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

Date	03 October 2022
Team ID	PNT2022TMID32723
Project Name	Plasma Donor Application
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

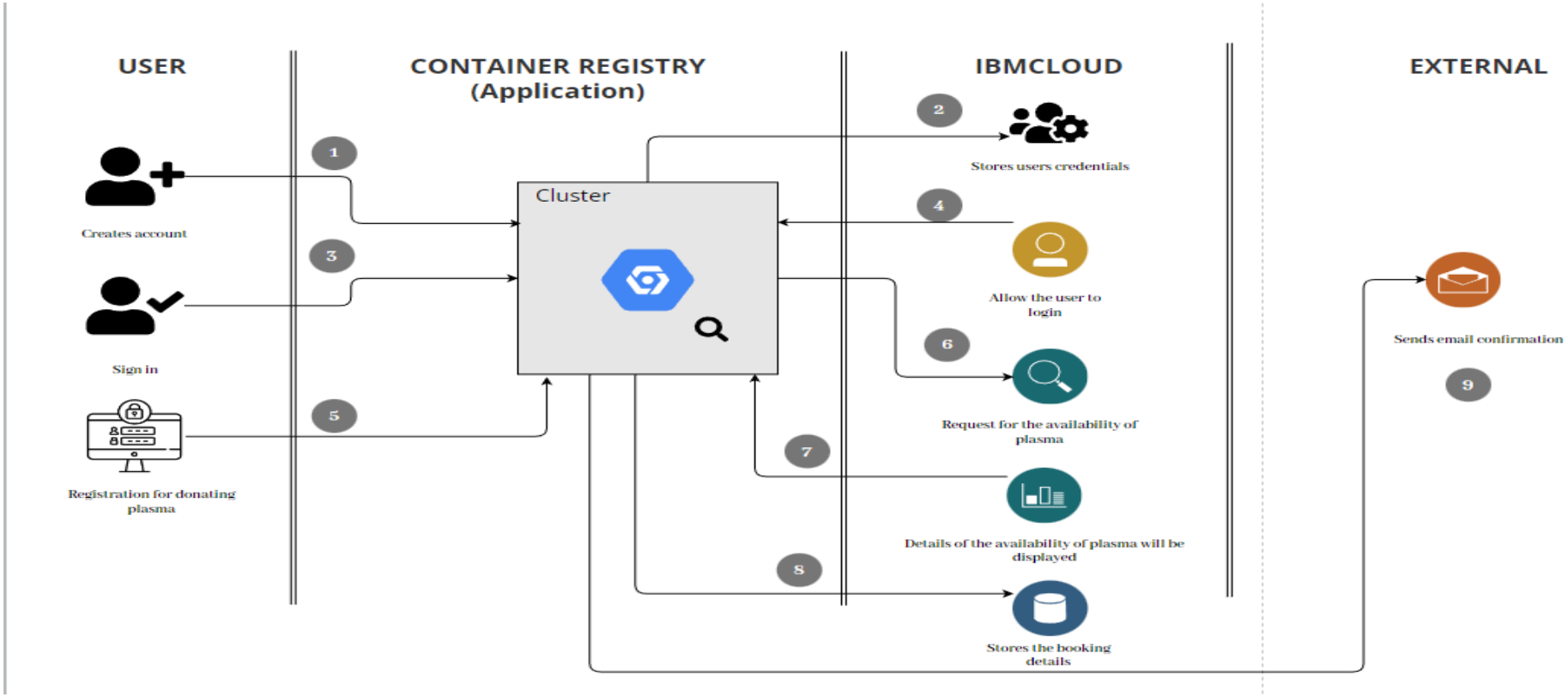

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The user creates an account or register in the Web UI. Goes through the UI and view details.	HTML, CSS, JavaScript / Python Flask
2.	Application	To keep track of your container applications that are deployed into the cloud. Also restart orphaned containers, shuts down containers when they are not being used, and automatically provisions resources like memory, storage, and CPU when necessary.	Kubernetes
3.	Cloud Database	For storing the appointment, donation details and users details	IBM DB2
4.	Chatbot	To clarify user queries	IBM Watson Assistant
5.	Database	For storing, maintaining, modifying, and retrieving the users details.	MySQL
6.	Confirming email	Sending a confirming email to users they have registered for donation and to check the availability of plasma.	SendGrid
7.	File Storage	File storage requirements	IBM Block Storage
8.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
9.	Infrastructure (Server / Cloud)	To deploy an application on Local System	Kubernetes

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 Control and Kubernetes is used.	SHA-256, Encryptions, IAM Controls, OWASP ,Kubernetes.

S.No	Characteristics	Description	Technology
3.	Scalable Architecture	3 – tier architecture Micro-services is used.	Web Server-HTML, CSS Application Server-Python Flask Database Server-IBM DB2
4.	Availability	Using load balancers 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

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