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

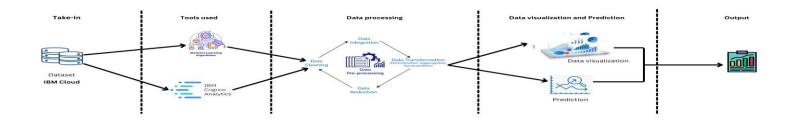| Date | 14 October 2022 |
|------|-----------------|
| Team ID | PNT2022TMID30183 |
| Project Name | ANALYTICS FOR HOSPITALS' HEALTH-CARE DATA |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

**Table-1 : Components & Technologies:**

| S.No | Component | Description | Technology |
|------|-----------|-------------|------------|
| 1. | User Interface | The user interacts with application using Dashboard | IBM Cognos Analytics |
| 2. | Data Processing | The data from the dataset is pre-processed | IBM Cognos Analytics |
| 3. | Cloud Database | The clean dataset is stored on IBM Cloud | IBM Cloud |
| 4. | Data visualization | The data is visualized into different forms | IBM Cognos Analytics, python |
| 5. | Prediction | ML algorithms are used for predicting the length of stay | ML algorithms – Fuzzy Logic, Tree Bagger, Random Forest, Decision Tree |

**Table-2: Application Characteristics:**

| S.No | Characteristics | Description | Technology |
|------|-----------------|-------------|------------|
| 1. | Open-Source Frameworks | Open-source frameworks used | IBM Cognos Analytics, Python |
| 2. | Security Implementations | Request authentication using Encryptions | Encryptions |
| 3. | Scalable Architecture | Scalability consists of 3-tiers | Dashboard – IBM Cognos Analytics Application Server - Python Database Server – IBM Cloud |
| 4. | Availability | The application is available for cloud users | IBM Cloud Hosting |
| 5. | Performance | The user can know the prolonged period of stay | ML algorithms |