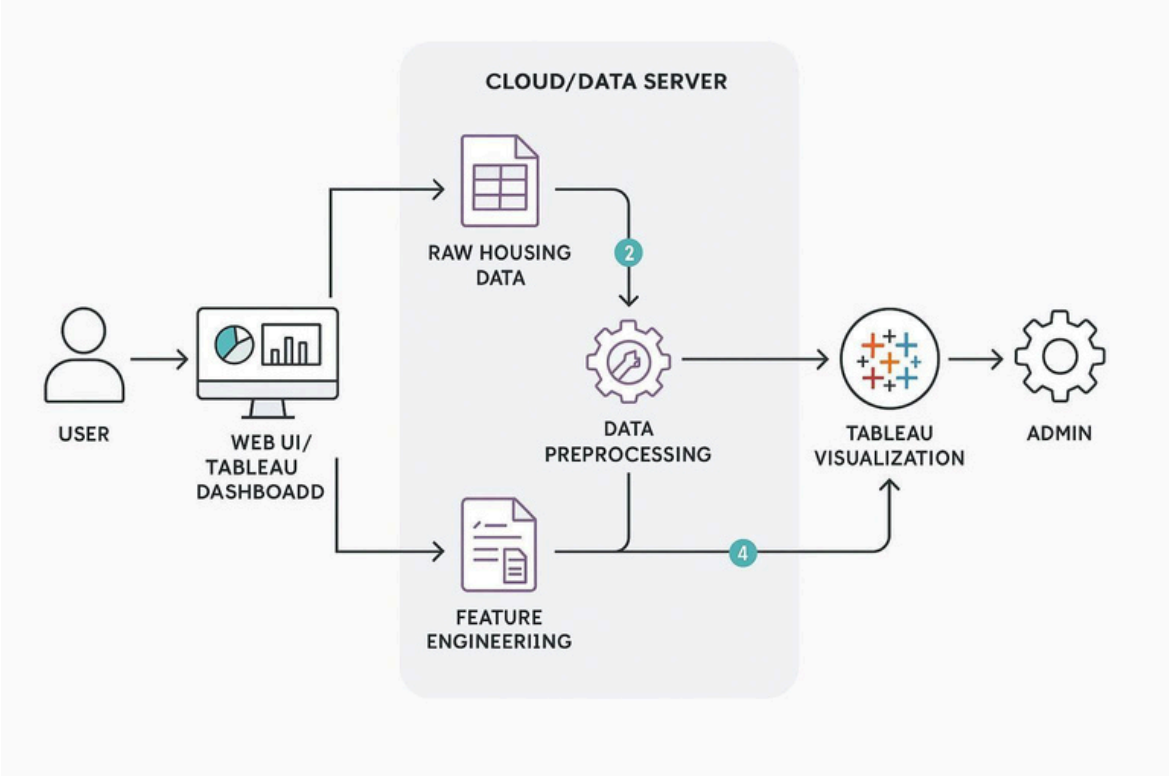
Project Design Phase-III
TechnologyStack(Architecture&Stack)

Date:	**21 June 2025**
Team ID:	**LTVIP2025TMID51853**
Project Name:	**Visualizing Housing Market Trends: An Analysis of Sale Prices and Features using Tableau.**
Maximum Marks:	4 Marks



Technical Architecture:

This project leverages data visualization to analyze housing market trends such as sale prices and housing features using Tableau. It focuses on visual exploration rather than complex machine learning or cloud-native deployments. The architecture is primarily local with support from lightweight scripting and desktop-based tools.

Architecture Diagram Summary:

- • User Interface (Tableau Dashboard) - Users interact with visualizations.
- • Data Source (Local File Storage) - CSV or Excel files used as input.
- • Preprocessing (Python) - Data is cleaned and structured using pandas.
- • Feature Engineering (Python or Tableau Prep) - Additional insights generated.
- • Visualization Layer (Tableau Desktop / Public) - Interactive dashboards built and published.
- • Infrastructure - Local machine for development and deployment.

Table-1: Components & Technologies:

S. No	Component	Description	Technology Used
1	User Interface	Dashboard interface for user interaction	Tableau Public / Tableau Desktop
2	Application Logic-1	Preprocessing logic for housing data	Python (Pandas, NumPy)
3	Application Logic-2	Feature engineering and transformations	Tableau Prep / Python
4	Application Logic-3	Not used	Not Used
5	Database	Raw data storage (optional, using files)	Not Used / CSV
6	Cloud Database	Not used in this project	Not Used
7	File Storage	For storing CSV/Excel input files	Local Filesystem
8	External API-1	Not used	Not Used
9	External API-2	Not used	Not Used
10	Machine Learning Model	Not used	Not Used
11	Infrastructure	System where the application runs	Local Desktop (Windows/Mac)

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1	Open-Source Frameworks	Data preprocessing and manipulation	Python (Pandas, NumPy)
2	Security Implementations	No user authentication or cloud data access in current version	Not Applicable

3	Scalable Architecture	Not designed for cloud scale or multiple users	Not Applicable
4	Availability	Local system availability only	Tableau Desktop on personal system
5	Performance	Handles small to medium datasets, processed locally using efficient libraries	Python (Pandas), Tableau Optimizations