Linux performance monitoring utilities

■ CPU and memory monitoring

UTILITY	PURPOSE	NOTES
ps	Displays process info	Use with grep or less to search/filter
top	Interactive real-time system monitor	Manipulate and sort processes by CPU/memory
htop	Enhanced version of top	Colorful, user-friendly interface
bashtop / bpytop	Graphical performance monitor	bpytop is a Python version
lscpu	Shows CPU architecture info	Good for hardware baseline info
free	Memory usage	Use -h for human-readable format
vmstat	Virtual memory statistics	Shows memory, processes and swap
smem	Detailed memory reporting	Use -U to sort by user

■ Storage monitoring

UTILITY	PURPOSE	NOTES
df	Disk space on mounted file systems	Use -h for easier reading
du	File/directory disk usage	Use -h for human-readable output
lsblk	Display storage devices info	Shows devices, size and mount points
iotop	Real-time I/O stats by process	Requires root privileges
iostat	CPU and device I/O stats	Use -d to focus on disk I/O

■ Network monitoring

UTILITY	PURPOSE	NOTES
iftop	Live bandwidth monitoring	Monitor specific interfaces
nethogs	Bandwidth by process	Works with wired and wireless interfaces
iptraf-ng	Detailed traffic per protocol/interface	More informative than legacy iptraf
ntopng	Network flow analyzer	Web-based interface, needs install
ss	Display socket statistics	Lists network connections and ports
tcpdump / Wireshark	Packet capture and analysis	Wireshark provides GUI

■ Comprehensive monitoring

UTILITY	PURPOSE	NOTES
glances	All-in-one monitor (CPU, memory, disk, network and server temperature)	Remote monitoring supported, cross-platform utility
atop	Advanced system monitor with logging	Useful for historical data analysis

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