

NETWORKING & SYSTEM ADMINISTRATION LAB**Experiment No.: 7****Aim**

Understand ssh command, login into a remote system using ssh.

Procedure**1. Remotely connecting a device**

The ssh command provides a secure encrypted connection between two hosts over an insecure network. This connection can also be used for terminal access, file transfers, and for tunneling other applications

Syntax:

:~\$ ssh <user_name>@<machine_ip_number>

Eg: :~\$ ssh student@192.168.6.189

Then enter the user password to login in

2. Creates a key pair for public key authentication**Syntax:**

:~\$ ssh-keygen

-it will create a public and private key

Copying key to the remote machine

:~\$ ssh-copy-id [option] <location of the public_key>

<remote_username>@<remote_ip_address>

Eg: ssh-copy-id -i .ssh/id_rsa.pub mca@192.168.6189

-Then you need to enter password for the first time and after that the key is used to authenticate login.

Name: ALLEN S PHILIP

Roll No: 20

Batch: RMCA- A

Date: 04-04-2022

Output

```

Mon 15:46
mca@U19: ~
File Edit View Search Terminal Help
student@U20:~$ ssh mca@192.168.6.189
The authenticity of host '192.168.6.189 (192.168.6.189)' can't be established.
ECDSA key fingerprint is SHA256:01aRG9hiAm50v+hd6DwA8f8zNgY0iOIZXKeQTnq7Lt4.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.6.189' (ECDSA) to the list of known hosts.
mca@192.168.6.189's password:
Permission denied, please try again.
mca@192.168.6.189's password:
Welcome to Ubuntu 18.04.1 LTS (GNU/Linux 4.15.0-33-generic x86_64)

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

 * Canonical Livepatch is available for installation.
   - Reduce system reboots and improve kernel security. Activate at:
     https://ubuntu.com/livepatch

6 packages can be updated.
0 updates are security updates.

Last login: Mon Apr  4 15:19:38 2022 from 192.168.6.188
mca@U19:~$

```

```

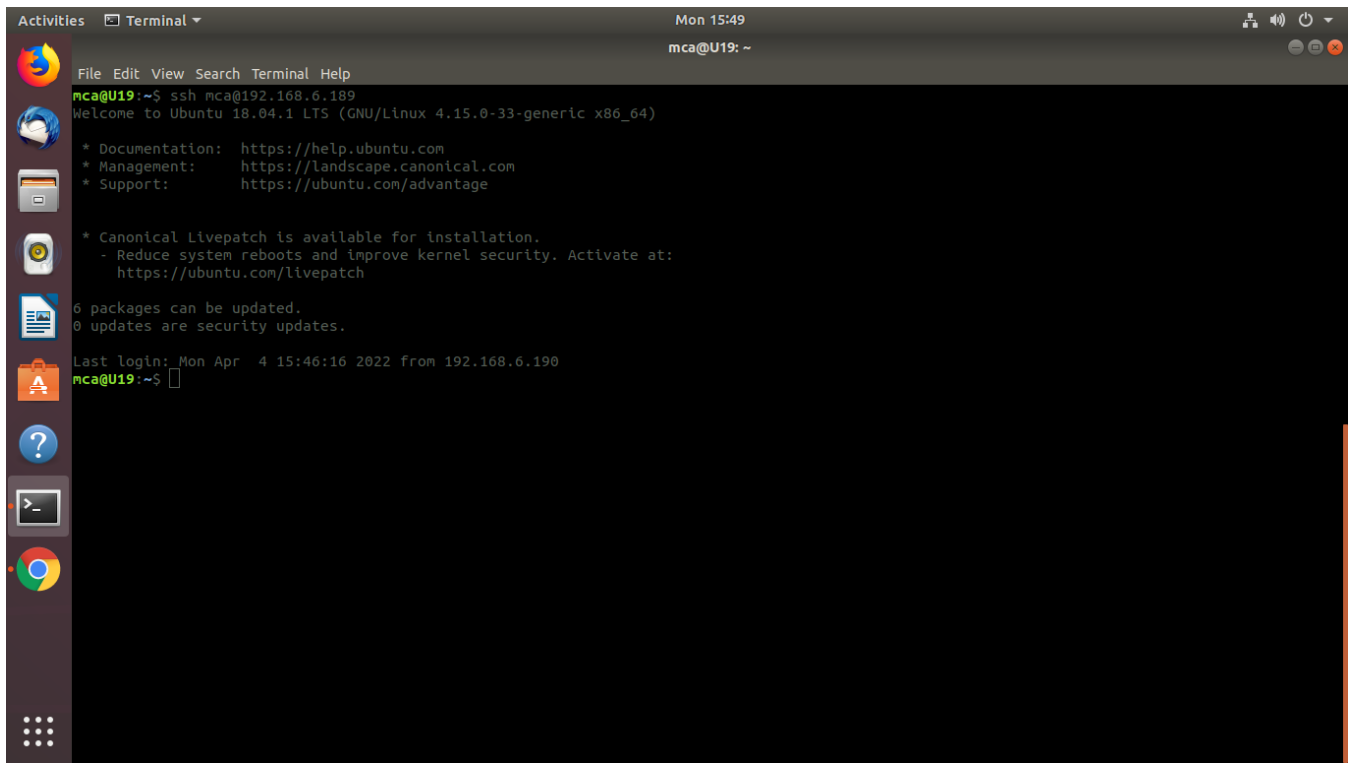
Mon 15:48
mca@U19: ~
File Edit View Search Terminal Help
mca@U19:~$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/mca/.ssh/id_rsa):
Created directory '/home/mca/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/mca/.ssh/id_rsa.
Your public key has been saved in /home/mca/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:opg/wNZHlwuBwRwqnf6n4su0qvmtQYnxONQaMrYbJU mca@U19
The key's randomart image is:
+---[RSA 2048]---+
| . . . |
|... E |
|*+ . . |
|+=+ . . |
|++....o S |
|o.=B.+o. |
|+.Bo . |
|=.O+... |
|*++oO*oo |
+---[SHA256]---+
mca@U19:~$ ssh-copy-id -i .ssh/id_rsa.pub mca@192.168.6.189
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: ".ssh/id_rsa.pub"
The authenticity of host '192.168.6.189 (192.168.6.189)' can't be established.
ECDSA key fingerprint is SHA256:01aRG9hiAm50v+hd6DwA8f8zNgY0iOIZXKeQTnq7Lt4.
Are you sure you want to continue connecting (yes/no)? yes
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
mca@192.168.6.189's password:

Number of key(s) added: 1

Now try logging into the machine, with:  "ssh 'mca@192.168.6.189'"
and check to make sure that only the key(s) you wanted were added.

mca@U19:~$

```



The screenshot shows a terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Mon 15:49, mca@U19: ~). The terminal content shows an SSH session from a local machine to a remote machine named 'mca' at IP 192.168.6.189. The remote machine is running Ubuntu 18.04.1 LTS (GNU/Linux 4.15.0-33-generic x86_64). The terminal displays the following text:

```
mca@U19:~$ ssh mca@192.168.6.189
Welcome to Ubuntu 18.04.1 LTS (GNU/Linux 4.15.0-33-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
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 * Canonical Livepatch is available for installation.
   - Reduce system reboots and improve kernel security. Activate at:
     https://ubuntu.com/livepatch

6 packages can be updated.
0 updates are security updates.

Last login: Mon Apr  4 15:46:16 2022 from 192.168.6.190
mca@U19:~$
```