

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

Date	03 October 2022
Team ID	PNT2022TMID591279
Project Name	Project – international debt statistics
Maximum Marks	4 Marks

Technical Architecture:

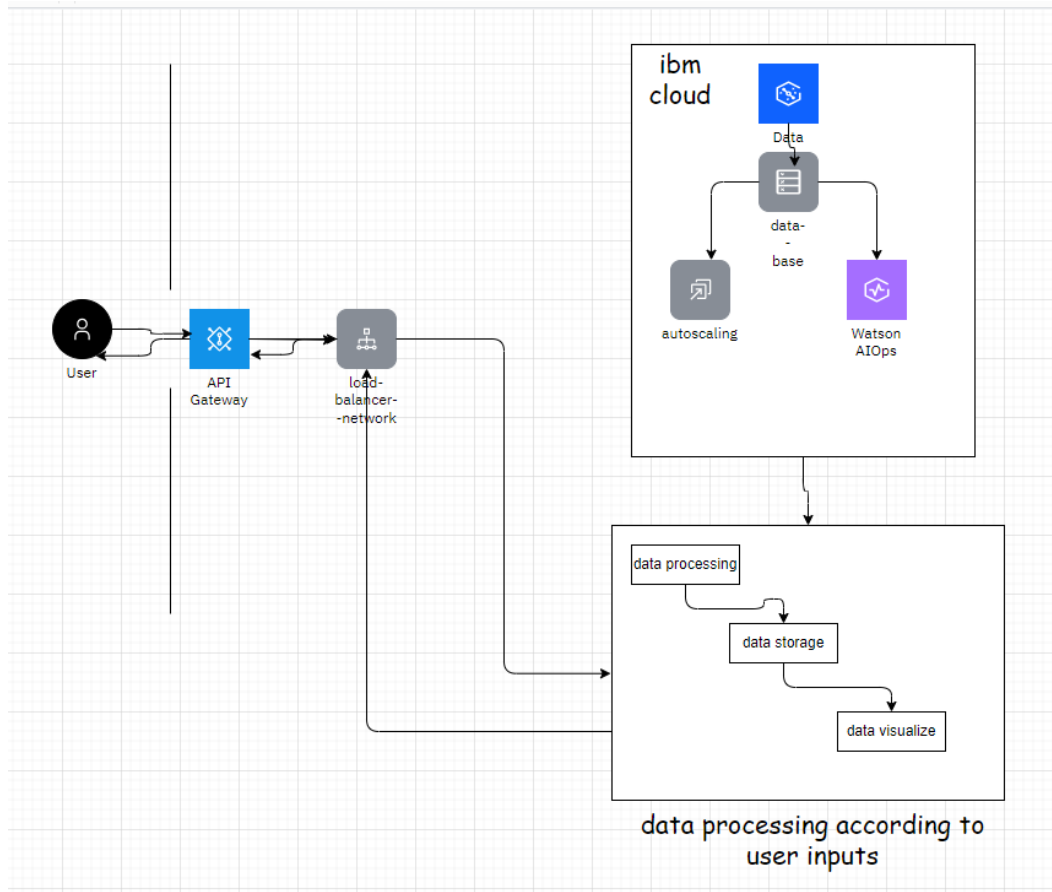


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Frontend interface providing a user-friendly platform for data interaction and display	React.js, Angular, Vue.js HTML5, CSS3, JavaScript
2.	Backend Logic	Backend responsible for data processing, API handling, and business logic	Node.js, Express.js, Django, Flask ,JavaScript, Python
3.	Database Management	Storage and retrieval of international debt data, ensuring data integrity and security	IBM Db2, IBM Cloudant, PostgreSQL, MongoDB
4.	Data Visualization	Visual representation of debt statistics through graphs, charts, and interactive maps	Chart.js, D3.js, Mapbox, Highcharts,JavaScript libraries
5.	User Interaction	User input handling, feedback mechanisms, and real-time data updates	RESTful APIs, GraphQL,Asynchronous data retrieval
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	Security measures	Implementation of data encryption, access controls, and compliance with security standards IBM Cloud Identity and Access Management (IAM), SSL/TLS Performance Monitoring Monitoring application performance, resource utilization, and user engagement metrics	IBM Cloud Monitoring, Application Performance Monitoring (APM) Deployment and Scaling Smooth deployment, scalability, and high availability configuration IBM Cloud Deploy, Docker, Helm,Load balancing techniques
8.	Integration with IBM Cloud Services	Leveraging various IBM Cloud services for enhanced functionalities and support	IBM Cloud Compute, Database, Analytics, Security Services

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Front end interface providing a user-friendly platform for data interaction and display	React.js,Angular,Vue.js
2.	Security Implementations	Implementation of data encryption, access controls, and compliance with security standards	IBM Cloud Identity and Access Management (IAM), SSL/TLS.
3.	Availability	Smooth deployment, scalability, and high availability configuration	IBM Cloud Deploy, Docker, Helm,Load balancing techniques

S.No	Characteristics	Description	Technology
4.	Scalability	Backend responsible for data processing, API handling, and business logic	Node.js, Express.js, Django, Flask, JavaScript, Python
5.	Performance	Monitoring application performance, resource utilization, and user engagement metrics	IBM Cloud Monitoring, Application Performance Monitoring (APM)