

PROJECT DESIGN PHASE-II
TECHNOLOGY STACK (ARCHITECTURE & STACK)

Date	15 October 2022
Team ID	PNT2022TMID21747
Project Name	Project – Retail store stock inventory analysis

TECHNICAL ARCHITECTURE:

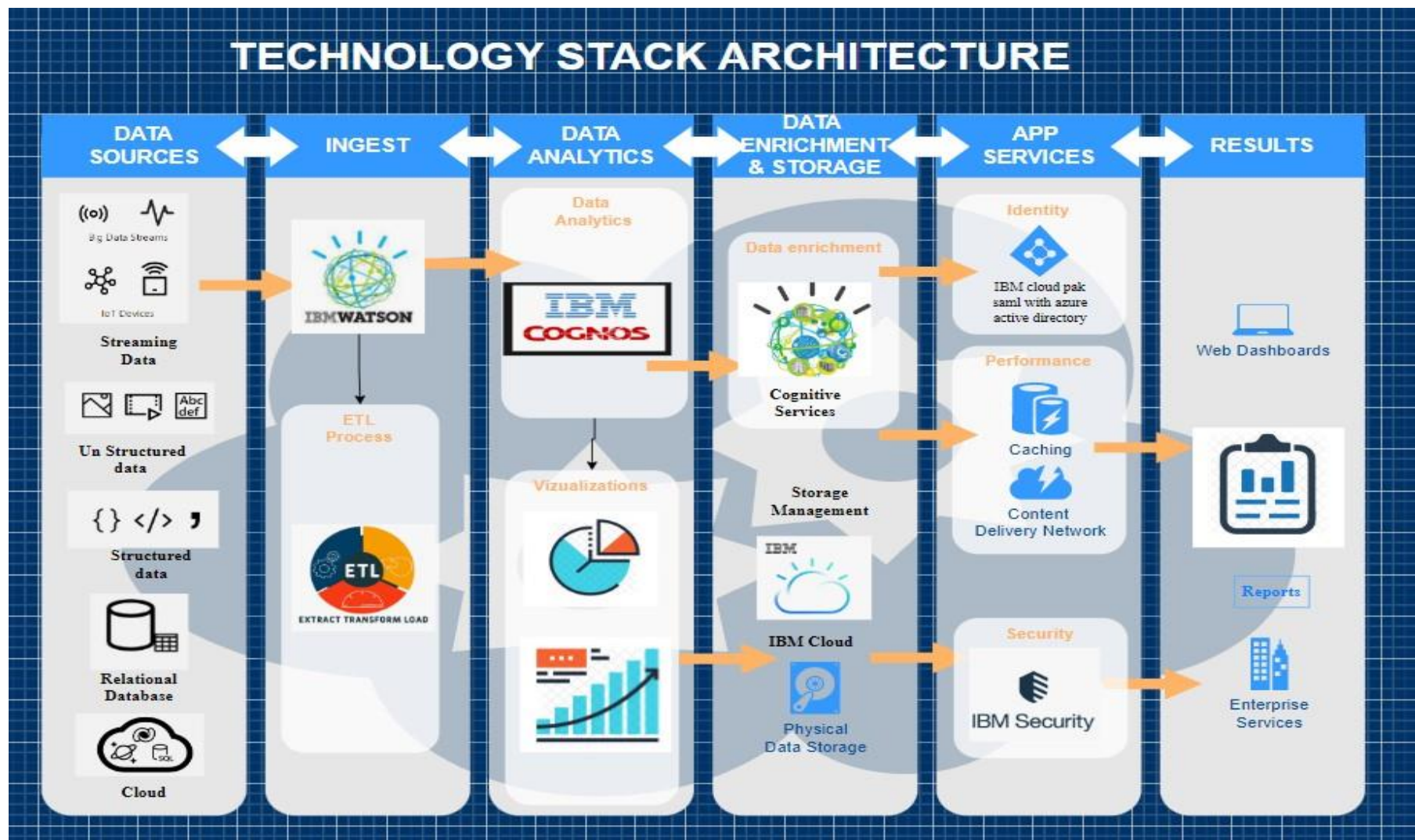


TABLE-1 :

COMPONENTS & TECHNOLOGIES:

S.No	Component	Description	Technology
1.	User Interface	The user interaction with the application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson Assistant
4.	Upload data	The data is uploaded	IBM Cognos
5.	Process data	The processing of the data	IBM Cognos
6.	Visualize data	The visualization of the data	IBM Cognos
7.	Database	The storage of data	MySQL
8.	Analyze data	The data is analyzed and report to improve sales and increase profit	IBM Cognos
9.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant
10.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
11.	External API-1	Purpose of External API used in the application	IBM Data analytics API.
12.	Machine Learning Algorithms	The machine learning algorithms are used to visualize the data and analyze the data	Object Recognition Model, Python, Jupyter notebook.

13.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration, Cloud Server Configuration	Local, Cloud Foundry, Kubernetes.
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TABLE-2:

APPLICATION CHARACTERISTICS:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	open-source frameworks	Python- pandas, numpy, scikit, Matplotlib.
2.	Security Implementations	The data are secured using the various encryption algorithms	SHA-256, Encryptions, IAM Controls, OWASP
3.	Scalable Architecture	3 – tier application architecture - presentation layer, application layer, and database layer.	Presentation layer: Html, Css Application layer: Python Database layer: Mysql, IBM cloud
4.	Availability	The software can be accessed by the multiple users at the same time. The traffic can be managed.	IBM cloud load balancer
5.	Performance	The performance of the software can be used to reduce the traffic. Load balanced are used to reduce the traffic and cache is used to temporary data storage	IBM cloud load balancer