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

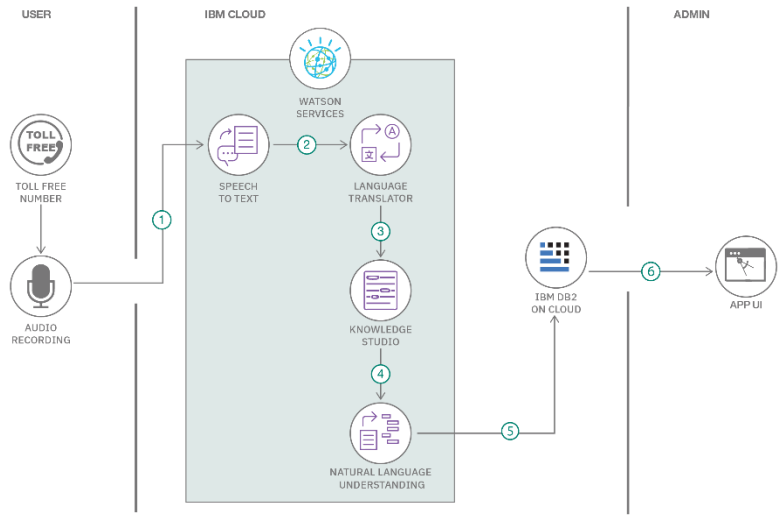
Date	28 Feb. 26
Team ID	LTVIP2026TMIDS53367
Project Name	Empowering India: Analysing the Evolution of Union Budget Allocations for Sustainable Growth
Maximum Marks	4 Marks

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

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



Guidelines:

- Include all the processes (As an application logic / Technology Block)
- Provide infrastructural demarcation (Local / Cloud)
- Indicate external interfaces (third party API's etc.)
- Indicate Data Storage components / services
- Indicate interface to machine learning models (if applicable)

S.No	Component	Description	Technology
1	User Interface	Dashboard for visualizing Union Budget data	Tableau / HTML, CSS, JavaScript
2	Application Logic-1	Data processing and cleaning logic	Python (Pandas, NumPy)
3	Application Logic-2	Data analysis and trend calculation	Python / Tableau Calculations
4	Application Logic-3	Insight generation and comparison analysis	Python / SQL
5	Database	Store budget and sector data	MySQL / CSV Files
6	Cloud Database	Cloud data storage	Google Drive / Cloud Storage
7	File Storage	Store datasets and reports	Local File System / Cloud Storage
8	External API-1	Budget data source integration	Government Open Data API
9	External API-2	Economic indicator integration	World Bank API (optional)
10	Machine Learning Model	Future budget prediction	Linear Regression / Forecast Model
11	Infrastructure (Server / Cloud)	Dashboard deployment environment	Local System / Tableau Public

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Used open-source tools for data analysis and visualization	Python, Pandas, NumPy, Tableau Public
2	Security Implementations	Data access control and secure handling of budget datasets	User access control, File permissions, Secure storage
3	Scalable Architecture	System can handle increasing budget datasets and multiple years of data	Modular dashboard design, Python scripts
4	Availability	Dashboard available anytime for analysis and report viewing	Tableau Public / Local System
5	Performance	Fast loading and smooth visualization of large datasets	Optimized datasets, Tableau performance tuning

References:

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