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

Date	26 February 2026
Team ID	LTVIP2026TMIDS78338
Project Name	Plugging into the Future: An Exploration of ElectricityConsumption PatternsUsing 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

Guidelines:

Include all the processes (As an application logic /
Technology Block)
Provide infrastructural demarcation (Local / Cloud)
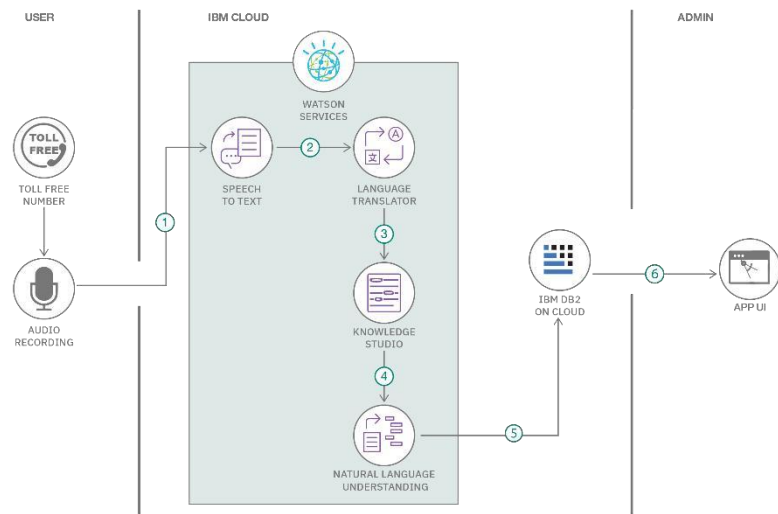Indicate external interfaces (third party API's etc.)

Table-1 : Components & Technologies:

Indicate Data Storage components / services
Indicate interface to machine learning models (if

Table-2: applicable)**Application Characteristics:**

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

References:

S.No	Component	Description	Technology
1	User Interface	Dashboard interface forviewingelectricity consumption trends	Tableau Public
2	Application Logic-1	Scriptfor data cleaning and formatting	Python(Pandas, NumPy)
3	Application Logic-2	Data reshaping and exporting forTableau	Python
4	Database	ProcessedCSV/Excel files	Local Filesystem
5	Cloud Database	N/A – Staticfiles used in Tableau	N/A
6	File Storage	Storespreprocessed datasets	Local Storage
7	External API-1	Openenergy datasets	data.gov.in, Kaggle
8	External API-2	Weathercorrelation data (optional)	OpenWeather API
9	Machine Learning Model	Optional forecasting model (future scope)	Prophet / Scikit-learn
10	Infrastructure	Applicationsetup anddashboard hosting	Localpreprocessing+ Tableau Cloud

S.No	Characteristics	Description / Technology
1	Open-Source Frameworks	Python(Pandas,NumPy), Tableau Public

2	Security Implementations	Tableau's built-in access control andpublishedlink privacy
3	Scalable Architecture	Scalable via Tableau's supportfor largedatasets and filters
4	Availability	High availability via Tableau Public'scloud-hosted platform
5	Performance	Fast rendering through preprocessedand optimized data,cache-enabled dashboards

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