LINUX PROGRAMMING.

ASSISGNMENT-10

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Journalctl -f – Follow Logs

What:

Journalctl -f shows real-time system logs by continuously streaming new log entries from the systemd journal.

Why:

Used to monitor:

Live errors

Service crashes

Boot issues

Application output

Debugging systemd services

How:

It works like tail -f but reads from systemd's journal instead of text log files.

Displays new logs as they are written.

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1) What It Shows

Journalctl -f displays real-time entries including:

Timestamp

Service name/unit

PID

Message text

Priority level

Example output: Nov 23 11:22:05 server systemd[1]: Started backup.service.

Nov 23 11:22:06 server backup.sh[1234]: Backup completed successfully.

2) Useful Options & Flags for journalctl -f

Flag	Meaning
-f	Follow logs live (like tail -f)
-u <service>	Follow logs only for a specific service
-p <priority>	Filter by priority (info, warn, err)
-n <num>	Show last N lines before following
--since "time"	Start following from a given time
-o cat	Show only message text (clean output)

3) Examples

Follow all logs (default)

Journalctl -f

Follow only one service

Journalctl -u nginx -f

Journalctl -u sshd.service -f

Follow with limited history

Journalctl -n 50 -f

Follow only errors

Journalctl -p err -f

Clean output (only messages)

Journalctl -f -o cat

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4) Notes

Works only on systemd-based systems.

Replaces log watching tools like tail -f /var/log/messages.

Very useful for debugging services in real-t

Logger – Write Messages to System Log

1) What? Why? How?

What:

Logger is a command-line utility that writes messages to the system log (syslog).

Why:

Used for:

Adding custom log entries

Logging script output

Debugging system tasks

Tracking events from shell scripts or cron jobs

How:

Logger sends messages to the system's syslog daemon (rsyslog, syslogd, or journald).

Logs typically appear in:

/var/log/messages

/var/log/syslog

Journalctl (on systemd systems)

2) Command Output Details

When you run something like:

Logger "Backup completed successfully"

It creates a log entry similar to:

Nov 23 10:15:05 hostname user: Backup completed successfully

Includes:

Timestamp

Hostname

Tag (default: username)

Message

On systemd systems, you can view logs via:

Journalctl -t <tag>

3) Main Options / Flags

Flag   Description

-t <tag>   Set a custom tag in logs

-p <priority>   Set facility.priority (e.g., user.info, auth.warn)

-f <file>   Log contents of a file

-I   Include process ID (PID) in log

-s   Print message to stderr as well

-n <server>   Send logs to remote syslog server

-d   Use TCP instead of UDP (if supported)

4) History / Notes

Part of traditional Unix syslog utilities.

Fully compatible with syslog, rsyslog, and systemd-journald.

Works universally across Linux systems to write logs programmatically.

5) Examples

Basic log

Logger "System check completed"

Add custom tag

Logger -t backup_script "Backup started"

Set priority

Logger -p user.warning "Low disk space detected"

Log contents of a file

Logger -f /var/log/custom.log

Include PID

Logger -I "Process restarted"

Send to remote syslog server

Logger -n 192.168.1.10 -p local0.info "Remote test log"