



GUIDE

**System Activity Reporter
(SAR) Performance
Monitoring on Ubuntu
24.04.3 LTS**

v1.0.0

Author:

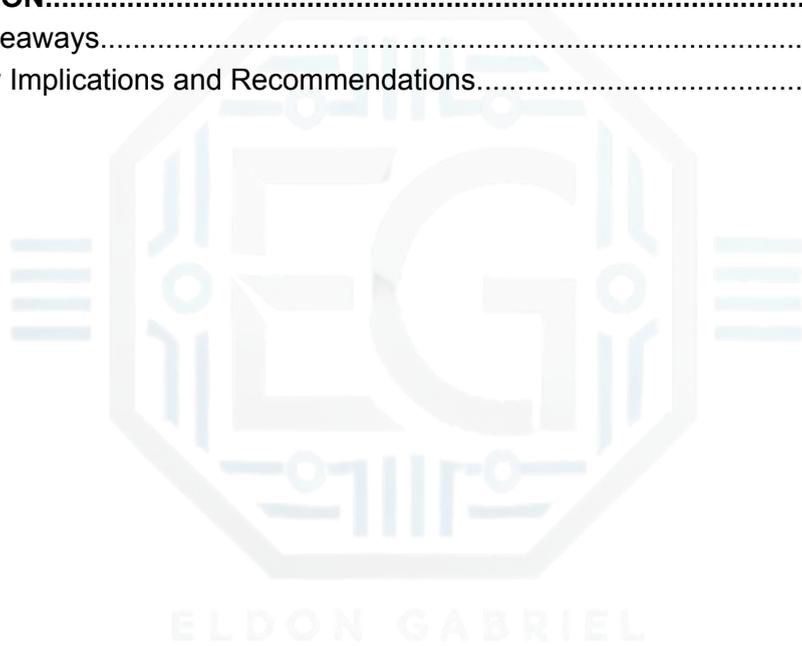
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REVISION HISTORY

Version	Date	Author	Description of Changes
v1.0.0	01/28/2026	Eldon G.	Initial draft.





1.0 SYSTEM ACTIVITY REPORTER (SAR) PERFORMANCE MONITORING

1.1 Project Description

This guide explains how to install, set up, and use the **System Activity Reporter (SAR)** tool on **Ubuntu 24.04.3 LTS**. **SAR** is a part of the `sysstat` tools. It helps track and report system performance, such as CPU, memory, disk, and network performance.

This document is a technical guide. It explains the purpose of the **SAR** and the main commands used to check the system performance. This helps you learn about Linux system monitoring and performance analysis without extra demonstrations.

1.2 SAR Installation and Configuration Overview

On **Ubuntu 24.04.3 LTS**, **SAR** is provided by the `sysstat` package and is not enabled by default. The installation was performed using the system package manager.

The `sysstat` package was installed to provide access to the **SAR** and related system monitoring utilities. After installation, data collection must be explicitly enabled to allow the **SAR** to record system activity over time.

When the `sysstat` service is turned on, it works in the background. It regularly collects performance data, which can be checked using **SAR** commands.



1.3 CPU Performance Monitoring

1.3.1 Overall CPU Usage

The **SAR** can be used to view the average CPU usage across all processors in the system. This provides an overview of the CPU utilization, including the time spent on user processes, system processes, I/O waiting, and idle time. This view is useful for determining whether the system is under a heavy CPU load or operating within normal parameters.

1.3.2 Per-Core CPU Usage

The **SAR** also supports per-core CPU usage monitoring. Administrators can observe how workloads are distributed across the CPU cores. Per-core statistics help identify uneven loads, bottlenecks, and abnormal CPU behaviors that affect the cores.

1.4 Memory Usage Monitoring

The **SAR** can collect memory utilization statistics to display free and used memory with usage percentages. This information helps to determine the system memory availability and potential performance impact. Monitoring memory usage reveals the system stability and resource patterns.

1.5 Disk I/O Activity Monitoring

The **SAR** provides visibility into the overall disk input and output activity, including read and write operations and transfer rates. The **SAR** shows disk input/output activity, including read/write operations and transfer rates of the disk.

Disk I/O monitoring is important for identifying storage performance issues, excessive disk usage, and workloads that may be constrained by storage throughput rather than CPU or memory limitations.

1.6 Network Performance Monitoring

Network statistics can be collected using **SAR** to display the traffic data for each network interface. This includes the transmitted and received packets, data volume, and error counts. Monitoring network activity helps assess interface utilization and identify abnormal or unexpected traffic patterns that may indicate configuration or security issues.



2.0 CONCLUSION

2.1 Key Takeaways

- **SAR** is a core Linux performance monitoring tool provided by the `sysstat` utilities.
- On Ubuntu 24.04.3 LTS, `sysstat` must be installed and enabled to collect the performance data.
- SAR supports the monitoring of CPU, memory, disk I/O, and network activity using consistent command-line interfaces.
- The tool provides system-wide and resource-specific performance visibility.

2.2 Security Implications and Recommendations

- System performance monitoring contributes to the early detection of abnormal behavior and potential security incidents.
 - Unexpected spikes in CPU, memory, disk, or network usage may indicate misconfiguration or malicious activity.
 - **SAR** should be used in conjunction with logging and security monitoring tools to improve system visibility.
 - Administrators should periodically review **SAR** data to establish performance baselines and identify any deviations.
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