TDIA2

Real-time spam detection in Azure

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planning

1- Project Overview

2- Problem Definition

3- What is Microsoft Azure

4- Project Architecture

5- Demonstration

6- Results and Discussion

1- Project Overview

- **The real-time spam detection project aims to develop a machine learning system that automatically identifies and filters spam messages as they are received.**

- **Using a data streaming pipeline, the solution processes incoming messages in real time, classifying them as spam or not. When spam messages are detected, an alert is sent to notify the relevant parties.**

2- Problem Definition

- **High Volume of Data: Real-time systems must handle large and continuous streams of data.**
- **Low Latency Requirements: The detection must occur in near real-time to provide timely feedback.**
- **False Positives/Negatives: Incorrect classification can lead to blocked messages or missed spam.**

Tools

Machine Learning Model:

FastAPI

Azure Services

Azure Blob Storage

App Communication services

App insights

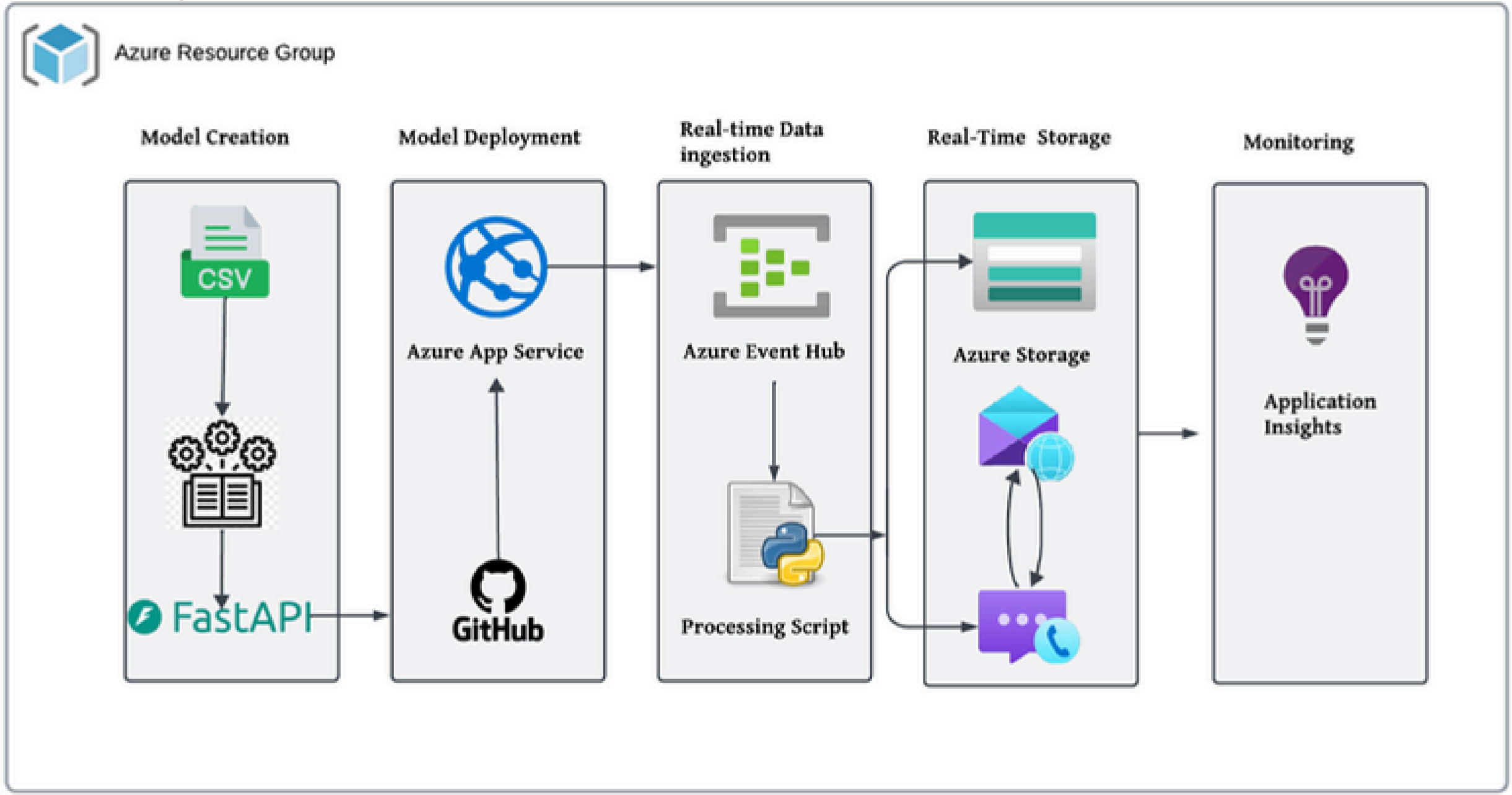
App service

Event Hubs

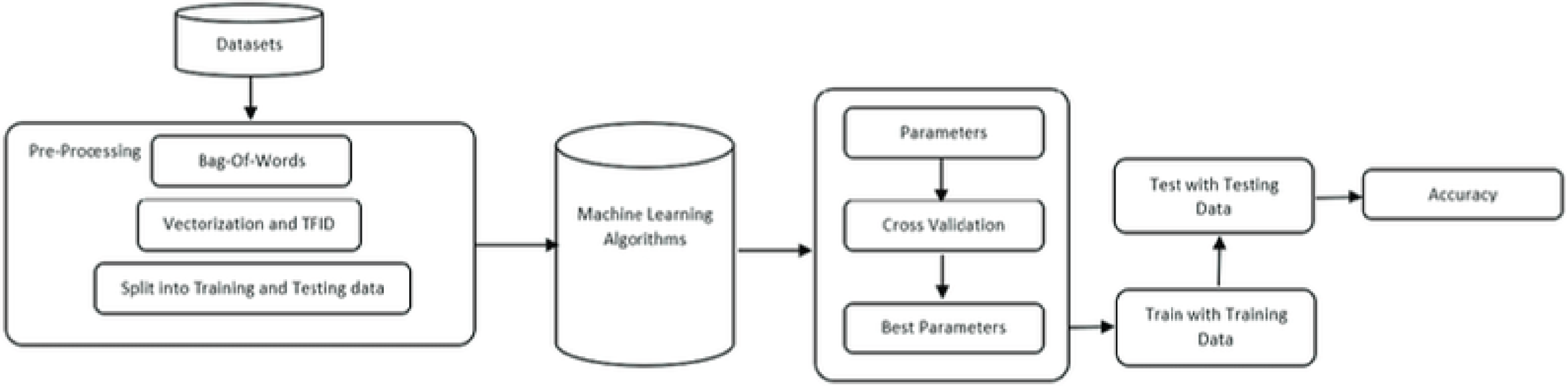
3 - What is Microsoft Azure

Microsoft Azure is a cloud computing platform that offers a wide range of services, including , storage, databases, networking, and artificial intelligence.
It provides businesses with the flexibility to build, deploy, and manage applications in a scalable and cost-effective manner. Azure's global network of data centers ensures high availability and low latency, making it a reliable choice for businesses of all sizes.

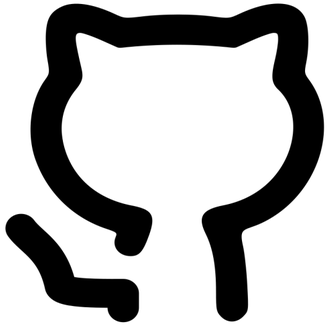
4 - Project Architecture :



4.1- Building a Mchine Learning model



4.2- Model Deployment



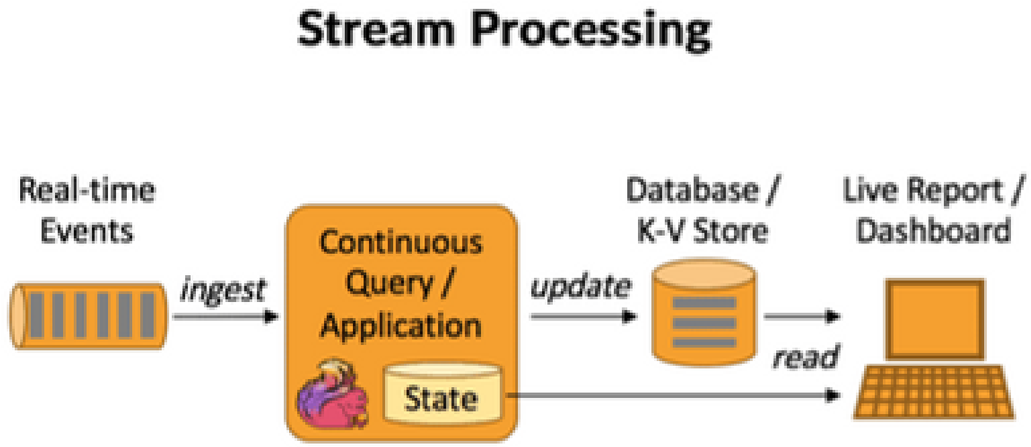
Github Action

Azure App Service

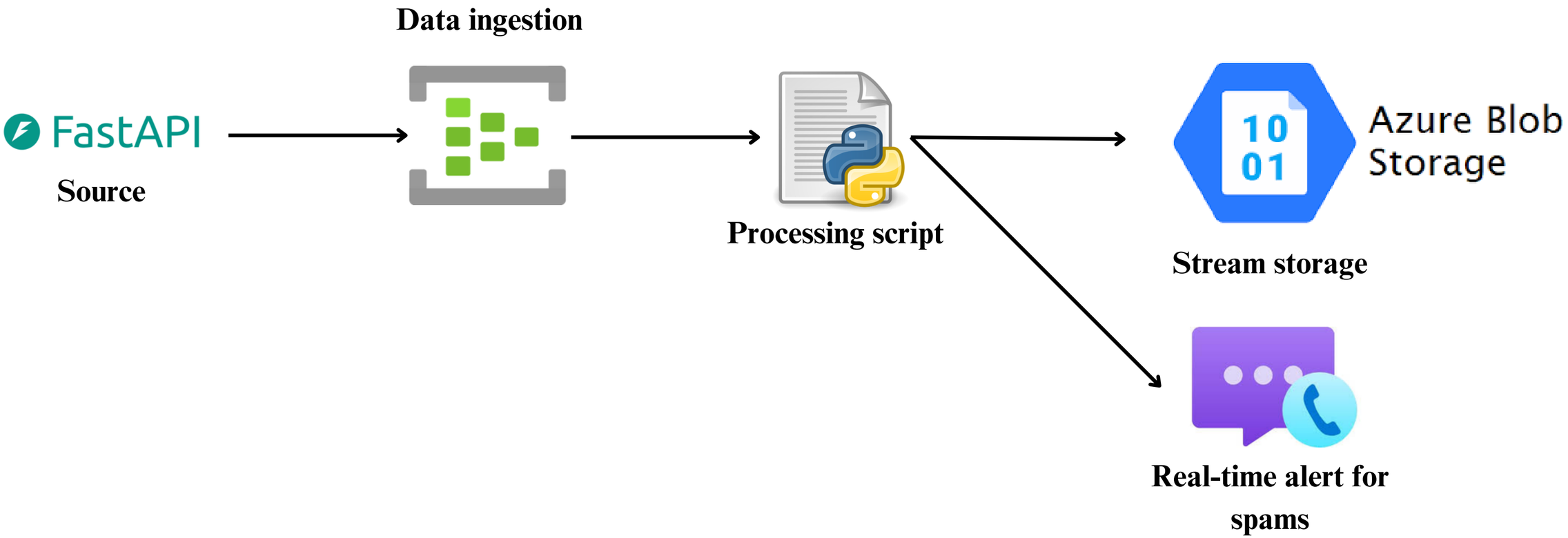
An App Service plan in Azure is a set of compute resources that power a web apps, API apps, or mobile backends. It determines factors like CPU, memory, and scaling capabilities, affecting your application's performance and cost.

4.3- Real-time Spam Detection

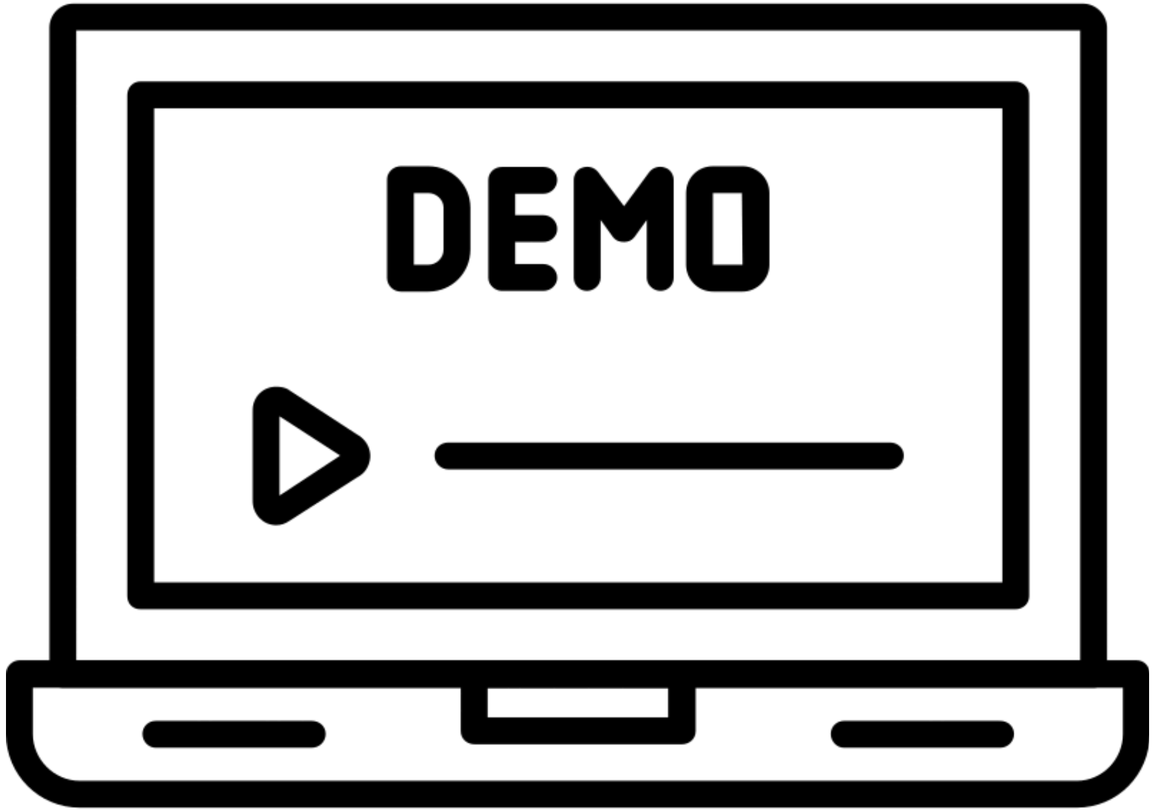
What Is Stream Processing : is a big data technology that allows us to process data in real-time as they arrive and detect conditions within a small period of time from the point of receiving the data. It allows us to feed data into analytics tools as soon as they get generated and get instant analytics results.



4.3- Data ingestion and processing



Demo



Thank you for your Attention

Q&A Session