

# Day 09 – Linux User & Group Management

## Challenge

### Task 1 - Create users

```
ubuntu@ip-172-31-13-238:/home$ sudo useradd -m tokyo
ubuntu@ip-172-31-13-238:/home$ sudo useradd -m berlin
ubuntu@ip-172-31-13-238:/home$ sudo useradd -m professor
ubuntu@ip-172-31-13-238:/home$ ls
Shivkumar berlin professor tokyo ubuntu
ubuntu@ip-172-31-13-238:/home$ tail -f /etc/passwd
landscape:x:108:109::/var/lib/landscape:/usr/sbin/nologin
fwupd-refresh:x:990:990:Firmware update daemon:/var/lib/fwupd:/usr/sbin/nologin
polkitd:x:989:989:User for polkitd:/usr/sbin/nologin
ec2-instance-connect:x:109:65534::/nonexistent:/usr/sbin/nologin
_chrony:x:110:112:Chrony daemon,,:/var/lib/chrony:/usr/sbin/nologin
ubuntu:x:1000:1000:Ubuntu:/home/ubuntu:/bin/bash
dnsmasq:x:999:65534:dnsmasq:/var/lib/misc:/usr/sbin/nologin
tokyo:x:1001:1001::/home/tokyo:/bin/sh
berlin:x:1002:1002::/home/berlin:/bin/sh
professor:x:1003:1003::/home/professor:/bin/sh
```

### Task 2 - Create groups

```
ubuntu@ip-172-31-13-238:/home$ sudo groupadd developers
ubuntu@ip-172-31-13-238:/home$ sudo groupadd admins
ubuntu@ip-172-31-13-238:/home$ tail -n 10 /etc/group
admin:x:110:
netdev:x:111:
_chrony:x:112:
ubuntu:x:1000:
docker:x:113:
tokyo:x:1001:
berlin:x:1002:
professor:x:1003:
developers:x:1004:
admins:x:1005:
ubuntu@ip-172-31-13-238:/home$ |
```

### Task 3 - Assign to groups

```
ubuntu@ip-172-31-13-238:/home$ sudo usermod -aG developers tokyo
ubuntu@ip-172-31-13-238:/home$ sudo usermod -aG developers berlin
ubuntu@ip-172-31-13-238:/home$ sudo usermod -aG admins berlin
ubuntu@ip-172-31-13-238:/home$ sudo usermod -aG admins professor
```

```

ubuntu@ip-172-31-13-238:/home$ tail -f /etc/group
admin:x:110:
netdev:x:111:
_chrony:x:112:
ubuntu:x:1000:
docker:x:113:
tokyo:x:1001:
berlin:x:1002:
professor:x:1003:
developers:x:1004:tokyo,berlin
admins:x:1005:berlin,professor

```

## Task 4 - Shared directory

```

ubuntu@ip-172-31-13-238:/home$ sudo mkdir -p /opt/dev-project
ubuntu@ip-172-31-13-238:/home$ ls -l
total 20
drwxr-x--- 2 tokyo    tokyo    4096 Jan 17 09:25 Shivkumar
drwxr-x--- 2 berlin   berlin   4096 Feb  2 18:24 berlin
drwxr-x--- 2 professor professor 4096 Feb  2 18:25 professor
drwxr-x--- 2 tokyo    tokyo    4096 Feb  2 18:24 tokyo
drwxr-x--- 8 ubuntu   ubuntu   4096 Feb  2 17:58 ubuntu
ubuntu@ip-172-31-13-238:/home$ cd ../opt/
ubuntu@ip-172-31-13-238:/opt$ ls
containerd  dev-project
ubuntu@ip-172-31-13-238:/opt$ ls -l
total 8
drwx--x--x 4 root root 4096 Jan 15 09:51 containerd
drwxr-xr-x 2 root root 4096 Feb  2 18:37 dev-project
ubuntu@ip-172-31-13-238:/opt$ sudo chown :developers dev-project/
ubuntu@ip-172-31-13-238:/opt$ ls -l
total 8
drwx--x--x 4 root root 4096 Jan 15 09:51 containerd
drwxr-xr-x 2 root developers 4096 Feb  2 18:37 dev-project
ubuntu@ip-172-31-13-238:/opt$ sudo chmod 775 dev-project
ubuntu@ip-172-31-13-238:/opt$ ls -l
total 8
drwx--x--x 4 root root 4096 Jan 15 09:51 containerd
drwxrwxr-x 2 root developers 4096 Feb  2 18:37 dev-project
ubuntu@ip-172-31-13-238:/opt$ |

```

```

ubuntu@ip-172-31-13-238:/opt$ su berlin
Password:
$ cd /opt/dev-project
$ bash
berlin@ip-172-31-13-238:/opt/dev-project$ ls
berlin@ip-172-31-13-238:/opt/dev-project$ touch new-file.txt
berlin@ip-172-31-13-238:/opt/dev-project$ su tokyo
Password:
$ bash
tokyo@ip-172-31-13-238:/opt/dev-project$ touch tokyo-new-file.txt
tokyo@ip-172-31-13-238:/opt/dev-project$ ls-l
ls-l: command not found
tokyo@ip-172-31-13-238:/opt/dev-project$ ls -l
total 0
-rw-rw-r-- 1 berlin berlin 0 Feb  2 18:43 new-file.txt
-rw-rw-r-- 1 tokyo  tokyo  0 Feb  2 18:44 tokyo-new-file.txt
tokyo@ip-172-31-13-238:/opt/dev-project$ |

```

## Task 5 - Team Workspace

```
ubuntu@ip-172-31-13-238:/opt$ sudo useradd -m nairobi
ubuntu@ip-172-31-13-238:/opt$ tail -n 3 /etc/passwd
berlin:x:1002:1002::/home/berlin:/bin/sh
professor:x:1003:1003::/home/professor:/bin/sh
nairobi:x:1004:1006::/home/nairobi:/bin/sh
ubuntu@ip-172-31-13-238:/opt$ cd /home
ubuntu@ip-172-31-13-238:/home$ ls
Shivkumar berlin nairobi professor tokyo ubuntu
ubuntu@ip-172-31-13-238:/home$ sudo groupadd project-team
ubuntu@ip-172-31-13-238:/home$ tail -n 3 /etc/group
admins:x:1005:berlin,professor
nairobi:x:1006:
project-team:x:1007:
ubuntu@ip-172-31-13-238:/home$ sudo usermod -aG project-team nairobi
ubuntu@ip-172-31-13-238:/home$ sudo usermod -aG project-team tokyo
ubuntu@ip-172-31-13-238:/home$ tail -n 3 /etc/group
admins:x:1005:berlin,professor
nairobi:x:1006:
project-team:x:1007:nairobi,tokyo
ubuntu@ip-172-31-13-238:/home$ mkdir -p /opt/team-workspace
mkdir: cannot create directory '/opt/team-workspace': Permission denied
ubuntu@ip-172-31-13-238:/home$ sudo mkdir -p /opt/team-workspace
ubuntu@ip-172-31-13-238:/home$ cd /opt/
ubuntu@ip-172-31-13-238:/opt$ ls
containerd dev-project team-workspace
ubuntu@ip-172-31-13-238:/opt$ sudo chown :project-team team-workspace
ubuntu@ip-172-31-13-238:/opt$ sudo chmod 775 team-workspace/
ubuntu@ip-172-31-13-238:/opt$ ls -l
total 12
drwx--x--x 4 root root      4096 Jan 15 09:51 containerd
drwxrwxr-x 2 root developers 4096 Feb  2 18:44 dev-project
drwxrwxr-x 2 root project-team 4096 Feb  2 18:50 team-workspace
ubuntu@ip-172-31-13-238:/opt$ |
```

```
ubuntu@ip-172-31-13-238:/opt$ su nairobi
Password:
$ bash
nairobi@ip-172-31-13-238:/opt$ cd team-workspace/
nairobi@ip-172-31-13-238:/opt/team-workspace$ touch nairobi-text-file.txt
nairobi@ip-172-31-13-238:/opt/team-workspace$ ls
nairobi-text-file.txt
nairobi@ip-172-31-13-238:/opt/team-workspace$ ls -l
total 0
-rw-rw-r-- 1 nairobi nairobi 0 Feb  2 18:54 nairobi-text-file.txt
nairobi@ip-172-31-13-238:/opt/team-workspace$
```