Configure User Groups, Sudo Access, and Permissions

Objective:

Configure User Groups, sudo Access, and Permissions according to following details.

- Create a group named "devops".

- Add users "john", "jecob", "olivia", and "tracy" to the "devops" group.

- Set a common password ("DevOps") for all users.

- Grant the "devops" group sudo access for specific commands.

- Ensure only users "john", "olivia", and "tracy" (excluding "jecob") have sudo access for the allowed commands.

Scenario:

You are managing a system where user access and permissions need to be organized. This task requires creating a group for DevOps users, assigning them membership, and granting them limited sudo access for specific tasks.

Constraints:

- Make sure all users are present and have the designaed password.

- Make sure to execute this task on both ubuntu.example.com and opensuse.example.com machines.

Completion Criteria:

- The "devops" group is created.

- Users "john", "jecob", "olivia", and "tracy" are created with membership in the "devops" group.

- The "devops" group has sudo access for the above specified commands

- Only users "john", "olivia", and "tracy" can use sudo for the allowed commands

- Create a Documentation of whole process.

Process:

- The task of configuring user groups, sudo access, and permissions on both Ubuntu and openSUSE systems.
- This includes creating the required group and users, setting passwords, and configuring sudo access for the specified commands.

Step-by-Step Guide

1. So, first will do on OpenSUSE Leap 15 Minimal
2. Create the "devops" Group
3. Tail -n 1 /etc/group

```
opensuse:~ # groupadd devops
opensuse:~ # tail -n 1 /etc/group
devops:x:1001:
opensuse:~ #
```

Step1> Create Users and Add Them “password”

- Create users: john, jecob, olivia and tracy
- Add a common passwd: “DevOps” to all users.

```
opensuse:~ # useradd john
opensuse:~ # passwd john
New password:
BAD PASSWORD: it is WAY too short
BAD PASSWORD: is a palindrome
Retype new password:
passwd: password updated successfully
opensuse:~ # useradd jecob
opensuse:~ # passwd jecob
New password:
BAD PASSWORD: it is WAY too short
BAD PASSWORD: is a palindrome
Retype new password:
passwd: password updated successfully
```

```
opensuse:~ # useradd olivia
useradd: user 'olivia' already exists
opensuse:~ # passwd olivia
New password:
BAD PASSWORD: it is WAY too short
BAD PASSWORD: is a palindrome
Retype new password:
passwd: password updated successfully
opensuse:~ # useradd tracy
opensuse:~ # passwd tracy
New password:
BAD PASSWORD: it is WAY too short
BAD PASSWORD: is a palindrome
Retype new password:
passwd: password updated successfully
opensuse:~ # _
```

Step2 > Create Users and Add Them to the "devops" Group

- Create users and add users them to the group:
- john, jecob, olivia and tracy in the ‘devops’ group
- write this command: usermod -G devops < --- >

```
opensuse:~ # usermod -G devops john
opensuse:~ # usermod -G devops jecob
opensuse:~ # usermod -G devops olivia
opensuse:~ # usermod -G devops tracy
opensuse:~ # cat /etc/group | grep devops
devops:x:1001:john,jecob,olivia,tracy
```

Step3>

- Grant Sudo Access for Specific Commands
- Edit the sudoers file
- Type: visudo
- Add the line for the "devops" group
- %devops ALL=(ALL) NOPASSWD: /usr/sbin/useradd, /usr/sbin/groupadd, /usr/sbin/usermod

```
## Do not insult users when they enter an incorrect password.
Defaults !insults

## Uncomment to send mail if the user does not enter the correct password.
# Defaults mail_badpass
##
## Uncomment to enable logging of a command's output, except for
## sudoreplay and reboot.  Use sudoreplay to play back logged sessions.
# Defaults log_output
# Defaults!/usr/bin/sudoreplay !log_output
# Defaults!REBOOT !log_output

## In the default (unconfigured) configuration, sudo asks for the root password.
## This allows use of an ordinary user account for administration of a freshly
## installed system. When configuring sudo, delete the two
## following lines:
Defaults targetpw   # ask for the password of the target user i.e. root
ALL   ALL=(ALL) ALL   # WARNING! Only use this together with 'Defaults targetpw'!

##
## Runas alias specification
##


##
## User privilege specification
##
root ALL=(ALL:ALL) ALL

## Uncomment to allow members of group wheel to execute any command
# %wheel ALL=(ALL:ALL) ALL
devops ALL=(ALL)     NOPASSWD: /usr/sbin/useradd, /usr/sbin/groupadd, /usr/sbin/usermod_
## Same thing without a password
# %wheel ALL=(ALL:ALL) NOPASSWD: ALL

## Read drop-in files from /etc/sudoers.d
@includedir /etc/sudoers.d
-- INSERT --                                                    78,88         Bot
```

Step4>

TYPE: vi /etc/sudorers.d/jecob

```
jecob   ALL=(ALL)            !/usr/sbin/useradd, !/usr/sbin/groupadd, !/usr/sbin/usermod
~
~
```

Step5>

login as john, olivia, tracy and jecob.
login in home: usermod -d /home john

1. Su – john
2. Sudo useradd user1
3. Sudo groupadd grp1
4. Sudo usermod -d /home/a user1
5. Tail -n 1 /etc/passwd
6. exit

```
opensuse:~ # su - john
su: warning: cannot change directory to /home/john: No such file or directory
john@opensuse:/root> usermod -d /home john
Absolute path to 'usermod' is '/usr/sbin/usermod', so running it may require superuser privileg
g. root).
john@opensuse:/root> exit
logout
opensuse:~ # usermod -d /home john
opensuse:~ # su - john
john@opensuse:~> pwd
/home
john@opensuse:~> sudo useradd user1
[sudo] password for root:
useradd: user 'user1' already exists
john@opensuse:~> sudo groupadd grp1
john@opensuse:~> sudo usermod -d /home/a user1
john@opensuse:~> tail -n 1 /etc/passwd
user2:x:1007:100::/home/user2:/bin/bash
john@opensuse:~> tail -n 1 /etc/group
grp1:x:1002:
john@opensuse:~> exit
logout
opensuse:~ # _
```

```
opensuse:~ # su - olivia
olivia@opensuse:~> sudo useradd user2
[sudo] password for root:
Sorry, try again.
[sudo] password for root:
useradd: user 'user2' already exists
olivia@opensuse:~> sudo usermod -d /home/b user2
olivia@opensuse:~> tail -n 1 /etc/group
grp1:x:1002:
olivia@opensuse:~> pwd
/home
olivia@opensuse:~> tail -n 5 /etc/group
vboxsf:x:471:
vboxvideo:x:470:
david:x:1000:
devops:x:1001:john,jecob,olivia,tracy
grp1:x:1002:
olivia@opensuse:~>
```

```
opensuse:~ # su - tracy
tracy@opensuse:~> sudo useradd user3
tracy@opensuse:~> sudo groupadd grp3
tracy@opensuse:~> sudo usermod -d /home/c user3
tracy@opensuse:~> tail -n 1 /etc/passwd
user3:x:1014:100::/home/c:/bin/bash
tracy@opensuse:~> tail -n 1 /etc/group
grp3:x:1003:
tracy@opensuse:~> exit
logout
```

```
jecob@opensuse:~> sudo useradd user4
useradd: user 'user4' already exists
jecob@opensuse:~> sudo groupadd grp4
groupadd: group 'grp4' already exists
jecob@opensuse:~> sudo usermod -d /home/d user4
usermod: no changes
jecob@opensuse:~> tail -n 5 /etc/passwd
olivia:x:1004:100::/home:/bin/bash
tracy:x:1005:100::/home/tracy:/bin/bash
user1:x:1006:100::/home/a:/bin/bash
user2:x:1007:100::/home/b:/bin/bash
user4:x:1008:100::/home/d:/bin/bash
jecob@opensuse:~> tail -n 5 /etc/group
vboxvideo:x:470:
david:x:1000:
devops:x:1001:john,jecob,olivia,tracy
grp1:x:1002:
grp4:x:1003:
jecob@opensuse:~> s_
```

Completion Criteria

- "devops" group is created.
- Users "john", "jecob", "olivia", and "tracy" are created with membership in the "devops" group.
- The "devops" group has sudo access for specified commands.
- Only "john", "olivia", and "tracy" have sudo access for the allowed commands.

Step-by-Step Guide

Ubuntu 20.4 minimal

The task has to configuring user groups, sudo access, and permissions on Ubuntu.
This includes creating the required group and users, setting passwords, and configuring sudo access for the specified commands.

1. Create the "devops" Group

```
root@ubuntu:~# groupadd devops
```

Step1 - Create Users and Add Them “password”

- Create users: john, jecob, olivia and tracy
- Add a common passwd: “DevOps” to all users.

```
root@ubuntu:~# useradd john
root@ubuntu:~# passwd john
New password:
Retype new password:
passwd: password updated successfully
root@ubuntu:~# useradd jecob
root@ubuntu:~# passwd jecob
New password:
Retype new password:
passwd: password updated successfully
root@ubuntu:~# useradd olivia
root@ubuntu:~# passwd olivia
New password:
Retype new password:
passwd: password updated successfully
root@ubuntu:~# useradd tracy
root@ubuntu:~# passwd tracy
New password:
Retype new password:
passwd: password updated successfully
```

Step2> Create Users and Add Them to the "devops" Group

- Create users and add users them to the group:
- john, jecob, olivia and tracy in the ‘devops’ group
- write this command: usermod -G devops < --- >

```
root@mod:~# usermod -g devops john
root@mod:~# usermod -g devops jecob
root@mod:~# usermod -g devops olivia
root@mod:~# usermod -g devops tracy
root@mod:~#
```

```
devops:x:1007:john,jecob,olivia,tracy
```

Step3>

- Grant Sudo Access for Specific Commands
- Edit the sudoers file
- Type : visudo
- Add the line for the "devops" group
- %devops ALL=(ALL) NOPASSWD: /usr/sbin/useradd, /usr/sbin/groupadd, /usr/sbin/usermod

```
#
# This file MUST be edited with the 'visudo' command as root.
#
# Please consider adding local content in /etc/sudoers.d/ instead of
# directly modifying this file.
#
# See the man page for details on how to write a sudoers file.
#
Defaults        env_reset
Defaults        mail_badpass
Defaults        secure_path="/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/snap/bin

# Host alias specification

# User alias specification

# Cmnd alias specification

# User privilege specification
root    ALL=(ALL:ALL) ALL

# Members of the admin group may gain root privileges
%admin ALL=(ALL) ALL

# Allow members of group sudo to execute any command
%sudo   ALL=(ALL:ALL) ALL
%devops ALL=(ALL)       NOPASSWD: /usr/sbin/useradd, /usr/sbin/groupadd, /usr/sbin/usermod
# See sudoers(5) for more information on "#include" directives:

#includedir /etc/sudoers.d
```

Step4>

TYPE: vi /etc/sudorers.d/jecob

```
jecob   ALL=(ALL)       !/usr/sbin/useradd,!/usr/sbin/groupadd,!/usr/sbin/usermod
```

Step5>

login as john, olivia, tracy and jecob.
login in home: usermod -d /home john

7. Su – john
8. Sudo useradd user1
9. Sudo groupadd grp1
10. Sudo usermod -d /home/a user1
11. Tail -n 1 /etc/passwd
12. exit

```
root@ubuntu:~# su - john
$ sudo useradd user1
$ sudo groupadd grp1
$ sudo usermod -d /home/a user1
$ tail -n 1 /etc/passwd
user1:x:1008:1009::/home/a:/bin/sh
$ tail -n 1 /etc/group
grp1:x:1010:
$ exit
```

```
root@ubuntu:~# su - olivia
$ sudo useradd user2
$ sudo groupadd grp2
$ tail -n 1 /etc/passwd
user2:x:1009:1011::/home/user2:/bin/sh
$ sudo usermod -d /home/b user2
$ tail -n 1 /etc/passwd
user2:x:1009:1011::/home/b:/bin/sh
```

```
root@ubuntu:~# su - jecob
$ sudo useradd user4
[sudo] password for jecob:
Sorry, user jecob is not allowed to execute '/usr/sbin/useradd user4' as root on ubuntu.example.co
$ sudo groupadd grp4
[sudo] password for jecob:
Sorry, user jecob is not allowed to execute '/usr/sbin/groupadd grp4' as root on ubuntu.example.co
$ sudo usermod -d /home/d user3
[sudo] password for jecob:
Sorry, user jecob is not allowed to execute '/usr/sbin/usermod -d /home/d user3' as root on ubuntu
xample.com.
$ exit
```

```
root@ubuntu:~# su - tracy
$ sudo useradd user3
$ sudo groupadd grp3
$ sudo usermod -d /home/c user3
$ tail -n 1 /etc/passwd
user3:x:1010:1013::/home/c:/bin/sh
$ tail -n 1 /etc/group
grp3:x:1014:
$ exit
```

Completion Criteria Ubuntu

- "devops" group is created.
- Users "john", "jecob", "olivia", and "tracy" are created with membership in the "devops" group.
- The "devops" group has sudo access for specified commands.
- Only "john", "olivia", and "tracy" have sudo access for the allowed commands.

Conclusion

Successfully created and configured the "devops" group, added the specified users, set their common password, and managed their sudo access for specific commands on both Ubuntu and openSUSE systems.

This ensures that only designated users within the "devops" group can perform user and group management tasks, enhancing both the security and efficiency of your system administration processes.

Thank You

dasaremahir333@gmail.com