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

Date	22 October 2022
Team ID	PNT2022TMID19873
Project Name	Project – Inventory Management System for Retailers
Maximum Marks	4 Marks

Technical Architecture:

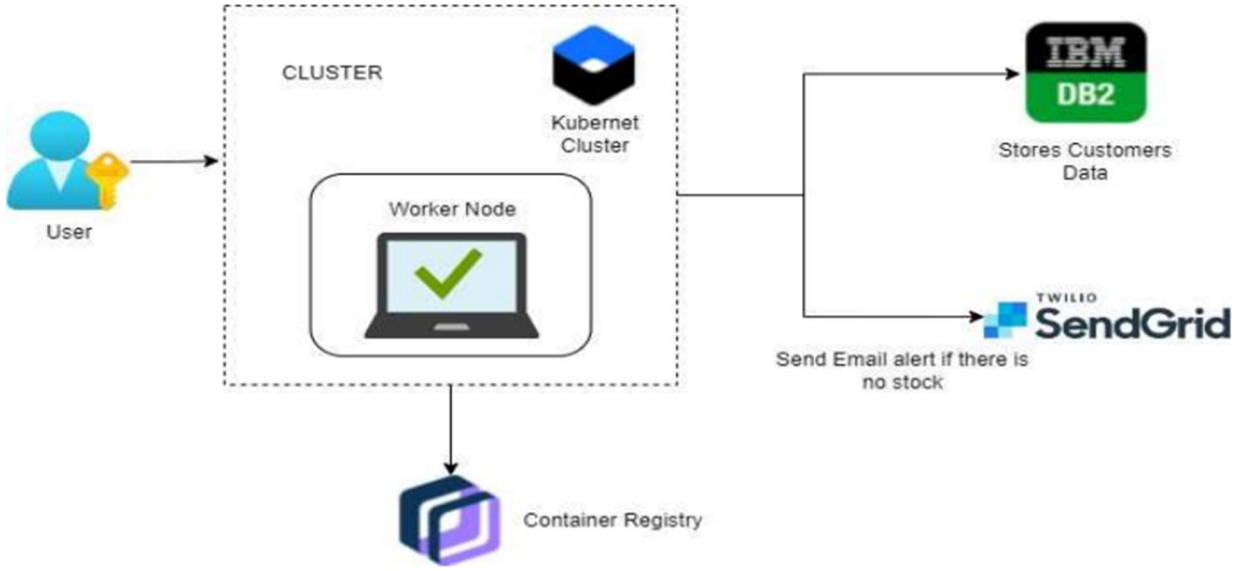

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Through web application, the information processed willbe sent to the user via mail.	HTML, CSS, jQuery, JavaScript, python, React JS if required
2.	Application Logic-1	User registration through form and confirmation will be sent to the user via email.	Flask, SendGrid
3.	Application Logic-2	Dashboard is used by which the system will Maintain tracking of sales of product and inventory levels	Flask
4.	Application Logic-3	User will get notified about the stock status	Flask
5.	Database	The data can be stored in database and user can retrieve or manipulate the data whenever required.	IBM DB2.
6.	Cloud Database	Information of the stocks will be stored and hosted on the cloud.	IBM DB2.
7.	File Storage	Required to store files like images	IBM Cloud Object Storage
8.	External API-1	SendGrid used in application will send the email alert if there is less number or no stock to the user	SendGrid.
9.	External API-2	IBM container Registry enables you to store and distribute Docker images in a managed private registry	IBM container registry
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / CloudLocal Server Configuration:localhost:5001(Flask) Cloud Server Configuration : Kubernetes	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	SendGrid will send email alert, if there is less number of stock to user, Kubernetes for manipulating Kubernetes API objects, IBM DB2 is used for storing and retrieving the data efficiently.	Flask, SendGrid, IBMDB2, Kubernetes
2.	Security Implementations	We use login for the user and the information will be hashed so that it will be very secure to use.	IBM container registry.
3.	Scalable Architecture	It is scalable that we are going to use data in kb so that the quite amount of storage is satisfied.	Flask
4.	Availability	Prediction will be available for every user but only for premium user news, database and price alertwill be alert.	Flask
5.	Performance	It will perform fast and secure even at the lower bandwidth.	Flask, IBM container registry, IBM DB2.

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

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

https://aws.amazon.com/architecture

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