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

Date	31 January 2026
Team ID	LTVIP2026TMIDS24158
Project Name	Plugging into the Future: An Exploration of Electricity Consumption Patterns Using Tableau
Maximum Marks	4 Marks

Technical Architecture:

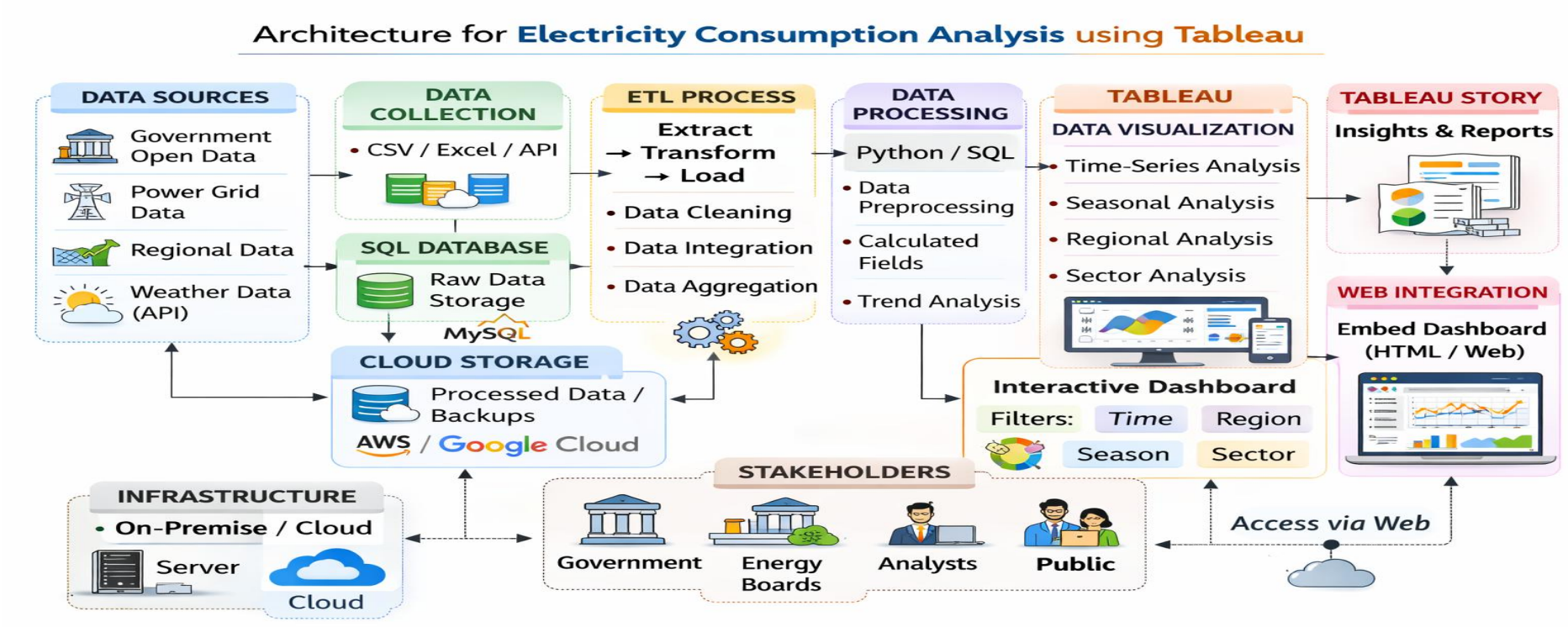

Table-1: Components & Technologies

S.No	Component	Description	Technology
1.	User Interface	Interface through which users view dashboards and stories	HTML, CSS
2.	Application Logic-1	Data preprocessing and transformation logic	Python
3.	Application Logic-2	Analytical logic for trend, seasonal, and regional analysis	Tableau Calculated Fields
4.	Application Logic-3	Story creation and insight presentation logic	Tableau Story
5.	Database	Storage of electricity consumption data	MySQL
6.	Cloud Database	Optional cloud-based data storage	IBM DB2
7.	File Storage	Storage of datasets, extracts, and reports	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Electricity consumption open datasets	Public API
9.	External API-2	Weather data for seasonal correlation (optional)	Weather API
10.	Machine Learning Model	Electricity demand forecasting (future scope)	Regression / Time-Series Model
11.	Infrastructure (Server / Cloud)	Application deployment environment	Local System / Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Tools used for data processing and visualization	Python, Tableau Public
2.	Security Implementations	Data access control and secure handling	User Authentication, Secure DB Access
3.	Scalable Architecture	Architecture supports increasing data volume	Layered Architecture
4.	Availability	Dashboards accessible anytime through web	Tableau Public
5.	Performance	Optimized data aggregation and dashboard loading	Pre-aggregated Data, Filters