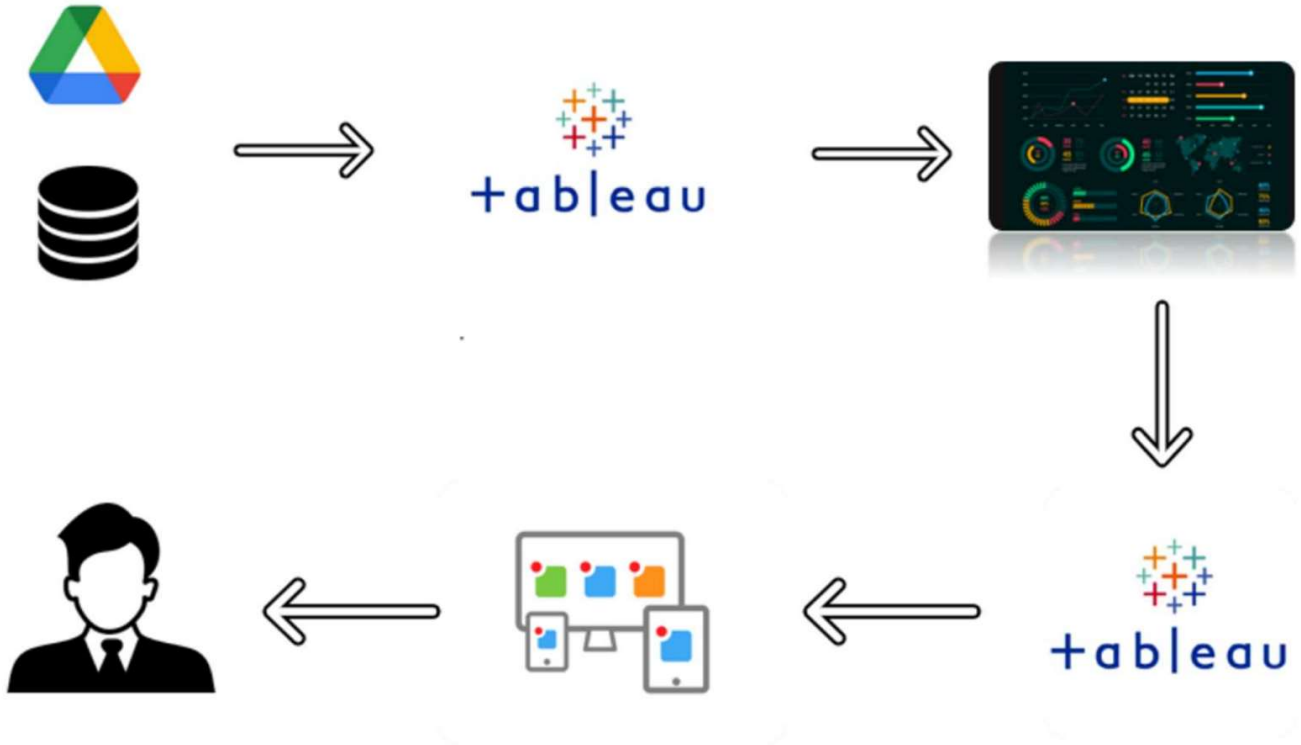
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	24 October 2023
Team ID	Team-591167
Project Name	International Debt Statistics
Maximum Marks	4 Marks

Technical Architecture:



1. User Interface:

Web-based dashboard for data visualization and interaction

2. Application Logic:

Data collection, cleaning, and processing logic

Data visualization and dashboard creation logic

Integration with external data sources and APIs

Web integration and deployment

3. Database:

Database for storing and managing project-related data

Configuration: MySQL for structured data, NoSQL for unstructured data

4. Cloud Database:

Cloud-based database services for scalability and data storage

Services like IBM DB2 and IBM Cloudant

5. File Storage:

Storage for files, data, and project-related documents

Options include IBM Block Storage, local file systems, or other cloud-based storage services

6. External APIs:

Integration with external data sources and services for collecting international debt statistics

Examples: World Bank Data API, economic indicators APIs

7. Infrastructure:

Application deployment on cloud infrastructure

Configurations for Local, Cloud Foundry, or Kubernetes

Table-1: Components & Technologies:

S. No.	Component	Description	Technology
1.	User Interface	Web UI for data visualization	HTML, CSS, JavaScript, Angular/React
2.	Application Logic-1	Data collection and processing logic	Java/Python
3.	Application Logic-2	Data visualization logic	Data visualization libraries
4.	Database	Data storage for project-related data	MySQL, NoSQL
5.	Cloud Database	Scalable cloud-based data storage	IBM DB2, IBM Cloudant
6.	File Storage	File and document storage	IBM Block Storage or Cloud Storage
7.	External API-1	Integration with external data sources	World Bank Data API, Economic APIs
8.	Infrastructure	Cloud-based deployment infrastructure	Local, Cloud Foundry, Kubernetes

Table-2: Application Characteristics:

S. No.	Characteristics	Description	Technology
1.	Open-Source Frameworks	Utilization of open-source frameworks	List of open-source frameworks
2.	Security Implementations	Security measures and controls implemented	Encryption, IAM, OWASP, etc.
3.	Scalable Architecture	Architecture's scalability (e.g., 3-tier)	Technology used for scalability
4.	Availability	Application's availability and redundancy	Load balancers, distributed servers
5.	Performance	Performance considerations (e.g., requests per sec, caching, CDNs)	Technology used for performance optimization