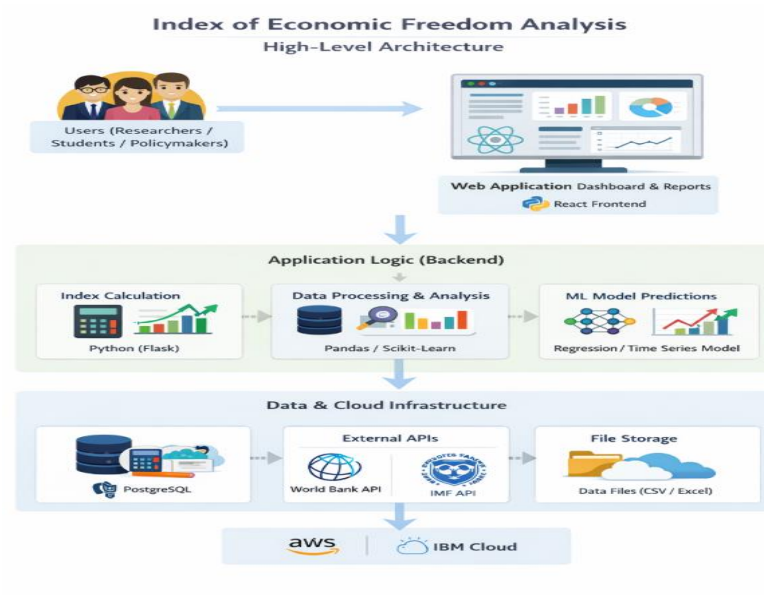
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	31 January 3035
Team ID	LTVIP2026TMIDS86694
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



Guidelines: ◇ **Frontend**

- Technology: HTML, CSS, JavaScript
- Handles:
  - User interface
  - Sending requests to backend
  - Displaying results

◇ **Backend**

- Technology: Java (Spring Boot) / Python (Flask/Django)

Table components & Technologies:

	Component	Description	Technology
1.	User Interface	Dashboard for comparing countries, visualizing economic freedom scores, filters, reports	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Economic Freedom Index calculation logic and scoring algorithm	Python (Pandas, NumPy)
3.	Application Logic-2	Data preprocessing, cleaning and normalization of economic datasets	Python (Scikit-learn)
4.	Application Logic-3	Data visualization and analytics generation	IBM Watson Assistant
5.	Database	Stores country data, economic indicators, historical scores	MySQL, NoSQL, etc.
6.	Cloud Database	Fetch global economic data	IBM DB2, IBM Cloudant etc.
7.	File Storage	Fetch GDP, inflation, trade statistics	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Predict future economic freedom trends based on historical data	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Technology of Opensource framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used