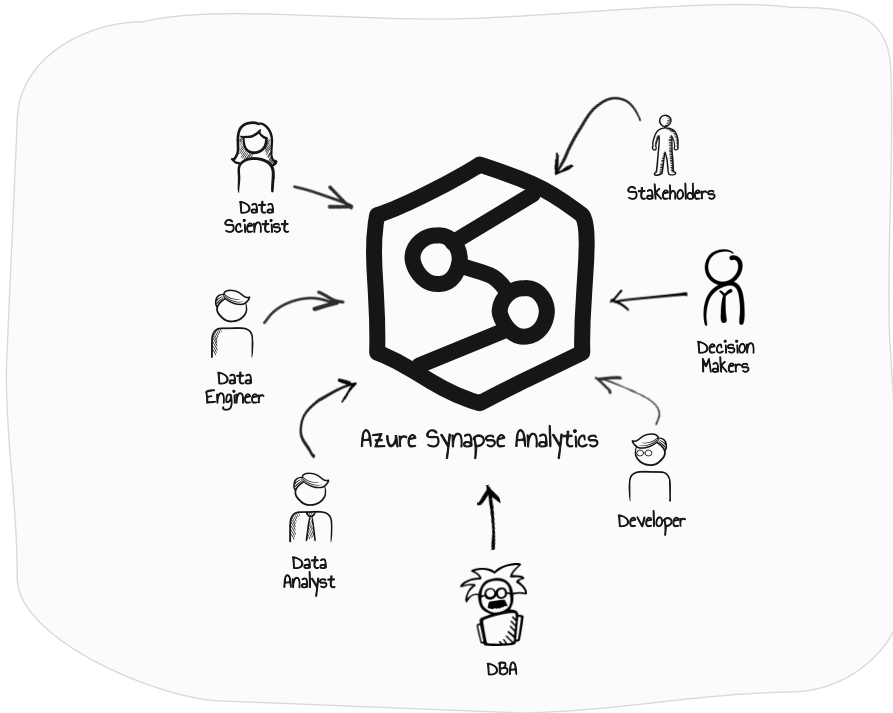
Notebook

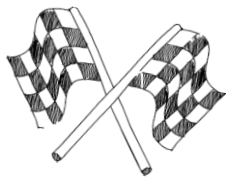


Pipeline

tags: analytics, data, organization, personas

Recap






THANKS!




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