

## - Create a user with user group

```
cmd_01.sh A X
$ cmd_01.sh
You, 3 minutes ago | 1 author (You)
1 #!/bin/bash
2
3 # Create a user with user group
4
5 # Set the username
6 USER="testuser"
7
8 # Inform the user about the process
9 echo "Creating new user $USER..."
10
11 # Create a new user with a home directory (-m flag)
12 useradd -m $USER
13
14 # Provide feedback that the user has been added
15 echo "User $USER added..."
16
17 # Display information about the new user from /etc/passwd
18 echo "User information:"
19 cat /etc/passwd | grep $USER
20
21 # Provide feedback that the group has been added
22 echo "Group $USER added..."
23
24 # Display information about the new user's group from /etc/group
25 echo "Group information:"
26 cat /etc/group | grep $USER
27
```

```
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$ sudo ./cmd_01.sh
Creating new user testuser...
User testuser added...
User information:
testuser:x:1001:1001::/home/testuser:/bin/sh
Group testuser added...
Group information:
testuser:x:1001:
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_
/Git_Assignment_03_Linux_Basic_Commands$ ls /home/
ahsanul test3 testuser
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_
/Git_Assignment_03_Linux_Basic_Commands$
```

## - Create two directories in user's home directory named os-concepts and ubuntu-is-the-best

```
cmd_02.sh u X
$ cmd_02.sh
You, 3 minutes ago | 1 author (You)
1 #!/bin/bash
2
3 # Create two directories in user's home directory named os-concepts and ubuntu-is-the-best
4
5 # Define the username you want to search for
6 USER="testuser"
7
8 # Use the cut and grep commands to find the user's home directory
9 HPAH=$(cut -d ':' -f 6 /etc/passwd | grep "$USER")
10
11 # Display the result
12 echo "The home directory of $USER is: $HPAH"
13
14 DIR1="$HPAH/os-concepts"
15 DIR2="$HPAH/ubuntu-is-the-best"
16
17 ls -l $HPAH
18
19 echo "Creating directories... at $DIR1 and $DIR2"
20
21 ## rm -rf $DIR1 $DIR2
22
23 mkdir $DIR1 $DIR2
24
25 echo "Output..."
26
27 ls -l $HPAH
```

```
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$ sudo ./cmd_02.sh
The home directory of testuser is: /home/testuser
total 12
drwxr-xr-x 2 root    root    4096 Oct 8 11:11 os-concepts
drwxr-xr-x 2 root    root    4096 Oct 8 11:11 ubuntu-is-the-best
drwxr-xr-x 2 testuser testuser 4096 Sep 24 17:43 模板
Creating directories... at /home/testuser/os-concepts and /home/testuser/ubuntu-
is-the-best
Output...
total 12
drwxr-xr-x 2 root    root    4096 Oct 8 11:12 os-concepts
drwxr-xr-x 2 root    root    4096 Oct 8 11:12 ubuntu-is-the-best
drwxr-xr-x 2 testuser testuser 4096 Sep 24 17:43 模板
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$ sudo ls -l /home/testuser/
total 12
drwxr-xr-x 2 root    root    4096 Oct 8 11:12 os-concepts
drwxr-xr-x 2 root    root    4096 Oct 8 11:12 ubuntu-is-the-best
```

## - Create two files on each directory

```
cmd_03.sh A X
$ cmd_03.sh
You, 1 second ago | 1 author (You)
1 #!/bin/bash
2
3 # Create two files on each directory
4
5 # Define the username you want to search for
6 USER="testuser"
7
8 # Use the cut and grep commands to find the user's home directory
9 HPAH=$(cut -d ':' -f 6 /etc/passwd | grep "$USER")
10
11 # Display the result
12 echo "The home directory of $USER is: $HPAH"
13
14 DIR1="$HPAH/os-concepts"
15 DIR2="$HPAH/ubuntu-is-the-best"
16
17 echo "Creating file... at $DIR1"
18
19 echo "File inside os-concepts" > $DIR1/file1.txt
20
21 echo "Creating file... at $DIR2"
22
23 echo "File inside ubuntu-is-the-best" > $DIR2/file1.txt
24
25
26 echo "Output..."
27
28 tree $HPAH
```

```
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$ sudo ./cmd_03.sh
The home directory of testuser is: /home/testuser
Creating file... at /home/testuser/os-concepts
Creating file... at /home/testuser/ubuntu-is-the-best
Output...
/home/testuser
├── os-concepts
│   └── file1.txt
└── ubuntu-is-the-best
    └── file1.txt
2 directories, 2 files
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$
```

- List the files with detailed information ( including file permission )

```
$ cmd_04.sh u x
$ cmd_04.sh
1 #!/bin/bash
2
3 # List the files with detailed information ( including file permission )
4
5 # Define the username you want to search for
6 USER="testuser"
7
8 # Use the cut and grep commands to find the user's home directory
9 HPAH=$(cut -d ':' -f 6 /etc/passwd | grep "$USER")
10
11 # Display the result
12 echo "The home directory of $USER is: $HPAH"
13
14 DIR1="${HPAH}/os-concepts"
15 DIR2="${HPAH}/ubuntu-is-the-best"
16
17 echo "Output..."
18
19 tree $HPAH
20
21 ls -la $DIR1 $DIR2
```

```
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$ sudo ./cmd_04.sh
The home directory of testuser is: /home/testuser
Output...
/home/testuser
├── os-concepts
│   └── file1.txt
└── ubuntu-is-the-best
    └── file1.txt

2 directories, 2 files
/home/testuser/os-concepts:
total 12
drwxr-xr-x 2 root   root   4096 Oct  8 11:18 .
drwxr-x-- 4 testuser testuser 4096 Oct  8 11:21 ..
-rw-r--r-- 1 root   root    24 Oct  8 11:27 file1.txt

/home/testuser/ubuntu-is-the-best:
total 12
drwxr-xr-x 2 root   root   4096 Oct  8 11:18 .
drwxr-x-- 4 testuser testuser 4096 Oct  8 11:21 ..
-rw-r--r-- 1 root   root    31 Oct  8 11:27 file1.txt
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$
```

- Update file permission so that owner can read,write and group can only read and others can not do anything

```
$ cmd_05.sh u x
$ cmd_05.sh
1 #!/bin/bash
2
3 # Update file permission so that owner can read,write
4 # and group can only read and others can not do anything
5
6 # Define the username you want to search for
7 USER="testuser"
8
9 # Use the cut and grep commands to find the user's home
10 HPAH=$(cut -d ':' -f 6 /etc/passwd | grep "$USER")
11
12 # Display the result
13 echo "The home directory of $USER is: $HPAH"
14
15 DIR1="${HPAH}/os-concepts"
16 DIR2="${HPAH}/ubuntu-is-the-best"
17
18 # Update permissions
19
20 chmod 640 $DIR1/file1.txt $DIR2/file1.txt
21
22 echo "Permissions..."
23
24 ls -la $DIR1/file1.txt
25 ls -la $DIR2/file1.txt
26
```

```
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$ sudo ./cmd_05.sh
The home directory of testuser is: /home/testuser
Permissions...
-rw-r----- 1 root root 24 Oct  8 11:27 /home/testuser/os-concepts/file1.txt
-rw-r----- 1 root root 31 Oct  8 11:27 /home/testuser/ubuntu-is-the-best/file1.txt
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$
```

- Create another group

```
$ cmd_06.sh u x
$ cmd_06.sh
1 #!/bin/bash
2
3 # Create another group
4
5 # Define the new groupname
6 GROUP="testgroup"
7
8 # Create the group
9 groupadd $GROUP
10
11 # Search for the group
12 grep $GROUP /etc/group
13
```

```
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$ sudo ./cmd_06.sh
testgroup:x:1002:
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$
```

- Update file ownership to the newly created group

```
$ cmd_07.sh u X
$ cmd_07.sh
1 #!/bin/bash
2
3 # Update file ownership to the newly created group
4
5 # Define the username you want to search for
6 USER="testuser"
7 # Define the new groupname
8 GROUP="testgroup"
9
10 # Use the cut and grep commands to find the user's home
11 HPAH=$(cut -d ':' -f 6 /etc/passwd | grep "$USER")
12
13 # Display the result
14 echo "The home directory of $USER is: $HPAH"
15
16 DIR1="$HPAH/os-concepts"
17 DIR2="$HPAH/ubuntu-is-the-best"
18
19 # Update file ownership
20
21 chown $USER:$GROUP $DIR1/file1.txt $DIR2/file1.txt
22
23 echo "Permissions..."
24
25 ls -la $DIR1/file1.txt
26 ls -la $DIR2/file1.txt
27
```

```
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$ sudo ./cmd_07.sh
The home directory of testuser is: /home/testuser
Permissions...
-rw-r----- 1 testuser testgroup 24 Oct  8 11:27 /home/testuser/os-concepts/file1
.txt
-rw-r----- 1 testuser testgroup 31 Oct  8 11:27 /home/testuser/ubuntu-is-the-bes
t/file1.txt
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$
```

- Add the user to the new group

```
$ cmd_08.sh u X
$ cmd_08.sh
1 #!/bin/bash
2
3 # Add the user to the new group
4
5 # Define the username you want to search for
6 USER="testuser"
7 # Define the new groupname
8 GROUP="testgroup"
9
10 # List out current groups belongings
11 echo "Current groups..."
12
13 groups $USER
14
15 # Add the user to the new group
16 usermod -a -G $GROUP $USER
17
18 # List out new groups belongings
19 echo "New groups..."
20
21 groups $USER
22
```

```
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$ sudo ./cmd_08.sh
Current groups...
testuser : testuser testgroup
New groups...
testuser : testuser testgroup
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$
```

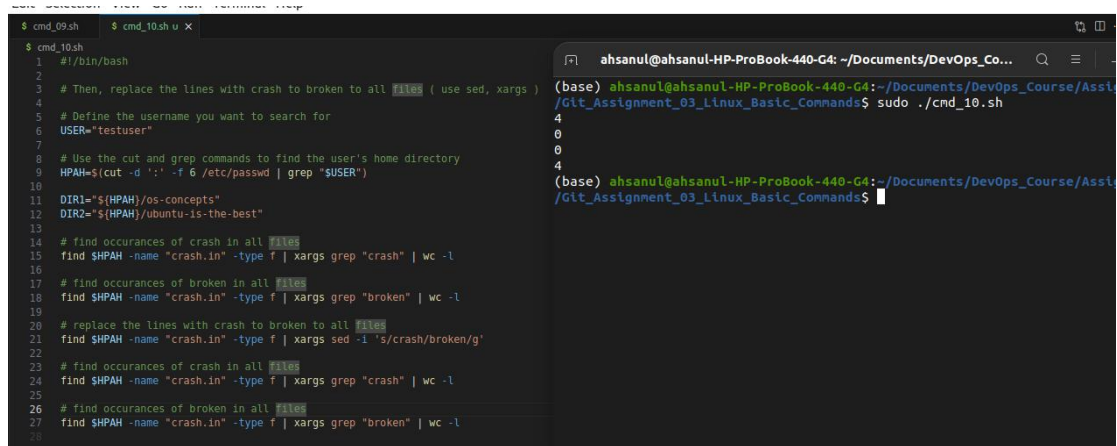
- Create a file called crash.in ( File should contain the word crash in it ) in different directories and then find the file in all the locations using find command

```
$ cmd_09.sh u X
$ cmd_09.sh
1 #!/bin/bash
2
3 # Create a file called crash.in
4 # ( File should contain the word crash in it )
5 # In different directories and then find the file in all the locations using find command
6
7 # Define the username you want to search for
8 USER="testuser"
9
10 # Use the cut and grep commands to find the user's home directory
11 HPAH=$(cut -d ':' -f 6 /etc/passwd | grep "$USER")
12
13 DIR1="$HPAH/os-concepts"
14 DIR2="$HPAH/ubuntu-is-the-best"
15
16 # Create a file called crash.in in different directories
17 echo -e "I'll crash you man!\nAre you ready to be crashed?" | tee $DIR1/crash.in > $DIR2/crash.in
18
19 # Find the file in all the locations using find command
20 find $HPAH -name "crash.in" -type f
```

```
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$ sudo ./cmd_09.sh
/home/testuser/ubuntu-is-the-best/crash.in
/home/testuser/os-concepts/crash.in
(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$ sudo tree /home/testuser
/home/testuser
├── os-concepts
│   ├── crash.in
│   └── file1.txt
└── ubuntu-is-the-best
    ├── crash.in
    └── file1.txt

2 directories, 4 files
```

- Then, replace the lines with crash to broken to all files ( use sed, xargs )



```
$ cmd_09.sh $ cmd_10.sh u X
$ cmd_10.sh
1 #!/bin/bash
2
3 # Then, replace the lines with crash to broken to all files ( use sed, xargs )
4
5 # Define the username you want to search for
6 USER="testuser"
7
8 # Use the cut and grep commands to find the user's home directory
9 HPAH=$(cut -d ':' -f 6 /etc/passwd | grep "$USER")
10
11 DIR1=$(HPAH)/os-concepts
12 DIR2=$(HPAH)/ubuntu-is-the-best"
13
14 # find occurrences of crash in all files
15 find $HPAH -name "crash.in" -type f | xargs grep "crash" | wc -l
16
17 # find occurrences of broken in all files
18 find $HPAH -name "crash.in" -type f | xargs grep "broken" | wc -l
19
20 # replace the lines with crash to broken to all files
21 find $HPAH -name "crash.in" -type f | xargs sed -i 's/crash/broken/g'
22
23 # find occurrences of crash in all files
24 find $HPAH -name "crash.in" -type f | xargs grep "crash" | wc -l
25
26 # find occurrences of broken in all files
27 find $HPAH -name "crash.in" -type f | xargs grep "broken" | wc -l
28

(base) ahsanul@ahsanul-HP-ProBook-440-G4: ~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$ sudo ./cmd_10.sh
4
0
0
4
(base) ahsanul@ahsanul-HP-ProBook-440-G4:~/Documents/DevOps_Co...
/Git_Assignment_03_Linux_Basic_Commands$
```