

# Project 1

## User management

### Project description:

As the Linux Administrator for fast-growing company, you have been tasked with creating, modifying, and removing user accounts from the Linux server. The company has just hired 9 new employees to fill 3 newly designed departments. The departments that have been created are Engineering, Sales and IS. The server must be setup with the appropriate files, folders, users, groups and permissions to ensure a successful launch of the newly designed departments.

### Steps:

- Create a directory for each department:

```
(projectuser@kali)-[~]  
$ sudo mkdir Sales  
  
(projectuser@kali)-[~]  
$ sudo mkdir IS  
  
(projectuser@kali)-[~]  
$ ls -l  
total 12  
drwxr-xr-x 2 root root 4096 Oct 29 18:51 Engineering  
drwxr-xr-x 2 root root 4096 Oct 29 18:52 IS  
drwxr-xr-x 2 root root 4096 Oct 29 18:51 Sales
```

- Create a group for each department:

```
(projectuser@kali)-[~]  
$ sudo groupadd Engineering  
  
(projectuser@kali)-[~]  
$ sudo groupadd Sales  
  
(projectuser@kali)-[~]  
$ sudo groupadd IS  
  
(projectuser@kali)-[~]  
$ cat /etc/group
```

```
Engineering:x:1006:  
Sales:x:1007:  
IS:x:1008:
```

- Create an administrative user for each of the departments:

```
projectuser@kali: ~  
File Actions Edit View Help  
  
(projectuser@kali)-[~]  
$ sudo useradd -m -s /bin/bash -g Engineering eng-admin  
  
(projectuser@kali)-[~]  
$ sudo useradd -m -s /bin/bash -g Sales sales-admin  
  
(projectuser@kali)-[~]  
$ sudo useradd -m -s /bin/bash -g IS is-admin  
  
(projectuser@kali)-[~]  
$ cat /etc/passwd | tail -3  
eng-admin:x:1005:1006::/home/eng-admin:/bin/bash  
sales-admin:x:1006:1007::/home/sales-admin:/bin/bash  
is-admin:x:1007:1008::/home/is-admin:/bin/bash
```

- Create two additional users for each department:

```
projectuser@kali: ~  
File Actions Edit View Help  
  
(projectuser@kali)-[~]  
$ sudo useradd -m -s /bin/bash -g Engineering enguser1  
system  
(projectuser@kali)-[~]  
$ sudo useradd -m -s /bin/bash -g Engineering enguser2  
system  
(projectuser@kali)-[~]  
$ sudo useradd -m -s /bin/bash -g Sales salesuser1  
system  
(projectuser@kali)-[~]  
$ sudo useradd -m -s /bin/bash -g Sales salesuser2  
system  
(projectuser@kali)-[~]  
$ sudo useradd -m -s /bin/bash -g IS issuser1  
system  
(projectuser@kali)-[~]  
$ sudo useradd -m -s /bin/bash -g IS issuser2  
system  
(projectuser@kali)-[~]  
$ cat /etc/passwd | tail -6  
enguser1:x:1008:1006::/home/enguser1:/bin/bash  
enguser2:x:1009:1006::/home/enguser2:/bin/bash  
salesuser1:x:1010:1007::/home/salesuser1:/bin/bash  
salesuser2:x:1011:1007::/home/salesuser2:/bin/bash  
issuser1:x:1012:1008::/home/issuser1:/bin/bash  
issuser2:x:1013:1008::/home/issuser2:/bin/bash
```

- Grant directory rights to a specific administrator:

```
projectuser@kali: ~  
File Actions Edit View Help  
  
(projectuser@kali)-[~]  
$ sudo chown eng-admin:Engineering Engineering  
system  
(projectuser@kali)-[~]  
$ sudo chown sales-admin:Sales Sales  
system  
(projectuser@kali)-[~]  
$ sudo chown is-admin:IS IS  
system  
(projectuser@kali)-[~]  
$ ls -l  
total 12  
drwxr-xr-x 2 eng-admin Engineering 4096 Oct 29 18:51 Engineering  
drwxr-xr-x 2 is-admin IS 4096 Oct 29 18:52 IS  
drwxr-xr-x 2 sales-admin Sales 4096 Oct 29 18:51 Sales
```



- Set permissions for directories:

```
projectuser@kali: ~  
File Actions Edit View Help  
  
(projectuser@kali)-[~]  
$ sudo chmod 1770 IS  
  
(projectuser@kali)-[~]  
$ sudo chmod 1770 Engineering  
  
(projectuser@kali)-[~]  
$ sudo chmod 1770 Sales  
  
(projectuser@kali)-[~]  
$ ls -l  
total 12  
drwxrwx--T 2 eng-admin Engineering 4096 Oct 29 18:51 Engineering  
drwxrwx--T 2 is-admin IS 4096 Oct 29 18:52 IS  
drwxrwx--T 2 sales-admin Sales 4096 Oct 29 18:51 Sales
```

- Create 3 files that correspond to a specific department and their directory:

```
projectuser@kali: ~  
File Actions Edit View Help  
  
(projectuser@kali)-[~]  
$ sudo nano Engineering/eng_file.txt  
  
(projectuser@kali)-[~]  
$ sudo nano Sales/sales_file.txt  
  
(projectuser@kali)-[~]  
$ sudo nano IS/is_file.txt  
  
(projectuser@kali)-[~]  
$ ls -l Engineering/  
ls: cannot open directory 'Engineering/': Permission denied  
  
(projectuser@kali)-[~]  
$ sudo ls Engineering/  
eng_file.txt  
  
(projectuser@kali)-[~]  
$ sudo ls -l Sales/  
total 4  
-rw-r--r-- 1 root root 26 Oct 29 19:42 sales_file.txt
```

- Set the appropriate ownerships for the files:

```
projectuser@kali: ~  
File Actions Edit View Help  
  
(projectuser@kali)-[~]  
$ sudo chown eng-admin:Engineering Engineering/eng_file.txt  
  
(projectuser@kali)-[~]  
$ sudo chown sales-admin:Sales Sales/sales_file.txt  
  
(projectuser@kali)-[~]  
$ sudo chown is-admin:IS IS/is_file.txt
```

```
projectuser@kali: ~  
File Actions Edit View Help  
  
(projectuser@kali)-[~]  
$ sudo chmod 740 Engineering/eng_file.txt  
  
(projectuser@kali)-[~]  
$ sudo chmod 740 Sales/sales_file.txt  
  
(projectuser@kali)-[~]  
$ sudo chmod 740 IS/is_file.txt
```

```
projectuser@kali: ~  
File Actions Edit View Help  
  
(projectuser@kali)-[~]  
$ sudo ls -l Engineering/eng_file.txt  
-rwxr----- 1 eng-admin Engineering 25 Oct 29 19:42 Engineering/eng_file.txt  
  
(projectuser@kali)-[~]  
$ sudo ls -l Sales/sales_file.txt  
-rwxr----- 1 sales-admin Sales 26 Oct 29 19:42 Sales/sales_file.txt  
  
(projectuser@kali)-[~]  
$ sudo ls -l IS/is_file.txt  
-rwxr----- 1 is-admin IS 26 Oct 29 19:42 IS/is_file.txt
```

## Summary:

Directories have been created, administrators and regular users have been added. The correct permissions have been set.

