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

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|---|---|
| Date | 16 October 2022 |
| Team ID | PNT2022TMID16334 |
| Project Name | Project – Inventory Management System for Retailers |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

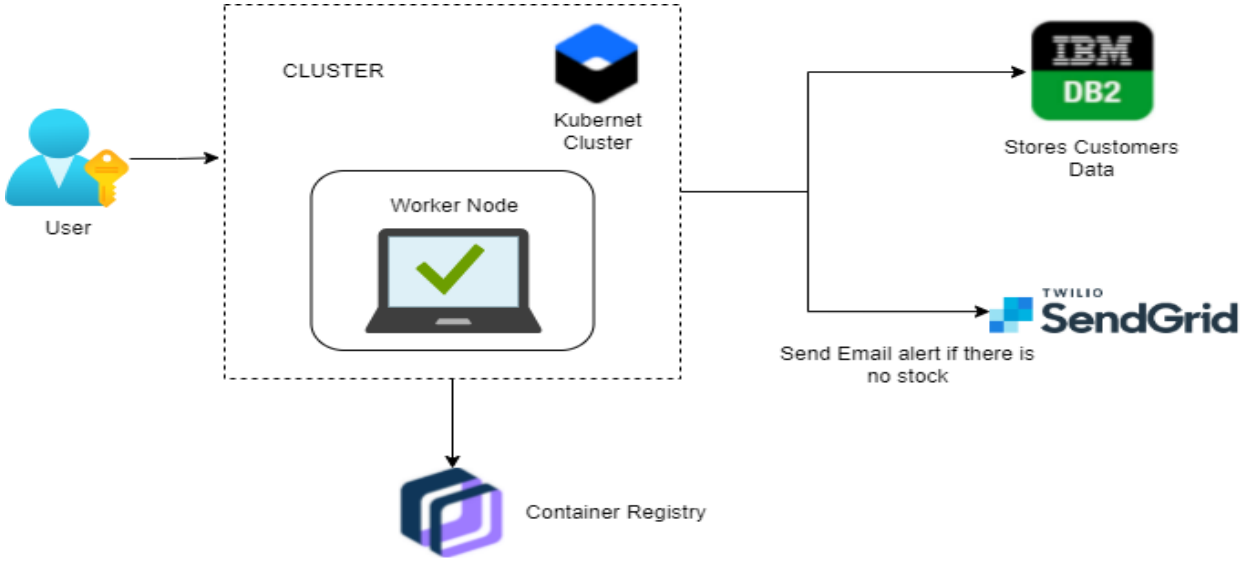

**Table-1 : Components & Technologies:**

| S.No | Component | Description | Technology |
|---|---|---|---|
| 1. | User Interface | Through web application information processed will be sent to the user via mail. | HTML, CSS, JavaScript, jQuery, python etc. |
| 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 | We can store all the data 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 | File storage requirements | IBM Block Storage or Other Storage Service or Local Filesystem |
| 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 / Cloud<br>Local Server Configuration:localhost:5001(Flask)<br>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 for storing and retrieving the data efficiently. | Flask, Kubernetes, SendGrid, IBM DB2. |
| 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 alert will 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/**

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