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LAB 5: USER & GROUP MANAGEMENT & CRON JOBS
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📌 Objective:
Learn how to manage users and groups in Linux, set restrictions, and automate tasks using cron jobs.

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TASK 1: User Management & Restrictions
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1️⃣ Create a Temporary User "intern" (expires in 30 days)
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# Creates a user 'intern' with an expiry date
sudo useradd -e $(date -d "+30 days" +%F) intern

# Set a password for the user
sudo passwd intern

# Verify user expiry date
sudo chage -l intern
```

✅ This shows when the password expires, account expiry, etc.

2️⃣ Restrict User to 1 Active Session
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# Open PAM limits configuration
sudo nano /etc/security/limits.conf

# Add this line at the end:
intern hard maxlogins 1
```

✅ This allows only 1 login session for 'intern'.

3️⃣ Deny Login from 10 PM to 6 AM
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# Open login time restrictions
sudo nano /etc/security/time.conf

# Add this line to deny shell access between 10PM-6AM:
login;*;intern;!Al2200-0600
```

✅ This restricts login outside allowed times. (2200 = 10PM, 0600 = 6AM)

TASK 2: Group Ownership for Project X

1️⃣ Create group and users

# Create a group
sudo groupadd projectX

# Create users dev1 and dev2 (if not created already)
sudo useradd -m dev1
sudo useradd -m dev2

# Add them to the projectX group
sudo usermod -aG projectX dev1
sudo usermod -aG projectX dev2

2️⃣ Create shared directory and set group ownership

# Create the directory
sudo mkdir -p /opt/projectX

# Change group ownership to projectX
sudo chgrp projectX /opt/projectX

# Set group ID (setgid) so files inside inherit the group
sudo chmod g+s /opt/projectX

Check permissions
ls -ld /opt/projectX

✅ Output should show `drwxr-sr-x` and group as `projectX`.

TASK 3: Automating Tasks with Cron Jobs

✅ First, open the root crontab:
sudo crontab -e

Then add the following lines at the bottom of the file:

1️⃣ Log logged-in users every 30 minutes
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*/30 * * * * who >> /var/log/user_activity.log

✅ This appends the output of `who` to the log file every 30 mins.

2️⃣ Log disk usage daily at midnight
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0 0 * * * df -h >> /var/log/disk_usage.log

✅ This appends the disk usage report to the log file every day at 12 AM.

3️⃣ Delete old logs every Sunday at 3 AM
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0 3 * * 0 rm -f /tmp/old_logs/*

✅ This deletes everything in /tmp/old_logs/ every Sunday at 3 AM.

📌 Notes:
- Make sure /var/log/user_activity.log and /var/log/disk_usage.log are writable by the user running cron (root).
- Create /tmp/old_logs if it doesn't exist: `sudo mkdir -p /tmp/old_logs`

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END OF LAB 5 SETUP GUIDE ✅
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