

System Watchdog - Linux Automation Project

This project is a Linux-based automation system watchdog script written in Bash. It continuously monitors the system's CPU usage, memory usage, and logs from the system's `/var/log/syslog` file. If high resource usage or errors are detected, the script logs this information and sends an alert email to the system administrator.

Developed by: Piyush Raj, Gagan Maitreya , Ayush S Nair.

Class: 606(A)

Date: 2025-04-19

Features

- Monitors CPU usage above a defined threshold (default: 80%)
- Monitors memory usage above a defined threshold (default: 80%)
- Scans syslog for common system error keywords (panic, error, fail)
- Logs events to `/var/log/sys_watchdog.log`
- Sends alerts to the admin's email using mailx

Code Explanation

- The ``check_cpu_usage`` and ``check_memory_usage`` functions use system commands to monitor real-time usage.
- The ``scan_syslog_errors`` function checks for keywords in the syslog.
- If any issue is found, ``notify_admin`` sends an email with the error log.
- All findings are logged using the ``write_log`` function.
- The ``system_watchdog`` function runs all checks and performs cleanup after execution.

Sample Output (Text)

2025-04-19 09:00:12 - CPU warning at 91%

2025-04-19 09:00:13 - Memory warning at 85%

2025-04-19 09:00:14 - 3 error(s) found in `/var/log/syslog`

System Watchdog - Linux Automation Project

2025-04-19 09:00:14 - Alert mail sent to admin@example.com

Screenshots (Placeholders)

[1] Screenshot of terminal running the script

[2] Screenshot showing /var/log/sys_watchdog.log contents

[3] Screenshot of received alert email