

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

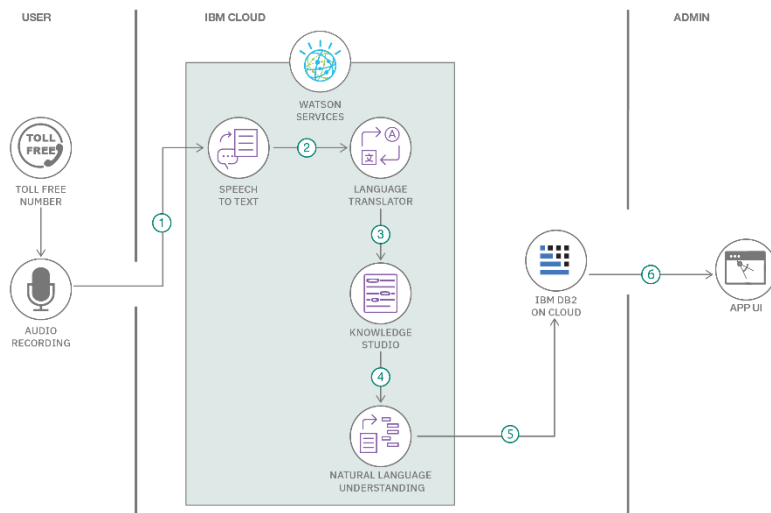
Date	25 Jun 2025
Team ID	LTVIP2025TMII61416
Project Name	Measuring the pulse of Prosperity: An index of Economic Freedom Analysis
Maximum Marks	4 Marks

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)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web-based interface embedded with Tableau dashboard	HTML, CSS, JavaScript
2.	Application Logic-1	Data preprocessing & cleaning for freedom index	Java / Python
3.	Application Logic-2	Database design & connection setup	MySQL
4.	Application Logic-3	Tableau dashboard setup & interactivity	Tableau Desktop / Tableau Public
5.	Database	Structured economic data storage	MySQL
6.	Cloud Database	Optionally use cloud DB or Tableau Public data sources	Tableau Public Cloud
7.	File Storage	Project files, raw datasets (CSV, Excel)	Local File System / Google Drive
8.	External API-1	Optional GDP/HDI data from World Bank or IMF	World Bank API (optional)
9.	External API-2	Country flags, map visuals	REST Countries API
10.	Machine Learning Model	Not applicable	N/A
11.	Infrastructure (Server / Cloud)	Local for dev; Tableau Public for production visualization	Local Machine, Tableau Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Python for data cleaning; MySQL; Tableau Public for sharing visuals	Python, Pandas, MySQL, Tableau
2.	Security Implementations	Tableau Public restricts edit access; no PII stored	Tableau Permissions, CSV-only
3.	Scalable Architecture	Easily scalable by uploading more datasets or connecting to live DB	Tableau Cloud, Modular Dashboards

S.No	Characteristics	Description	Technology
4.	Availability	Dashboard hosted 24/7 via Tableau Public; no downtime expected	Tableau Public hosting
5.	Performance	Lightweight dashboard; low request rate; static visual filters	Optimized Tableau workbook

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>