



School of Information Technology and Engineering

PROJECT REPORT

HOSTEL MANAGEMENT SYSTEM USING AZURE

CLOUD COMPUTING – SWE4002

(E1)

By

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Winter semester 2022-23

HOSTEL MANAGEMENT SYSTEM USING AZURE

ABSTRACT:

Hostel management system is designed to provide hostel related services to students using cloud computing techniques. This system can provide features like booking of hostel rooms, checking roommates information, leave request and checking leave request status for students. The hostel administration is provided with a better control over the transactions like checking the details of the student, modifying the details of the students, approving or rejecting the leave of the student. The admin has various features he can look at the details of the students, Admin can add/delete hostel employees. Hostel employees can approve/reject leave of students and can view details of the students. Admin can monitor the hostel bookings which are going on. He even has the right to approve or reject the leave. Whenever the leave of a student is approved or rejected then the student can immediately see the status of his leave in his leave status section. Cloud computing became the most used and powerful invention in recent days. It has many advantages if we use and incorporate in our project. We can avail many benefits if we use cloud services instead of normal traditional techniques. The main benefits are computational load and high availability. Therefore, the entire Hostel Management System project was created with distributed client-server computing in mind. The main intention of this project is to deploy the website in cloud platform. This can improve the performance of the website and it can reach to more audience.

Keywords:

Cloud computing, Client-Server architecture, Performance, Load balancing, Scalability, Flexibility, web app, availability.

PROBLEM STATEMENT:

The number of educational institutions has been substantially expanding in recent years. The number of hostels available to house students studying at this university is growing. As a result, the person in charge of the hostel is under a lot of stress, and software isn't working well. It is very difficult to locate student records, mess bills, and information on those who have left the hostel. At the moment, all of the hostels are run by hand by the hostel office. Manually verifying the registration form for various data processing is done. As a result, there are several repetitions that can be easily avoided. As a result, the person in charge of the hostel is under a lot of stress, and software is not typically used in this situation. This approach deals with the difficulties of running a hostel and avoids the complications that arise when things are done manually. The records are kept manually due to that reason finding records is very difficult. Even students have to face lot of difficulties while booking a room in the hostel. They need to wait in the lines and do everything manually. All these became hectic work for the administration. To avoid all there we are going to develop hostel management system in which students can book hostel from their mobile and records are easy to fetch from the database.

INTRODUCTION:

The Hostel Management System is developed for automating the activities of hostel. The software will be great relief to the employees like the hostel owners and administrators and also the users like students. This software will help user in case of reporting, registration and searching the information about residents and facilities not only about the rooms but also about other facilities. The administrators can see the allottees and the aim of the Hostel Management System is to carry out the activities of Hostel in an efficient way and this system is also useful to pay the fees by the students and also the owner can collect the payments from the students. It will take the operations of Hostel to an upper level by providing faster access to data and allowing addition, upgradation, modification, and deletion of data in a very systematic and reliable manner.

LITERATURE REVIEW:

[1] The paper is a comprehensive study of the Azure platform and its cognitive services. It provides an in-depth analysis of the features and capabilities of Azure and its various components, including Azure Cognitive Services. The study aims to provide insights into how Azure and its cognitive services can be used to solve real-world problems and improve business operations. Cloud-based: The system is hosted on the cloud, which makes it accessible from anywhere with an internet connection. Dependence on technology: The system relies on technology, so it may not work properly if there are technical issues or if the internet connection is poor. [(**Ankita Verma, 2019**)]

[2] The application streamlines the process of registering residents by providing an online platform for residents to complete their registration and make payments. The application includes features such as real-time data validation, automated confirmation of residency, and secure payment options. The implementation of the enhanced hostel registration application is expected to improve the efficiency and accuracy of the registration process, reducing the risk of manual errors and providing a convenient solution for both residents and staff User-friendly: The mobile app is designed to be user-friendly, making it easy for guests to access information and perform tasks. Limited customization: The system may not be easily customizable to meet the unique needs of different hostels. [(**Muhamad Firdaus, 2019**)]

[3] The purpose of the system is to improve the management and administration of various academic and administrative tasks within the university. The system was designed to User authentication: The system includes robust user authentication mechanisms, Technical skills required: Setting up and using the system may require technical skills, which could be a Cloud Computing Bundelkhand University” be user-friendly and accessible through a web based interface, allowing faculty, staff, and students to access relevant information and perform various tasks such as course management, student information management, and hostel management. The implementation of the cloud management system has led to increased efficiency, reduced manual errors, and improved decision-making. The results of the case study demonstrate the potential benefits of using cloud technology in the management of academic institutions and the potential for other universities to adopt similar solutions which helps to prevent unauthorized access to sensitive information. barrier for some hostel staff and guests. [(**Lalit Kumar Gupta, 2019**)]

[4] Investigated potential security risks in hostel management systems and proposed solutions using cloud computing to mitigate these risks. They may have also evaluated the effectiveness of their proposed solutions through experiments or simulations. The goal of the paper could have been to show that cloud computing can provide better security for hostel management systems compared to traditional systems. Real-time monitoring: The system provides real-time monitoring of the hostel, allowing staff to quickly detect and respond to any security incidents Cost: Implementing the system may require a substantial initial

investment, and ongoing costs such as cloud storage and software updates may add up over time. [(**Zhang, 2020**)]

[5] Conducted surveys and interviews with hostel owners to understand their attitudes and behaviors towards the adoption of these systems. Enhanced security: The use of blockchain technology provides enhanced security Lack of real world implementation: The study may not have conducted real-System. The results show that hostel owners are increasingly recognizing the benefits of cloud-based systems, such as improved efficiency and cost savings, but face challenges such as lack of technical knowledge and security concerns. The authors conclude that efforts should be made to educate hostel owners and address their concerns in order to facilitate wider adoption of cloud-based hostel management systems. for sensitive data and transactions in the hostel management system. world implementation, which could limit its ability to accurately represent the strengths and weaknesses of the system in a real-world setting. [(**Irene Lee, 2022**)]

[6] The paper is about cloud computing services and focuses on Microsoft Azure. It explores the reasons for choosing Microsoft Azure as a cloud computing platform. The paper provides a detailed analysis of Azure's features and capabilities, comparing it to other cloud service providers. The study concludes that Microsoft Azure offers a range of unique features, including strong security measures and a large network of global data centers, which make it a leading choice for organizations looking to adopt cloud computing services. Improved decision-making: The integration of big data in the system provides improved decision making by allowing for the analysis of large amounts of data to identify patterns, trends, and insights Limited scope: The study may have a limited scope, only focusing on hostel management systems using cloud computing and not considering other types of hostel management systems. (**Mehedi Hassan, 2022**)]

[7] The system streamlines the process of requesting, approving, and tracking leave, improving efficiency and reducing the risk of manual errors. It includes features such as online leave Integration of cloud and machine learning: The study proposes a hybrid system that combines the benefits of cloud Complexity: The integration of cloud computing and machine learning may result in a complex system that is difficult to application, automated notification and approval workflow, and a centralized database for easy access and reporting. The implementation of the system is expected to enhance the leave management process in hostels, providing a convenient and organized solution for both residents and staff. computing and machine learning, offering a solution with improved functionality and efficiency. implement, maintain, and use, especially for nontechnical users. [**(Haumshini, 2020)**]

[8] Virtualization allows multiple virtual machines to run on a single physical machine, providing cost-effectiveness and resource utilization benefits. The paper outlines the process of setting up the cloud platform, including the selection of virtualization software, network design, storage setup, and security considerations. The end goal is to provide the campus with a centralized and scalable cloud infrastructure to support the needs of various departments and organizations. Enhanced user experience: Integrating virtual reality technology with a cloud based hostel management system can provide an immersive and interactive user experience for guests, allowing them to virtually tour the hostel and make bookings from the

comfort of their own homes. Cost: Incorporating virtual reality technology can be expensive and may require significant investment in hardware, software, and infrastructure. [(**Kun Huang, 2021**)]

[9] Machine learning can be used to enhance various aspects of hostel management, such as decision making, customer service, and resource allocation. They may have also evaluated the performance and efficiency of their proposed system through experiments or simulations. The goal of the paper could have been to demonstrate the potential benefits of using Improved user experience: The focus on enhancing the user experience of the hostel management system makes it more user friendly and efficient for both hostel managers and guests Lack of comparison with other systems: The study does not compare the proposed system with other existing systems, which could limit its ability to demonstrate its superiority over other systems. Machine learning in conjunction with cloud computing in hostel management, and to provide a solution that integrates these technologies. [(**Yating Wang, 2021**)]

[10] Big data can be used to enhance various aspects of hostel management, such as decision making, customer service, and resource allocation. They may have also evaluated the performance and efficiency of their proposed system through experiments or simulations. The goal of the paper could have been to demonstrate the potential benefits of using big data in conjunction with cloud computing in hostel management, and to provide a solution that integrates these technologies. Integration of cloud computing and IoT: The use of both cloud computing and IoT enables the hostel management system to provide real-time updates and increased efficiency Security concerns: The use of IoT and cloud computing raises security concerns, as sensitive information, such as guest information and payment details, could be at risk of being compromised. [(**Chaowei Yang, 2019**)]

[11] The paper compares and evaluates three major cloud platforms: Microsoft Azure, Google Cloud Platform, and Amazon EC2. It compares these platforms on various parameters such as performance, cost, security, and reliability. The aim of the paper is to provide a comprehensive comparison of these cloud platforms to assist users in choosing the right platform for their needs. Scalability: The use of cloud computing and microservices enables the system to easily scale to meet changing demands, making it more suitable for hostels of varying sizes and needs. Dependence on internet connection: The use of cloud computing requires a stable and fast internet connection, which may not be available in all locations and could limit the system's practicality in some areas. [(**Pallavi Wankhede, 2020**)]

[12] Cloud computing can be used to enhance various aspects of the user experience, such as user interface design, user Improved reliability: The use of microservices architecture Limited scope: The study only focuses on the scalability of hostel Management System using Cloud Computing interactions, and system responsiveness. They may have also evaluated the performance and efficiency of their proposed system through experiments or simulations. The goal of the paper could have been to demonstrate the potential benefits of using cloud computing in improving the user experience of hostel management systems, and to provide a solution that incorporates these benefits. ensures that the system can continue to function even if one component fails, improving its overall reliability management systems using

cloud computing and microservices, and its potential weaknesses in other areas may not have been considered. [(Wenjuan, 2021)]

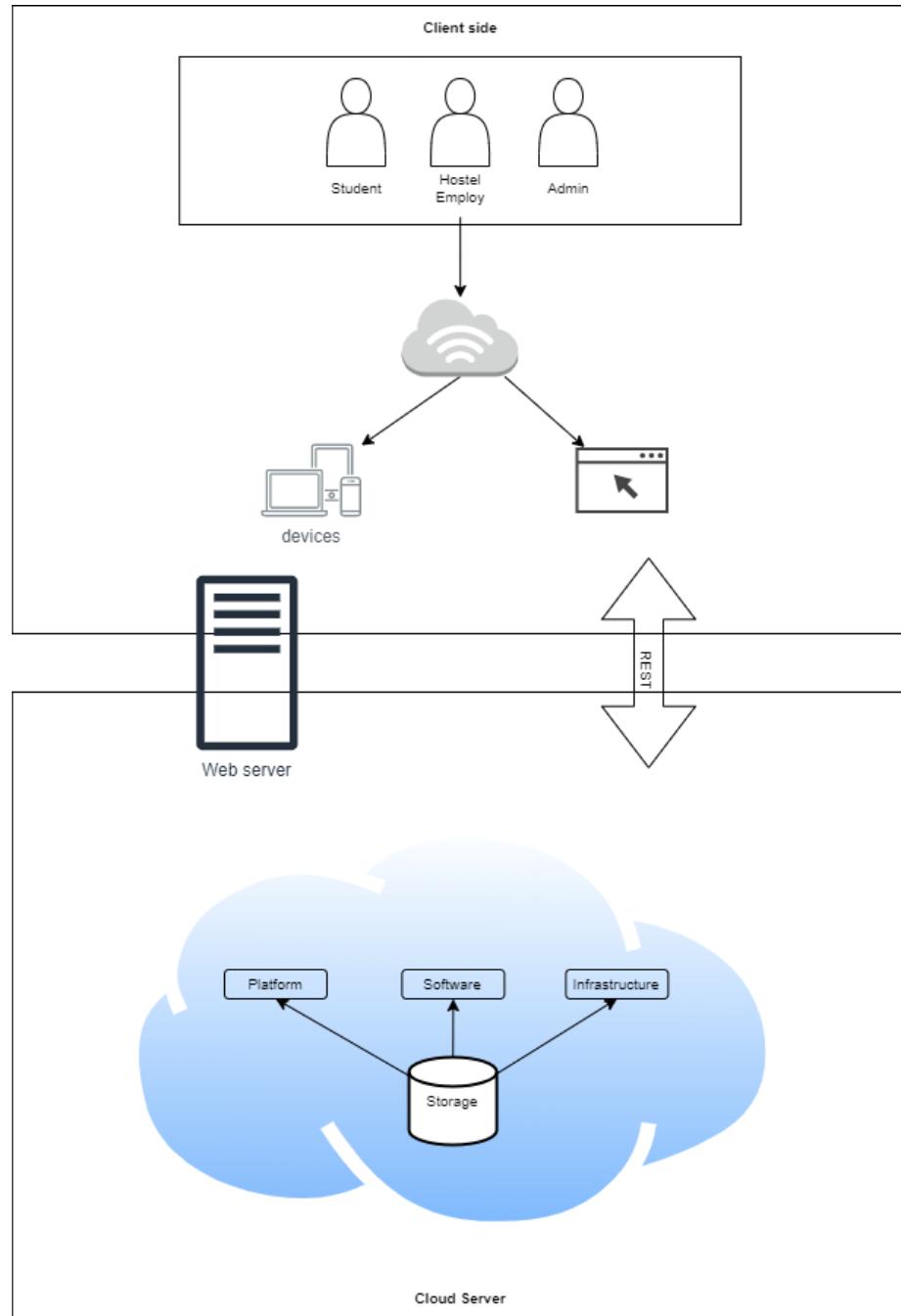
[13] The system was created to improve the management of accommodation services, including room allocation, record keeping, and reporting. The design of ASHAMS includes modules for student registration, room allocation, record management, and reporting. The implementation of the system has led to increased efficiency, reduced manual errors, and improved decision making. The results of the case study demonstrate the potential benefits of using a centralized system for the management of accommodation services and the potential for other organizations to adopt similar solutions. Relevance to industry: The study specifically focuses on the adoption of cloudbased hostel management systems by hostel owners, making it highly relevant to the industry. Lack of generalizability: The findings may not be generalizable to other populations or settings if the sample is not diverse or if the data was collected from a specific geographic location. [(Md Hasnat Riaz, 2022)]

[14] The Hi-Q system was implemented to improve the quality of services offered at the hostel and to meet the needs and expectations of the guests. The implementation Empirical research: The study is based on empirical research, using data collected from a sample of Lack of control group: If the study does not have a control group, it may be difficult to determine process involved training the staff, creating and updating standard operating procedures, and conducting internal audits. The paper reports that the implementation of the Hi-Q system has led to improvements in guest satisfaction, increased efficiency and reduced costs. The results demonstrate the benefits of using a quality management system in the hostel industry and the potential for other hostels to adopt similar approaches hostel owners, making the findings more representative and reliable causality and the impact of the cloud-based hostel management system on the hostel owners. [(Elias Suominen, 2018)]

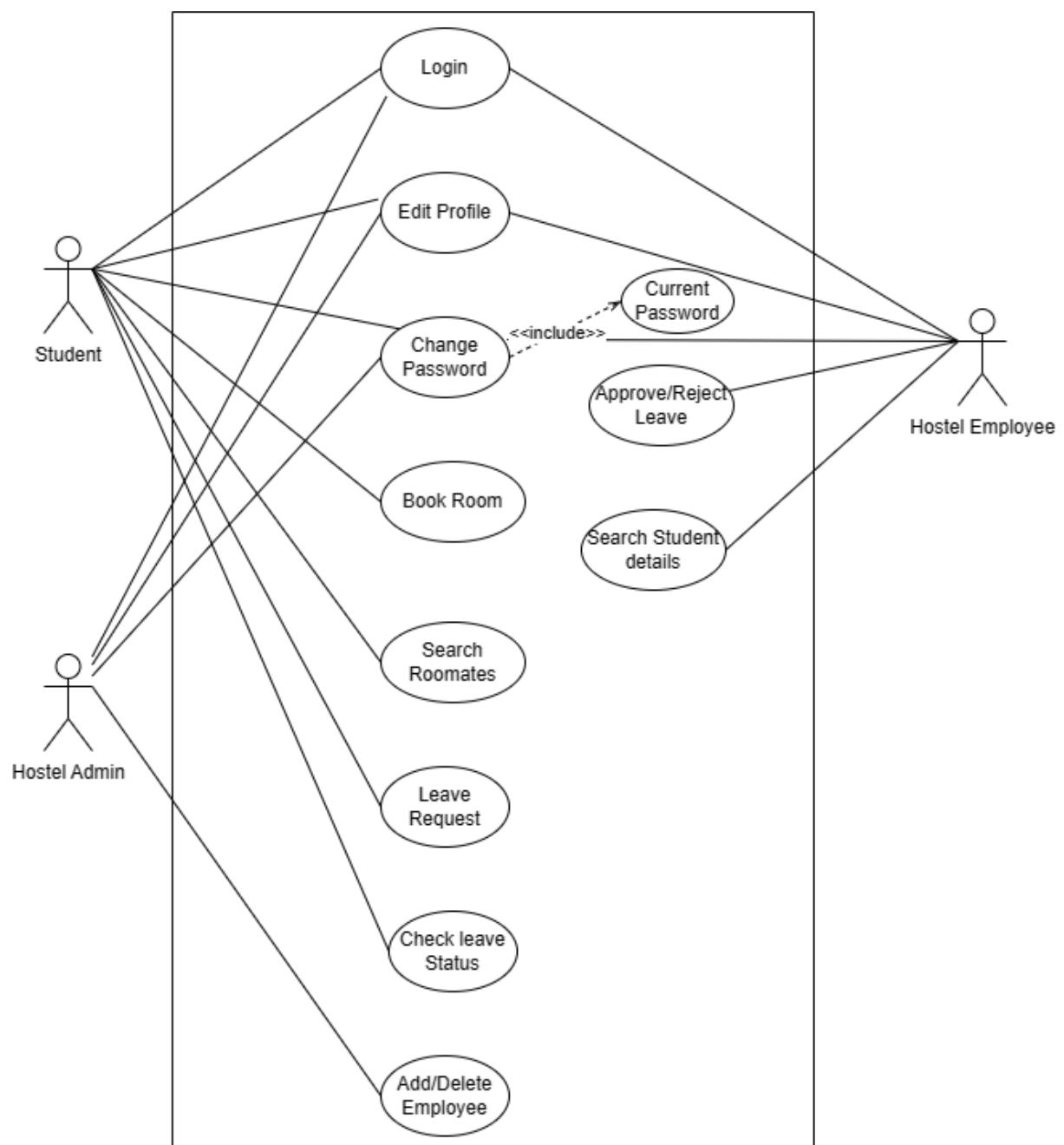
[15] Integrating robotics technology with cloud-based management systems, hostel operations can be automated, leading to improved efficiency and cost savings. The system would automate tasks such as room cleaning, maintenance, and guest services, and would also provide real-time monitoring and control of hostel facilities. The authors argue that this approach would result in a more efficient and cost effective hostel management system, while also improving the guest experience through enhanced services and facilities Integration of multiple technologies: If the study successfully integrates cloud computing and robotics in a hostel management system, it could be considered a strength as it demonstrates the feasibility of using cutting-edge technologies in practical applications. Technical complexity: If the study describes a complex technical implementation for the hostel management system, it could be considered a weakness as it may limit the ease of use and adoption of the system by hostel owners and managers. [(Chaowei Yang, 2019)]

PROPOSED DESIGN:

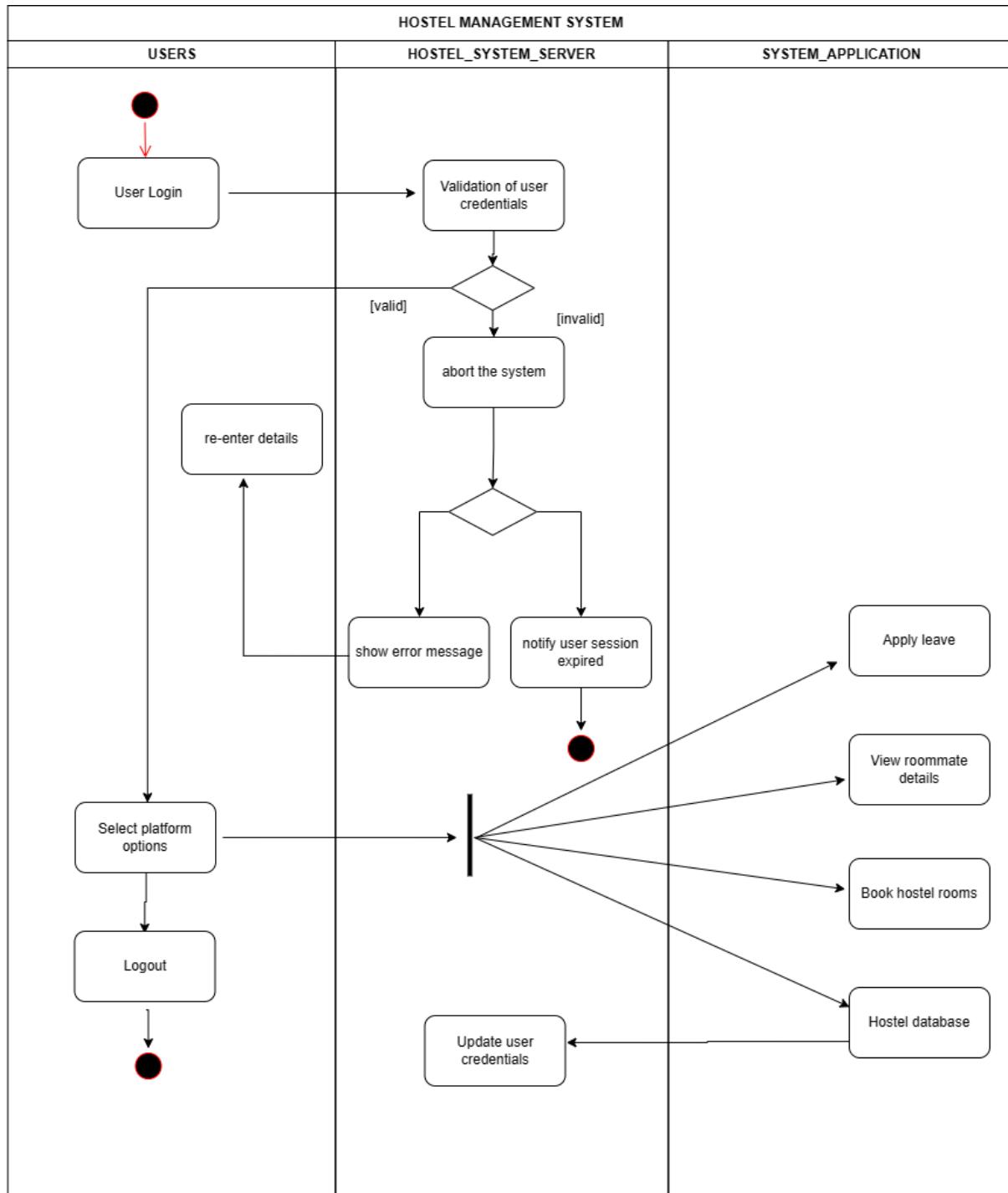
System Architecture:



Use case diagram:



Activity Diagram:



PLATFORM:

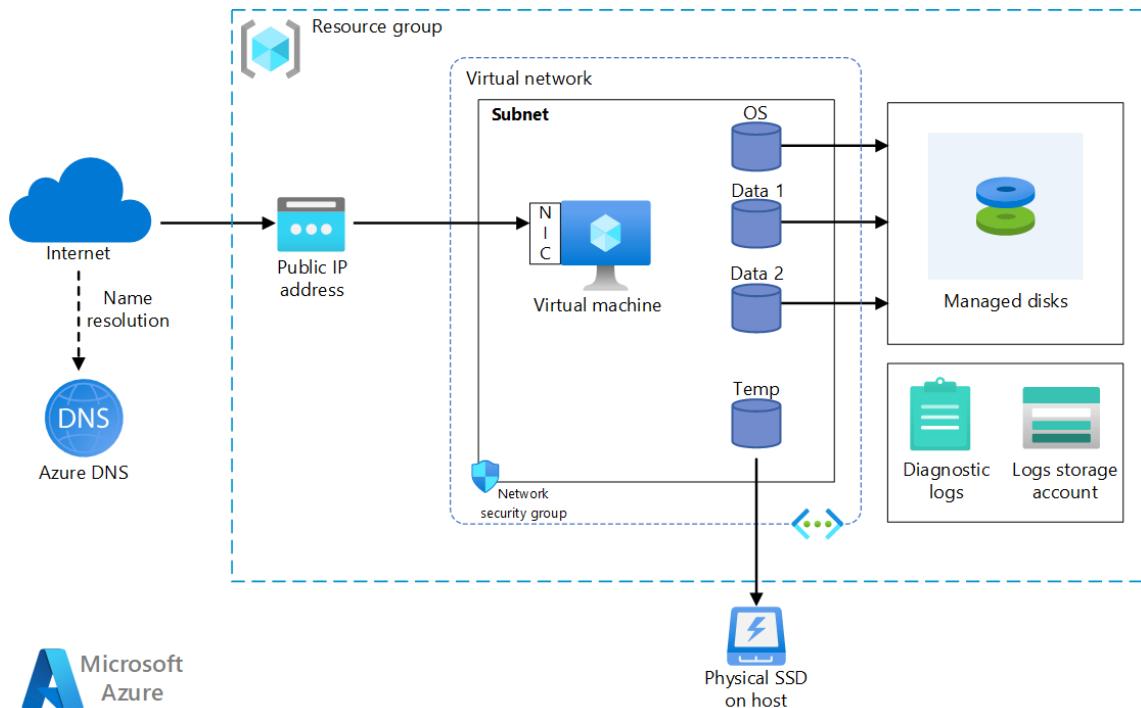
Visual Studio Code, also commonly referred to as VS Code, is a source-code editor made by Microsoft with the Electron Framework, for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git.



XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. We used HTML & CSS as Frontend & PHP as Backend.



Microsoft Azure is a cloud computing platform & infrastructure created by Microsoft for building, deploying, and managing applications and services through a global network of Microsoft-managed data-centers. It provides a variety of services including virtual machines, web and mobile app development, data storage and management, and much more. Azure supports a range of programming languages, tools, & frameworks and integrates with a variety of third-party services.



SOURCE CODE:

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
    <head>
        <meta charset="utf-8">
        <title>Admin login</title>
        <link rel="stylesheet" href="..\css\signin.css"> <?php
$errmsg="";
if ($_SERVER['REQUEST_METHOD']=='POST') {
    session_start();
    $employeeid = $_POST['employeeid'];
    $password = $_POST['password'];
    require_once('..../dbConnect.php');
    $sql= "SELECT * FROM admin WHERE employeeid = '$employeeid' AND
password = '$password' ";
    $result = mysqli_query($conn,$sql);
    $check = mysqli_fetch_array($result);
    if(isset($check)) {
        $_SESSION['employeeid'] = $employeeid;
        header('Location: admindashboard.php');
    }
    else{
        $errmsg="*Username or password is wrong";
    }
}
?>
    </head>
    <body>
        <div class="center">
            <h1>Admin Login</h1>
            <form action="adminlogin.php" method="post">
                <div class="txt_field">
```

```

        <input      id="employeeid"      name="employeeid"
type="text" pattern="[0-
9]{5}" required>
        <span></span>
        <label>Employee ID</label>
    </div>
    <div class="txt_field">
        <input      id="password"      name="password"
type="password" required>
        <span></span>
        <label>Password</label>
    </div>
    <div class="pass">Forgot Password?</div>
    <input type="submit" name="submit" id="submit"
value="submit">
        <div      class="signup_link">Forgot?      <a
href="#">Contact</a>
    </div>
</form>
<span style="color:red; margin-left: 15px;"> <?php echo
"$errormsg";
?> </span>
    </div>
</body>
</html>

```

IMPLEMENTATION:

Creating Virtual Machine:

The screenshot shows the Microsoft Azure portal interface. At the top, there are three tabs: 'VIT Vellore - VTOP', 'VL2022230501792_PE003.pdf', and 'Create a resource - Microsoft Azure'. The main content area is titled 'Create a resource' with a sub-section 'Get Started'. On the left, there's a sidebar with 'Recently created' and a 'Categories' section listing various service types like AI + Machine Learning, Analytics, Blockchain, Compute, Containers, Databases, Developer Tools, DevOps, Identity, Integration, Internet of Things, IT & Management Tools, Media, Migration, and Mixed Reality. The central part of the screen displays 'Popular Azure services' and 'Popular Marketplace products'. Under 'Popular Azure services', there are icons for Virtual machine, Web App, SQL Database, Function App, Key Vault, Data Factory, Template deployment (deploy using custom templates), Logic App, and others. Under 'Popular Marketplace products', there are icons for Windows Server 2019 Datacenter, Windows 10 Pro, version 21H2, Windows 11 Pro, version 21H2, Ubuntu Server 20.04 LTS, Ubuntu Server 22.04 LTS, Windows 7 Enterprise, Ubuntu Server 18.04 LTS, and Red Hat Enterprise Linux 7.4. The bottom of the screen shows the Windows taskbar with various pinned icons.

The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal. The title bar says 'Create a virtual machine - Microsoft VirtualMachine-ARM'. The main area is titled 'Create a virtual machine' with a sub-section 'Basics'. The 'Basics' tab is selected, followed by 'Disks', 'Networking', 'Management', 'Monitoring', 'Advanced', 'Tags', and 'Review + create'. A note at the top says: 'Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. [Learn more](#)'.

Project details: Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription: Azure for Students

Resource group: (New) myVM_group_04102303

Instance details:

- Virtual machine name**: myVM
- Region**: (Asia Pacific) Central India
- Availability options**: No infrastructure redundancy required

At the bottom, there are buttons for 'Review + create' and 'Next : Disks >'. The bottom of the screen shows the Windows taskbar with various pinned icons.

VIT Vellore - VTOP VL2022230501792_PE003.pdf Create a virtual machine - Microsoft Azure

Microsoft Azure Search resources, services, and docs (G+)

vivek.r2019@vitstudent... VITACIN (VITACIN)

Home > Create a resource > Create a virtual machine

Size * Standard_D2s_v3 - 2 vcpus, 8 GB memory (₹6,019.67/month) See all sizes

Administrator account

Username * 19MIS0184

Password * *****

Confirm password * *****

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * None Allow selected ports

Select inbound ports * RDP (3389)

⚠️ This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

Review + create < Previous Next: Disks > Give feedback

VIT Vellore - VTOP VL2022230501792_PE003.pdf Create a virtual machine - Microsoft Azure

Microsoft Azure Search resources, services, and docs (G+)

vivek.r2019@vitstudent... VITACIN (VITACIN)

Home > Create a resource > Create a virtual machine

Validation passed

Basics Disks Networking Management Monitoring Advanced Tags Review + create

Cost given below is an estimate and not the final price. Please use [Pricing calculator](#) for all your pricing needs.

Price

1 X Standard D2s v3 by Microsoft Subscription credits apply 8.2461 INR/hr Pricing for other VM sizes

TERMS

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

More help and RDP makes sense to the Internet. This is an experimental feature. If you want to know more about this feature, click here.

Create < Previous Next > Download a template for automation Give feedback

Azure student credit:

The screenshot shows the Azure for Students portal interface. On the left, a sidebar lists navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Security, Events, Billing, Invoices, Partner information, Settings, Programmatic deployment, Resource groups, Resources, Preview features, Usage + quotas, and Policies. The main content area displays subscription details such as Subscription ID, Directory, My role, Offer, Offer ID, Parent management group, and various status indicators. It also shows a bar chart titled "Top products by number of resources" with counts for networksecuritygroups (3), virtualnetworks (2), networkwatchers (2), networkinterfaces (2), and publicipaddresses (2). A separate section for "Azure Defender coverage" indicates that Azure Defender is not enabled for this subscription.

The screenshot shows the Microsoft Azure home page. At the top, there are links for "Create a resource", "Virtual machines", "Free services", "Quickstart Center", "App Services", "Storage accounts", "SQL databases", "Azure Cosmos DB", "Kubernetes services", and "More services". Below this is a "Resources" section with a "Recent" tab showing "myVM", "cloud_group", and "myVM_group". There is also a "See all" link. The "Navigate" section includes links for "Subscriptions", "Resource groups", "All resources", and "Dashboard". The "Tools" section features links for "Microsoft Learn", "Azure Monitor", "Search", "Microsoft Defender for Cloud", "Cost Management", and other Azure services. The bottom of the screen shows the Windows taskbar with various pinned icons and system status indicators.

Virtual Machine:

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes tabs for 'VIT Vellore - VTOP', 'VL2022230501792_PE003.pdf', and 'Virtual machines - Microsoft Azure'. The main content area is titled 'Virtual machines' under 'vit.ac.in (vit.ac.in)'. It displays a single record for a virtual machine named 'myVM'. The details are as follows:

| Name | Type | Subscription | Resource group | Location | Status | Operating system | Size | Public IP address | Disk |
|------|-----------------|--------------------|----------------|---------------|---------|------------------|-----------------|-------------------|------|
| myVM | Virtual machine | Azure for Students | cloud_group | Central India | Running | Windows | Standard_D2s_v3 | 20.204.135.163 | 1 |

At the bottom of the page, there is a navigation bar with links for '< Previous', 'Page 1 of 1', and 'Next >'. The status bar at the bottom right shows 'Give feedback', 'ENG US', '10:20 PM', and '10-Apr-23'.

The screenshot shows the Microsoft Azure portal interface, specifically the details page for a virtual machine named 'myVM'. The top navigation bar includes tabs for 'VIT Vellore - VTOP', 'VL2022230501792_PE003.pdf', and 'myVM - Microsoft Azure'. The main content area is titled 'Virtual machines' under 'vit.ac.in (vit.ac.in)'. On the left, a sidebar lists various management options like Overview, Activity log, Tags, and Networking. The main pane displays detailed information about 'myVM', including its configuration and network settings. Key details include:

- Essentials:** Resource group (move), Status (Running), Location (Central India), Subscription (move), Subscription ID (65bcf3ac-4f0e-4f19-8b81-eb541393b816).
- Networking:** Public IP address (20.204.135.163), Virtual network/subnet (cloud-vnet/default), DNS name (Not configured).
- Properties:** Computer name (myVM), Health state (-), Operating system (Windows (Windows 11 Pro)), Publisher (microsoftwindowsdesktop), Offer (windows-11), Plan (win11-21b2-prn).

At the bottom of the page, there is a navigation bar with links for '< Previous', 'Page 1 of 1', and 'Next >'. The status bar at the bottom right shows 'Give feedback', 'ENG US', '10:20 PM', and '10-Apr-23'.

Virtual Monitor - Properties:

The screenshot shows the Microsoft Azure portal interface for a virtual machine named 'myVM'. The main content area displays the 'Properties' tab under the 'Virtual machine' section. Key details include:

- Computer name:** myVM
- Health state:** -
- Operating system:** Windows (Windows 11 Pro)
- Publisher:** microsoftwindowsdesktop
- Offer:** windows-11
- Plan:** win11-21h2-pro
- VM generation:** V2
- VM architecture:** x64
- Agent status:** Ready
- Agent version:** 2.7.1491.1083
- Host group:** None
- Host:** -
- Proximity placement group:** -
- Colocation status:** N/A
- Capacity reservation group:** -

Networking:

- Public IP address: 20.204.135.163 (Network interface myvm83)
- Private IP address (IPv6): -
- Virtual network/subnet: cloud-vnet/default
- DNS name: Configure

Size:

- Size: Standard D2s v3
- vCPUs: 2
- RAM: 8 GiB

Disk:

- OS disk: myVM_OsDisk_1_705706e3087c47f0bc67af83e02bb08e
- Encryption at host: Disabled
- Azure disk encryption: Not enabled
- Ephemeral OS disk: N/A
- Data disks: 0

Availability + scaling:

- Availability zone: -

Virtual Monitor - Monitoring:

The screenshot shows the Microsoft Azure portal interface for monitoring the 'myVM' virtual machine. The main content area displays five performance metrics over time:

- CPU (average):** Shows usage peaking around 9:45 PM UTC+0530 at 16.9586%.
- Network (total):** Shows traffic spikes, with Network In Total (Sum) reaching 45.31 MB and Network Out Total (Sum) reaching 1.91 GB.
- Disk bytes (total):** Shows disk activity, with Disk Read Bytes (Sum) reaching 3.07 GB and Disk Write Bytes (Sum) reaching 9.56 GB.
- Disk operations/sec (average):** Shows disk operations per second, with Disk Read Operations... reaching 5.55 and Disk Write Operations... reaching 17.29.
- Available Memory Bytes:** Shows memory usage, with Available Memory Bytes (Preview) (Avg) reaching 4.69 GB.
- VM Availability (Preview):** Shows VM availability metric, with VM Availability Metric (Preview) (Avg) reaching 1.

Virtual Monitor - Backup:

Virtual Monitor - Recovery:

Azure Monitor

Get more visibility into the health and performance of your virtual machine

With an Azure virtual machine you get host CPU, disk and up/down state of your VMs out of the box. Enabling additional monitoring capabilities provides insights into the performance and dependencies for your virtual machines.

You will be billed based on the amount of data ingested and your data retention settings. It can take between 5-10 minutes to configure the virtual machine and the monitoring data to appear.

Insights

Enable logs and detailed monitoring capabilities

Not configured

The map data set collected with Azure Monitor for VMs is intended to be infrastructure data about the resources being deployed and monitored. For details on data collected please [click here](#).

Enable

Having difficulties enabling Azure Monitors for VM? [Troubleshoot](#)

Have more questions? Learn more about virtual machine monitoring [Learn more about virtual machine monitoring](#)

What is VM Insights? [What is VM Insights?](#)

Virtual Monitor IP:

cloud-ip

Public IP address

Essentials

| | | | |
|-----------------------|--|--|------------------|
| Resource group (move) | : cloud_group | SKU | : Standard |
| Location (move) | : Central India | Tier | : Regional |
| Subscription (move) | : Azure for Students | IP address | : 20.207.192.123 |
| Subscription ID | : 65bcf3ac-4f0e-4f19-8b81-eb541393b816 | DNS name | : - |
| | | Associated to | : cloud321 |
| | | Virtual machine | : - |
| | | Routing preference : Microsoft network | |

Tags (edit) : Click here to add tags

Get Started Properties Tutorials

Use public IP addresses for public connections to Azure resources

Associate and configure public IP addresses to various Azure resources [Learn more](#)

Associate to a resource

Associate your public IP address to an Azure resource such as an Azure Load Balancer or a network interface.

Associate IP

Configure a public IP address

Configure a DNS idle time, name, and alias record for your public IP address.

Configure

Protect IP address

Choose the right DDoS protection level for your IP address.

Protect

Virtual Monitor Security:

Essentials

Resource group (move) : cloud_group
Location : Central India
Subscription (move) : Azure for Students
Subscription ID : 65bcf3ac-4f0e-4f19-8b81-eb541393b816
Tags (edit) : Click here to add tags

| Priority ↑ | Name ↑ | Port ↑ | Protocol ↑ | Source ↑↓ | Destination ↑↓ | Action ↑↓ |
|------------|---------------------------|--------|------------|-------------------|----------------|-----------|
| 65000 | AllowVnetInBound | Any | Any | VirtualNetwork | VirtualNetwork | Allow |
| 65001 | AllowAzureLoadBalancerIn- | Any | Any | AzureLoadBalancer | Any | Allow |
| 65500 | DenyAllInBound | Any | Any | Any | Any | Deny |
| 65000 | AllowVnetOutBound | Any | Any | VirtualNetwork | VirtualNetwork | Allow |
| 65001 | AllowInternetOutBound | Any | Any | Any | Internet | Allow |
| 65500 | DenyAllOutBound | Any | Any | Any | Any | Deny |

Virtual Machine – VPN:

Essentials

Resource group (move) : cloud_group
Location (move) : Central India
Subscription (move) : Azure for Students
Subscription ID : 65bcf3ac-4f0e-4f19-8b81-eb541393b816

| Topology | Capabilities (5) | Recommendations | Tutorials |
|----------|---|-----------------|--|
| | Configure additional protection from distributed denial of service attacks. Not configured | | Protect your network with a stateful L3-L7 firewall. Not configured |
| | Seamlessly connect two or more virtual networks. Not configured | | Strengthen the security posture of your environment. |
| | Privately access Azure services without sending traffic across internet. Not configured | | |

Virtual Monitor – OS Disk:

Essentials

- Disk size : 127 GiB
- Storage type : Premium SSD LRS
- Managed by : myVM
- Operating system : Windows
- Completion percent : 100
- Max shares : 0
- Availability zone : None
- Performance tier : P10 - 500 IOPS, 100 MBps
- Security type : Trusted launch

Disk Bytes/sec (Throughput)

Disk Operations/sec (IOPS)

Disk QD (Queue Depth)

Virtual Monitor – Network Interface:

Essentials

- Private IPv4 address : 10.1.0.4
- Public IPv4 address : 20.207.192.123 (cloud-ip)
- Private IPv6 address : -
- Public IPv6 address : -
- Attached to : cloud-nsg (Network security group)
- Type : Regular

XAMPP – Configuration

The screenshot shows the phpMyAdmin interface for the 'hostelmanagement system main' database. The 'Structure' tab is selected. The 'users' table is highlighted, showing 2 rows. A 'Create new table' dialog is open, prompting for a table name (set to '4') and the number of columns (set to 4). The interface includes a sidebar with database and schema navigation.

The screenshot shows the phpMyAdmin interface for the 'users' table. The table has 2 rows: 'mani' and 'vivek'. The 'Edit' and 'Delete' buttons are visible for each row. The interface includes a sidebar with database and schema navigation.

Showing rows 0 - 0 (1 total, Query took 0.0003 seconds)

SELECT * FROM `leaverequests`

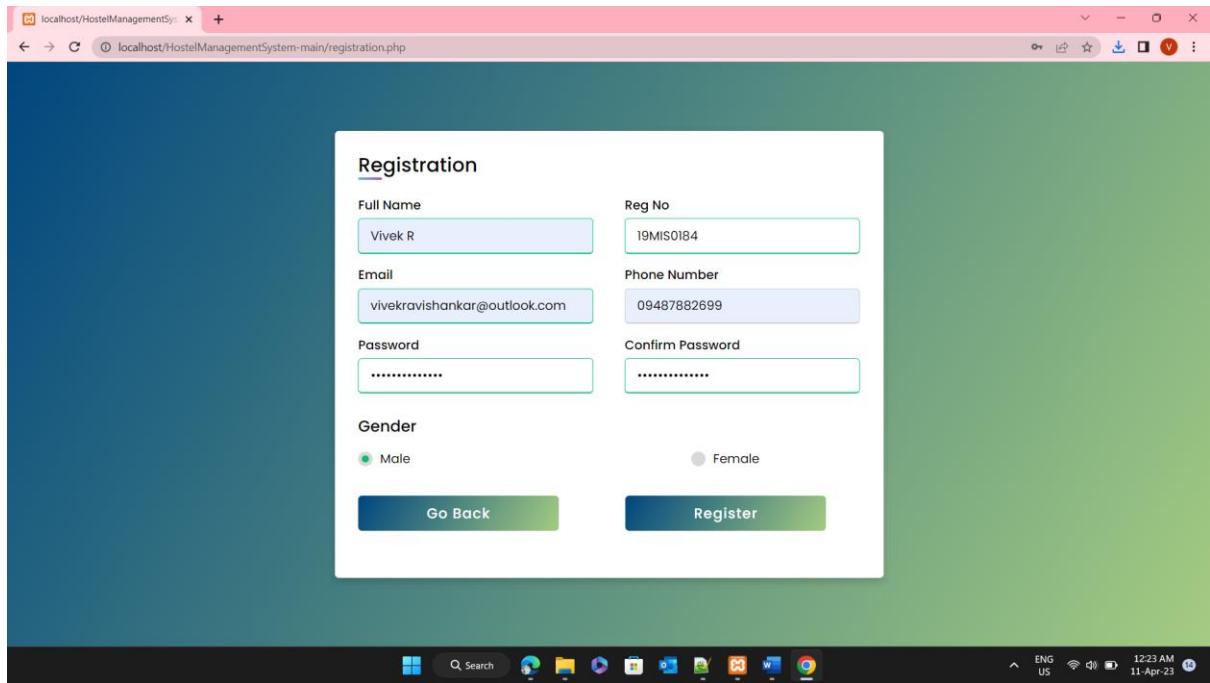
| name | regno | block | roomno | fromdate | todate | reason | status |
|-------|-----------|--------|--------|------------|------------|----------------|----------|
| vivek | 19MIS0184 | Kblock | 1 | 2023-04-09 | 2023-04-15 | Tamil New Year | approved |

Implementation:

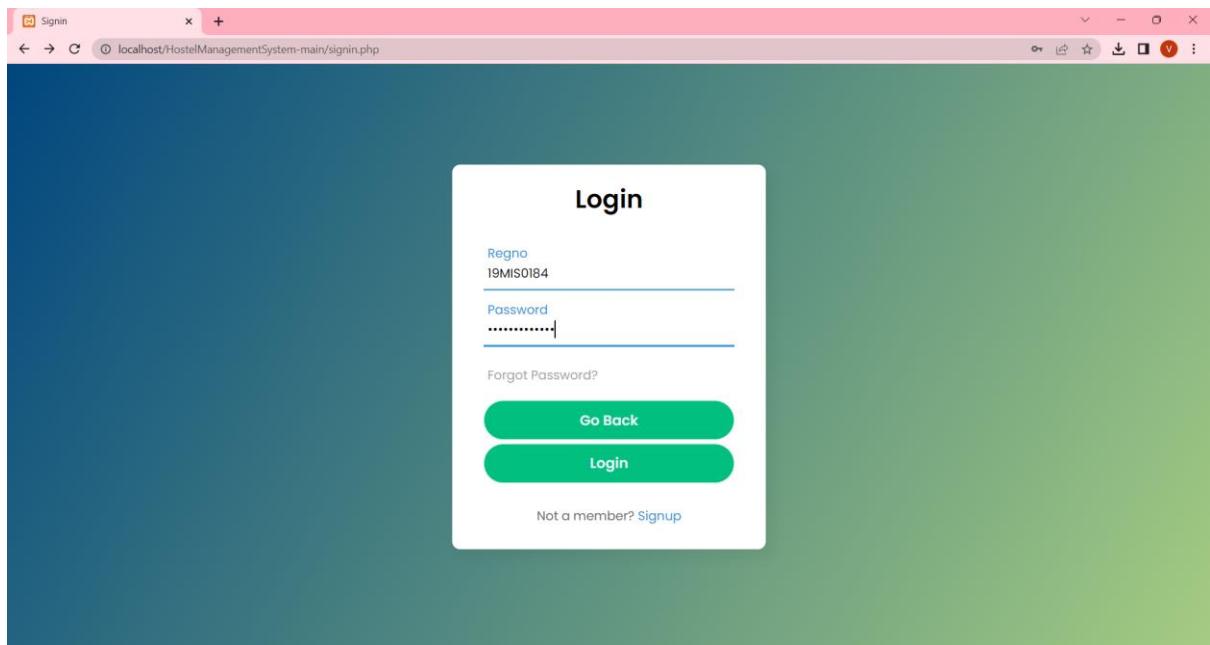
VIT Vellore - VTOP | VL2022230501792_P003.pdf | Virtual machines - Microsoft Azure | Hostel Management System | +

localhost/HostelManagementSystem-main/

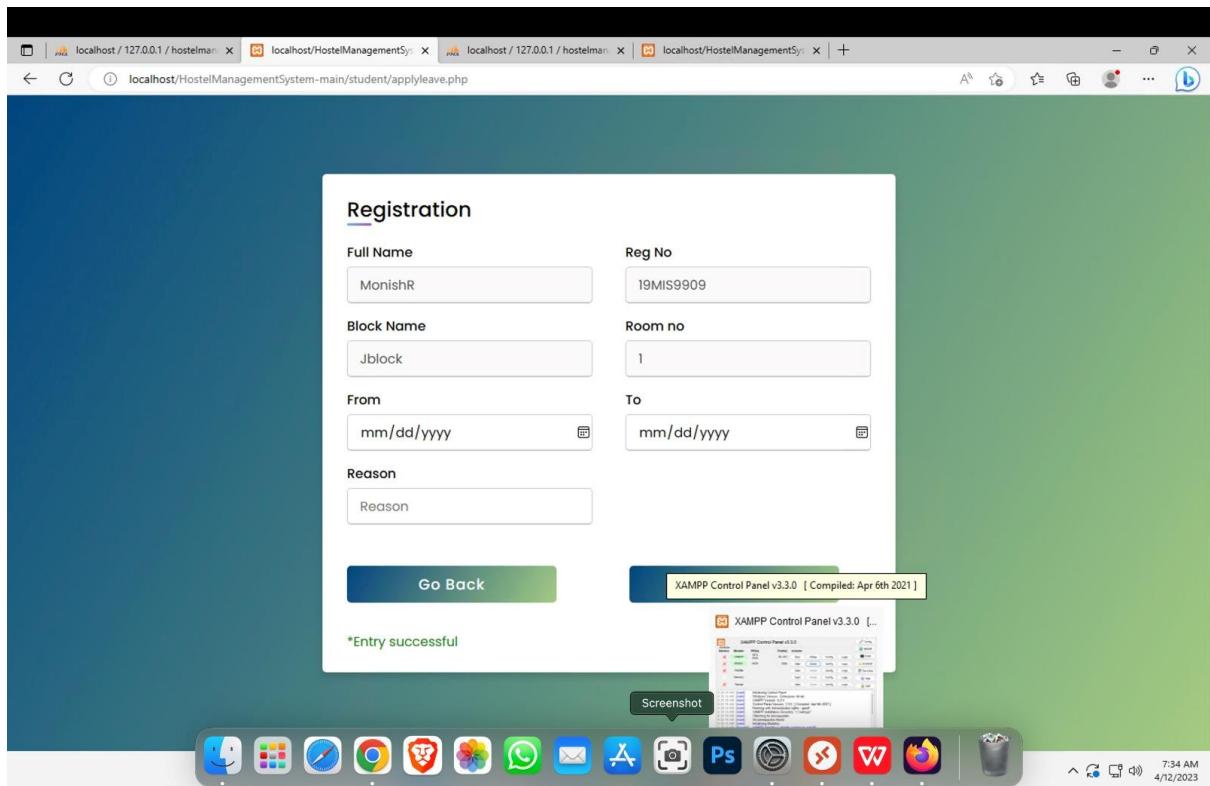
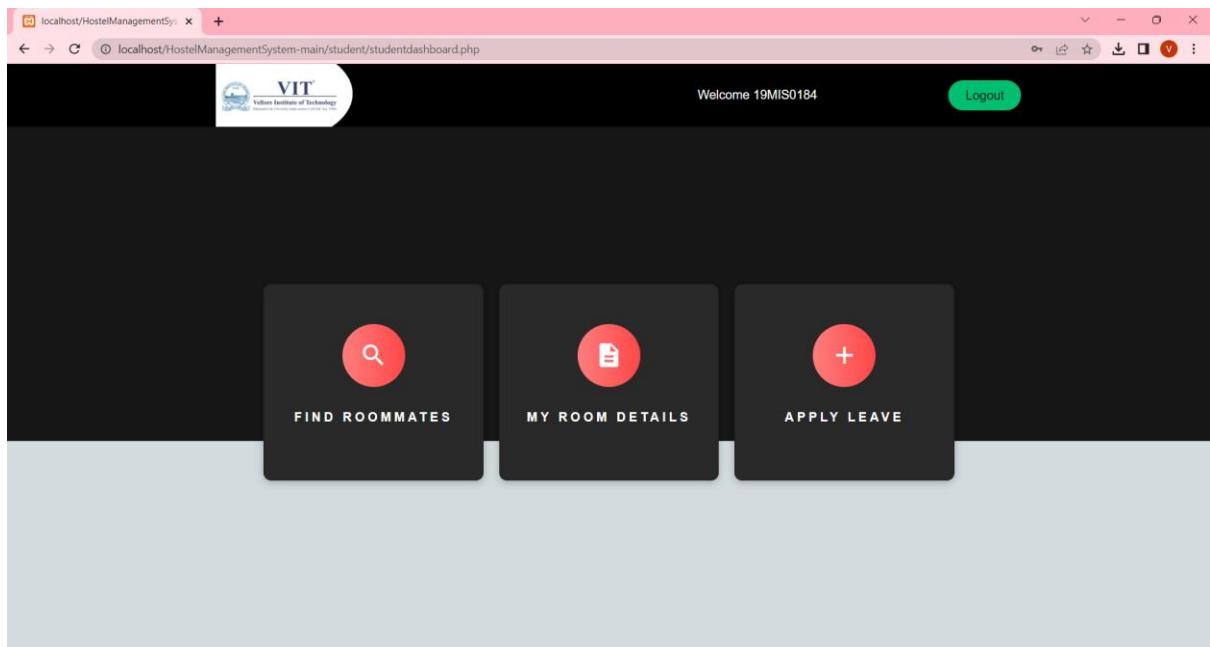
Hostel Management System
VIT VELLORE
Get Started

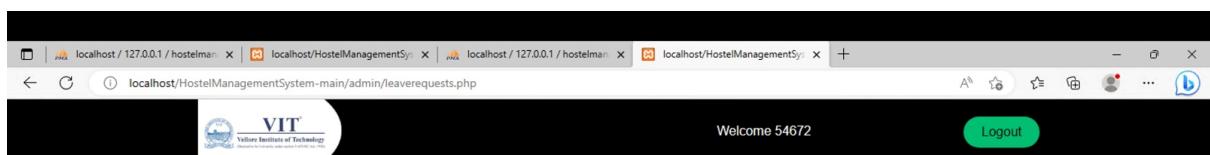
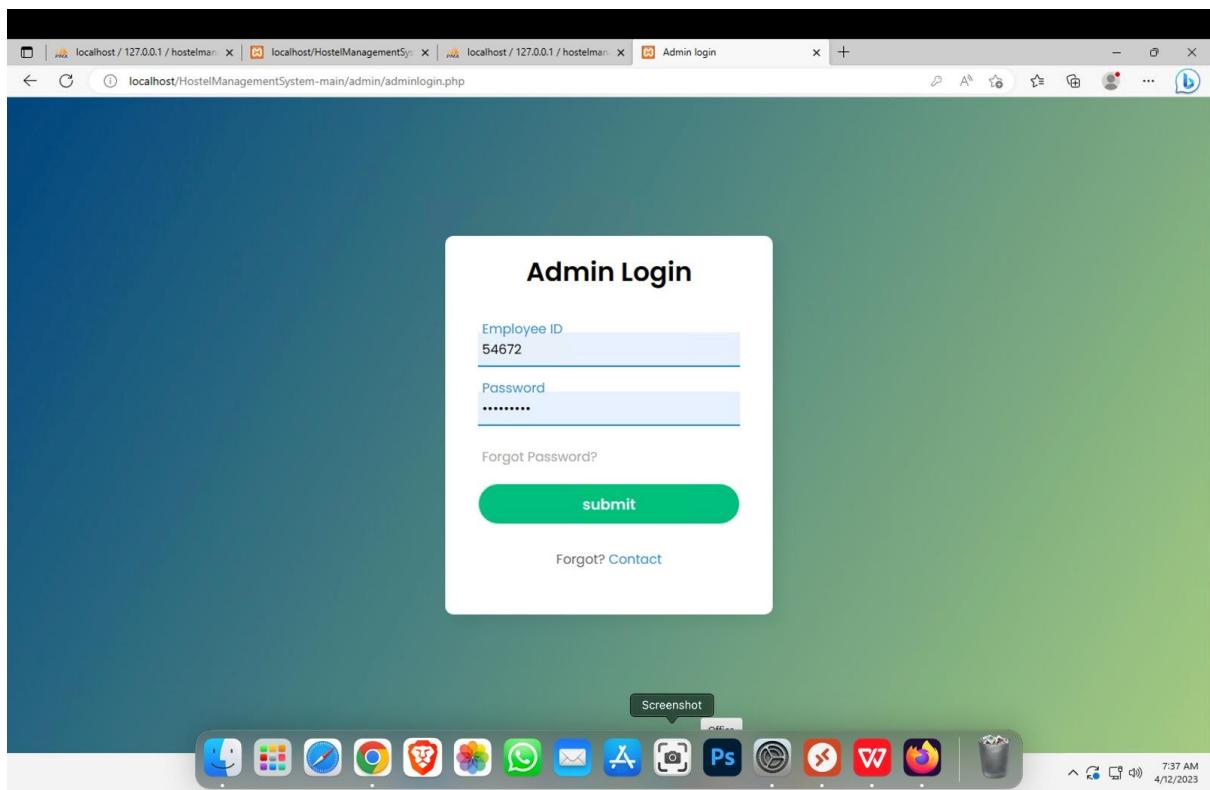


A screenshot of a web browser window showing the registration page of a Hostel Management System. The title bar reads "localhost/HostelManagementSystem" and the address bar shows "localhost/HostelManagementSystem-main/registration.php". The page has a white header with the word "Registration". Below it are four input fields in a grid: "Full Name" (Vivek R), "Reg No" (I9MIS0184), "Email" (vivekravishankar@outlook.com), and "Phone Number" (09487882699). There are two password fields: "Password" and "Confirm Password", both containing several dots. A "Gender" section follows, with "Male" selected (indicated by a green dot) and "Female" unselected (indicated by a grey dot). At the bottom are two buttons: "Go Back" and "Register". The background of the page is a dark blue gradient.



A screenshot of a web browser window showing the login page of a Hostel Management System. The title bar reads "Signin" and the address bar shows "localhost/HostelManagementSystem-main/signin.php". The page has a white header with the word "Login". Below it are two input fields: "Regno" (I9MIS0184) and "Password" (containing several dots). A "Forgot Password?" link is located below the password field. At the bottom are two buttons: "Go Back" and "Login". A small note at the very bottom says "Not a member? Signup". The background of the page is a dark blue gradient.





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