

## Experiment 5: SSH

### AIM:

Installation of Open SSH between two ubuntu machines.

### DESCRIPTION:

Remote File Sharing using SSH

OpenSSH is a powerful collection of tools for the remote control of, and transfer of data between, networked computers. You will also learn about some of the configuration settings possible with the OpenSSH server application and how to change them on your Ubuntu system.

OpenSSH is a freely available version of the Secure Shell (SSH) protocol family of tools for remotely controlling, or transferring files between computers.

Traditional tools used to accomplish these functions, such as telnet or rcp, are insecure and transmit the user's password in cleartext when used. OpenSSH provides a server daemon and client tools to facilitate secure, encrypted remote control and file transfer operations, effectively replacing the legacy tools.

**Port No:** 22

**Package name:** openssh-client

**Configuration file:** /etc/ssh/sshd\_config

### PROCEDURE:

1. create two EC2 instance of ubuntu ssh client and ssh server
2. Create the password for the instance of ssh server by  
\$sudo passwd ubuntu
3. Now check whether the ssh server is running by the command  
\$sudo service ssh status
4. configure the sshd\_config file by the following command  
\$sudo vim /etc/ssh/sshd\_config and include the following changes
5. PasswordAuthentication yes , KbdInteractiveAuthentication no,KerberosGetAFSToken no
6. Now check the status of the ssh server by the command  
\$sudo service ssh status
7. Now create a text file by the command \$touch text.txt
8. Now log in to the ssh\_client and create a ssh\_keygen by the command  
\$ssh\_keygen
9. Now copy the ssh\_keygen form the ssh\_client  
\$ssh-copy-id ubuntu@privateip
10. Now restart the client machine
11. Then connect to the ssh\_server by ssh\_client, then type ls you will be prompted with the screen with your text file which you have created.

### RESULT:

EC2 Dashboard

EC2 Global View

Events

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity

Reservations

New

Images

AMIs

AMI Catalog

Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

Instances (1/2) Info

Last updated less than a minute ago

Connect

Instance state

Actions

Launch Instances

Find Instance by attribute or tag (case-sensitive)

All states

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
<input checked="" type="checkbox"/>	finan2	i-003b829c351bc274d	Stopped	t2.micro	-	View alarms +	ap-south-1b	-
<input type="checkbox"/>	finan1	i-06a9a6d796b005e3c	Stopped	t2.micro	-	View alarms +	ap-south-1b	-

i-003b829c351bc274d (finan2)

DetailsStatus and alarmsMonitoringSecurityNetworkingStorageTags

Instance summary info

Instance ID

i-003b829c351bc274d (finan2)

Public IPv4 address

-

Private IPv4 addresses

172.31.2.192

IPv6 address

-

Instance state

Stopped

Public IPv4 DNS

-

Hostname type

IP name: ip-172-31-2-192.ap-south-1.compute.internal

Private IP DNS name (IPv4 only)

ip-172-31-2-192.ap-south-1.compute.internal

CloudShell

Feedback

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Partly cloudy

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ENG

IN

19:12

04-09-2024

```
#LoginGraceTime 2m
#PermitRootlogin prohibit-password
#StrictModes yes
#MaxAuthTries 6
#MaxSessions 10

#PubkeyAuthentication yes

# Expect .ssh/authorized_keys2 to be disregarded by default in future.
#AuthorizedKeysFile .ssh/authorized_keys .ssh/authorized_keys2

#AuthorizedPrincipalsFile none

#AuthorizedKeysCommand none
#AuthorizedKeysCommandUser nobody

# For this to work you will also need host keys in /etc/ssh/ssh_known_hosts
#HostbasedAuthentication no
# Change to yes if you don't trust ~/.ssh/known_hosts for
# HostbasedAuthentication
#IgnoreUserKnownHosts no
# Don't read the user's ~/.rhosts and ~/.shosts files
#IgnoreRhosts yes

# To disable tunneled clear text passwords, change to no here!
PasswordAuthentication yes
#PermitEmptyPasswords no

# Change to yes to enable challenge-response passwords (beware issues with
# some PAM modules and threads)
KbdInteractiveAuthentication no

# Kerberos options
#KerberosAuthentication no
#KerberosOnLocalPasswd yes
#KerberosTicketCleanup yes
#KerberosGetAFSToken no

# GSSAPI options
```

65, 2636%

```
ubuntu@ip-172-31-2-192:~$ cd .ssh/
ubuntu@ip-172-31-2-208:~/.ssh$ ls
authorized_keys  id_ed25519  id_ed25519.pub  known_hosts
ubuntu@ip-172-31-2-208:~/.ssh$ cat id_ed25519
id_ed25519  id_ed25519.pub
ubuntu@ip-172-31-2-208:~/.ssh$ cat id_ed25519
id_ed25519  id_ed25519.pub
ubuntu@ip-172-31-2-208:~/.ssh$ cat id_ed25519.pub
ssh-ed25519 AAAAC3NzaC1lZD11NTE5AAAAIOBbRy37M6dtTQKCJFz2Lm/CTk8+DUzv+RjOXBu
65c0 ubuntu@ip-172-31-2-208
ubuntu@ip-172-31-2-208:~/.ssh$ ^C
ubuntu@ip-172-31-2-208:~/.ssh$ ssh ubuntu@13.126.56.170
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1012-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Wed Sep  4 14:04:03 UTC 2024

System load:  0.0      Processes:      111
Usage of /:   23.2% of 6.71GB  Users logged in:  1
Memory usage: 21%      IPv4 address for enX0: 172.31.2.192
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

Last login: Wed Sep  4 14:00:14 2024 from 152.59.223.104
ubuntu@ip-172-31-2-192:~$

This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-13-126-56-170.ap-south-1.compute.amazonaws.c
om' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1012-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Wed Sep  4 13:47:07 UTC 2024

System load:  0.1      Processes:      107
Usage of /:   23.2% of 6.71GB  Users logged in:  0
Memory usage: 30%      IPv4 address for enX0: 172.31.2.192
Swap usage:   0%

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Enable ESM Apps to receive additional future security updates.
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The list of available updates is more than a week old.
To check for new updates run: sudo apt update

Last login: Wed Sep  4 09:17:51 2024 from 103.135.95.46
ubuntu@ip-172-31-2-192:~$ sudo vim /etc/ssh/sshd_config
Command 'sudo' not found, did you mean:
  command 'sudo' from deb sudo (1.9.14p2-1ubuntu1)
  command 'sudo' from deb sudo-ldap (1.9.14p2-1ubuntu1)
Try: sudo apt install <deb name>
ubuntu@ip-172-31-2-192:~$ sudo vim /etc/ssh/sshd_config
ubuntu@ip-172-31-2-192:~$ sudo service ssh restart
ubuntu@ip-172-31-2-192:~$ sudo vim /etc/ssh/sshd_config
ubuntu@ip-172-31-2-192:~$ sudo service ssh restart
ubuntu@ip-172-31-2-192:~$
```

```
System load:  0.0      Processes:      111
Usage of /:   23.2% of 6.71GB  Users logged in:  1
Memory usage: 20%      IPv4 address for enX0: 172.31.2.208
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

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See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

Last login: Wed Sep  4 14:26:29 2024 from 152.59.223.104
ubuntu@ip-172-31-2-208:~$ ssh-keygen
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/ubuntu/.ssh/id_ed25519):
/home/ubuntu/.ssh/id_ed25519 already exists.
Overwrite (y/n)? n
ubuntu@ip-172-31-2-208:~$ ssh-keygen
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/ubuntu/.ssh/id_ed25519): a
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in a
Your public key has been saved in a.pub
The key fingerprint is:
SHA256:IuH4ej5rjdr9yVN3iQnA30Mdc0fofNXgarT0EktP0r+0 ubuntu@ip-172-31-2-208
The key's randomart image is:
+--[ED25519 256]--+
|  o . . . +o    |
|    + = *o+    |
| . = * BB.    |
| o . = oooo   |
| . o . S . o o |
| . . . + =    |
| . o . . o .  |
+-----+

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To check for new updates run: sudo apt update

Last login: Wed Sep  4 14:04:04 2024 from 13.201.192.157
ubuntu@ip-172-31-2-192:~$
```

```
ubuntu@ip-172-31-2-192:~$ ssh ubuntu@13.126.56.170
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1012-aws x86_64)

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 * Support:       https://ubuntu.com/pro

System information as of Wed Sep  4 14:09:17 UTC 2024

System load:  0.0      Processes:      113
Usage of /:   23.2% of 6.71GB  Users logged in:  1
Memory usage: 21%      IPv4 address for enX0: 172.31.2.192
Swap usage:   0%

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Last login: Wed Sep  4 14:04:04 2024 from 13.201.192.157
ubuntu@ip-172-31-2-192:~$

This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-13-126-56-170.ap-south-1.compute.amazonaws.c
om' (ED25519) to the list of known hosts.
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  command 'sudo' from deb sudo-ldap (1.9.14p2-1ubuntu1)
Try: sudo apt install <deb name>
ubuntu@ip-172-31-2-192:~$ sudo vim /etc/ssh/sshd_config
ubuntu@ip-172-31-2-192:~$ sudo service ssh restart
ubuntu@ip-172-31-2-192:~$ sudo vim /etc/ssh/sshd_config
ubuntu@ip-172-31-2-192:~$ sudo service ssh restart
ubuntu@ip-172-31-2-192:~$ sudo vim /etc/ssh/sshd_config
ubuntu@ip-172-31-2-192:~$
```

All the commands have been executed and the output has been obtained successfully.

