

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

| | |
|---------------|--|
| Date | 21 October 2022 |
| Team ID | PNT2022TMID27832 |
| Project Name | Project - INVENTORY MANAGEMENT SYSTEM FOR RETAILERS |
| Maximum Marks | 4 Marks |

Technical Architecture:

The Deliverable includes the architectural diagram as below and the information as per the table 1 & table 2

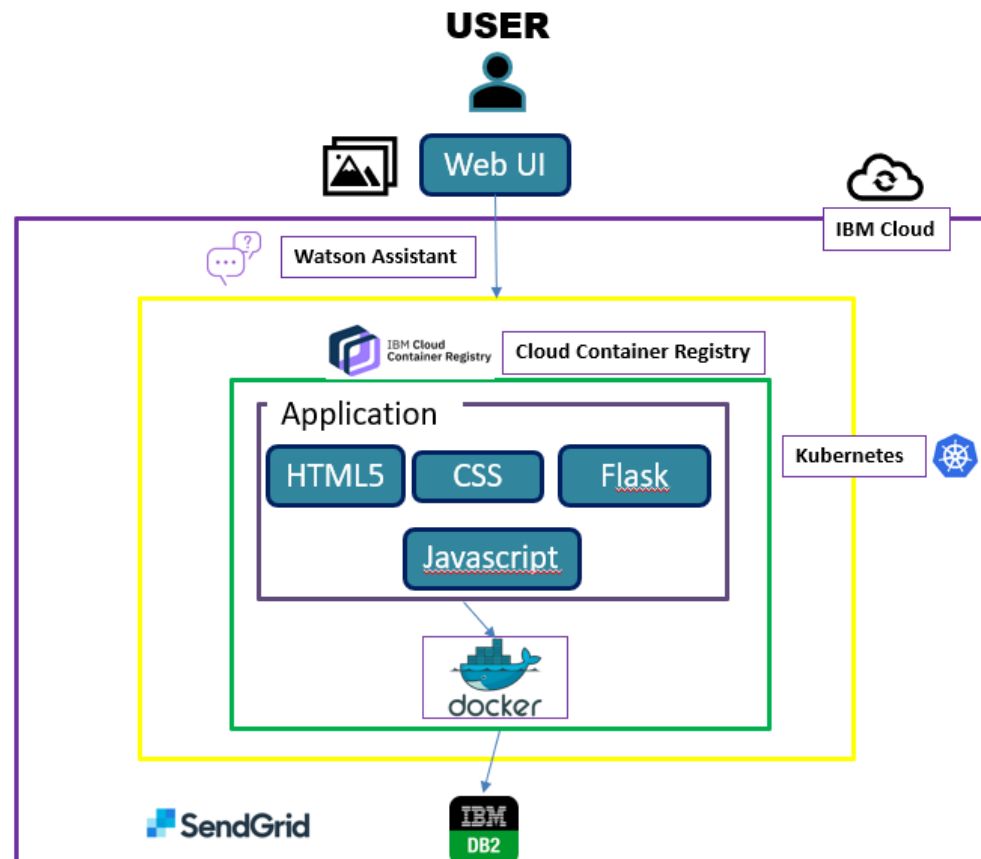


Table-1 : Components & Technologies:

| S.No | Component | Description | Technology |
|------|---------------------------------|--|--|
| 1. | User Interface | The user interacts with the application via the Web UI and the Watson Assistant Chatbot. | HTML, CSS, JavaScript, Watson Assistant |
| 2. | User Registration and login | The user has to register in order to login in the web application | HTML, CSS, Flask |
| 3. | Dashboard | Once the user logs in to the system , he/she will be redirected to the dashboard where the user can use the basic functionalities | HTML, CSS, Flask, IBM Watson Assistant , IBM DB2 , Bootstrap |
| 4. | Inventory Catalog | A type of data storage that holds inventory data for the products and variants for single or multiple product catalogs, such as creating, adding, updating and deleting functionalities. | HTML, CSS, Flask, IBM DB2 |
| 5. | Order Fulfillment | The order placed by the user is delivered based on its availability and then receipt is provided | HTML, CSS, Flask, IBM DB2 |
| 6. | Database | The database used for the application makes use of relational format | MySQL, IBM DB2 |
| 7. | Cloud Database | Database Services on IBM cloud. | IBM DB2 |
| 8. | External API-1 | The IBM Cloud Object Storage API is a REST-based API for reading and writing objects | IBM Cloud Object Storage |
| 9. | External API-2 | The SendGrid API can be used to send emails | SendGrid |
| 10. | External API-3 | With the help of Google analytics API we can analyse our data and generate reports using them | Google Analytics |
| 11. | Object Storage | The data is stored using the Ibm Object Storage in object format | IBM Object Storage |
| 12. | Infrastructure (Server / Cloud) | Application Deployment on IBM Cloud | Kubernetes |

Table-2: Application Characteristics:

| S.No | Characteristics | Description | Technology |
|-------------|------------------------|---|--|
| 1. | Open-Source Frameworks | Flask is used for developing web applications using python.Flask is a micro web framework written in Python. | Flask,NumPy,Kubernetes,IBM db2,Bootstrap |
| 2. | Scalable Architecture | The 3 tier architecture used, with a separate user interface . application tier and data tier make it easily scalable | Python ,IBM db-2 |
| 3. | Availability | The web application is highly available as it is deployed in cloud | IBM cloud ,Kubernetes |
| 4. | Performance | The performance of the website is improved with caching and security | IBM cloud Internet services ,Kubernetes |