Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	31 January 3035
Team ID	LTVIP2025TMID49662
Project Name	Cosmetic Insights : Navigating Cosmetics Trends and Consumer Insights with Tableau
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/
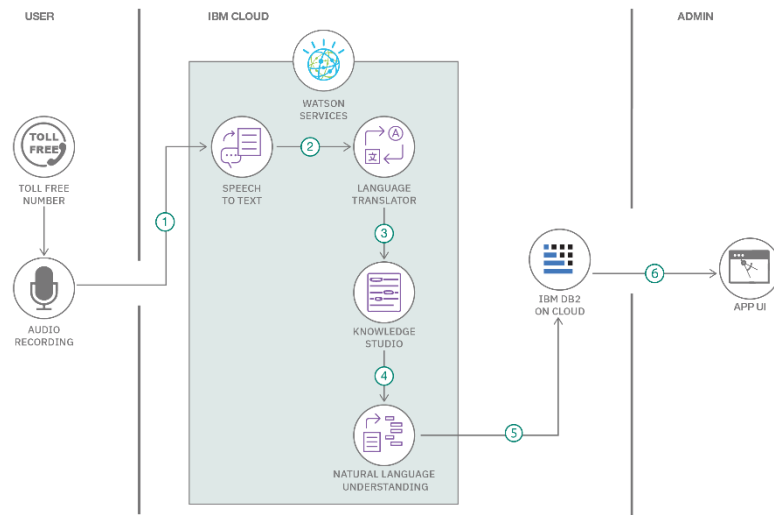
Guidelines:

Include all the processes (As an application logic / Technology Block)

Provide infrastructural demarcation (Local / Cloud)
Indicate external interfaces (third party API's etc.)
Indicate Data Storage components / services Indicate interface to machine learning models (if

applicable)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.

7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Frameworks for data analysis, visualization, and web UI	Python, Pandas, Matplotlib, Bootstrap, D3.js
2.	Security Implementations	Protecting data and access control	IAM Roles (IBM Cloud), HTTPS, Data Masking
S.No	**Characteristics**	**Description**	**Technology**
3.	Scalable Architecture	Modular dashboards + data processing pipeline	3-Tier Architecture (Frontend – Logic – DB)
4.	Availability	Tableau dashboards hosted on public/enterprise server	Tableau Server / IBM Cloud / Load Balancer (if scaled)
5.	Performance	Efficient querying, caching insights, and data preprocessing	Redis (if large-scale), Tableau Extracts, CDN

References:

https://c4model.com/ https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/ https://www.ibm.com/cloud/architecture https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d