Internship Report

Name	Shreyas Sawant
Department	Computer Engineering
Roll Number	1023242
Company	Reliance Industries Limited, Patalganga
Date of Joining	02/06/2025
Last Working Day	26/07/2025
Department	PMD IT
Location	MIDC Industrial Area, Patalganga - 410 220, Tal. Khalapur, Dist. Raigad, Maharashtra
Stipend	-
Work Mode(Online/Offline)	Offline
Project	PrintDesk, FailureEvents Portal, Syslogs Tracker, Remote Deployment Tool

Internship Summary

1. Introduction
As part of the B.Tech curriculum, this internship was pursued in the PMD IT Department at Reliance Industries Limited, Patalganga. The internship provided valuable industry exposure to enterprise-grade IT infrastructure, server operations, network configuration, cybersecurity measures, and software development.

2. Technical Concepts and Learnings

- Server Concepts: Gained hands-on experience with HPE ProLiant servers (Gen8-11). Performed server setup, including RAID configuration, OS installation (Windows Server 2016/2019), and configuration of static IPs, DNS, and DHCP.
- VMware & Virtualization: Utilized VMware ESXi and Workstation to create and manage virtual machines (VMs). Handled resource allocation, snapshots, and learned concepts like live migration and virtual networking.
- Networking Fundamentals: Configured IP addresses and understood services like DHCP, DNS, and network teaming for high availability. Used command-line tools such as `ipconfig`, `ping`, and `tracert` for troubleshooting.
- Cybersecurity & Maintenance: Implemented security practices including endpoint protection with antivirus, regular system patching, and performing backups and snapshots for disaster recovery planning.

3. Projects Undertaken
The primary projects included PrintDesk, FailureEvents Portal, Syslogs Tracker, and Remote Deployment Tool.

Project 1: PrintDesk
- Technology Stack: Python (Flask), HTML, CSS, JavaScript, MSSQL.
- Features:
  - Implemented SSO-based role management (Upload, View, Admin).
  - Created an upload page for Excel files that automatically skips duplicates.
  - Developed a view page to see data with date filters, search, and export-to-Excel functionality.
  - Designed a dashboard to visualize key data tables: Top 10 Printers, Top 10 Users, and Least Used Printers.
- Deployment (Windows Server 2019):
  - The Flask application was deployed on a Windows Server 2019 VM.
  - A production-grade WSGI server (`waitress`) was used to serve the application.
  - Internet Information Services (IIS) was configured as a reverse proxy to manage incoming HTTP requests and forward them securely to the `waitress` server, enabling seamless access for users on the corporate network.

Project 2: FailureEvents Portal
- Technology Stack: C#, ASP.NET, MSSQL.
- Features:
  - A role-based system using SSO was implemented.
  - The portal accepts Excel uploads and handles duplicate entries.
  - It includes a view page with search, date filters, and an export option.
  - An edit page allows modification of entries using an Incident Number.
- Deployment (Windows Server 2019):
  - The application was deployed on a Windows Server 2019 VM using Internet Information Services (IIS).
  - The project was published from Visual Studio, and a new application pool and website were configured in IIS.
  - The website was pointed to the published application files, with the correct .NET Framework version assigned to the application pool to ensure compatibility and performance.

Project 3: Syslogs Tracker
- Technology Stack: C#, ASP.NET.
- Features:
  - A dashboard was created to display syslog alerts.
  - Syslogs can be filtered by categories such as Notice, Alert, Critical, Warning, and Error.
  - The tracker generates graphs to visualize log types and their frequency over time.

Project 4: Remote Deployment Tool

- Description: A Windows desktop application developed to automate and accelerate the process of deploying executables to multiple remote machines simultaneously.
- Core Functionality: The tool uses a GUI to manage the entire deployment workflow: stopping an existing service, replacing the executable file using `Robocopy`, and restarting the service. If the service does not exist, the tool creates and starts it.
- Technology: It leverages standard Windows utilities, using `PsExec` for remote command execution (service management) and `Robocopy` for reliable network file transfer. It was designed to be run with administrator privileges from an IT administrator's machine.

4. Skills Acquired

- Server Management: Experience with the HPE DL380 series.
- Application Deployment: Deploying Python (Flask) and ASP.NET applications on Windows Server 2019 using IIS.
- Network Configuration: IP, DNS, and DHCP configuration.
- Operating Systems: Windows Server installation & configuration.
- Virtualization: VMware virtualization and live migration.
- Web Development: Web development using Flask and ASP.NET.
- Database Management: SQL-based data handling and reporting.
- Security: Secure coding practices (SSO, role-based access) and cybersecurity basics (Antivirus, patching, backups).
- Troubleshooting: Network troubleshooting.

5. Conclusion

This internship provided a well-rounded understanding of the full IT lifecycle, from infrastructure management to application development and deployment. The experience of working with enterprise servers, combined with developing and deploying secure, data-driven web applications, has provided practical and theoretical knowledge that will be invaluable in my professional journey.

6. Acknowledgment

I am thankful to Reliance Industries Limited – PMD IT Department, Patalganga, for this opportunity. I especially thank my mentors and the entire IT team for their constant support, guidance, and encouragement throughout the internship.

Student Signature