

POC Task 9

Task 9: Environment & Disk Report

1. Executive Summary

This PoC creates a comprehensive system report covering user environment, disk usage, and key configuration details through automated bash scripting.

2. Objectives

- Capture current user session details
- Document filesystem utilization
- Record relevant environment variables
- Generate formatted output file

3. Implementation

3.1 Script Creation

```
(llama@jivanti)~$  
$>...  
echo -e "\n[ENVIRONMENT VARIABLES]" >> "$REPORT_FILE"  
echo "PATH: $PATH" >> "$REPORT_FILE"  
echo "SHELL: $SHELL" >> "$REPORT_FILE"  
echo "HOME: $HOME" >> "$REPORT_FILE"  
echo "USER: $USER" >> "$REPORT_FILE"  
echo "TERM: $TERM" >> "$REPORT_FILE"  
echo "EDITOR: ${EDITOR:-Not Set}" >> "$REPORT_FILE"  
  
# Section 4: Memory Usage  
echo -e "\n[MEMORY USAGE]" >> "$REPORT_FILE"  
free -h >> "$REPORT_FILE"  
  
echo -e "\nReport saved to $REPORT_FILE"
```

3.2 Permission Configuration

```
(llama@jivanti)~$  
$ sudo chown studentuser:studentuser /home/studentuser/projectX/scripts/env_disk_report.sh  
  
(llama@jivanti)~$  
$ sudo chmod +x /home/studentuser/projectX/scripts/env_disk_report.sh  
  
(llama@jivanti)~$  
$ sudo -u studentuser /home/studentuser/projectX/scripts/env_disk_report.sh  
Report saved to /home/studentuser/projectX/system_report_20250729.log
```

3.3 Execution

```
((llamafart@jaiwanti)-[~])
$ sudo -u studentuser cat /home/studentuser/projectX/system_report_$(date +%Y%m%d).log
==== System Environment and Disk Report -====
Generated: Tue Jul 29 02:37:14 PM IST 2025
=====

[SYSTEM INFORMATION]
Current User: studentuser
Hostname: jaiwanti
Uptime: up 45 minutes
Kernel: 6.11.2-00004

[DISK USAGE]


| Filesystem     | Type     | Size | Used | Avail | Use% | Mounted on                |
|----------------|----------|------|------|-------|------|---------------------------|
| udev           | devtmpfs | 7.7G | 0    | 7.7G  | 0%   | /dev                      |
| /dev/nvme0n1p5 | ext4     | 55G  | 30G  | 23G   | 58%  | /                         |
| efivarfs       | efivarfs | 192K | 181K | 6.9K  | 97%  | /sys/firmware/efi/efivars |
| /dev/nvme0n1p1 | vfat     | 256M | 103M | 152M  | 41%  | /boot/efi                 |



[ENVIRONMENT VARIABLES]
PATH: /usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin
SHELL: /bin/bash
HOME: /home/studentuser
USER: studentuser
TERM: xterm-256color
EDITOR: Not Set

[MEMORY USAGE]


|       | total | used  | free  | shared | buff/cache | available |
|-------|-------|-------|-------|--------|------------|-----------|
| Mem:  | 156G  | 3.20G | 100G  | 570M   | 2.36G      | 126G      |
| Swap: | 3.00G | 0B    | 3.00G |        |            |           |


```

4. Conclusion

The diagnostic script successfully generates comprehensive system reports covering user environment, disk utilization, and key configurations through non-privileged checks. The solution provides administrators with essential troubleshooting data while maintaining security through minimal permission requirements.