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

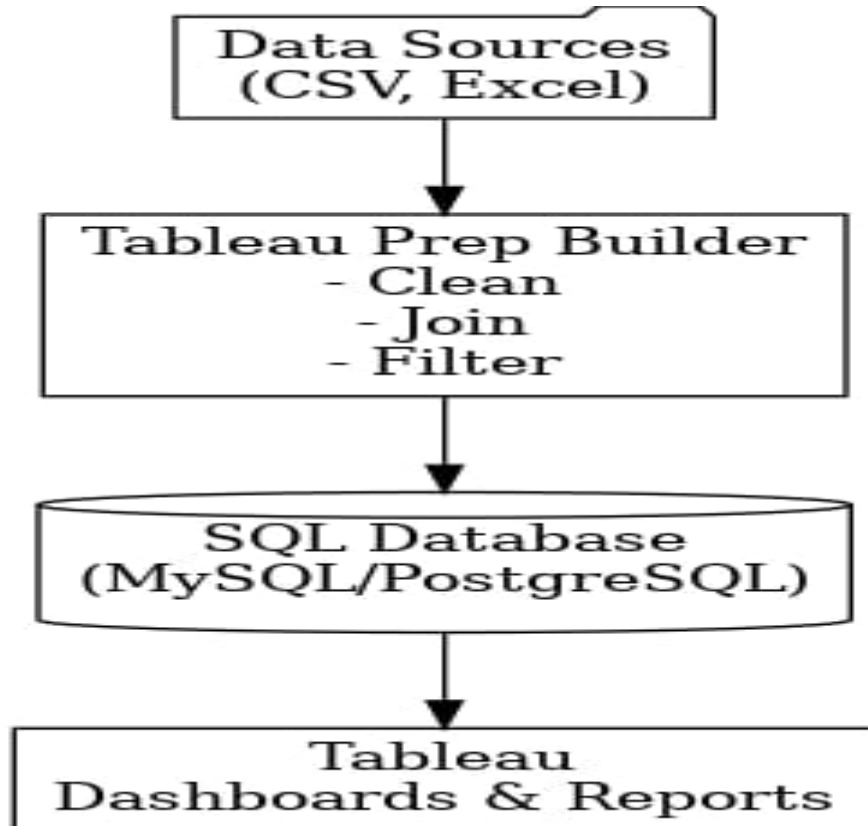| Date	20 Jun 2025
Team ID	LTVIP2025TMID51659
Project Name	Cosmetic Insights : Navigating Cosmetics Trends and Consumer Insights
Maximum Marks	4 Marks

Technical Architecture:

Table-1 : Components & Technologies:

S .No	Component	Description	Technology
1.	User Interface	Interactive dashboard where users analyze trends and filter by region, product	Tableau Embedded Dashboard, Bootstrap Web Portal
2.	Application Logic-1	Automated data pipeline to pull sales data daily from CRM	online
3.	Application Logic-2	ETL and transformation: cleaning, aggregating, enriching data	Prep Builder
4.	Application Logic-3	Custom logic to calculate KPIs, YOY trends, and seasonal analytics	SQL Scripts / Tableau Calculated Fields
5.	Database	Stores sales, customer segmentation, pricing tier, and feedback data	PostgreSQL
6.	Cloud Database	Hosted database that syncs with Tableau	SQL ,Excel
7.	File Storage	Raw datasets (CSV, Excel) and exported reports (PDF, PNG)	Drives
8.	External API-1	Retrieves public skincare trend data from online sources	None
9.	External API-2	Integrates demographic or social influence data for target segmentation	None
10.	Machine Learning Model	Forecast product demand, predict user preferences	None
11.	Infrastructure (Server / Cloud)	Entire solution deployed as microservices with CI/CD pipelines	GitHub

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Tableau is a proprietary tool, so no open-source frameworks are used.	Not applicable
2.	Security Implementations	Tableau provides **user authentication**, **row-level security**, and **data encryption** for dashboards	Tableau User Permissions

S.No	Characteristics	Description	Technology
3.	Scalable Architecture	Tableau dashboards can connect to live data sources	Tableau Cloud / Tableau Server
4.	Availability	Tableau Cloud ensures **high availability**, auto backups	Tableau Online
5.	Performance	Tableau optimizes performance via **Hyper Extracts**, **Dashboard Performance**	Tableau Hyper Engine,Extracts