

# Essential Commands For DevOps Troubleshooting

\*. If you're not using these commands, your DevOps troubleshooting is falling behind.



Satyender Sharma  
Tech Coach

## 1. System Monitoring & Management

- Top / Htop : Monitor real-time system resource usage [CPU, memory, etc.]
- Ps aux : Display currently running processes.
- Free - h : Check memory usage.
- Df - h : View disk space usage.
- Du - sh /path / to / directory : Check the size of a specific directory.
- Uptime : See how long the system has been running and load average.
- Vmstat : Report on system processes, memory, paging, block I/O, traps, and CPU activity.
- Iostat : Monitor system input/output device loading.
- Sar : Collect, report or save system activity information.

## 2. Networking

- Ifconfig / ip a : Display network interfaces and IP addresses.
- Ping < host > : Check connectivity to a remote host.
- Traceroute < host > : Trace the path packets take to a network host.
- Netstat - tuln / ss - tuln : List open ports and services.
- Nslookup < domain > / dig < domain > : Query DNS records.



- Curl - I <url> : Fetch HTTP headers for a URL.
- Telnet <host> <port> : Test connectivity to a specific port on a host.
- Wget <url> : Download files from the web.



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### 3. Log Management

- Tail - f / var / log / syslog : Continuously monitor the system log.
- Grep 'search-term' / var / log / syslog : Search for specific terms in log files.
- Journalctl - u <service> : View logs for a specific systemd service.
- Dmesg | grep <search-term> : Check kernel-related messages.

### 4. Disk and file system management

- Fdisk - l : List available disk partitions.
- Isblk : List information about block devices.
- Mount / dev / sda1 / mnt : Mount a filesystem.
- Umount / mnt : Unmount a filesystem.
- Fck / dev / sda1 : Check and repair a filesystem.
- Lsof | grep / Path / to / directory : List open files in a directory.

### 5. Service Management

- Systemctl status <service> : Check the status of a service.
- Systemctl start <service> : Start a service.
- Systemctl stop <service> : Stop a service.
- Systemctl restart <service> : Restart a service.
- Systemctl enable <service> : Enable a service to start on boot. ➤

- `Systemctl disable < service >`: Disable a service from starting on boot.



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## 6. Process Management

- `Kill -9 < pid >`: Forcefully terminate a process by PID.
- `Kill all < process-name >`: Kill all processes by name.
- `Pkill -f < process-name >`: Kill processes matching a pattern.
- `Renice < priority > -p < pid >`: Change the priority of a process.
- `Strace -p < pid >`: Trace system calls and signals for a process.

## 7. Package Management

- `Apt-get update / yum update`: Update package list.
- `Apt-get install < package > / yum install < package >`: Install a package.
- `Dpkg -l | grep < package >`: List installed packages [Debian-based].
- `Rpm -qal | grep < package >`: List installed packages [RHEL-based].
- `Pip list`: List installed python packages.
- `Npm list -g`: List globally installed Node.js packages.

## 8. Version Control [Git]

- `Git status`: Show the status of changes in the working directory.
- `Git log`: View commit history.
- `Git diff`: Compare changes between commits, branches, or files.
- `Git branch -a`: List all branches.
- `Git checkout < branch >`: Switch to a different branch.
- `Git pull`: Fetch and merge changes from the remote repository.



- `git push`: Push local commits to the remote repository.

## 9. Docker



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- `Docker ps`: List running containers.
- `Docker images`: List local docker images.
- `Docker exec - it <container_id> bash`: Open an interactive terminal in a running container.
- `Docker logs <container_id>`: View logs from a container.
- `Docker inspect <container_id>`: Display detailed information about a container.
- `Docker-compose up - d`: Start services defined in a `docker-compose.yml` file.
- `Docker-compose down`: Stop and remove containers, networks, and volumes.

## 10. Kubernetes [Kubectl]

- `Kubectl get pods`: List all pods in the current namespace.
- `Kubectl describe pod <pod_name>`: Display detailed information about a pod.
- `Kubectl logs <pod_name>`: View logs for a specific pod.
- `Kubectl get services`: List all services in the current namespace.
- `Kubectl exec - it <pod_name> -- /bin/bash`: Start a bash session in a running pod.
- `Kubectl get nodes`: List all nodes in the cluster.
- `Kubectl apply - f <file.yaml>`: Apply changes from a configuration file.

## 11. Security

- `ssh user@host`: Log in to a remote host via SSH.



- Chmod 755/path/to/file : Change file permissions.
- Chown user:group/path/to/file : Change file owner and group.
- Iptables -L : List firewall rules.
- Ss -tun : List listening ports and services.
- Fail2ban-client status : Check the status of Fail2Ban jails [if used for blocking malicious IPs].



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## 12. Database

- Mysql -u root -p : Access MySQL/Maria DB shell.
- Pgsql -U postgres : Access Postgres SQL shell.
- Mongo : Access MongoDB shell.
- Show Databases : List databases in MySQL/Maria DB.
- \l : List databases in postgres SQL.
- Db.admin command ['List Databases'] : List databases in MongoDB.
- Mysqldump -u root -p <db-name>> backup.sql : Backup a MySQL/Maria DB database.

## 13. Common Scripting & Automation

- Bash script.sh : Execute a bash script.
- Crontab -e : Edit the crontab for scheduling jobs.
- Ansible -playbook playbook.yml : Run an ansible playbook.
- Terraform apply : Apply terraform configuration.

## 14. Performance Testing

- Ab -n 100 -c 10 http://yourwebsite.com/ : Apache Benchmark to test web server performance.



- Siege - c 10 - t 1M http://yourwebsite.com/: Siege load testing and benchmarking!
- Iperf - c <host>: Measure network bandwidth between servers.



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