User Manual

VORTEX HR SYSTEM

Employee Management System

Sri Lanka Institute of Information Technology

MSc in Information Technology

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Group Vortex

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01.Introduction

Welcome to the Automated Employee Management System, an efficient and effective solution for managing human resources in an office environment. In many companies, manual record-keeping is still prevalent due to the high cost associated with adopting an automated employee management system. However, our software solution solves this problem by providing a comprehensive and productive employee management system at an affordable cost.

Our system caters to both employers and employees, offering different privileges and functionalities tailored to their specific needs. With multiple modules designed to streamline various HR processes, we aim to simplify your workforce management tasks. Here are the key modules included in our software:

1. Login and User Management: Securely manage user accounts and access levels, ensuring only authorized personnel can access sensitive information.
2. Time and Attendance Management: Track employee working hours, breaks, and attendance, allowing you to effectively manage and monitor workforce schedules.
3. Absence and Leave Management: Streamline the process of requesting and approving time off, reducing paperwork and improving efficiency.
4. Staff Management: Maintain a centralized employee database with relevant information such as contact details, job roles, and performance records.
5. Payroll Management: Automate salary calculations, deductions, and tax withholdings, eliminating manual errors and saving valuable time.
6. Reporting Management: Generate insightful reports on various HR metrics, providing valuable data for decision-making and performance evaluation.

To develop this system, we utilize cutting-edge technologies including HTML, CSS, Bootstrap, PHP, CodeIgniter, and MySQL. By leveraging these technologies, we ensure a robust and user-friendly software experience. This approach allows us to incorporate your feedback throughout the project and deliver a tailored solution that meets your specific requirements.

The Automated Employee Management System aims to alleviate the administrative burden caused by manual work. By enabling accurate data tracking, validations, and verifications, our system enhances workforce productivity, helping your company achieve its objectives efficiently.

We look forward to partnering with you and revolutionizing your employee management processes. Streamline your HR tasks, improve productivity, and drive your business forward with the Automated Employee Management System.

And in this report, you will find an installation guide.

02. System Software and Hardware Requirements

Software Requirements:

- PHP - PHP is used as the scripting language for the project.

- MySQL - MySQL is used as the relational database management system (RDBMS) for the project.

- Apache Spark - Apache Spark is used for data processing and analytics (if applicable).

- XAMPP - XAMPP will be utilized as the cross-platform web server solution for the project.

Hardware Requirements:

To run the system, you will need a computer with the following specifications:

- RAM - 8 GB

- Processor - Intel Core i5 with a clock speed of 4.0 GHz

- Hard Disk Space - At least 1 TB

- SSD - A minimum of 256 GB of SSD storage is recommended.

03. System Installation Guide

Here are the detailed guidelines for installing and running the system.

First download XAMPP, Spark, and EMS System on GitHub

XAMPP: https://www.apachefriends.org/download.html

Spark: https://spark.apache.org/downloads.html

Java: https://www.java.com/en/download/

EMS System: https://github.com/Vortex-Sliit/employee.git

Winutils: https://github.com/steveloughran/winutils.git

For run Spark computer should install Java

1.1. Database Installation

Click on the XAMPP Server and double click and run. Click the start button to start Apache Server and MySQL.
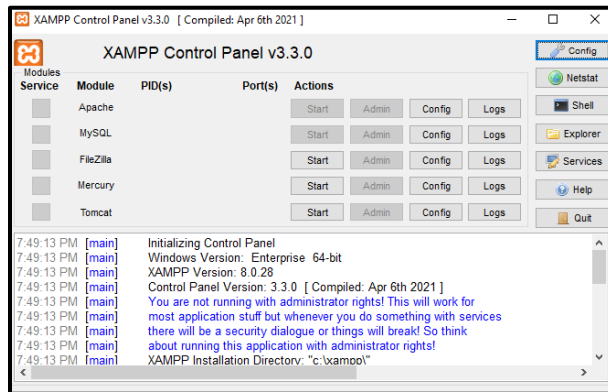
Open the browser and type http://localhost/phpmyadmin and press enter.
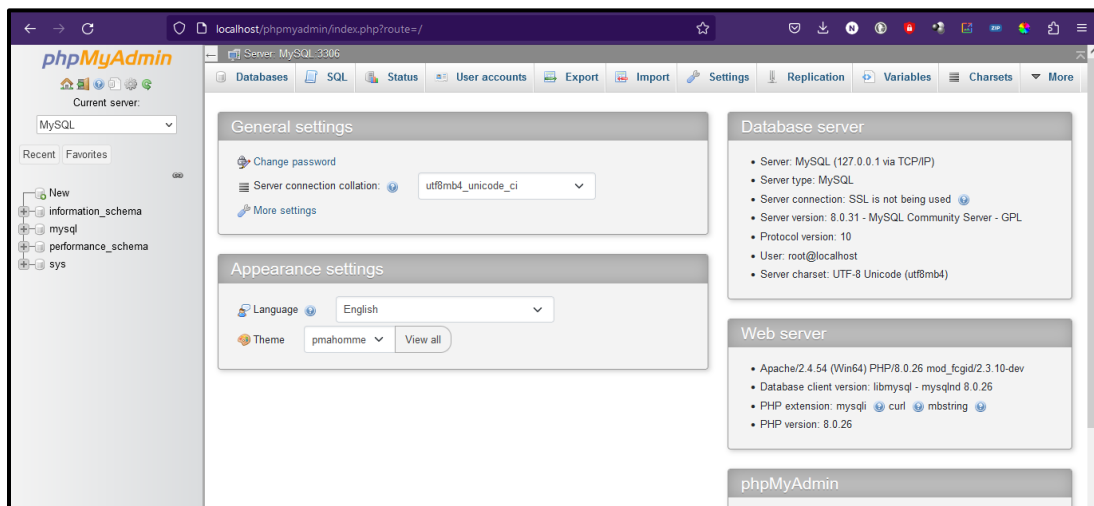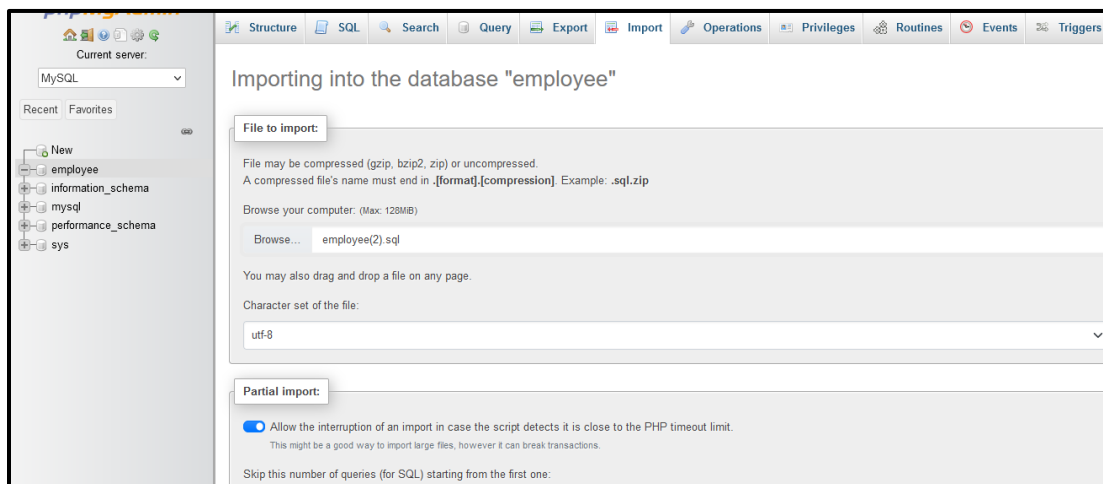

Create a New Database and name it as "employee". Then Click to Create.
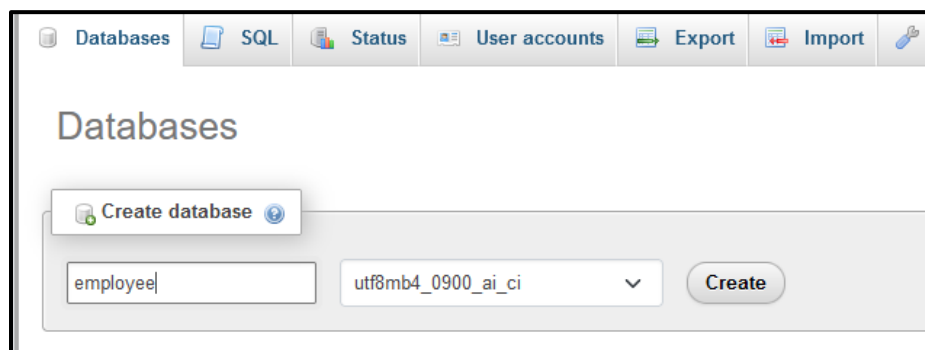
Then Go to the "employee" Database and click "import" button to import our database.
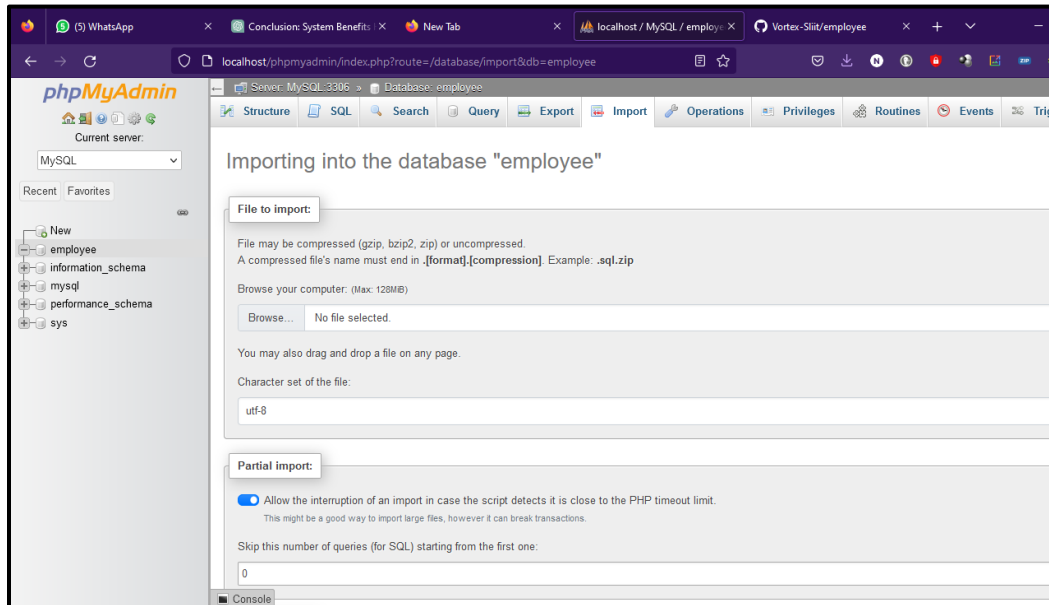
Browse the SQL Database and click "Import" button on the left side down corner.

Now Database is installed completely.

1.2. Install EMS System

To install this, we should download the EMS System file on GitHub. Then copy the files of EMS System and go to the following link: **"C:\xampp\htdocs".** Then paste the system there. If it is in ZIP Format the extract, there.

Finally, System is installed.

1.3. Install and Run Spark

To install the spark download it first. Then copy the file and make a folder on C Drive. I made "bigdata" folder and paste it there. Then extract it there and again extract "tar" file. Then rename the whole folder spark3.
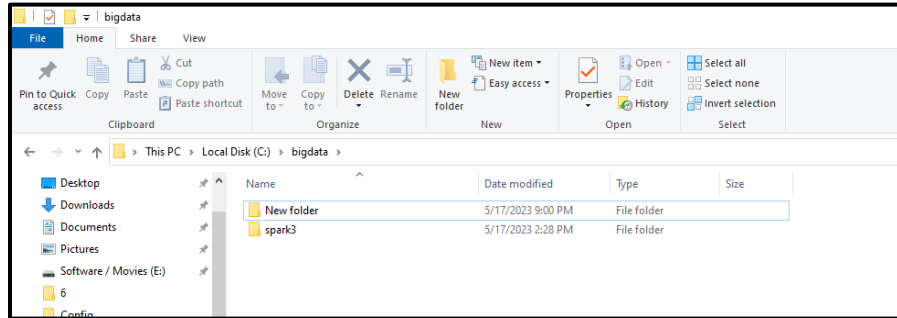
Then you have to download "winutils.exe" file from GitHub and copy and paste it to the Spark file "C:\bigdata\spark3\bin" folder.
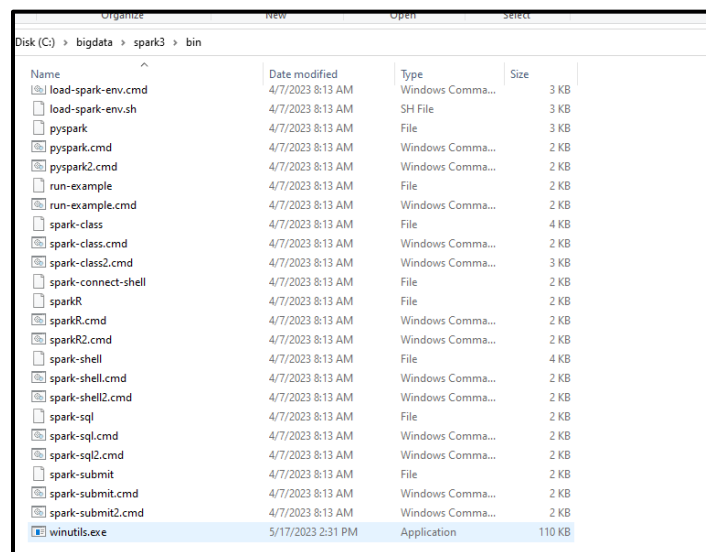
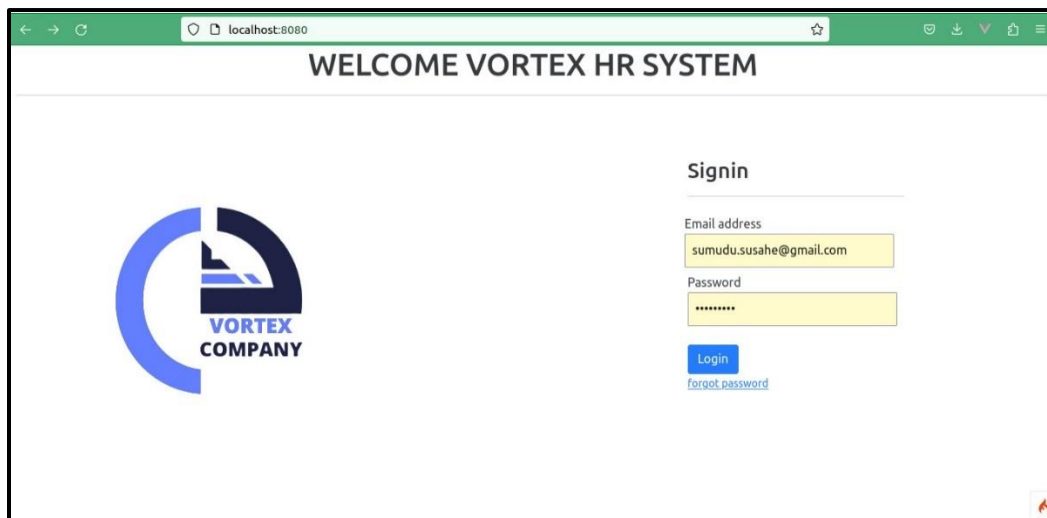Now go to the EMS System folder "C:\xampp\htdocs\employee" and run CMD on that.
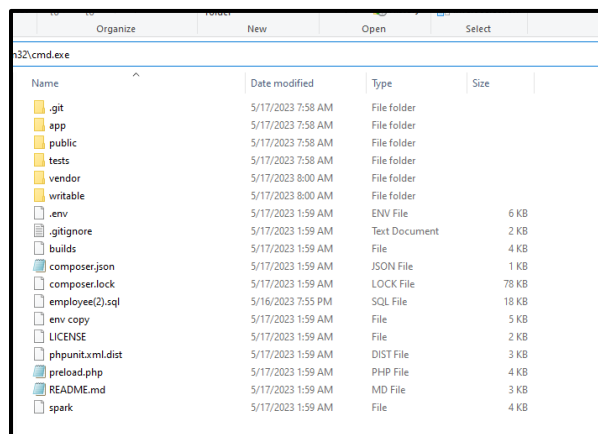
Then run "php spark serve" on the command prompt.
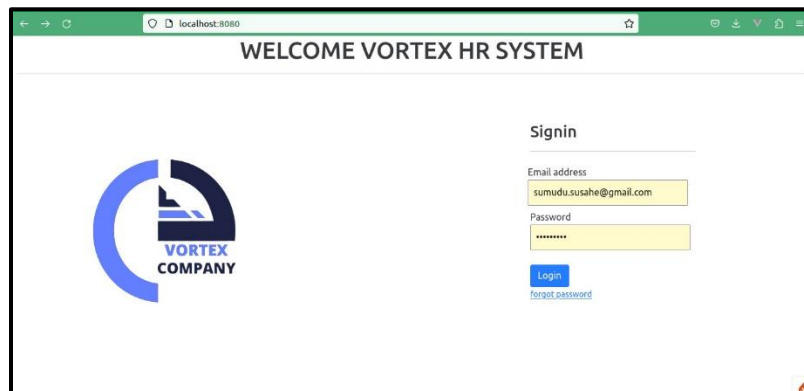

Now go to the browser and run http://localhost:8080. Now our system login page is showing.

04. Employee Management System Guide

There are three users: an Admin, Employee, and Manager.

Login Page

To Login as Admin (Default Details)
Username: nishanikodikara@gmail.com
Password: Nishani@12345

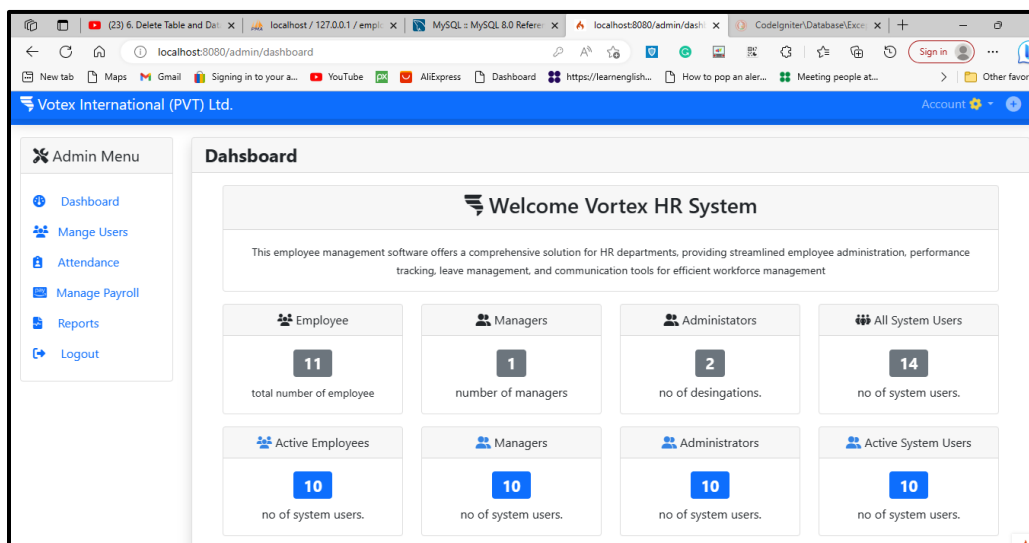To Login as Manager (Default Details)
Username: kasungamage@gmail.com
Password: Kasun@12345

To Login as Employee (Default Details)
Username: nayaniperera@gmail.com
Password: Nayani@12345

Admin Dashboard

Admin is the main part, and he is the only one who can add employees. Admin login details are default and after he add the employee and create his login details, Then employees can login to the system. Admins manage payrolls, reports, Attendance, etc.

Payrolls Module

For this admin can calculate employees' salaries. Basic salary + Allowances = Gross Salary-Deductions = Net Salary.

Report Module
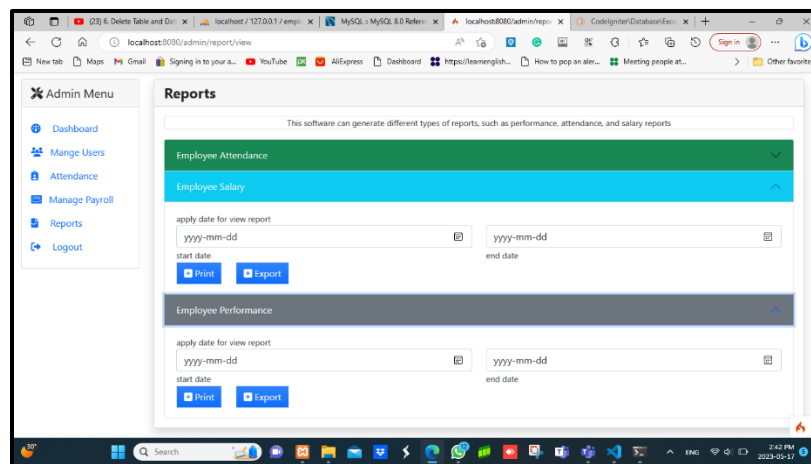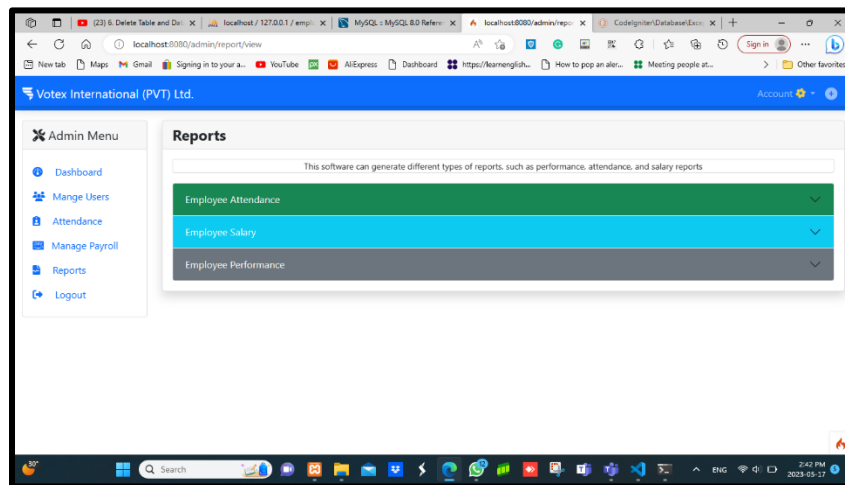
Add Salary Module

System Users Module

This will show users and admin can add users means employees.

Attendance Module

Admin can add attendance and he can filter employees to check specific persons attendance.

Add Attendance Module

Employee Dashboard

Employees can view their history, Salary Slip, request leaves etc.

History Module
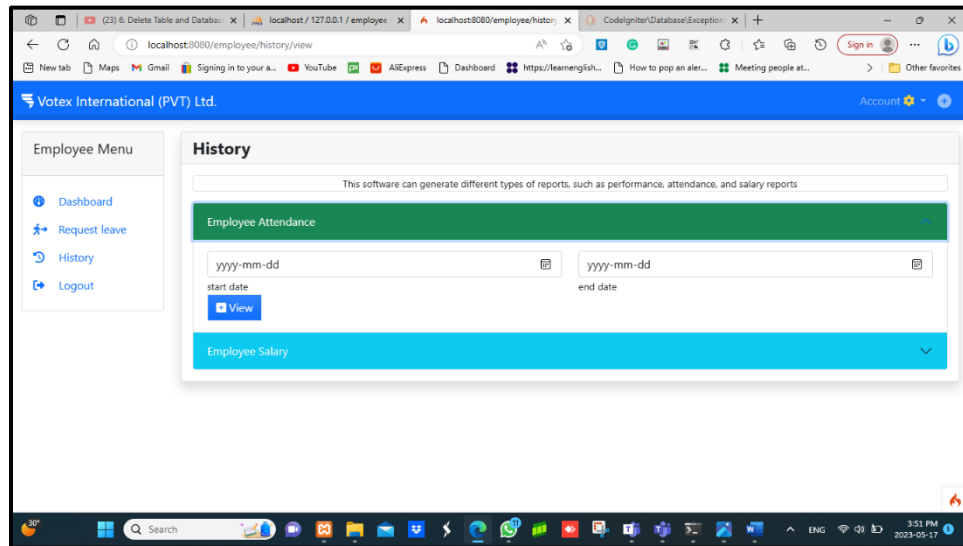
Request Leaves Module
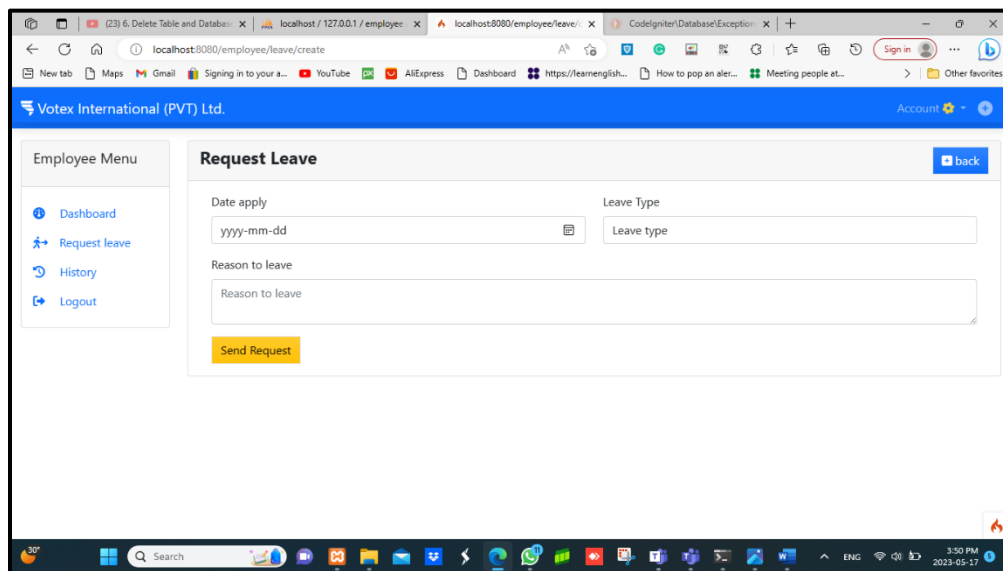
Manger Dashboard
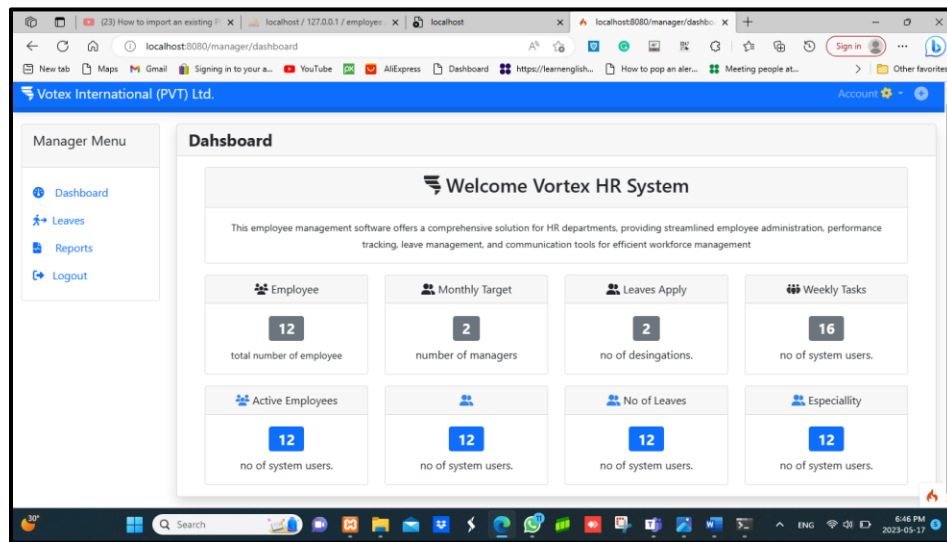
Leave Request Module

The manager can view the leave requests from other employees, and he can approve it or reject it. It will be shown on the dashboard of employees as well.
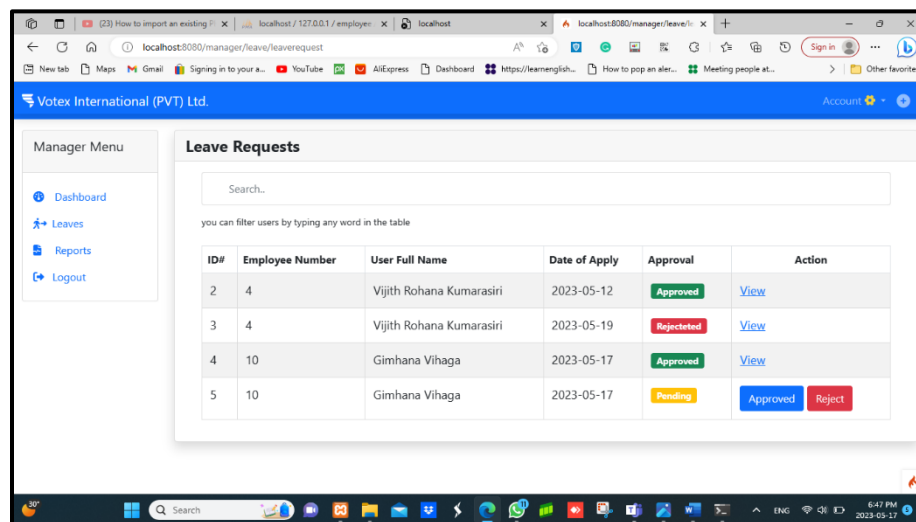
05. System Security

The Automated Employee Management System prioritizes the security of your system and sensitive information. Here are the key security features implemented:

1. User Authentication: A secure login mechanism ensures that only authorized individuals with valid credentials can access the system, protecting sensitive information from unauthorized access.

2. Access Control: Different user roles and privileges are assigned, allowing users to perform actions relevant to their responsibilities. This prevents unauthorized access and maintains data integrity.

3. Encrypted using industry-standard encryption algorithms. This ensures the confidentiality of the data and minimizes the risk of unauthorized access.

4. Secure Communication: All system-user communication is encrypted using secure protocols like HTTPS, preventing data interception or tampering during transmission.

5. Regular Backups: Automated backups are performed at regular intervals to prevent data loss in case of system failures or unforeseen events. This ensures that your data is protected and can be restored when needed.

6. System Monitoring and Logging: User activities are continuously monitored, and relevant information is logged for auditing purposes. This helps in identifying any suspicious activities and provides an audit trail for administrators to investigate and take necessary actions if required.

With these robust security measures, the Automated Employee Management System provides a secure environment for managing your HR processes. You can trust in the system's security features, allowing you to focus on your core business activities with peace of mind.

06. System Maintenance

Regular system maintenance is vital for optimal performance and long-term sustainability of the Automated Employee Management System. This user manual section provides concise guidance on effectively managing and maintaining the system.

Key aspects of system maintenance covered in the manual:

1. Updates and Upgrades: Keep the system current by installing the latest software updates and upgrades. This ensures access to new features, bug fixes, and security enhancements.

2. Database Maintenance: Optimize system performance through recommended database maintenance practices. Regularly back up the database, perform integrity checks, and fine-tune its performance.

3. User Management: Maintain system security by managing user accounts and access. The manual provides instructions for adding, modifying, and removing user accounts, as well as assigning appropriate access levels and privileges.

4. System Monitoring: Monitor system performance to identify issues or anomalies. Track resource usage, detect errors or bottlenecks, and take necessary measures for smooth operation.

5. Troubleshooting: Resolve technical issues and errors efficiently using troubleshooting tips and step-by-step instructions provided in the manual. This minimizes downtime and ensures uninterrupted system functionality.

6. Documentation and Knowledge Base: Keep an updated documentation and knowledge base to facilitate system management. Document system configurations, customizations, and unique organizational processes.

By adhering to the system maintenance guidelines outlined in the user manual, you can ensure the Automated Employee Management System operates smoothly and remains sustainable. Regular maintenance practices optimize performance, enhance security, and minimize disruptions, enabling you to fully leverage the system's benefits for your HR management needs.

07. System Troubleshooting

The user manual's System Troubleshooting section offers simplified guidance for resolving common technical issues and errors in the Automated Employee Management System.

Key points covered:

1. Problem Identification: Learn to recognize symptoms and understand the causes of common system issues and errors.

2. Step-by-Step Solutions: Follow clear instructions provided in the manual to quickly resolve identified problems and restore system functionality.

3. Error Messages Decoding: Find explanations and suggestions for troubleshooting common error messages encountered during system usage.

4. Technical Support: If troubleshooting steps don't solve the issue, the manual advises seeking technical support. It provides contact information or procedures for reaching out to the appropriate support channels.

By referring to the System Troubleshooting section, users efficiently address technical issues, minimizing downtime and enabling effortless management of HR processes in the Automated Employee Management System.

Conclusion

In conclusion, the Automated Employee Management System provides a comprehensive solution for efficient and effective human resource management. By adopting this system, users can streamline HR processes, increase productivity, and achieve organizational objectives. This user manual offers detailed instructions, guidelines, and troubleshooting assistance to ensure a seamless user experience. By highlighting the system's benefits and continuous support, the conclusion encourages users to leverage its capabilities for optimal HR management.