PARSHVANATH CHARITABLE TRUST'S

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Department of Computer Engineering

CLOUD COMPUTING MINI PROJECT

PROJECT TITLE: LAB MANAGEMENT SYSTEM

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Abstract :

- This project is aimed at developing a website named college laboratory management system for managing the laboratory equipment of junior colleges.
- The college laboratory management system refers to the system and process to manage the laboratory equipment of any junior college with the involvement of technology.
- This system can be used to store the details of the equipment, its maintainance which can be updated weekly.

Cloud services used :

- AWS Elastic Compute Cloud.
- AWS Security Groups.
- AWS VPC

AWS Elastic Compute Cloud :

- Create an Amazon EC2 instance to host the lab management system, choosing an appropriate instance size for the expected workload. Choose an Amazon Machine Image (AMI) that includes the necessary software stack for the lab management system.
- Amazon Elastic Compute Cloud (EC2) is a cloud-based computing platform that allows users to run virtual machines (VMs) in the cloud. These VMs are created through the process of virtualization, which is the creation of a virtual version of a computing resource, such as a server or storage device.

Security Groups :

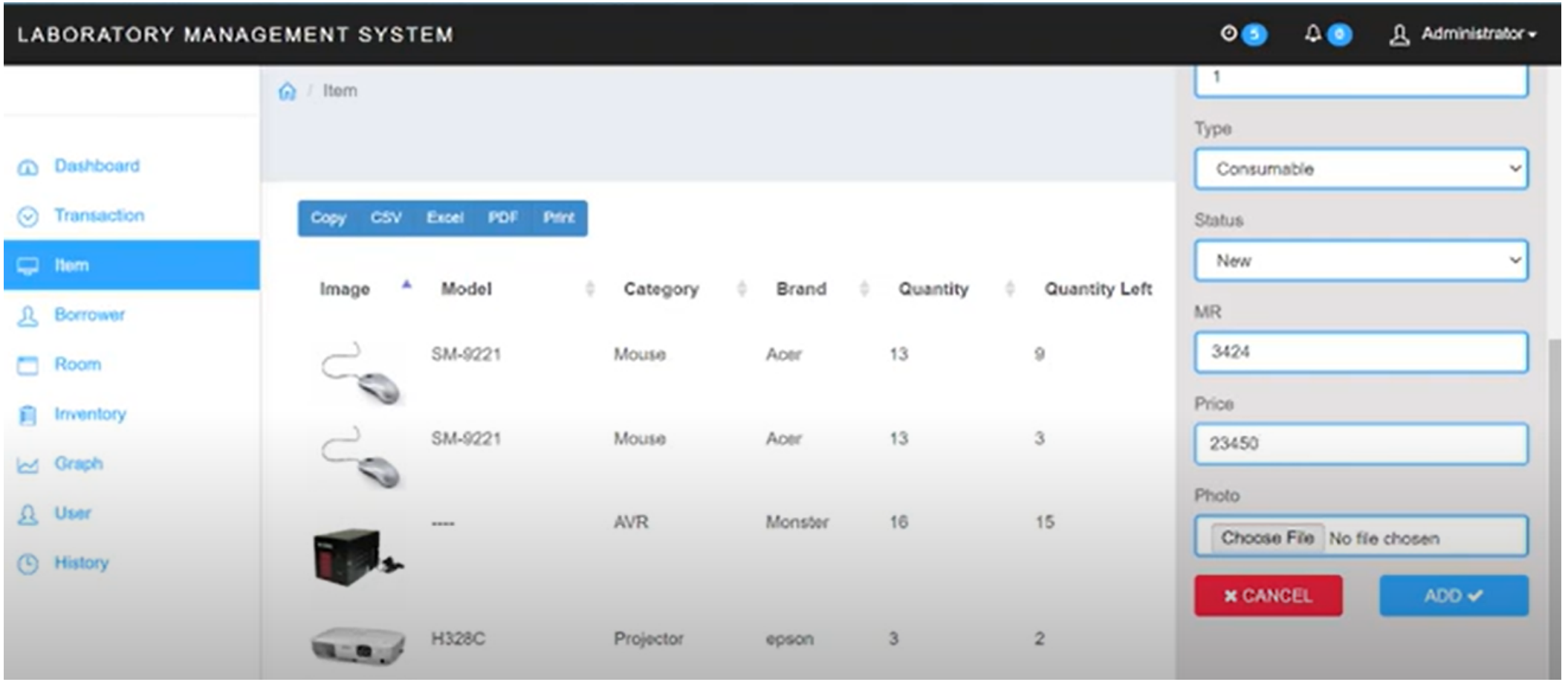
- Configure security groups to ensure that the instance is accessible from the internet only via the required ports. You might create a security group that allows access on port 80 (HTTP) and 443 (HTTPS) for web access to the system. Additionally, configure a security group that allows access to port 22 (SSH) for administrative access to the EC2 instance.
- Remote Desktop Protocol (RDP) is a widely used protocol that allows users to access a remote desktop or server from anywhere in the world. However, to ensure the security of the remote desktop session, it is important to configure the RDP client with appropriate security measures.

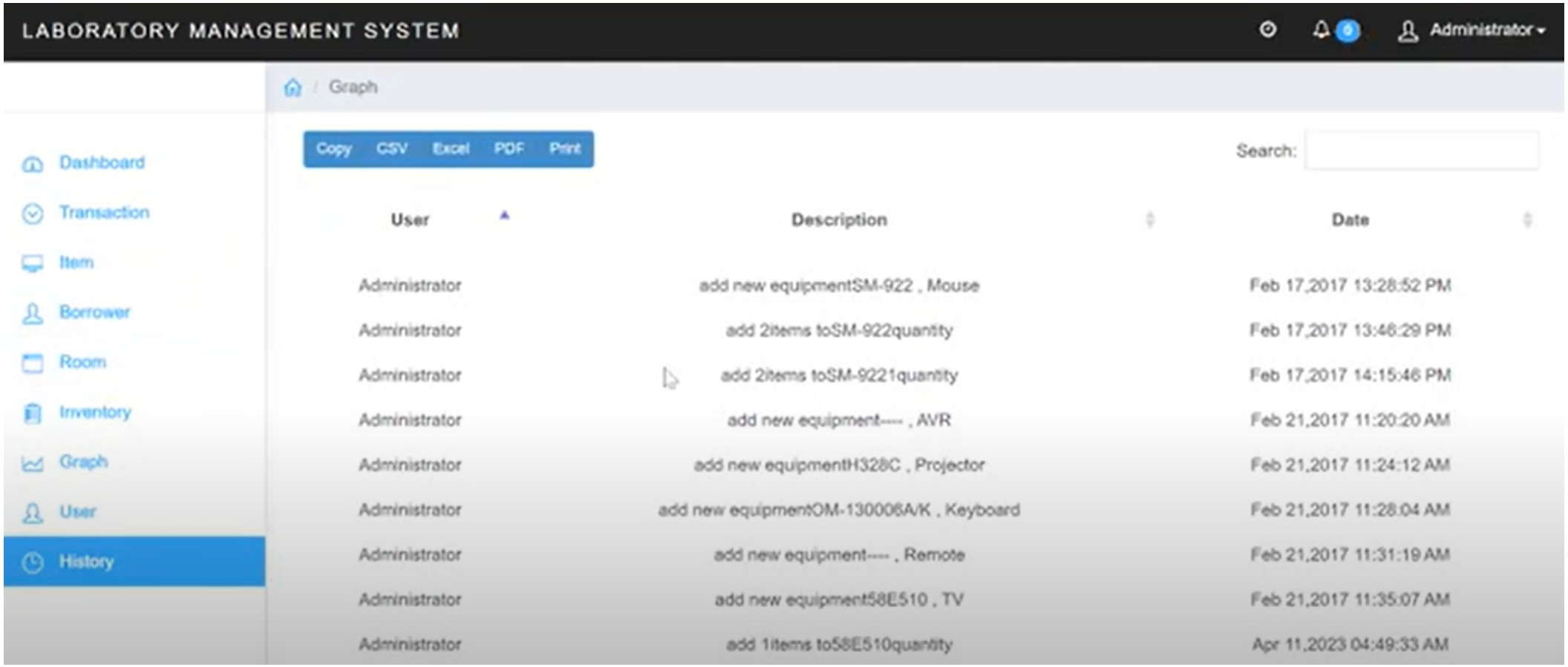
AWS VPC:

- Amazon Virtual Private Cloud (VPC) is a virtual network service provided by Amazon Web Services (AWS). It allows users to create an isolated virtual network in the AWS cloud, which is logically separated from other virtual networks and the public internet.

- With AWS VPC, users can create and manage a virtual network topology that closely resembles a traditional on-premises network infrastructure. Users can define and control network addressing, subnets, and routing tables, as well as configure network gateways, security groups, and network access control lists (ACLs).

Implementation :




LABORATORY MANAGEMENT SYSTEM
Administrator
Graph
Dashboard
Transaction
Item
Borrower
Room
Irrventory
Graph
User
History
Copy
CSV
Excel
PDF
Print
Search:
User
Description
Date
Administrator
add new equipmentSM-922 , Mouse
Feb 17,2017 13:28:52 PM
Administrator
add 2items toSM-922quantity
Feb 17,2017 13:46:29 PM
Administrator
add 2items toSM-9221quantity
Feb 17,2017 14:15:46 PM
Administrator
add new equipment---- , AVR
Feb 21,2017 11:20:20 AM
Administrator
add new equipmentH328C , Projector
Feb 21,2017 11:24:12 AM
Administrator
add new equipmentOM-130006A/K , Keyboard
Feb 21,2017 11:28:04 AM
Administrator
add new equipment---- , Remote
Feb 21,2017 11:31:19 AM
Administrator
add new equipment58E510 , TV
Feb 21,2017 11:35:07 AM
Administrator
add 1items to58E510quantity
Apr 11,2023 04:49:33 AM

Conclusion -

In conclusion, an AWS cloud project using EC2, VPC, and Security Groups can provide a secure and scalable solution for deploying applications in the cloud. EC2 instances can be launched within a VPC, which provides an isolated virtual network environment that can be customized according to specific business needs.

Security groups can be used to control inbound and outbound traffic to the EC2 instances, while VPC network ACLs can be used to provide an additional layer of network security. AWS VPC also provides flexibility to choose the IP address range, create public and private subnets, and configure routing tables to meet specific requirements.