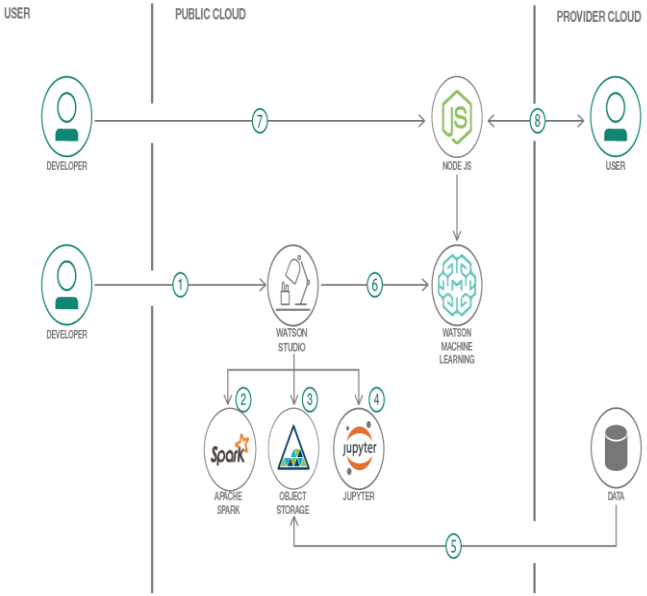
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	17October 2022
Team ID	PNT2022TMID27115
Project Name	Visualizing and predicting Heart Diseases with an Interactive Dash Board
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Reference: https://developer.ibm.com/patterns/create-and-deploy-a-scoring-model-to-predict-heartrate-failure/



Guidelines:

1. The developer creates an IBM Watson Studio Workspace.
2. IBM Watson Studio depends on an Apache Spark service.
3. IBM Watson Studio uses Cloud Object storage to manage your data.
4. This lab is built on a Jupyter Notebook, this is where the developer will import data, train, and evaluate their model.
5. Import heart failure data.
6. Trained models are deployed into production using IBM's Watson Machine Learning Service.
7. A Node.js web app is deployed on IBM Cloud and calls the predictive model.
8. A user visits the web app, enters their information, and the predictive model returns a response.

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chat box etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	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

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	Technology used
4.	Availability	Justify the availability of application	Technology used
5.	Performance	Design consideration for the performance of the application	Technology used

References:

https://c4model.com/

https://developer.ibm.com/patterns/create-and-deploy-a-scoring-model-to-predict-heartrate-failure/

https://www.ibm.com/cloud/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d