

INTERNSHIP TASK3

Internship Task: Linux System Administration & Automation

Objective:

To set up a Linux environment with essential packages, automate daily tasks, and perform system health checks and security hardening. This task is designed for a fresher to develop hands-on experience in Linux server administration.

Task 1: Setting Up the Linux Environment

1. Install a fresh instance of **Ubuntu 22.04 LTS** or **Amazon Linux 2023**.
2. Update the system.
3. Install essential packages.
4. Set up a **non-root user** with sudo privileges.

Task 2: Automating Daily Tasks with a Script

1. Write a **Bash script** (`daily_maintenance.sh`) to:
 - Clear logs older than 7 days
 - Remove unused packages
 - Perform a disk cleanup
 - Check system resource usage
2. Set up a **cron job** to run the script daily.

Task 3: System Health Checks

1. Monitor system uptime.
2. Check CPU and memory usage.
3. Monitor disk usage.
4. Check active network connections.
5. Check failed login attempts.

Task 4: Security Hardening

1. Set up SSH key-based authentication for secure remote access.
2. Disable root login via SSH.

INTERNSHIP TASK3

3. Set up a firewall.
4. Enable automatic security updates.

Task 5:

1. Set up a basic web server using Apache or Nginx.
2. Create a simple script to back up `/home` directory daily.
3. Install and configure Prometheus for basic system monitoring.
4. Write a script that alerts if disk usage exceeds 80%.
5. How to analyze system logs using `journalctl`.

Final Submission:

- Document all steps performed in a report.
- Provide the **Bash script** used for automation.
- Share system logs verifying task execution.
- Submit a brief reflection on what was learned during the process.