PARSHVANATH CHARITABLE TRUST'S

A.P. Shah Institute of Technology

Thane, 400615

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Department of Computer Engineering

CSL605 SKILL BASED LAB COURSE: CLOUD COMPUTING

Mini Project Report

- **Title of Project** : Blood Bank Management
- **Year and Semester** : TE Sem 6
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Abstract:

Blood is a crucial resource that plays a vital role in saving the lives of patients in medical emergencies. The Blood Bank Management System is a software application that helps to streamline the process of blood donation, storage, and distribution. The system is designed to enable blood banks to manage their operations efficiently, reduce wastage of blood products, and ensure that adequate blood supplies are available to meet the needs of patients. The Blood Bank Management System enables blood banks to manage their inventory effectively by keeping track of the blood products that are available, the blood groups, and the expiry dates. The system allows the blood banks to record the details of the blood donors, such as their name, age, blood group, and contact information. This helps in maintaining an up-to-date database of blood donors, which can be used to contact them when there is a need for blood. The system also allows donors to register online, making the process of donating blood more accessible and convenient. Donors can schedule appointments to donate blood, and the system can send them reminders when their next donation is due. This helps to ensure a steady supply of blood products, which is crucial in emergencies. One of the most significant advantages of the Blood Bank Management System is that it enables blood banks to monitor the blood products that are issued to hospitals. The system keeps track of the blood products that are issued, the date of issue, and the hospital to which the blood products are sent. This helps in managing the distribution of blood products effectively, and ensuring that the hospitals receive the blood products they need in a timely manner.

Introduction:

The Blood Bank Management System is a software application designed to streamline the process of blood donation, storage, and distribution. It is a critical tool for blood banks, which are responsible for ensuring that an adequate supply of blood products is available to meet the needs of patients in medical emergencies. The system enables blood banks to manage their operations efficiently, reduce wastage of blood products, and improve the overall quality of blood management.Blood banks are responsible for collecting, storing, and distributing blood products. These products are essential in saving the lives of patients who require blood transfusions due to medical emergencies, surgery, or other medical conditions. However, managing blood banks is a complex process that requires careful planning, organisation, and coordination.The Blood Bank Management System helps blood banks to manage their operations more efficiently by automating various processes. The system enables blood banks to keep track of their blood inventory, donor information, and blood product distribution. This helps blood banks to manage their operations more efficiently, and ensure that blood products are available when needed.The system also enables blood banks to screen and test blood products, ensuring that only safe and high-quality blood products are issued to hospitals. This is crucial in maintaining patient safety and preventing the transmission of diseases through blood transfusions.The Blood Bank Management System also makes the process of blood donation more accessible and convenient for donors. Donors can register online, schedule appointments, and receive reminders about their upcoming donations. This helps to ensure a steady supply of blood products, which is crucial in emergencies.In summary, the Blood Bank Management System is a critical tool for blood banks to manage their operations effectively. The system helps blood banks to maintain an up-to-date database of blood donors, manage their inventory more efficiently, and distribute blood products to hospitals in a timely manner. It also ensures that only safe and high-quality blood products are issued to hospitals, which is crucial in maintaining patient safety. Overall, the Blood Bank Management System is a valuable tool for ensuring that an adequate supply of blood products is available to meet the needs of patients in medical emergencies.

Problem definition:

The Blood Bank Management System is a software application that aims to address several problems commonly faced by blood banks. One of the primary issues is inefficient blood inventory management. Blood banks often struggle to manage their blood inventory effectively, which can result in shortages or overstocks of blood products. This can lead to delays in patient care or wastage of resources. The Blood Bank Management System helps to address this problem by automating various processes, such as tracking the inventory levels of different blood types, forecasting future demand, and issuing alerts when inventory levels fall below certain thresholds.Another problem that the Blood Bank Management System addresses is limited access to donor information. Blood banks may not have an up-to-date database of blood donors, making it difficult to contact them when blood products are needed. The Blood Bank Management System enables blood banks to maintain an up-to-date database of donors, including their contact information, blood type, and donation history. This helps to ensure that blood banks can contact donors quickly and efficiently when blood products are needed.Inadequate blood product distribution is another problem that the Blood Bank Management System aims to address. Blood banks may struggle to distribute blood products to hospitals in a timely and efficient manner, resulting in delays in patient care. The Blood Bank Management System enables blood banks to track the distribution of blood products, ensuring that they are delivered to hospitals in a timely manner. This helps to ensure that patients receive the blood products they need when they need them. Overall, the Blood Bank Management System is designed to help blood banks manage their operations more efficiently, reduce wastage of blood products, and ensure that adequate supplies of blood products are available to meet the needs of patients. By addressing these problems, the Blood Bank Management System plays a critical role in ensuring that patients receive the care they need in medical emergencies.

Objectives:

- Efficient blood inventory management
- Improved donor management
- Streamlined blood product distribution
- Enhanced blood screening and testing
- Convenient blood donation process
- Reporting and analytics to optimise operations
- Ensuring adequate supplies of blood products and timely delivery to patients

Scope:

- Blood inventory management and tracking
- Donor management and record keeping
- Blood product distribution and delivery management
- Blood screening and testing
- Blood donation process management
- Reporting and analytics for optimizing operations
- Integration with hospital and laboratory systems for seamless operation.

Description:

Cloud Services used in this project are as follows:

1.AWS Elastic Compute Cloud:

AWS Elastic Compute Cloud (EC2) is a cloud computing service provided by Amazon Web Services (AWS) that allows businesses to run applications and workloads in a virtual machine (VM) environment in the cloud. EC2 provides scalable computing capacity, allowing businesses to quickly and easily provision and deploy VMs to meet their computing needs. EC2 offers a wide range of instance types that are optimized for different workloads, including general-purpose, compute-optimized, memory-optimized, and storage-optimized instances. Users can choose the instance type that best suits their application's requirements and only pay for the computing resources they use. EC2 also provides a range of other features and services, such as load balancing, auto-scaling, and network security, that allow users to easily manage and scale their computing resources. EC2 enables businesses to run a wide range of applications, from simple web servers to complex, multi-tier applications with large databases. It also integrates with other AWS services, such as Amazon S3 for storage, Amazon RDS for database management, and Amazon CloudWatch for monitoring and logging. Overall, EC2 provides a flexible and cost-effective solution for businesses looking to move their applications and workloads to the cloud.

2.AWS Security Groups:

AWS Security Groups are a key component of the Amazon Web Services (AWS) cloud security architecture. They act as virtual firewalls that control inbound and outbound traffic to Amazon Elastic Compute Cloud (EC2) instances, ensuring that only authorized traffic is allowed to and from instances. Each security group is associated with one or more EC2 instances, and administrators can define the inbound and outbound traffic rules for each group. These rules can be based on protocols, ports, and source/destination IP addresses or other security groups. For example, an administrator could create a security group that allows inbound traffic on port 80 for a web server instance, and another security group that allows outbound traffic to an RDS database instance. Security groups are stateful, which means that any traffic allowed in will be automatically allowed out, and vice versa. This simplifies administration and reduces the risk of misconfigurations that could leave a system open to attack. Security groups also provide additional layers of security, such as traffic encryption, access control, and logging, that help to protect the EC2 instances from unauthorised access and attacks. Overall, AWS Security Groups provide a flexible and scalable solution for securing Amazon EC2 instances, allowing administrators to manage traffic access at the instance level in a simple and granular way.

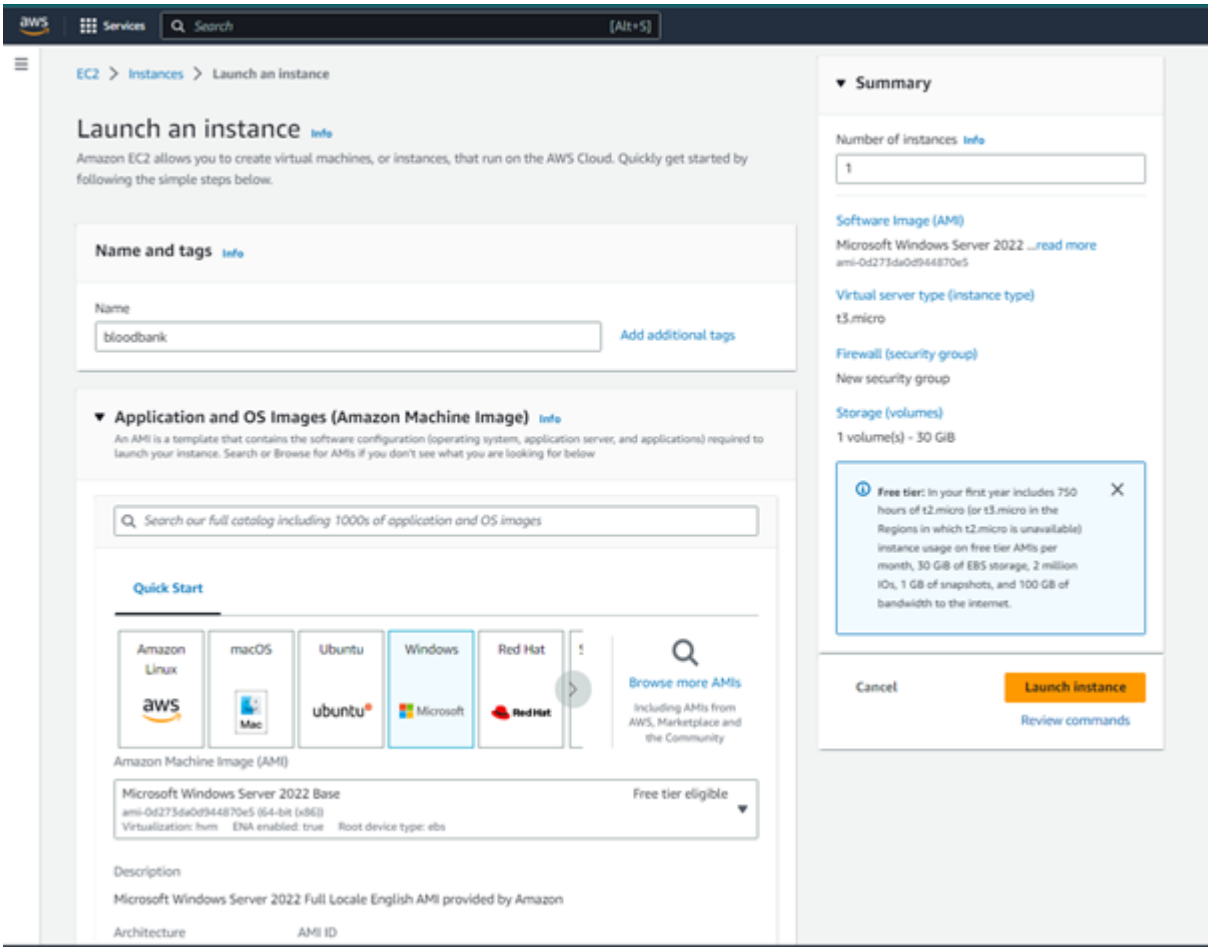
3.AWS RDP:

AWS RDP (Remote Desktop Protocol) is a service that allows users to remotely access Windows-based instances running on Amazon Web Services (AWS) EC2. RDP is a protocol that allows users to access the desktop of a remote computer or server and interact with it as if they were physically present at the machine.Using AWS RDP, users can remotely access Windows instances on AWS and perform various tasks, such as software installation, configuration, and maintenance. They can also run applications that require a Windows environment, such as Microsoft Office Suite or other productivity software. AWS RDP is a

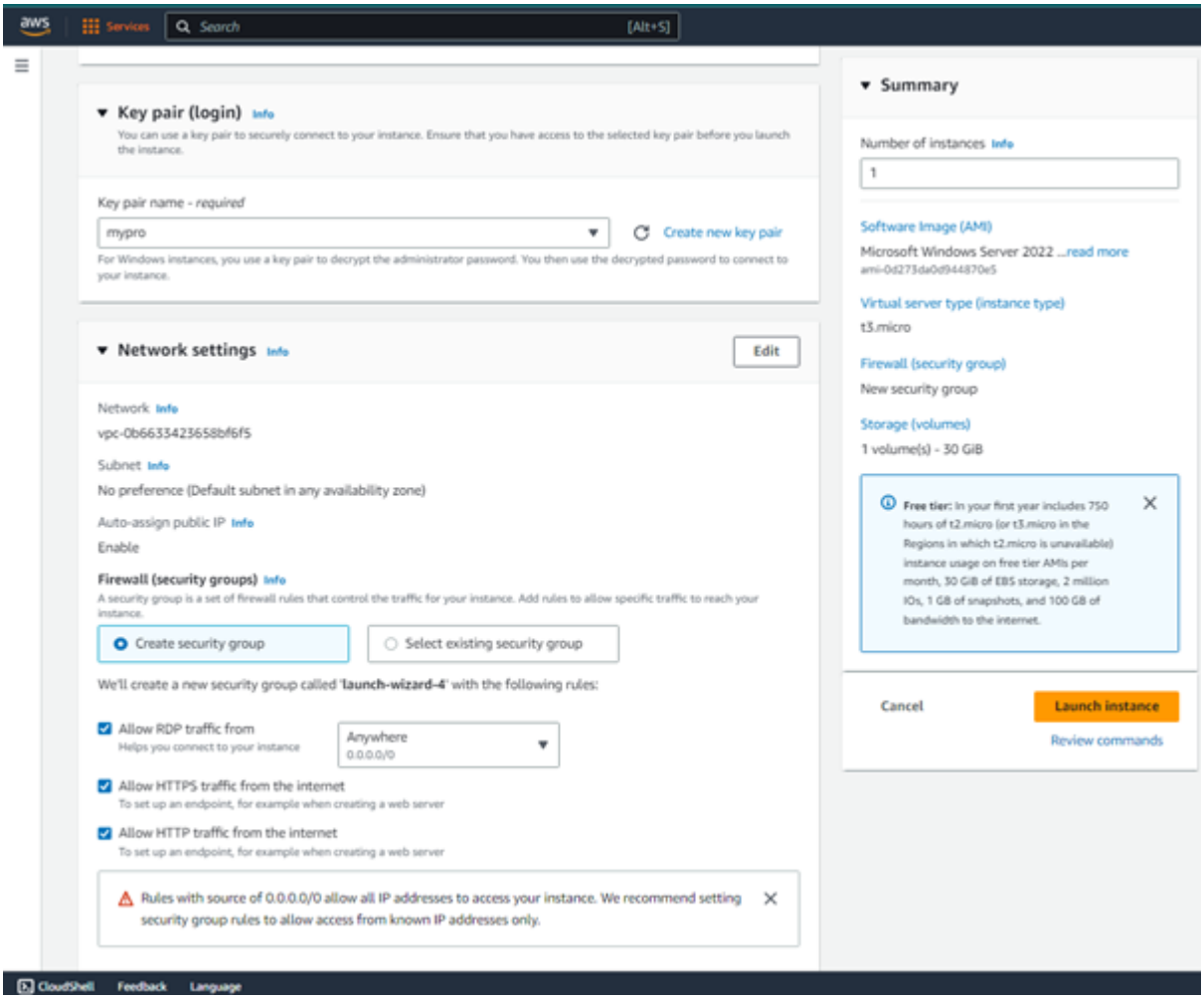
secure way to remotely access instances since all data sent between the client and server is encrypted.AWS RDP also offers several features that help to manage and optimise remote access to Windows instances. These features include session management, which allows administrators to view active sessions and terminate them if necessary, and client access policies, which control who can access RDP sessions and from where. Overall, AWS RDP is a flexible and secure way to remotely access and manage Windows instances running on AWS EC2, providing users with the ability to work from anywhere and allowing administrators to manage resources more efficiently.

Screen Shots

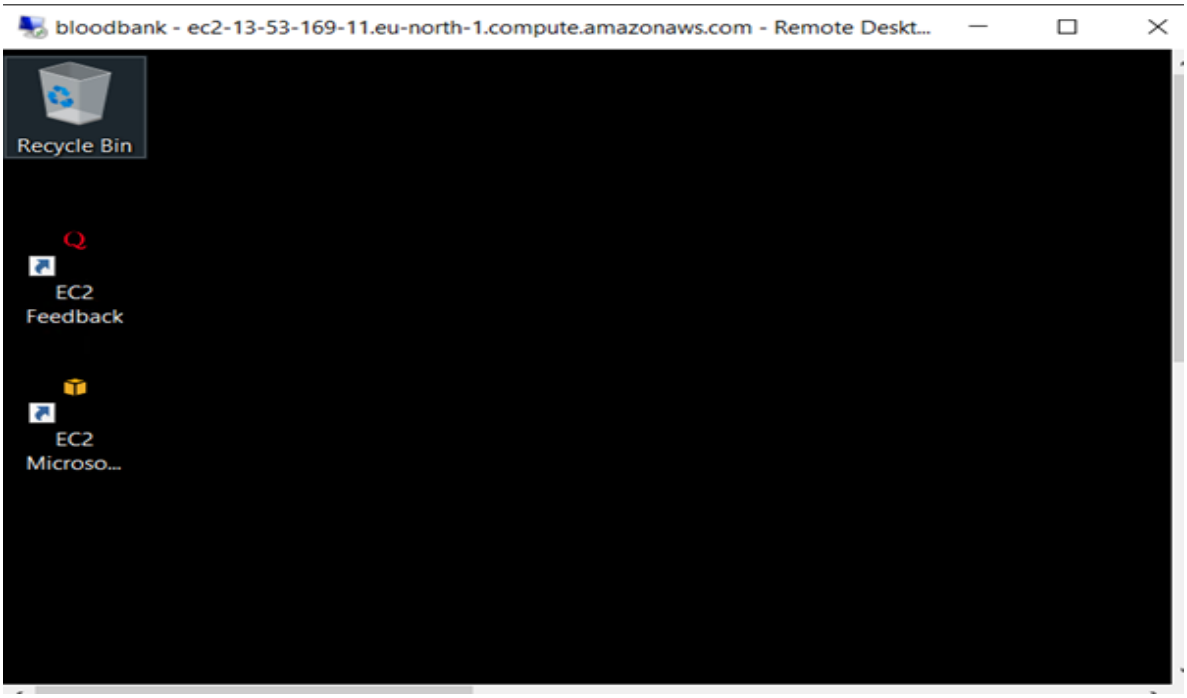
AWS Elastic Cloud Compute



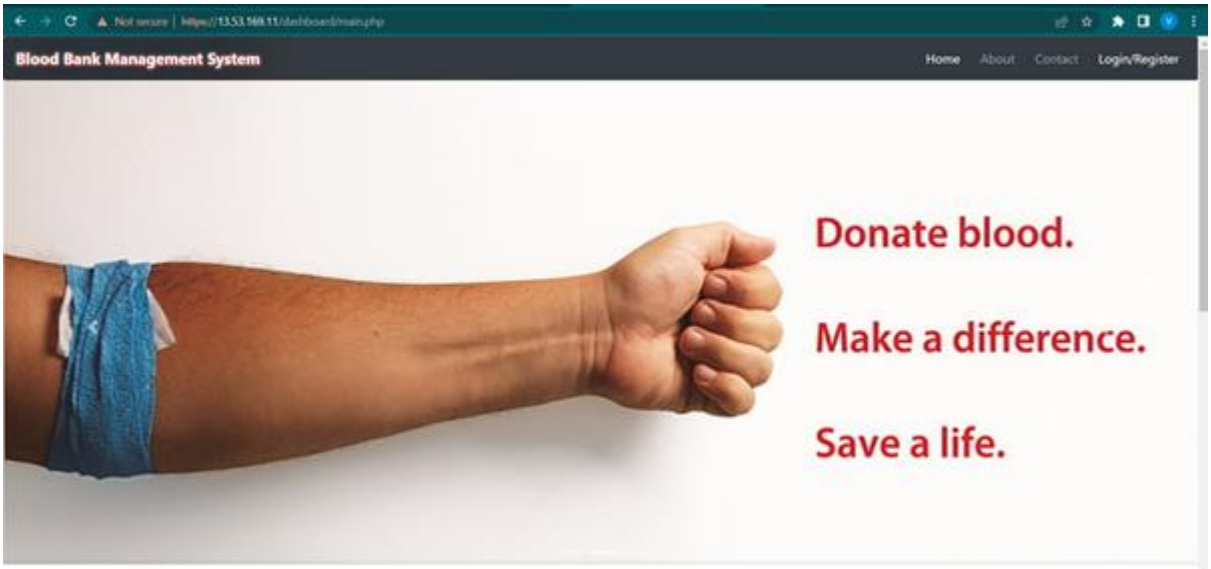
Aws Security Group

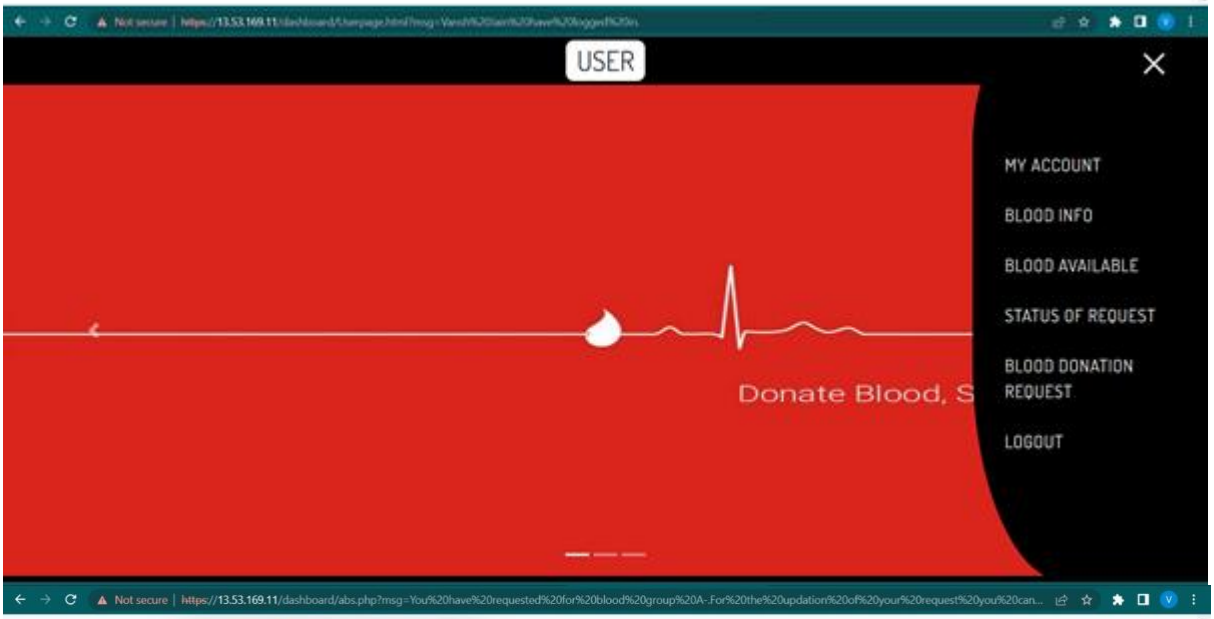


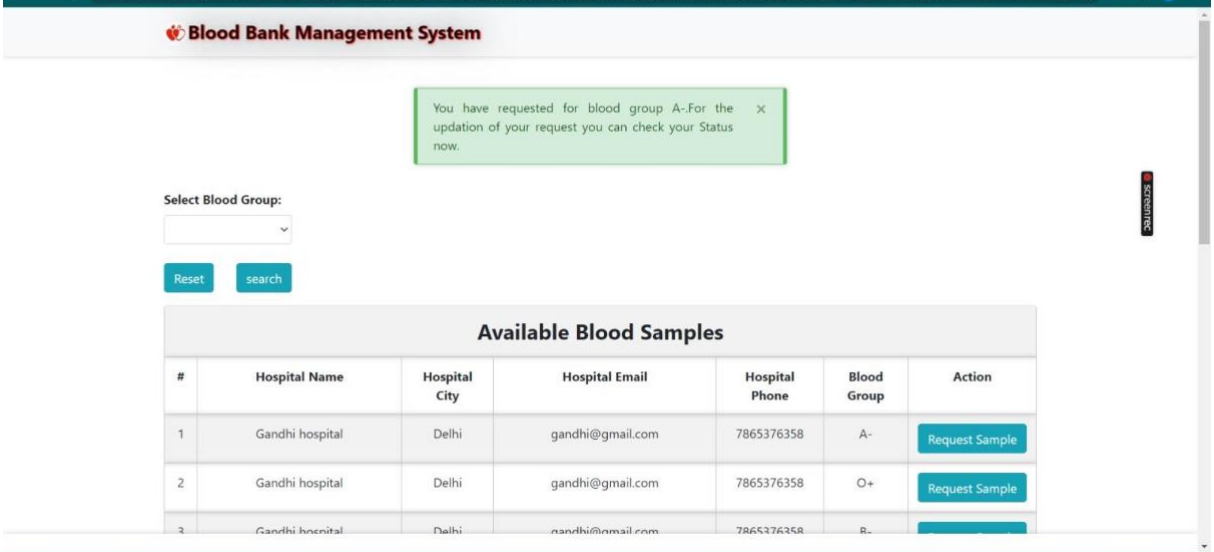
Aws Remote Desktop



Frontend







Learning Outcomes

A blood bank management system deployed on the cloud using EC2 and RDP can offer several learning outcomes, including:

Cloud Computing: By deploying the system on the cloud using EC2, you can learn about cloud computing and the benefits it offers, such as scalability, flexibility, and cost-effectiveness.

Remote Desktop Protocol (RDP): You can learn about RDP, which is used to access the remote server on which the blood bank management system is hosted. You can learn how to configure RDP and access the server securely.

System Administration: By deploying the blood bank management system on the cloud, you can learn about system administration tasks such as server provisioning, configuration, and maintenance. You can also learn how to manage user accounts, permissions, and access to the system.

Database Management: The blood bank management system requires a database to store information about donors, recipients, blood types, and other related information. By deploying the system on the cloud, you can learn about database management tasks such as creating, configuring, and managing databases.

Security: Deploying the system on the cloud requires you to ensure the security of the system, including securing access to the system and data, securing the server and database, and implementing security measures to protect against cyber threats.

Overall, deploying a blood bank management system on the cloud using EC2 and RDP can provide a valuable learning experience in several areas of IT, including cloud computing, system administration, database management, and security.