

# SSH

## Experiment: 6

### 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

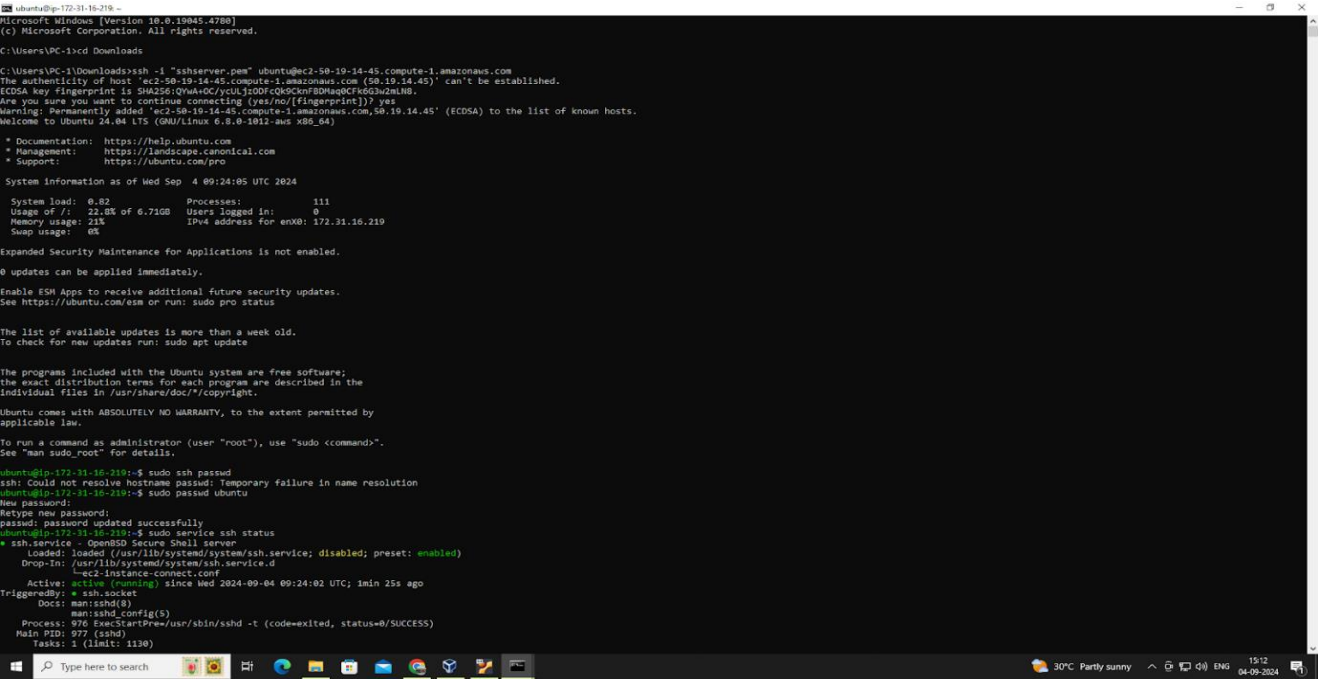
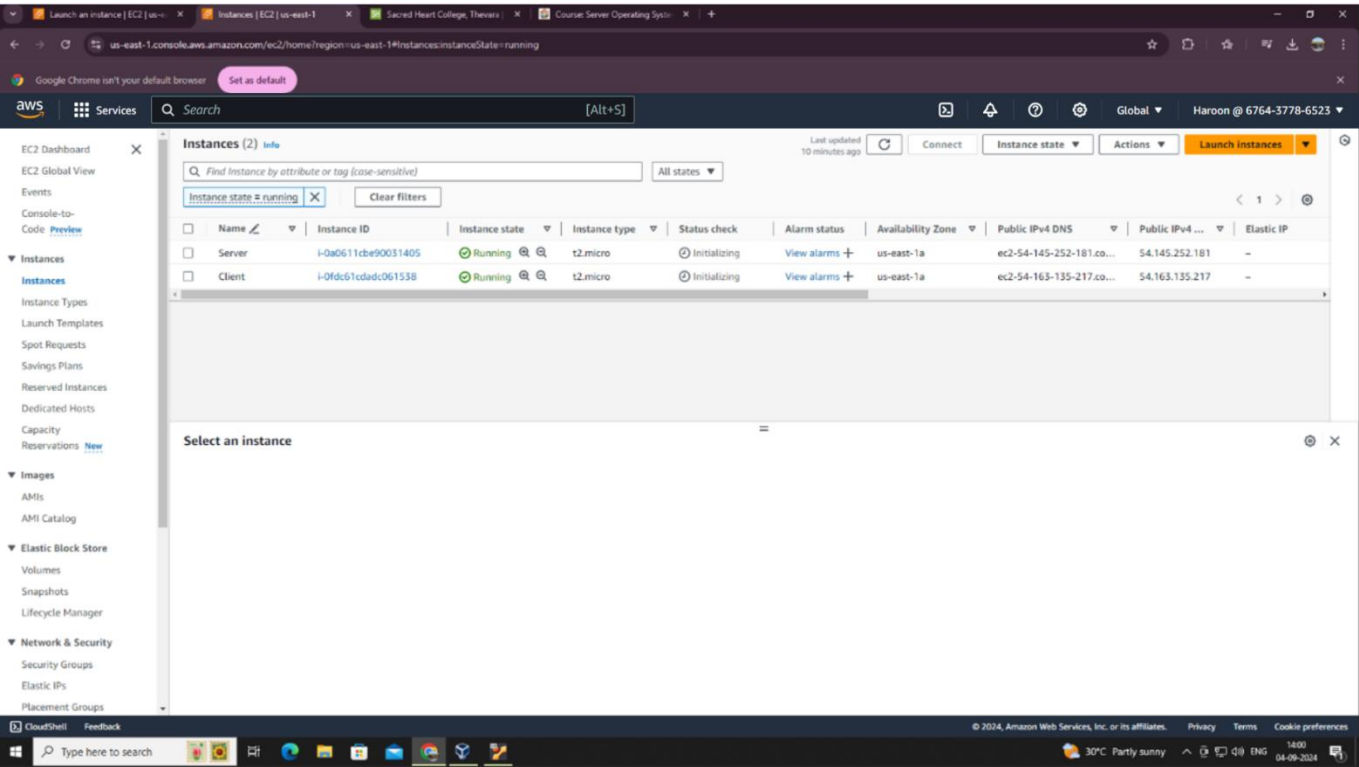
**Package name:** openssh-client

**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 `$sudo vim /etc/ssh/sshd_config` and include the following changes `PasswordAuthentication yes` , `KbdInteractiveAuthenticationno` , `KerberosGetAFSToken no`
5. Now check the status of the ssh server by the command `$sudo service sshstatus`
6. Now create a text file by the command `$touch text.txt`
7. Now log in to the ssh\_client and create a ssh\_keygen by the command `$ssh_keygen`
8. Now copy the ssh\_keygen form the ssh\_client `$ssh-copy-id ubuntu@privateip`
9. Now restart the client machine
10. Then connect to the ssh\_server by ssh\_client
11. then type ls you will be prompted with the screen with your text file which you have created

Result:



```
ubuntu@ip-172-31-16-219:~$  
The exact licensing terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by  
applicable law.  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
ubuntu@ip-172-31-16-219:~$ sudo sshd  
ssh: Could not resolve hostname passwd: Temporary failure in name resolution  
ubuntu@ip-172-31-16-219:~$ sudo passwd ubuntu  
New password:  
Retype new password:  
passwd: password updated successfully  
ubuntu@ip-172-31-16-219:~$ sudo service ssh status  
* ssh.service - OpenSSH Secure Shell server  
   Loaded: loaded (/usr/lib/systemd/system/ssh.service; disabled; preset: enabled)  
   Drop-In: /usr/lib/systemd/system/ssh.service.d  
           -ec2-instance-connect.conf  
   Active: active (running) since Wed 2024-09-04 09:24:02 UTC; 1min 25s ago  
   TriggeredBy: * ssh.socket  
   Docs: man:ssh(8)  
          man:ssh_config(5)  
   Process: 976 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)  
   Main PID: 977 (sshd)  
   Tasks: 1 (limit: 1130)  
   Memory: 3.9M (peak: 4.4M)  
   CPU: 27ms  
   CGroup: /system.slice/ssh.service  
           └─77 "sshd: /usr/sbin/sshd -D -o AuthorizedKeysCommand /usr/share/ec2-instance-connect/eic_run_authorized_keys %u %f -o AuthorizedKeysCommandUser ec2-instance-connect [listener] 0 of 10-100 startups"  
Sep 04 09:24:01 ip-172-31-16-219 systemd[1]: Starting ssh.service - OpenSSH Secure Shell server...  
Sep 04 09:24:02 ip-172-31-16-219 sshd[977]: Server listening on :: port 22.  
Sep 04 09:24:02 ip-172-31-16-219 systemd[1]: Started ssh.service - OpenSSH Secure Shell server.  
Sep 04 09:24:05 ip-172-31-16-219 sshd[979]: Accepted publickey for ubuntu from 103.135.95.46 port 54493 ssh2: RSA SHA256:131FHW1GwpFAZpM2ADVN+3Mm29WS+gJJU5BSJTNKM  
Sep 04 09:24:05 ip-172-31-16-219 sshd[979]: pam_unix(sshd:session): session opened for user ubuntu(uid=1000) by ubuntu(uid=0)  
ubuntu@ip-172-31-16-219:~$ sudo vim /etc/ssh/sshd_config  
ubuntu@ip-172-31-16-219:~$ sudo service ssh status  
* ssh.service - OpenSSH Secure Shell server  
   Loaded: loaded (/usr/lib/systemd/system/ssh.service; disabled; preset: enabled)  
   Drop-In: /usr/lib/systemd/system/ssh.service.d  
           -ec2-instance-connect.conf  
   Active: active (running) since Wed 2024-09-04 09:24:02 UTC; 4min 5s ago  
   TriggeredBy: * ssh.socket  
   Docs: man:ssh(8)  
          man:ssh_config(5)  
   Process: 976 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)  
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ubuntu@ip-172-31-16-219:~$ touch text.txt  
ubuntu@ip-172-31-16-219:~$
```

```
ubuntu@ip-172-31-89-204:~$  
C:\Users\PC-1>cd Downloads  
C:\Users\PC-1\Downloads>ssh -i "client.pem" ubuntu@ec2-54-163-135-217.compute-1.amazonaws.com  
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 09:31:37 UTC 2024  
System load:  0.0          Processes:      105  
Usage of /:   22.0% of 6.71GB    Users logged in:  0  
Memory usage: 10%          IP4 address for enx0: 172.31.89.204  
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 09:21:58 2024 from 103.135.95.46  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
ubuntu@ip-172-31-89-204:~$ ssh-keygen  
Command 'ssh-keygen' not found, did you mean:  
  Command 'ssh-keygen' from deb openssh-client (1:9.6p1-3ubuntu13.4)  
(Try: sudo apt install <deb name>)  
ubuntu@ip-172-31-89-204:~$ ssh-keygen  
Generating public/private ed25519 key pair.  
Enter file in which to save the key (/home/ubuntu/.ssh/id_ed25519):  
Enter passphrase (empty for no passphrase):  
Enter same passphrase again:  
Your identification has been saved in /home/ubuntu/.ssh/id_ed25519  
Your public key has been saved in /home/ubuntu/.ssh/id_ed25519.pub  
The key fingerprint is:  
SHA256:ocUQ1Vpw/AN2J3bupQdmsmbfJLvg1lQ5mpfEXs ubuntu@ip-172-31-89-204  
The key's randomart image is:  
+-----[ED25519 256]-----+  
|o=+o|  
|+Eo+o|  
|+..+o|  
|o..S..|  
|...o|  
|..+B+|  
|..o+..|  
|o..+..|  
|o..+..|  
+-----[SHA256]-----+  
ubuntu@ip-172-31-89-204:~$
```

```
ubuntu@ip-172-31-16-219:~$ ssh -i "sshserver.pem" ubuntu@ec2-50-10-14-45.compute-1.amazonaws.com
Microsoft Windows [Version 10.0.19045.4780]
(c) Microsoft Corporation. All rights reserved.

C:\Users\PC-1>cd Downloads
C:\Users\PC-1\Downloads>ssh -i "sshserver.pem" ubuntu@ec2-50-10-14-45.compute-1.amazonaws.com
The authenticity of host 'ec2-50-10-14-45.compute-1.amazonaws.com (50.10.14.45)' can't be established.
ECDSA key fingerprint is SHA256:QWw+OC/yCU1jz0DFcQK9CknF8DHaqKCFk6g3w2LNB.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-50-10-14-45.compute-1.amazonaws.com,50.10.14.45' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1012-aws x86_64)

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

System Information as of Wed Sep  4 09:24:05 UTC 2024

System load:  0.82               Processes:    111
Usage of /:   22.8% of 6.71GB    Users logged in: 0
Memory usage: 21%               IPv4 address for enx0: 172.31.16.219
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Disable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo apt update

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

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To run a command as administrator (user "root"), use "sudo <command>".
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Retype new password:
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   Drop-In: /usr/lib/systemd/system/ssh.service.d
            └─ec2-instance-connect.conf
   Active: active (running) since Wed 2024-09-04 09:24:02 UTC; 4min 55s ago
   TriggeredBy: * ssh.socket
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   Process: 976 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
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