

Project Design Phase II

Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID11415
Project Name	Plasma Donor Application
Maximum Marks	4 Marks

Technical Architecture:

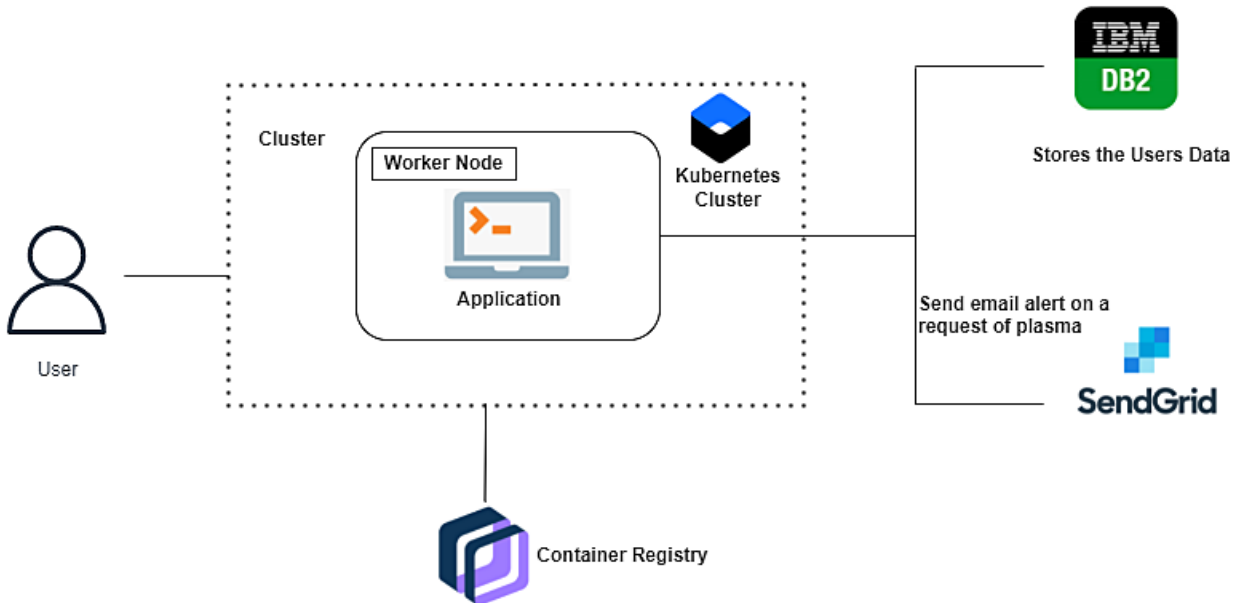


Table-1 : Components & Technologies:

S.NO	Component	Description	Technology
1.	User Interface	User interacts with user friendly web interface that directs them to functions of the application such as registration, booking appointments etc.	HTML & CSS, JavaScript

2.	Application Logic-1	Web application framework upon which application is designed	Flask (Python)
3.	Application Logic-2	Storing details of users	IBM DB2
4.	Application Logic-3	Email alert is sent in request of plasma	SendGrid
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc
6.	Cloud Database	Database Service on Cloud	IBM DB2
7.	File Storage	File storage requirements	IBM Cloud object storage
8.	External API-1	Platform to build containerised applications	Docker.
9.	External API-2	To store, manage and deploy container images	IBM Container Registry
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud	Kubernetes

Table-2: Application Characteristics:

S. No	Characteristics	Characteristics	Technology
1.	Open-Source Frameworks	Flask (Python) is an open source framework used to develop web applications, Kubernetes is an open-source container orchestration system for automating software deployment, scaling, and management	Python – flask, Kubernetes
2.	Security Implementations	Kubernetes cluster and IBM container registry are used for encryption of data.	IBM container registry, Kubernetes
3.	Scalable Architecture	Kubernetes is used for deployment, scaling and management	Kubernetes
4.	Availability	All time availability is provided by cluster	Kubernetes
5.	Performance	Docker improves performance of application	Docker