Module 04

Advanced Linux Commands

DevOps end to end services & solutions

Agenda

- User & System Information
- User & Group Management
- Sudoers & Permissions
- Process Management
- Disk Usage & Search
- I/O Redirection
- Hands-On Lab 02 & Solution

User & System Info

Identity

```
$ whoami
$ id
$ su - user
```

System

```
$ uname -a
$ lscpu
$ dmesg | tail
```

Environment

```
$ env
$ history
$ man ls
```

User Management

Creating & Deleting

```
# Create user with home & bash
sudo useradd -m -s /bin/bash john
# Set password
sudo passwd john
# Delete user & home dir
sudo userdel -r john
```

Modifying

```
# Change shell
sudo usermod -s /bin/zsh john
# Lock/Unlock account
sudo usermod -L john
sudo usermod -U john
# Check info
id john
```

Group Management

Managing Groups

```
# Create/Delete group
sudo groupadd developers
sudo groupdel developers
# Check user's groups
groups john
```

⚠**Warning:** Always use -aG to append groups. Using just -G removes the user from other secondary groups.

Modifying Membership

```
# Add user to group (Append)
sudo usermod -aG developers john
# Change primary group
sudo usermod -g devops john
# Remove user from group
sudo gpasswd -d john docker
```

Sudoers Configuration

Granting Sudo Access

The cleanest way is adding a user to the sudo or wheel group, or creating a file in /etc/sudoers.d/.

```
# Ubuntu/Debian
sudo usermod -aG sudo john
# RHEL/CentOS
sudo usermod -aG wheel john
```

Custom Configuration

```
# Edit sudoers safely
sudo visudo -f /etc/sudoers.d/john
# Content: No password required
john ALL=(ALL) NOPASSWD: ALL
# Verify access
sudo -l -U john
```

Permissions & Ownership

chown (Ownership)

```
# Change owner
sudo chown john myfile.txt
# Change group only
sudo chown :developers myfile.txt
# Change both (Recursive)
sudo chown -R john:developers /opt/app
```

chmod (Permissions)

```
chmod 750 script.sh
chmod +x script.sh
chmod -R 755 /opt/app
```

Quick Reference