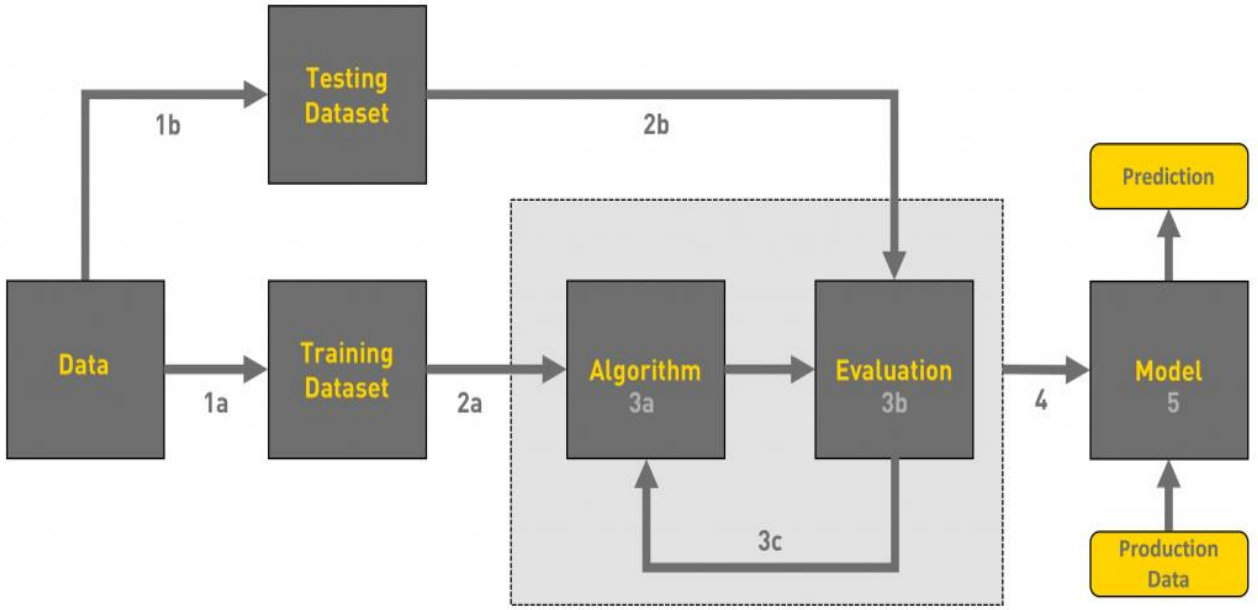
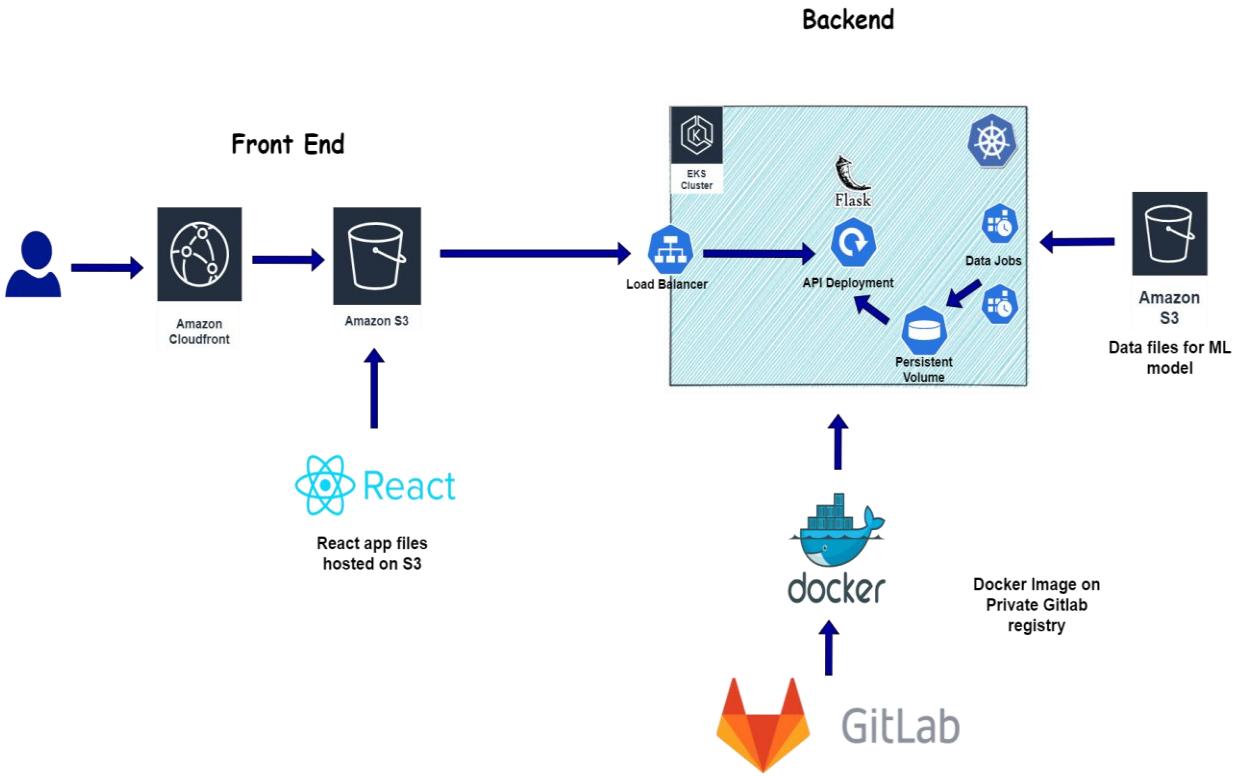
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	15 October 2022
Team ID	PNT2022TMID42412
Project Name	Efficient Water Quality Analysis And Prediction Using Machine Learning
Maximum Marks	4 Marks

Technical Architecture:



DEVELOPING -STATE



DEPLOYING -STATE

Table-1: Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	How user interacts with application eg. Web UI	HTML, CSS etc
2.	Application Logic-1	Logic for a process in the application	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	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloud etc.
7.	File Storage	File storage requirements	IBM Block Storage
8.	External API-1	Purpose of External API used in the application	
9.	Machine Learning Model	Purpose of Machine Learning Model	Random forest algorithm etc.
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration:	Local, IBM cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python Flask
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Encryptions, IAM Controls, OWASP
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	IBM cloud
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	IBM cloud
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN’s) etc.	IBM cloud