Helpdesk Ticketing System Simulation Report

Project Title: osTicket Helpdesk Simulation

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Environment: Windows 10 / XAMPP / osTicket 1.18
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1. Introduction

The purpose of this project was to simulate a real-world IT Helpdesk environment using **osTicket**, an open-source support ticket system. The goal was to understand and replicate the typical daily operations of an IT support team from ticket logging to resolution, while also configuring system automations such as SLAs, categories, canned responses, and email alerts.

This project demonstrates my practical understanding of IT service management (ITSM) workflows, system configuration, troubleshooting, and ticket lifecycle management.

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2. Objectives

The main objectives of this simulation were to:

- Install and configure osTicket on a local Windows environment using XAMPP.
- Simulate end-to-end helpdesk workflows including ticket logging, assignment, escalation, and resolution.
- Implement Service Level Agreements (SLAs) to automate response and resolution tracking.
- Create categories, canned responses, and test email alerts for improved support efficiency.
- Generate and interpret helpdesk performance reports.

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3. System Setup and Configuration

3.1 Installation

- Installed **XAMPP** to provide Apache, PHP, and MySQL support.

- Downloaded and configured **osTicket 1.18** in the `htdocs` directory.
- Created a MySQL database named `osticket` and configured the database connection during setup.
- Verified that PHP extensions (IMAP, XML, GD) were enabled for full functionality.

3.2 Configuration

- Created **Departments** (Support, Network Operation, Maintenance, Email Administration, Software Deployment).
- Added **Help Topics** (Password Reset, Email Account Setup, Network Connectivity, Email Access Problem, Server Downtime, Software Installation).
- Created **Agents** with roles and permissions
- Configured **Email Settings** for incoming/outgoing mail using SMTP (Gmail).
- Defined **SLA Plans** (High, Normal, Low) with time-based escalation rules.
- Created **Canned Responses** for frequent support issues.

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4. Simulation Activities

4.1 Ticket Logging

End users submitted tickets through the Client Portal using different help topics.
Each ticket captured details such as issue description, urgency, and department assignment.

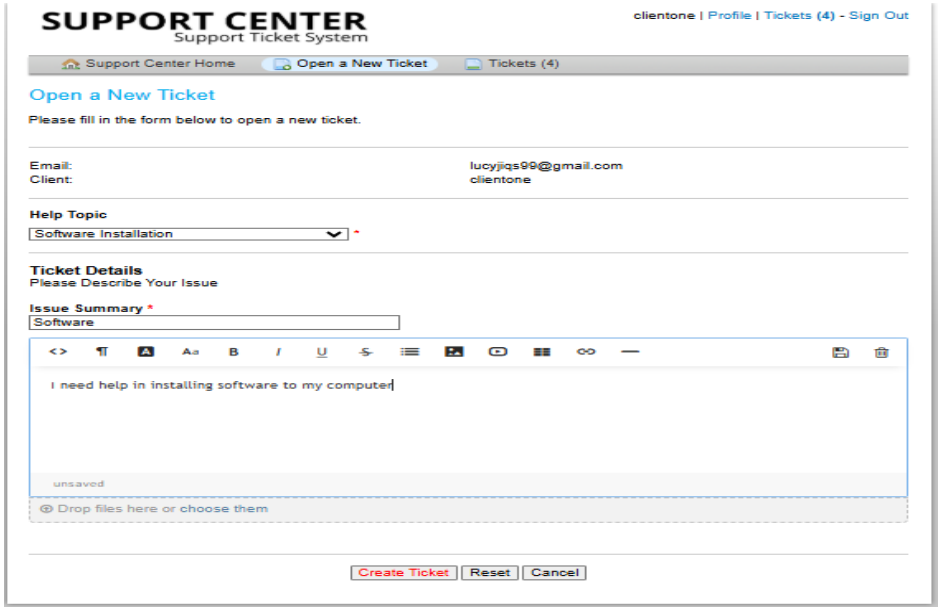


Figure 1: Ticket Logging Form

(Shows a user submitting a new ticket via the client portal.)

4.2 Ticket Assignment

Tickets were manually and automatically assigned to specific agents based on department and SLA.

Example:

- "Password Reset" → Assigned to **Support (User Accounts Department)**
- "VPN not connecting" → Assigned to **Network Team Lead**

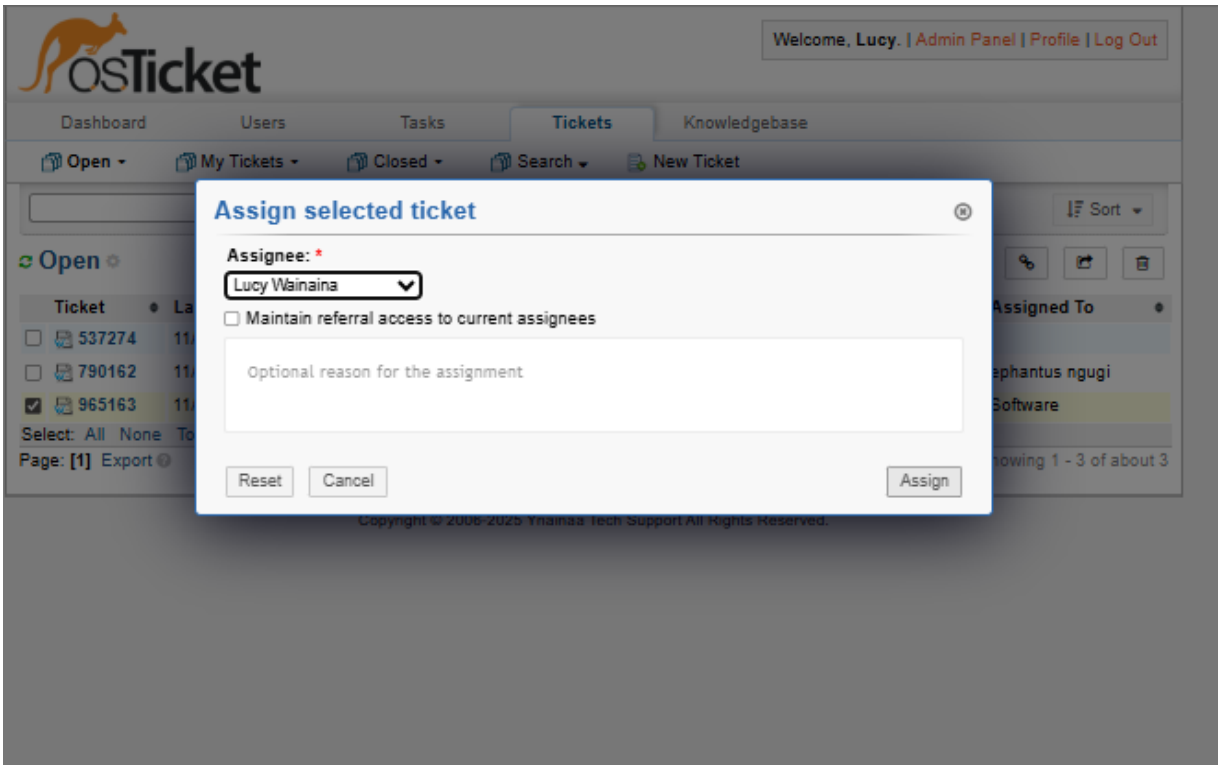


Figure 2: Ticket Assignment View

(Displays how a ticket is assigned to a specific agent and department.)

4.3 Ticket Escalation

Unresolved tickets exceeding the SLA timeframe were escalated automatically.
Escalation triggers were tested by setting short SLA response times and verifying system alerts in the **osTicket activity logs**.

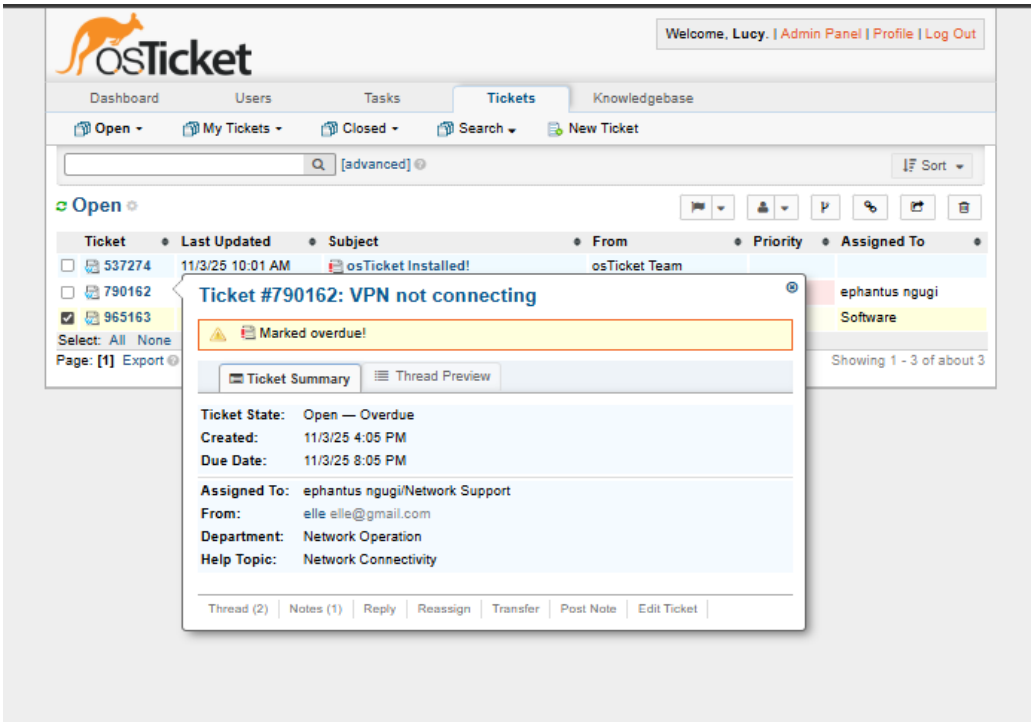


Figure 3: Escalation Log Entry

(Demonstrates automatic ticket escalation triggered by SLA rules.)

4.4 Ticket Resolution

Support agents resolved tickets with documentation of troubleshooting steps.
Resolved tickets were marked “Closed,” and closure confirmations were sent to the requester via email.

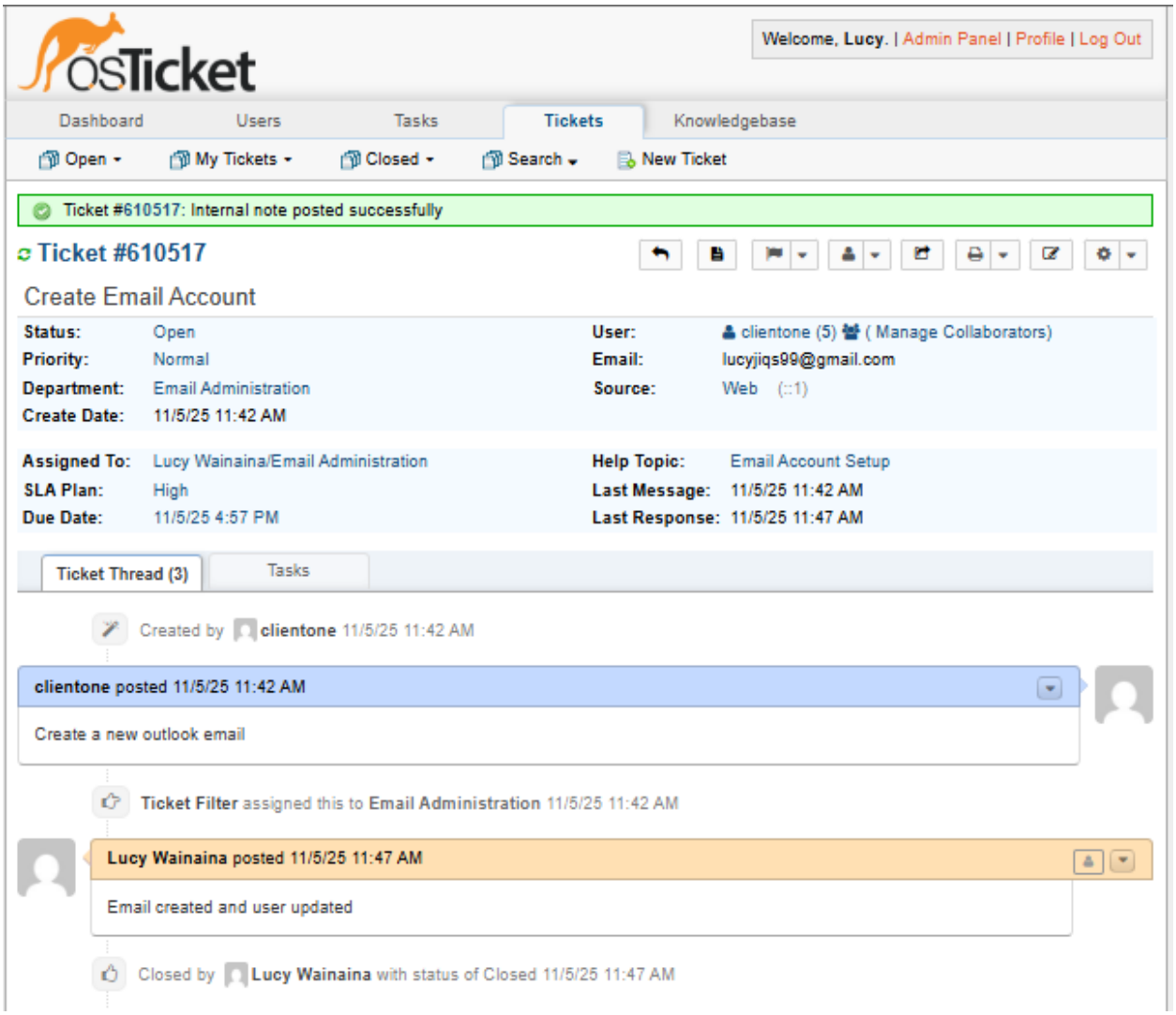


Figure 4 :Resolution Log Entry

(Demonstrates ticket resolution by agent.)

4.5 Email Notifications

SMTP was configured to send automatic alerts for new, assigned, and overdue tickets.
IMAP was used to fetch user responses directly into the ticket thread.

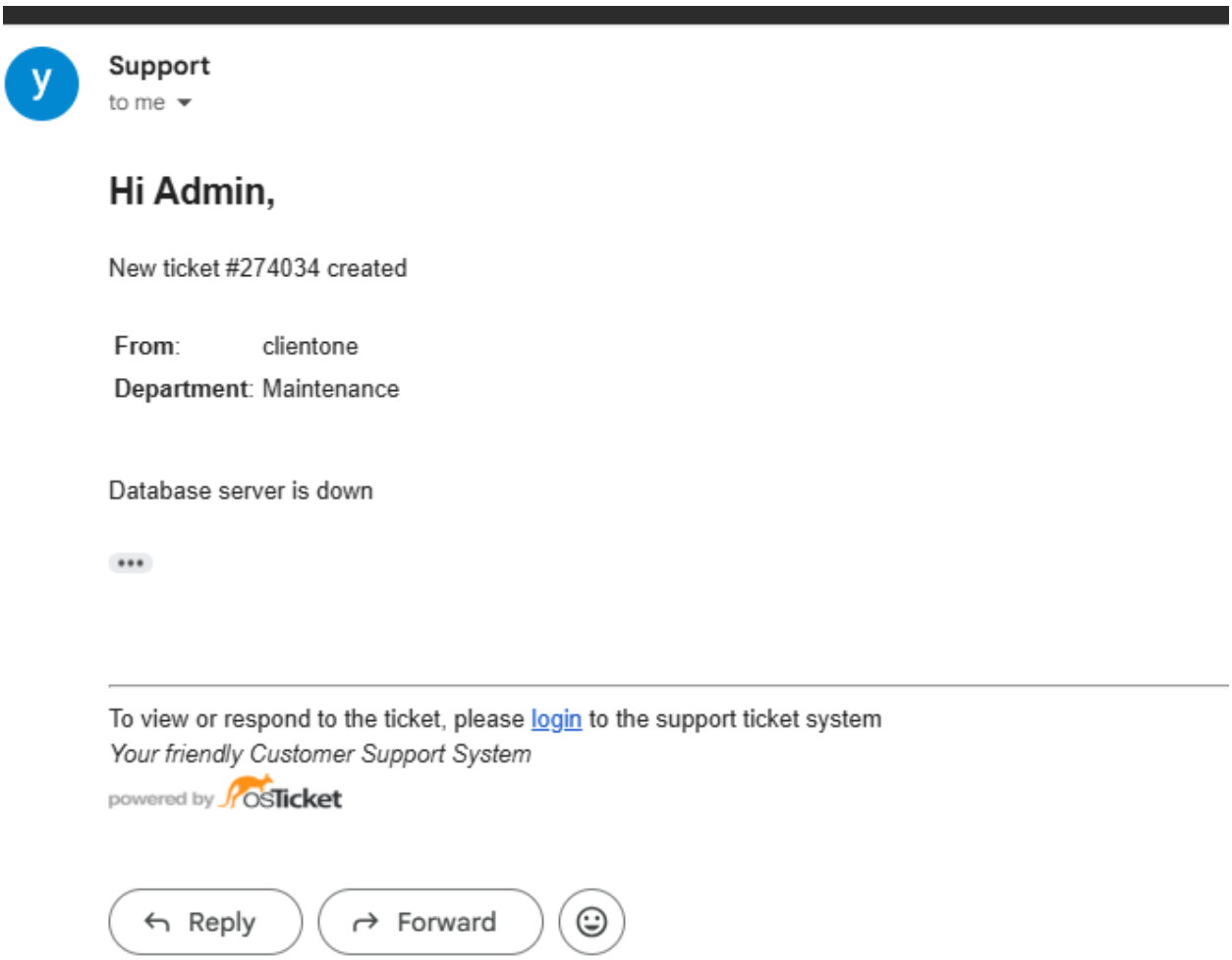


Figure 5: Email Alert Test

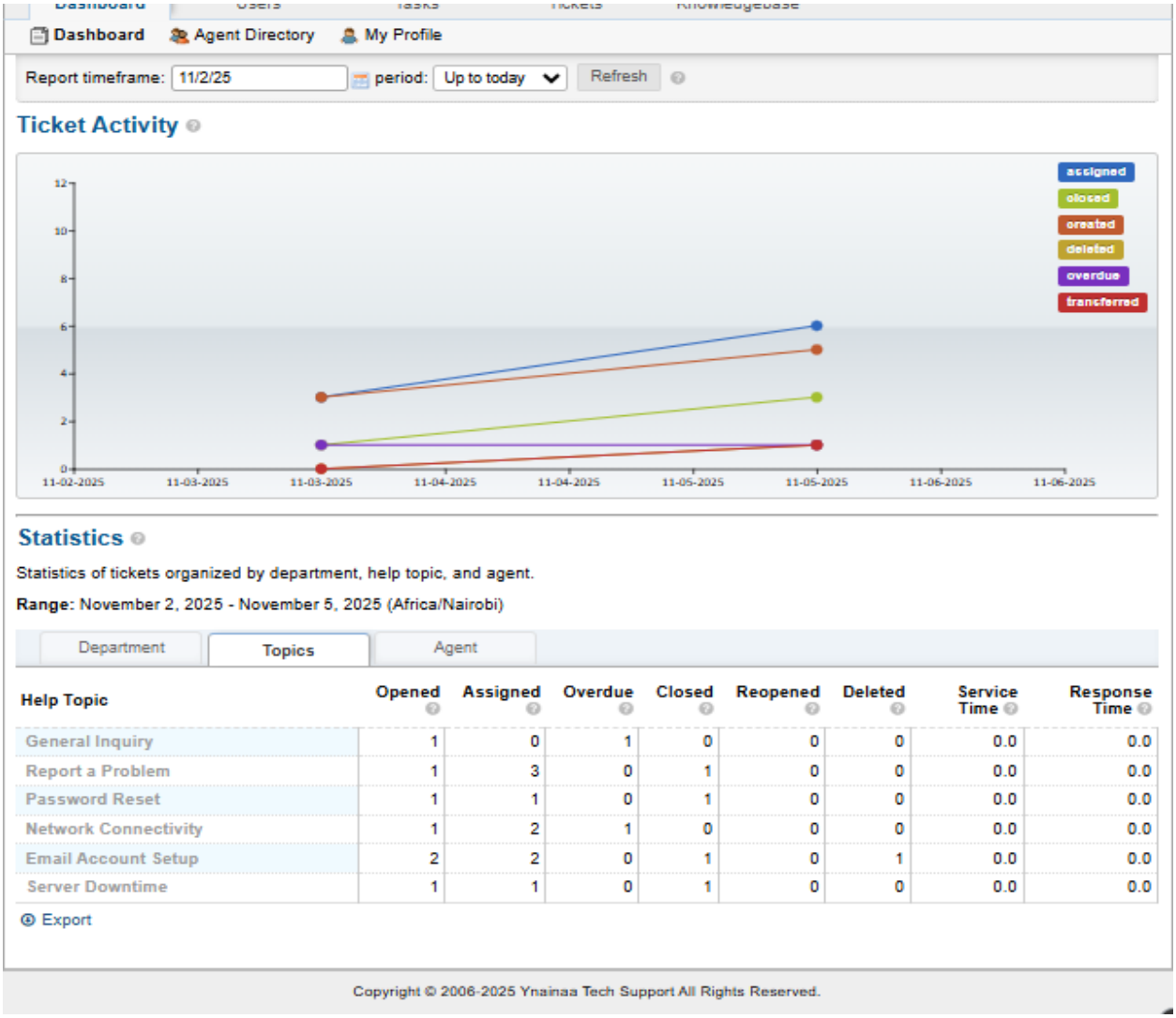
(Confirms automatic email sent to the agent upon ticket assignment.)

5. Reporting and Analysis

5.1 Dashboard Overview

The **osTicket Dashboard** provided ticket statistics and performance metrics categorized by department, agent, and help topic.
Sample report views included:

- Tickets by Department
- Tickets by Agent Activity
- Tickets by SLA Compliance



Help Topic	Opened	Assigned	Overdue	Closed	Reopened	Deleted	Service Time	Response Time
General Inquiry	1	0	1	0	0	0	0.0	0.0
Report a Problem	1	3	0	1	0	0	0.0	0.0
Password Reset	1	1	0	1	0	0	0.0	0.0
Network Connectivity	1	2	1	0	0	0	0.0	0.0
Email Account Setup	2	2	0	1	0	1	0.0	0.0
Server Downtime	1	1	0	1	0	0	0.0	0.0

Figure 6: osTicket Dashboard Report

(Shows ticket distribution by department and SLA compliance.)

5.2 Exported Reports

Data was exported as `.csv` files for analysis and archival.
Example reports included:

- `tickets_by_department.csv`
- `sla_performance_report.csv`
- `escalation_log.txt`

5.3 Observations

- The majority of tickets were resolved within SLA timeframes.
- Automated email alerts improved communication efficiency.
- Escalation logs confirmed SLA enforcement and prioritization accuracy.

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6. Challenges and Solutions

Challenge	Solution
Email alerts failing due to blocked ports	Switched SMTP to port 587 and enabled TLS
Login page loop issue	Cleared browser cache and reset PHP session settings
Missing reports tab	Adjusted role permissions under “Statistics” to enable dashboard access
PHP extension compatibility errors	Enabled required extensions in `php.ini` (imap, gd, intl)

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7. Skills Gained

- IT Helpdesk Workflow Management
- System Installation and Configuration (XAMPP + osTicket)
- SLA Management and Escalation Rules
- Email Integration (IMAP/SMTP)
- Data Reporting and Dashboard Analysis
- Documentation and Troubleshooting

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8. Conclusion

This project successfully simulated the daily workflow of an IT helpdesk support system. Through the osTicket environment, I gained practical experience in system configuration, ticket escalation handling, and real-time troubleshooting.
The project demonstrates my technical capability and readiness to operate within IT support and system administration environments.

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9. Appendix

Screenshots Included

- Dashboard Reports
- Ticket Submission Form
- Ticket Assignment View
- Ticket Resolution page
- SLA Setup Page
- Email Alert Configuration

Repository Reference

GitHub Project: https://github.com/Ynainaa/osticket-helpdesk-simulation