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

Date	15 October 2022
Team ID	PNT2022TMID05086
Project Name	Plasma Donor Application
Maximum Marks	4 marks

Technical Architecture:

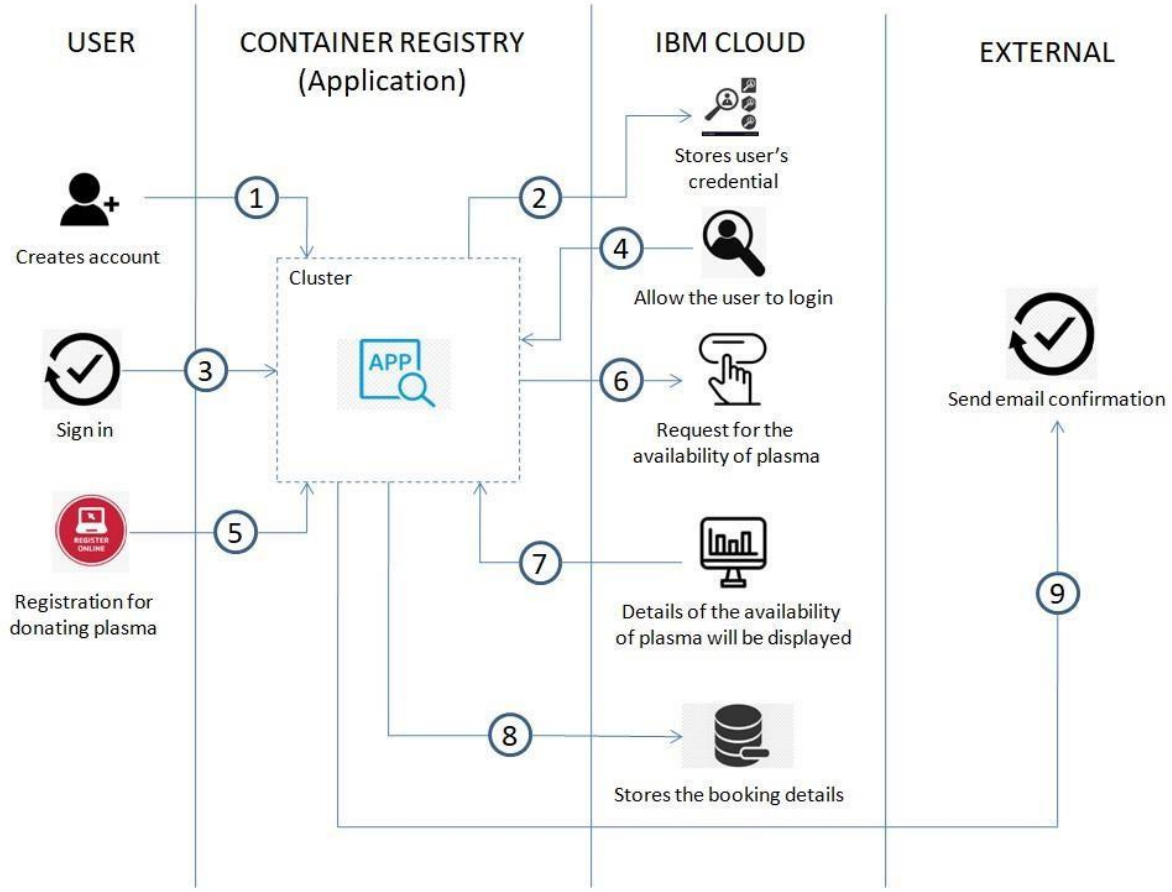

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User creates account and view details.	HTML, CSS, Python Flask.
2.	Application maintenance	To keeps track of your container applications that are deployed into the cloud. Also restarts orphaned containers, shuts down containers when they're not being used, and automatically provisions resources like memory, storage, and CPU when necessary.	Kubernetes
3.	Chatbot	Chatbot to answer user's queries.	IBM Watson Assistant
4.	Confirmation Email	Sending a confirmation email to users once they have registered for donation.	SendGrid
5.	Data maintenance	For storing, maintaining, modifying and retrieving the user's details.	MySQL
6.	Cloud Database	For storing the booking details, and user's details.	IBM DB2

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Python flask micro framework is used.	Python Flask

2.	Security Implementations	Mandatory Access Control(MAC) and kubernetes is used.	SHA-256, Encryptions, IAM Controls, OWASP, Kubernetes.

3.	Scalable Architecture	3 – Tier architecture is used.	Web Server – HTML, CSS, JavaScript. Application Server – Python Flask. Database Server – IBM DB2.
4.	Availability	Using Load Balancer to distribute network traffic across servers.	IBM Load Balancer
5.	Performance	Request and respond facility within a second. User-friendly API.	IBM Content Delivery Network.