**LINUX ASSIGNMENT**

# Linux Task:

**->** Set up a collaborative file management system on an Ubuntu server by creating a shared directory, creating users and groups, and assigning appropriate permissions and ownership for effective collaboration.

# Steps:

**Note:** take **Ubuntu-22** OS

1. Enable Password Authentication in Server
2. Add 2 users and set Password for them
3. Create one Group and assign users to it
4. Create 1 Shared Directory with 2 Sub-Directories
5. Set permissions and ownership of Shared Directory
6. Change ownership of that created sub-directories with respect to users
7. Now login the servers with Username and Password
8. Now try to add the content to respected directories --- **It should be Successful**
9. Now Try to add the content to other user directory ---- **It should be throw error** ( Permission Denied )

# OUTPUT SCREEN SHOTS SHOULD BE LIKE THIS

# 

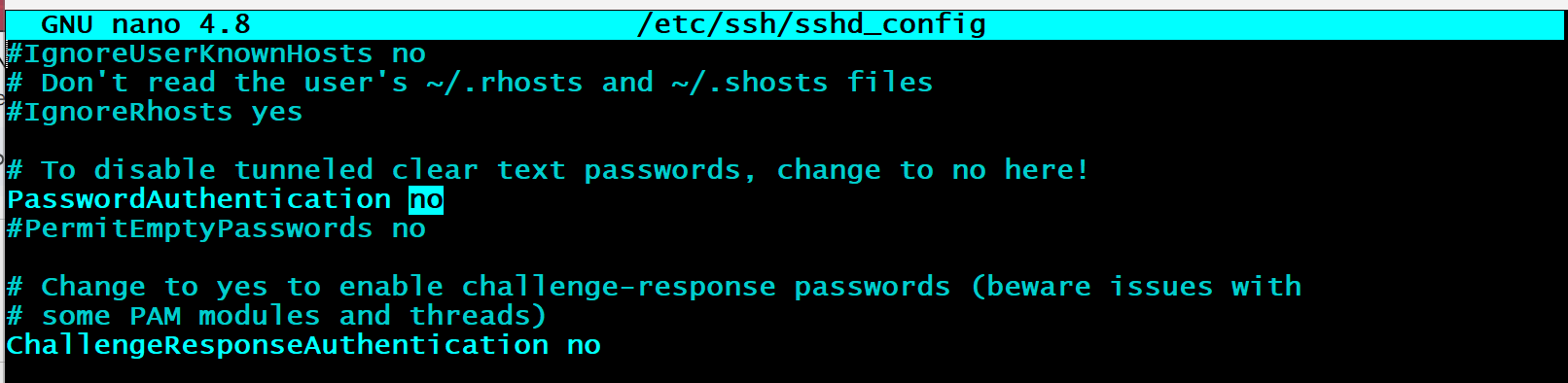
# 

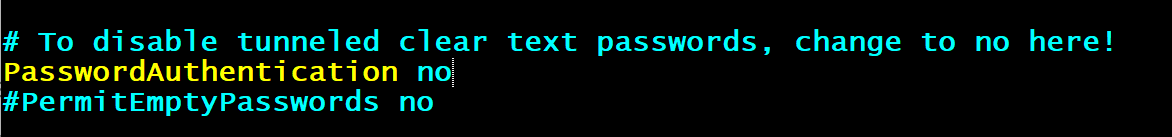
# 

# SOLUTION

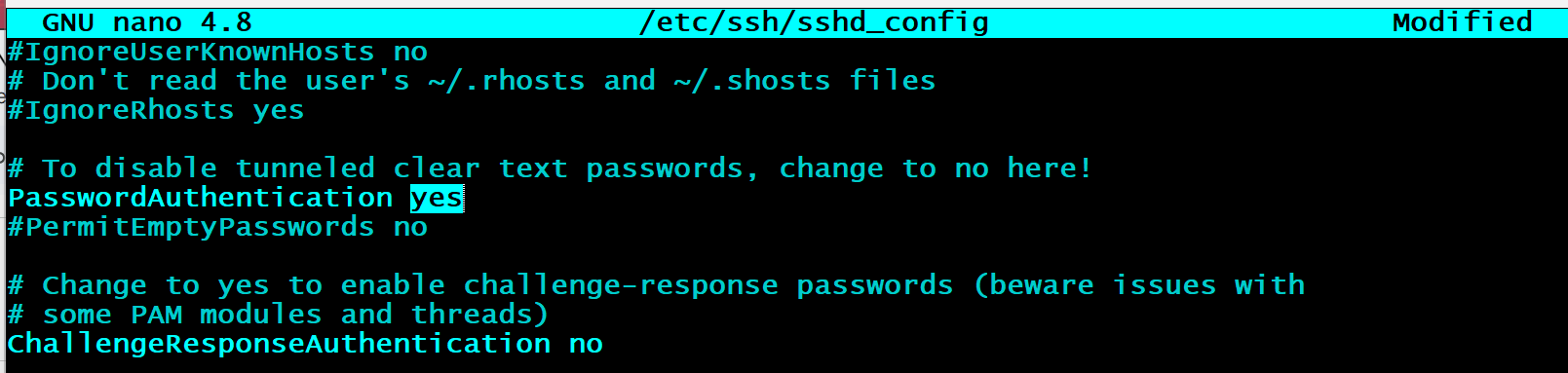
## Step 1: Enable Password Authentication

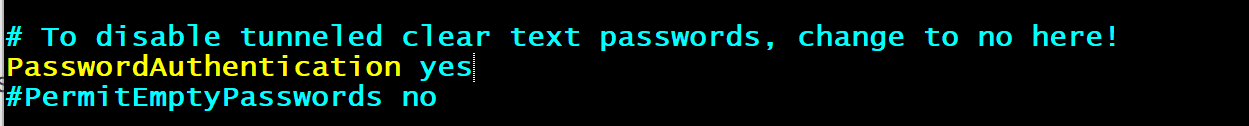
-> sudo nano /etc/ssh/sshd\_config





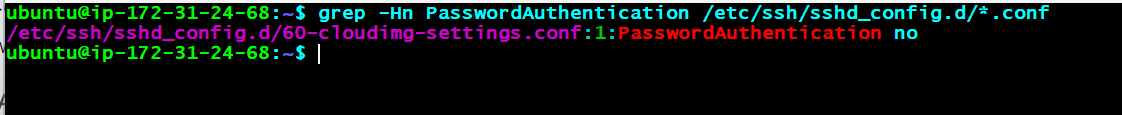
-> **PasswordAuthentication** **yes**





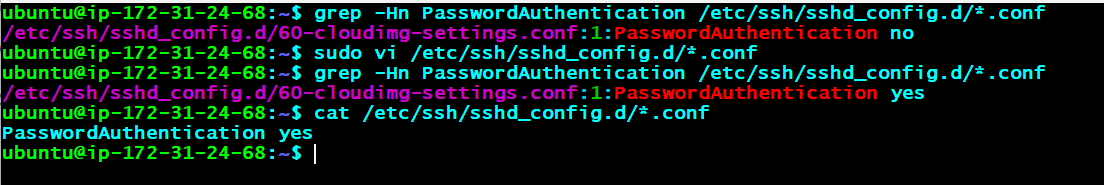
-> **grep -Hn PasswordAuthentication /etc/ssh/sshd\_config.d/\*.conf**

-> **PasswordAuthentication no**



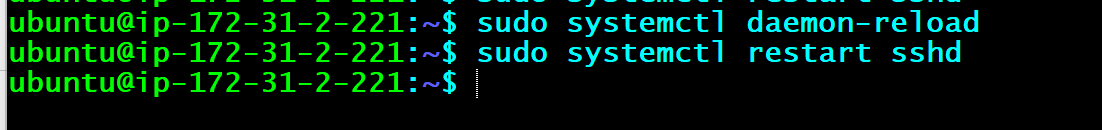
-> **sudo vi /etc/ssh/sshd\_config.d/\*.conf**

-> **PasswordAuthentication yes**



**Restart the SSH service to apply the changes**

-> sudo systemctl daemon-reload

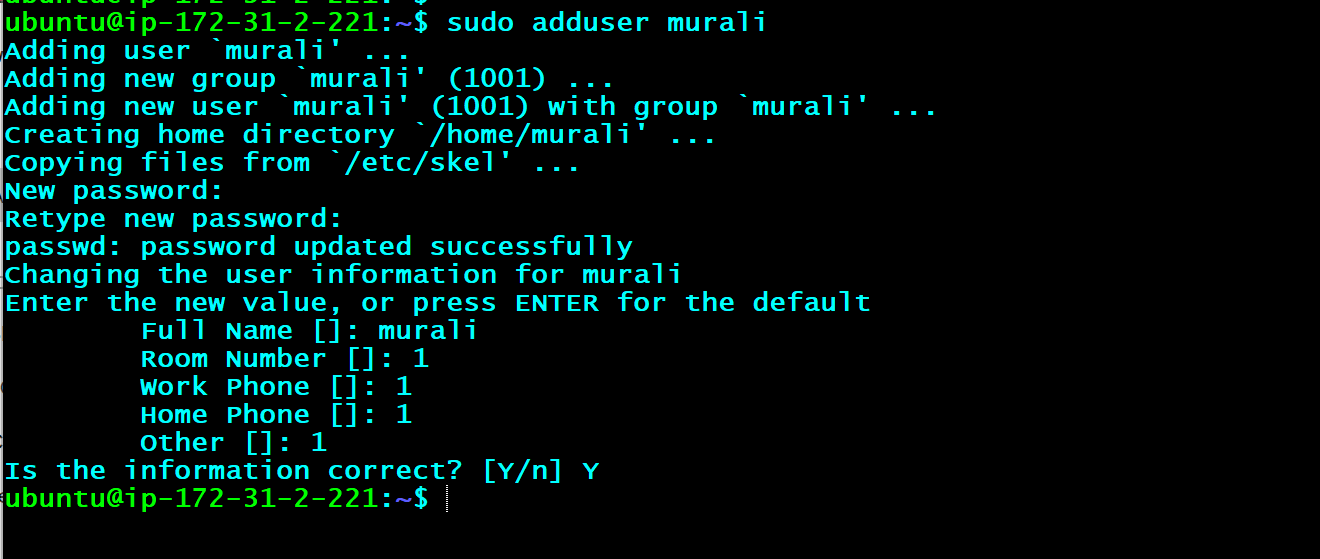


-> sudo systemctl restart sshd

## Step 2: Add User and Set Password

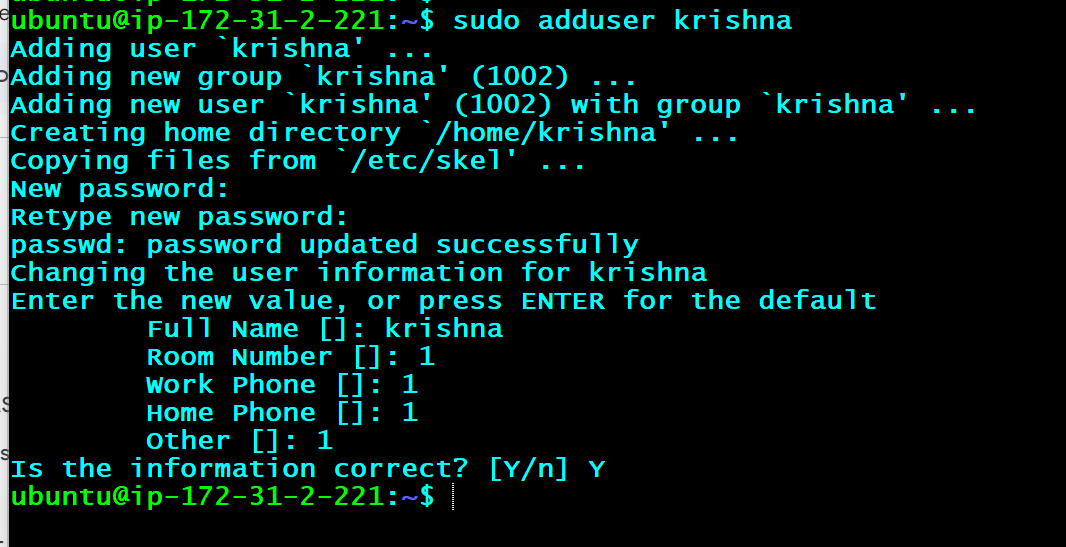
-> sudo adduser murali

-> New Password: murali123



-> sudo adduser krishna

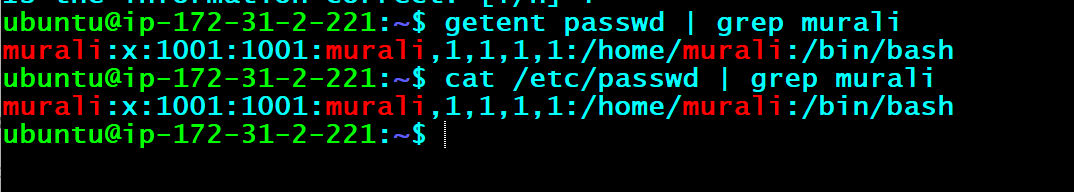
-> New Password: krishna123



**check users in the server**

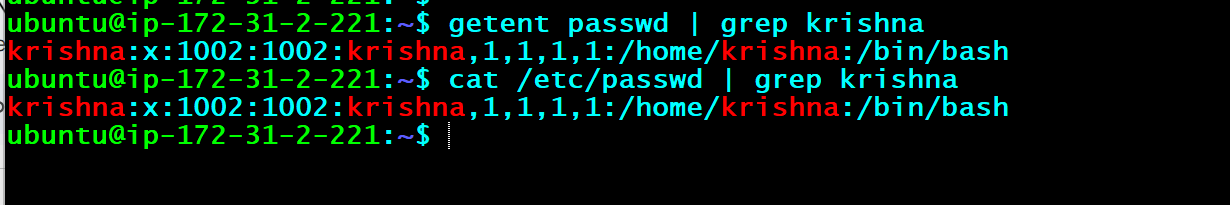
-> getent passwd ------> **getent passwd | grep murali**

-> cat /etc/passwd -----> **cat /etc/passwd | grep murali**



-> getent passwd ------> **getent passwd | grep krishna**

-> cat /etc/passwd -----> **cat /etc/passwd | grep krishna**



**Add users to UbuntuWorkspace**

* sudo usermod -aG ubuntu murali
* sudo usermod -aG ubuntu krishna
* sudo su
  + cd /home
  + chmod 770 ubuntu
  + exit

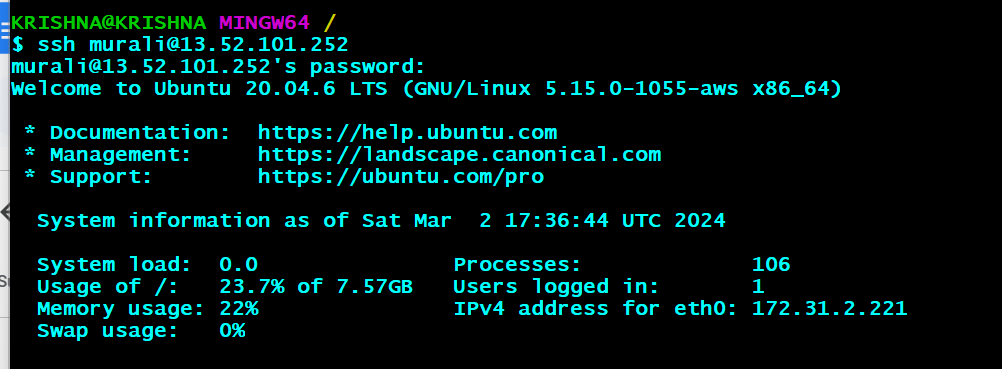
## Step : Check User Logins with Password

## Check Login

-> Open Gitbash terminal

-> ssh murali@13.52.101.252

-> Enter Password: murali123

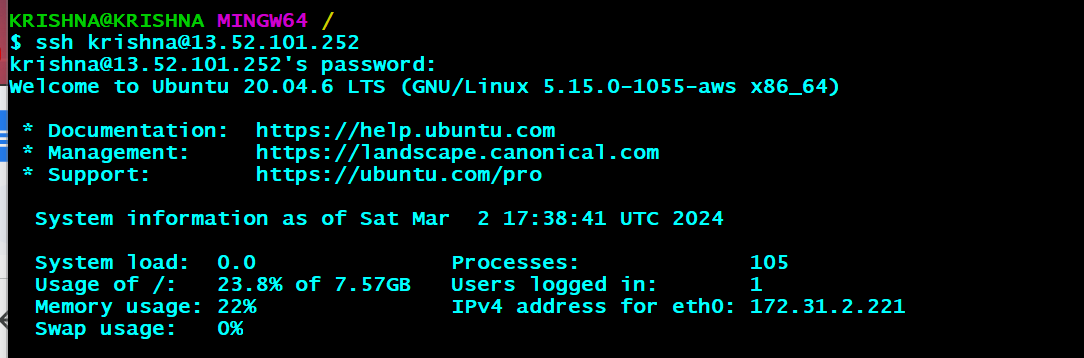


## Check Login

-> Open Gitbash terminal

-> ssh krishna@13.52.101.252

-> Enter Password: krishna123

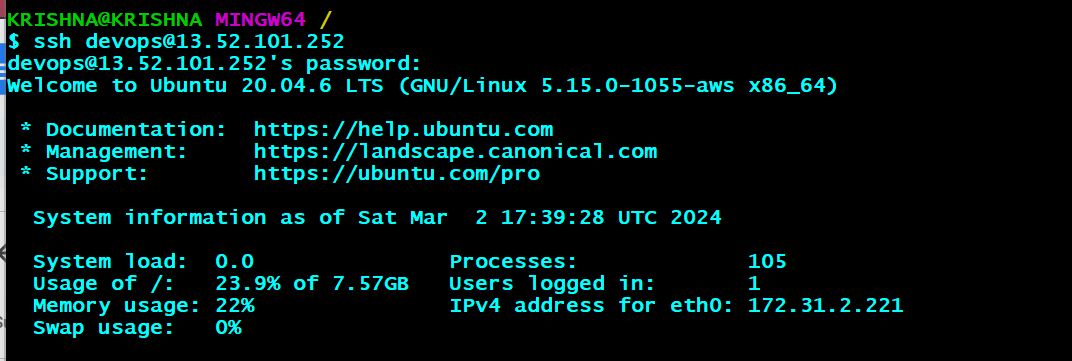


## Check Login

-> Open Gitbash terminal

-> ssh devops@13.52.101.252

-> Enter Password: devops123



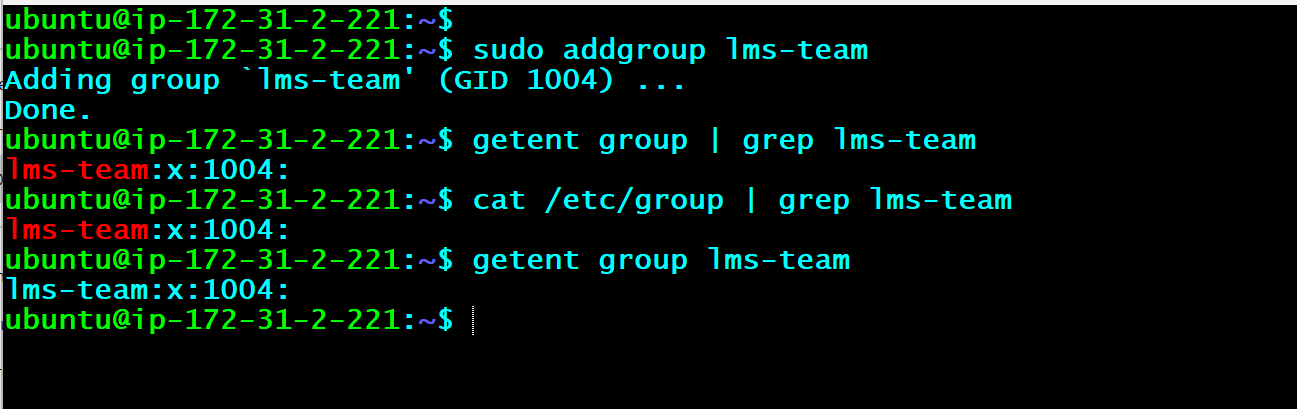
## Step 3: Create a Group for Collaboration

-> sudo addgroup lms-team

-> checking group:

-> getent group | grep lms-team

-> cat /etc/group | grep lms-team



## Step 4: Assign Users to the Group

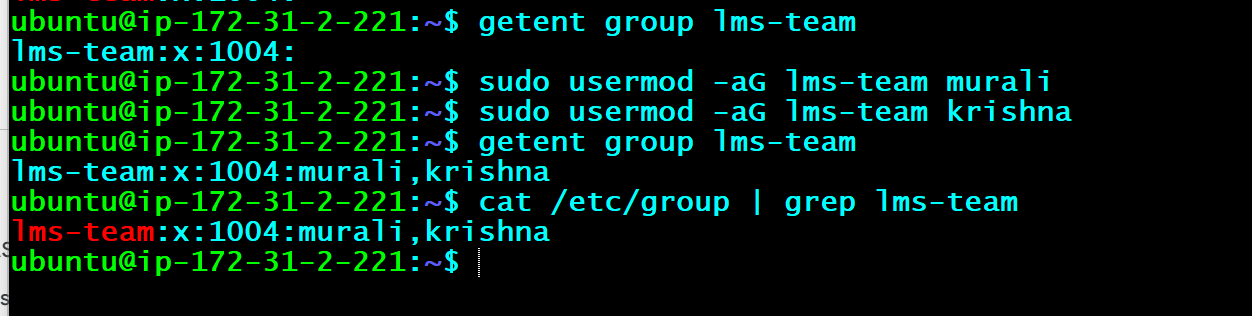
-> sudo usermod -aG lms-team murali

-> sudo usermod -aG lms-team krishna

-> checking group:

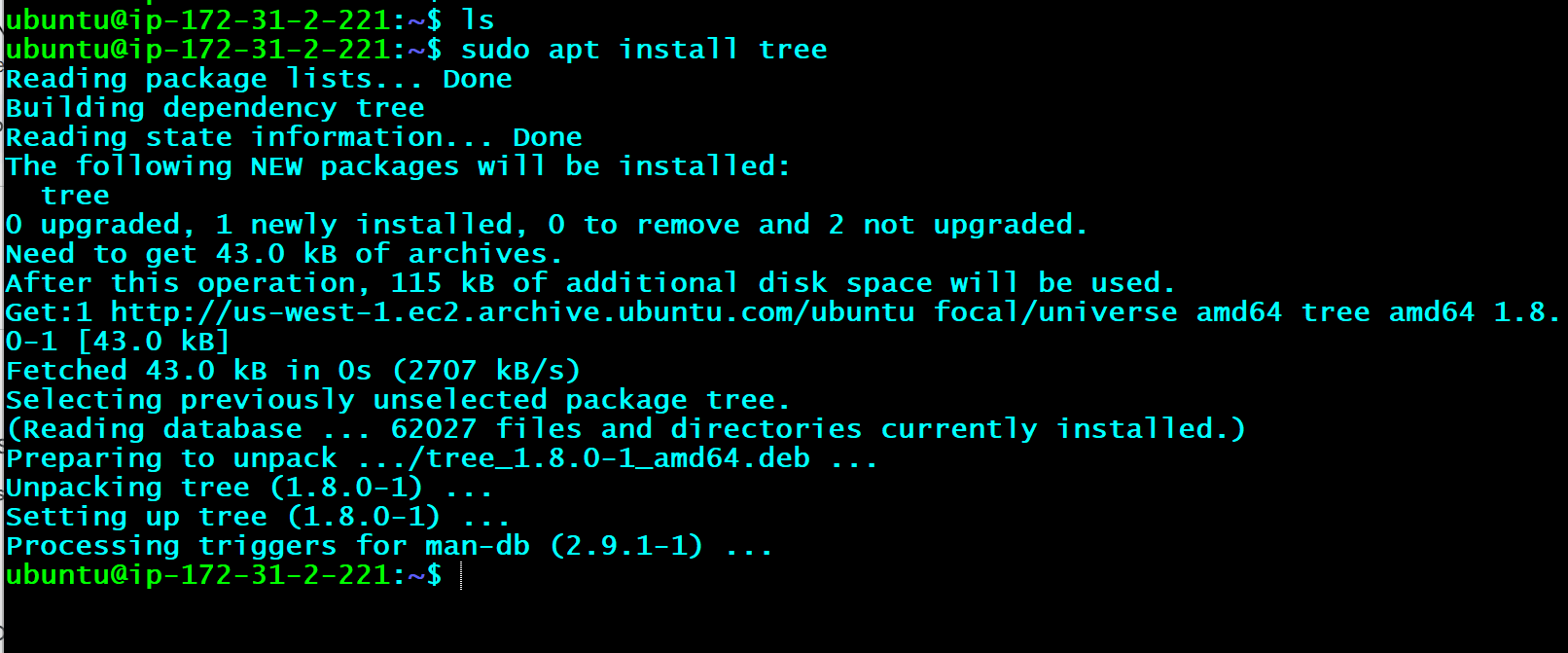
-> getent group lms-team

-> cat /etc/group | grep lms-team



## Step 5: Create Directory with Subdirectories

-> sudo apt install tree ---------> to view the directory and sub directory

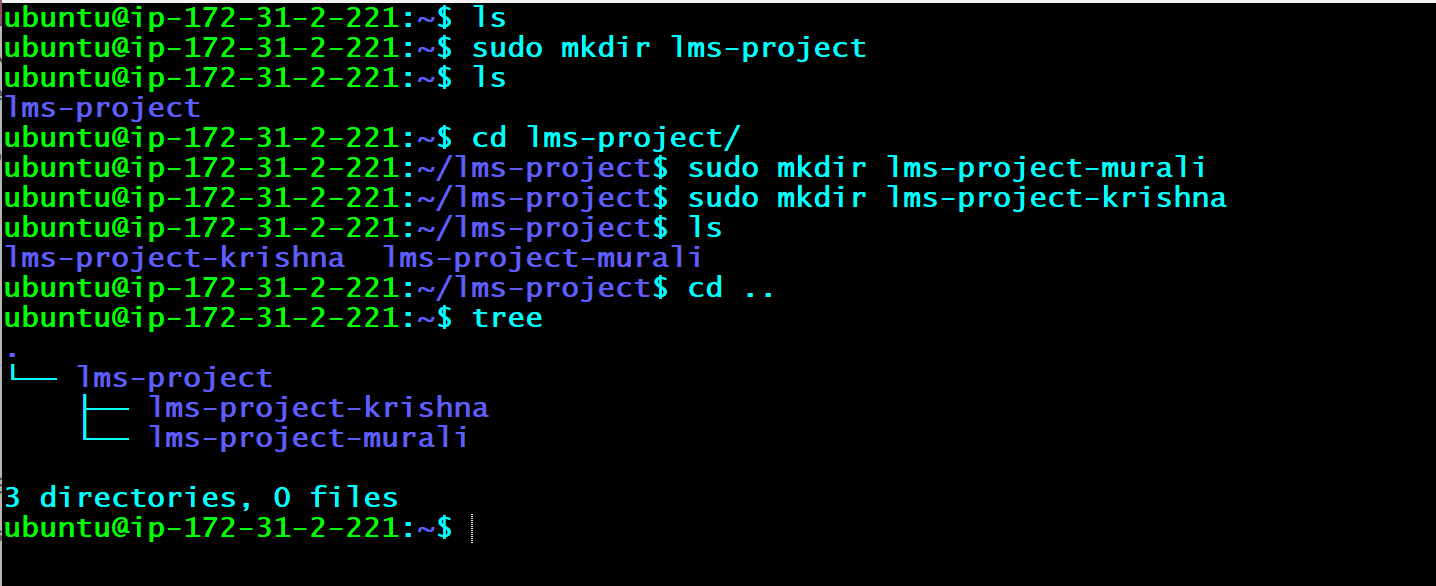


-> sudo mkdir lms-project

-> cd lms-project/

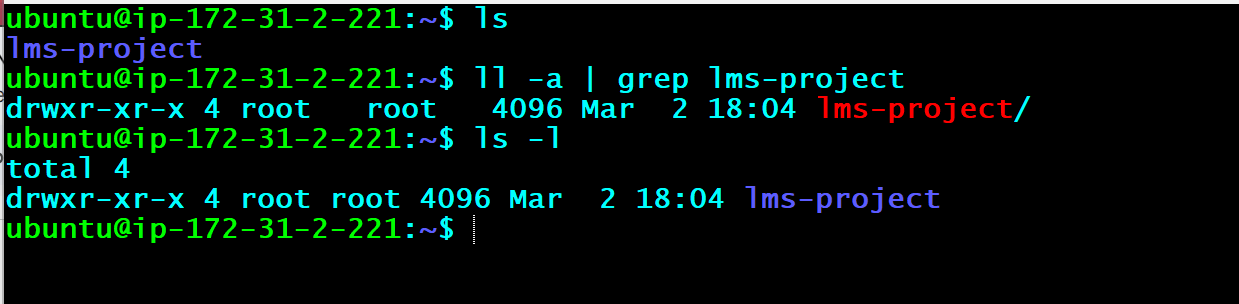
-> mkdir lms-project-murali

-> mkdir lms-project-krishna



## Step 6: Set Permissions and Ownership for the Shared Directory

-> ll -a | grep lms-project ----> to check permissions

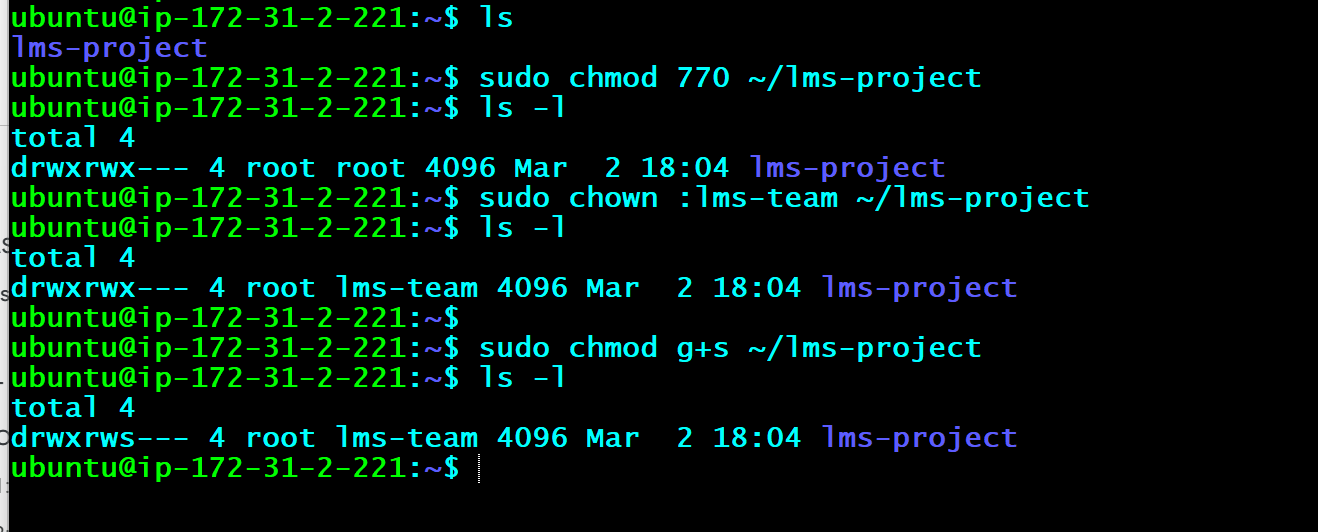


-> sudo chmod 770 ~/lms-project

-> ls -l ----> to check permissions

-> sudo chown :lms-team ~/lms-project

-> sudo chmod g+s ~/lms-project - - - - - - -> Ensure Proper Permissions for New Files

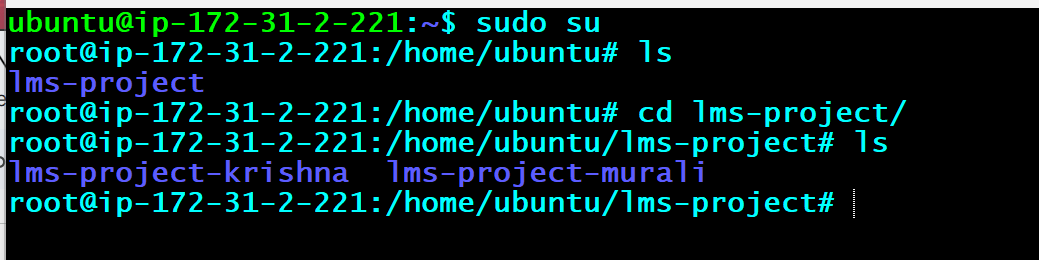


## Step 7: Change Ownership of that created sub-directories with respect to users

-> switch to root user

-> sudo su

-> cd lms-project



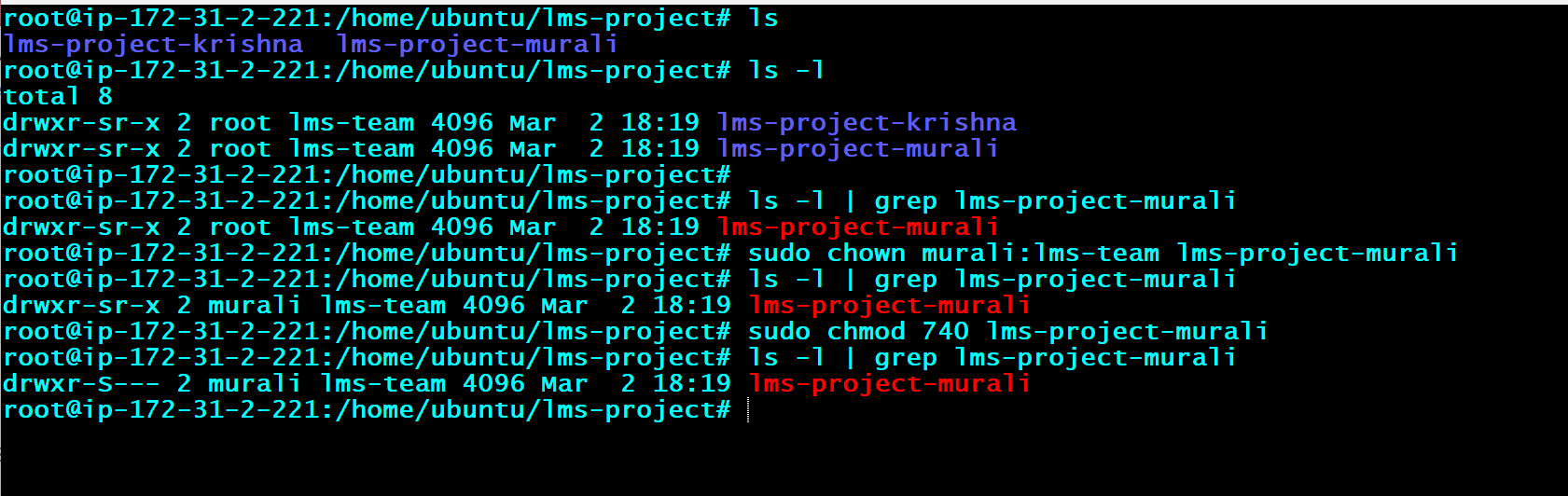
**-> user-murali:**

-> ls -l | grep lms-project-murali

-> sudo chown murali:lms-team lms-project-murali

-> sudo chmod 740 lms-project-murali

-> ls -l | grep lms-project-murali



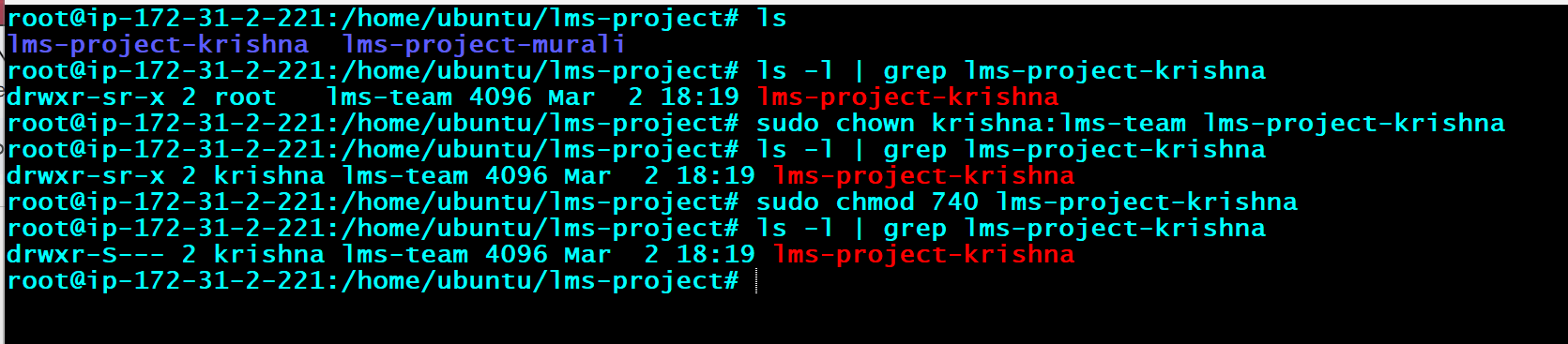
**-> user-krishna:**

-> ls -l | grep lms-project-krishna

-> sudo chown krishna:lms-team lms-project-krishna

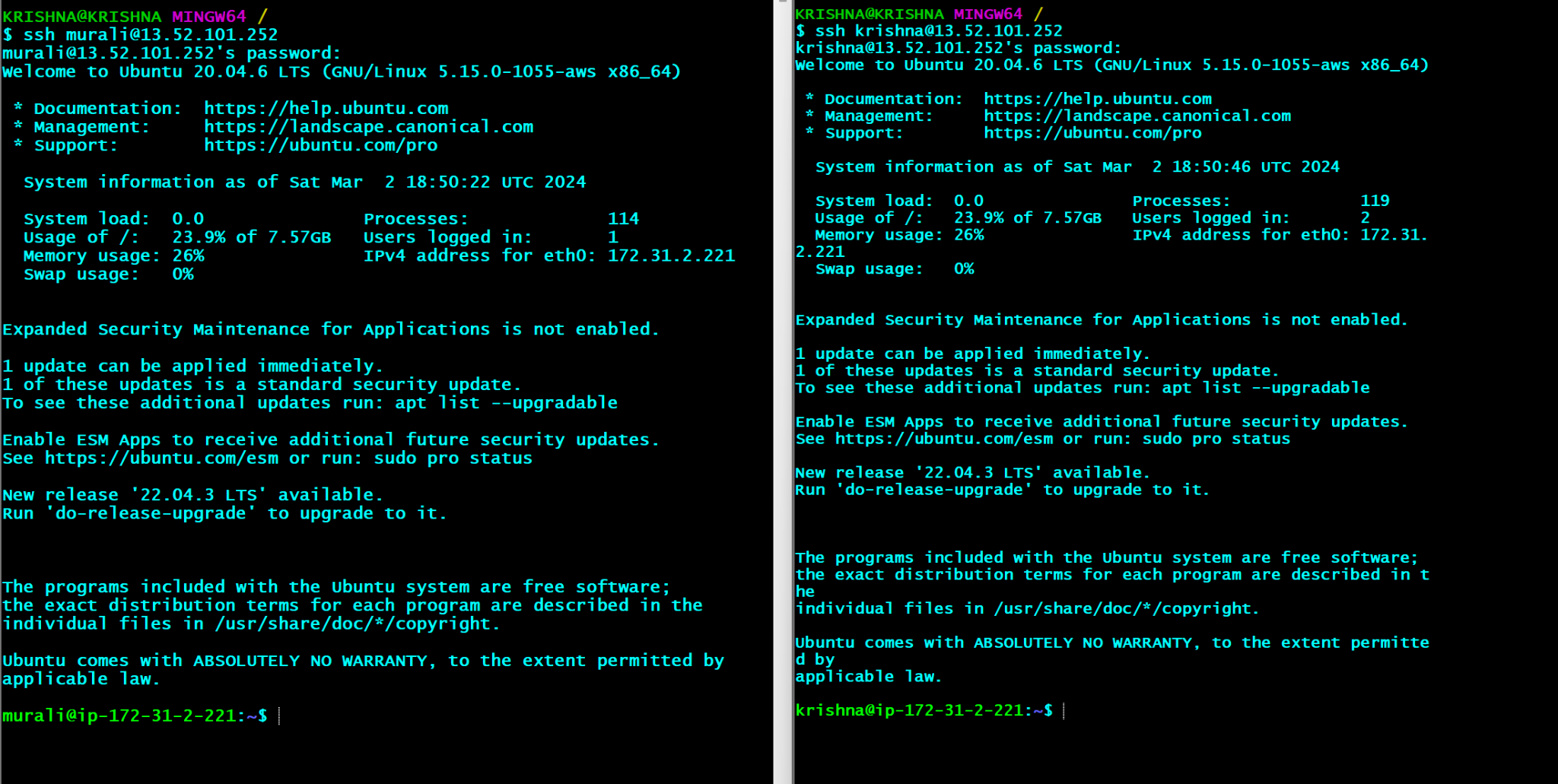
-> sudo chmod 740 lms-project-krishna

-> ls -l | grep lms-project-krishna



## Step 8: Testing the Permissions and Working on Shared Directory

-> Login to server with username and password



-> Add some file/content to respected directory -----> It will add successfully

-> Try to add some file/content to Others Directory -----> It should throw an Error (Permission Denied)

