

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

Technical Architecture:

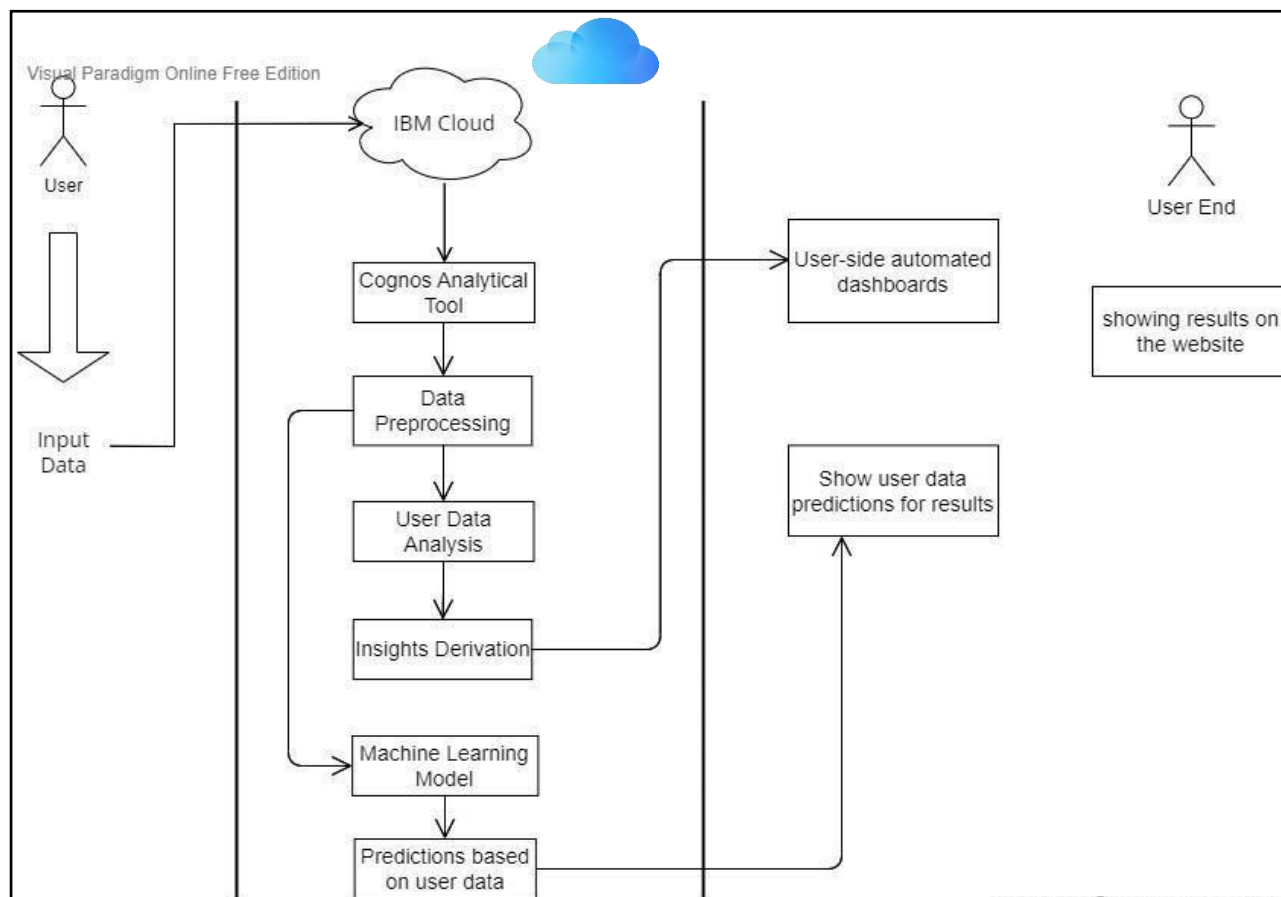


Table-1: Components & Technologies:

| S.No | Component | Description | Technology |
|------|---------------------------------|--|---|
| 1. | User Interface | User uploads the csv or excel format files into the web pages | HTML, CSS, JavaScript |
| 2. | Application Logic-1 | The user data will pass into the IBM cloud for storing and acts as a data source | IBM cloud |
| 3. | Application Logic-2 | In cloud, data will be fetched by the Cognos analytical tool for data analysis | IBM Cognos analytical tool |
| 4. | Application Logic-3 | The pre-trained Dashboards will be present to perform analysis on the incoming data | IBM Cognos analytical tool |
| 5. | Database | Data will be retrieved from cloud | MySQL |
| 6. | Cloud Database | Database Service on cloud | IBM DB2, IBM Cloud |
| 7. | File Storage | Customer sales data is uploaded in cloud through interface | IBM Block Storage or Other StorageService or Local Filesystem |
| 8. | External API-1 | To perform data analysis on the user data | IBM Cognos Tool |
| 9. | External API-2 | To build the machine learning model for classification | Jupiter Notebook |
| 10. | Machine Learning Model | To do the predictive analysis on the input data | Predictive analysis model, etc. |
| 11. | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud Local Server Configuration: Using the flask Cloud Server Configuration: IBM cloud | Local, Cloud Foundry |

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 |