

Project Design Phase-I

Solution Architecture

Date	31 Jan 2026
Team ID	LTVIP2026TMIDS38705
Project Name	Empowering India
Maximum Marks	4 Marks

Solution Architecture:

The solution architecture illustrates how Union Budget data is transformed into meaningful insights through a layered system. The architecture connects raw government budget data with visualization tools and a web application to help users understand budget allocations easily.

- 1. Data Source Layer:**
Union Budget datasets (2021–2024) are collected from official sources/Kaggle. This layer acts as the input for the system.
- 2. Data Storage Layer (MySQL Database):**
The collected data is cleaned, structured, and stored in a MySQL database. SQL queries are used to retrieve and process the required information for analysis.
- 3. Visualization Layer (Tableau Dashboards & Stories):**
Tableau is connected to the database to create interactive dashboards and stories. These visualizations present budget allocations category-wise, department-wise, and scheme-wise, making complex financial data easy to interpret.
- 4. Web Application Layer (Flask):**
The Tableau dashboards are embedded into a Flask-based web application using iframes. This layer provides a simple user interface for interacting with the visualizations through a web browser.
- 5. End Users:**
Students, startups, policymakers, and analysts access the web application to explore budget trends, compare allocations, and gain insights for decision-making.

Solution Architecture Diagram:

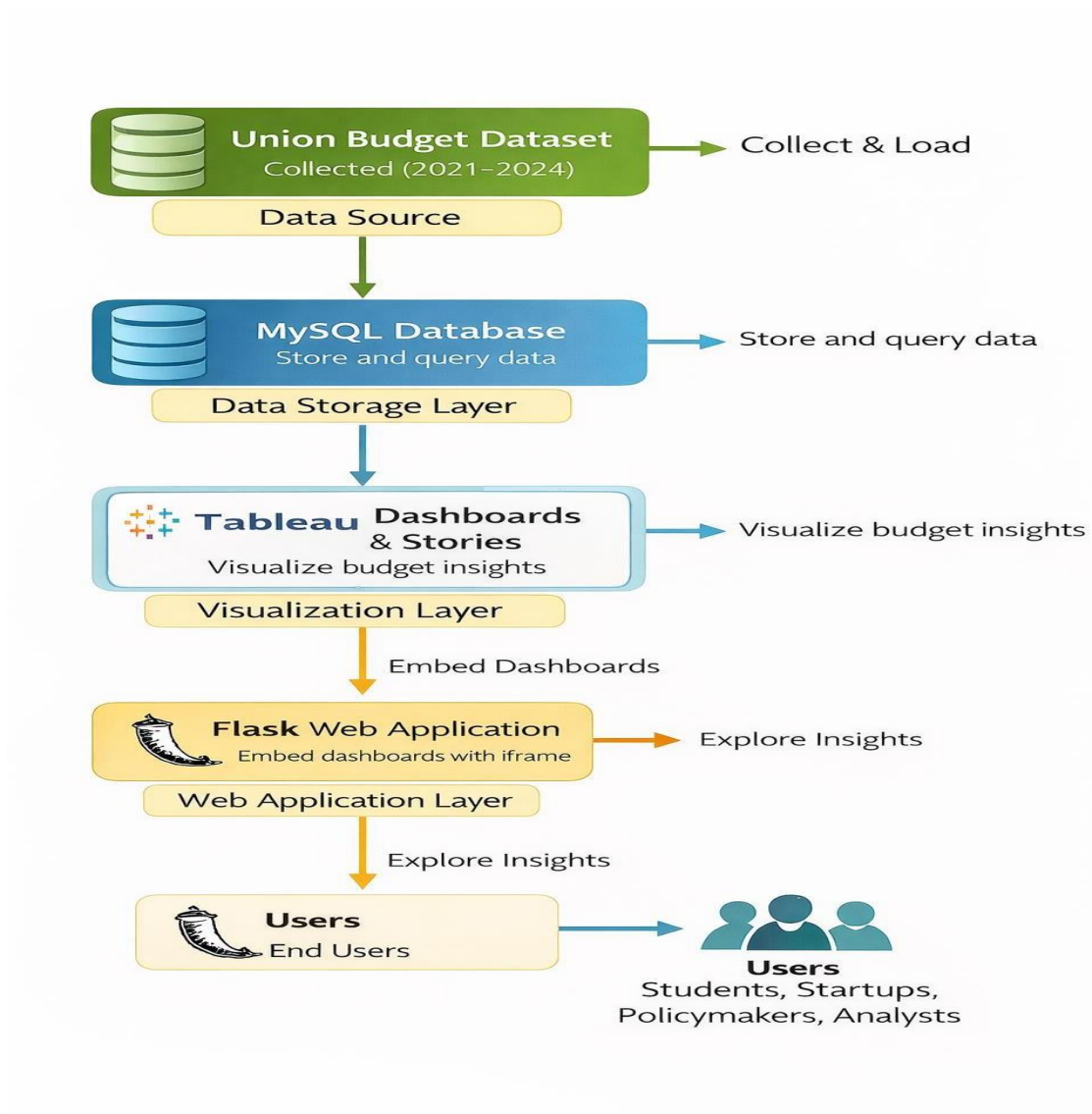


Figure 1: Architecture and data flow of the *Empowering India*