

## Managing Users & Remote Desktops Connections

### Topics :

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- Creating Users
- Managing Users in Groups
- Restricting File Access
- /bin/false vs /usr/bin/false
- Restricting sudo access
- Deleting a User
- Exploring GnuPg
- Generating public/private ssh key pairs.
- Configuring SSH Server For Remote Access.
- Configuring telnet for Remote Access.

### Creating Users

---

```
humair@ems:~$ sudo useradd -m -d /opt/joe joe
```

```
humair@ems:~$ sudo useradd -m -d /opt/alice -s /bin/sh joe
```

- -m : The -m tag specifies the creation of a home directory if it doesn't exist.
- -d : Specifies the login directory by appending the Base directory with the user's name
- -s : Can be used to change the default login shell.

humair@gaditek: ~  
File Edit View Search Terminal Help

```
humair@gaditek:~$ sudo useradd -m -d /opt/alice -s /bin/sh alice
humair@gaditek:~$ sudo useradd -m -d /opt/joe joe
humair@gaditek:~$ sudo useradd -m -d /opt/jhon jhon
humair@gaditek:~$
```

humair@gaditek: ~

File Edit View Search Terminal Help

```
humair@gaditek:~$ cat /etc/group | grep joe
joe:x:1003:
humair@gaditek:~$ cat /etc/group | grep jhon
jhon:x:1004:
humair@gaditek:~$ cat /etc/group | grep alice
alice:x:1002:
humair@gaditek:~$
```

## Creating a Secondary Group

```
humair@ems:~$ sudo groupadd friends; sudo gpasswd -M alice, jhon friends
```

-M : Specifies that a list of users are to be added to the group.

## Creating a File

```
humair@ems:~$ touch some_file
```

## Changing Group Ownership

```
humair@ems:~$ chgrp some_file friends
```

## Changing Accessibility

```
humair@ems:~$ setfacl -m u:alice:r-- ./some_file
```

For some reason the bits weren't working here.



```
humair@gaditek: ~  
File Edit View Search Terminal Help  
humair@gaditek:~$ sudo groupadd friends; sudo gpasswd -M alice,jhon friends  
humair@gaditek:~$ groups  
humair adm cdrom sudo dip plugdev lpadmin sambashare  
humair@gaditek:~$ getent group friends  
friends:x:1005:alice,jhon  
humair@gaditek:~$  
  
humair@gaditek: ~  
File Edit View Search Terminal Help  
$ chgrp some_file friends  
chgrp: invalid group: 'some_file'  
$ chgrp friends ./some file
```

```
$ ls -al
total 36
drwxr-xr-x 3 jhon jhon    4096 ۱۳ ۱۳:۱۳ .
drwxr-xr-x 6 root root    4096 ۱۳ ۱۲:۲۹ ..
-rw-r--r-- 1 jhon jhon    220 ۴ ۲۰۱۸ .bash_logout
-rw-r--r-- 1 jhon jhon   3771 ۴ ۲۰۱۸ .bashrc
-rw-r--r-- 1 jhon jhon   8980 ۱۶ ۲۰۱۸ examples.desktop
drwx----- 3 jhon jhon    4096 ۱۳ ۱۳:۱۳ .gnupg
-rw-r--r-- 1 jhon jhon    807 ۴ ۲۰۱۸ .profile
-rwxrwxr-- 1 jhon friends  0 ۱۳ ۱۳:۱۳ some_file
$
```

```
humair@gaditek: ~
File Edit View Search Terminal Help
$
$
$
$ setfacl -m u:alice:r-- ./some_file
$ ls -al
total 36
drwxr-xr-x 3 jhon jhon    4096 ۱۳ ۱۳:۱۳ .
drwxr-xr-x 6 root root    4096 ۱۳ ۱۲:۲۹ ..
-rw-r--r-- 1 jhon jhon    220 ۴ ۲۰۱۸ .bash_logout
-rw-r--r-- 1 jhon jhon   3771 ۴ ۲۰۱۸ .bashrc
-rw-r--r-- 1 jhon jhon   8980 ۱۶ ۲۰۱۸ examples.desktop
drwx----- 3 jhon jhon    4096 ۱۳ ۱۳:۱۳ .gnupg
-rw-r--r-- 1 jhon jhon    807 ۴ ۲۰۱۸ .profile
-rwxrwxr--+ 1 jhon friends  0 ۱۳ ۱۳:۱۳ some_file
```

## /bin/false vs /usr/bin/false

The main difference that i found was that `bin/false` is just a binary that dosen't return anything & restricts login while `/nologin` exits gracefully with a message.

## Changing The Shell

Since I had already used to the `-s` flag while creating the user. I edited the `etc/passwd` file directly.

```
humair@gaditek: ~
File Edit View Search Terminal Help
humair@gaditek:~$ sudo vi /etc/passwd
[sudo] password for humair:
humair@gaditek:~$ su - alice
Password:
This account is currently not available.
humair@gaditek:~$ sudo vi /etc/passwd
[sudo] password for humair:
humair@gaditek:~$ su - alice
```

```
humair@gaditek:~$ su - alice
Password:
Cannot execute /usr/bin/false: No such file or directory
humair@gaditek:~$ sudo vi /etc/passwd
humair@gaditek:~$ su - alice
Password:
humair@gaditek:~$
```

## Restricting Sudo Access

Edited the sudoers file

```
alice ALL=(root) /sbin/reboot
```

## Deleting a User

```
humair@ems:~$ deluser alice
```

## Generating public/private keys using gpg.

```
humair@ems:~$ gpg --full-gen-key
```

```

File Edit View Search Terminal Help
ems@ems:~$ gpg --full-gen-key
gpg (GnuPG) 2.2.4; Copyright (C) 2017 Free Software Foundation, Inc.
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

Please select what kind of key you want:
  (1) RSA and RSA (default)
  (2) DSA and Elgamal
  (3) DSA (sign only)
  (4) RSA (sign only)
Your selection? 1
RSA keys may be between 1024 and 4096 bits long.
What keysize do you want? (3072) 3072
Requested keysize is 3072 bits
Please specify how long the key should be valid.
  0 = key does not expire
  <n> = key expires in n days
  <n>w = key expires in n weeks
  <n>m = key expires in n months
  <n>y = key expires in n years
Key is valid for? (0) 0
Key does not expire at all
Is this correct? (y/N) y

GnuPG needs to construct a user ID to identify your key.

Real name: Humair
Email address: muhammadhumair001@gmail.com
Comment: gaditek
You selected this USER-ID:
"Humair (gaditek) <muhammadhumair001@gmail.com>"

Change (N)ame, (C)omment, (E)mail or (O)kay/(Q)uit? o
We need to generate a lot of random bytes. It is a good idea to perform
some other action (type on the keyboard, move the mouse, utilize the
disks) during the prime generation; this gives the random number
generator a better chance to gain enough entropy.
We need to generate a lot of random bytes. It is a good idea to perform

```

## Encrypting files using gpg

```
humair@ems:~$ gpg -c ./mangpgg
```

```

ems@ems: ~
File Edit View Search Terminal Help
ems@ems:~$ gpg --full-gen-key
gpg (GnuPG) 2.2.4; Copyright (C) 2017 Free Software Foundation, Inc.
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

Please select what kind of key you want:
  (1) RSA and RSA (default)
  (2) DSA and Elgamal
  (3) DSA (sign only)
  (4) RSA (sign only)
Your selection? 1
RSA keys may be between 1024 and 4096 bits long.
What keysize do you want? (3072) 3072
Requested keysize is 3072 bits
Please specify how long the key should be valid.
  0 = key does not expire
  <n> = key expires in n days
  <n>w = key expires in n weeks
  <n>m = key expires in n months
  <n>y = key expires in n years
Key is valid for? (0) 0
Key does not expire at all
Is this correct? (y/N) y

GnuPG needs to construct a user ID to identify your key.

Real name: Humair
Email address: muhammadhumair001@gmail.com
Comment: gaditek
You selected this USER-ID:
"Humair (gaditek) <muhammadhumair001@gmail.com>"

Change (N)ame, (C)omment, (E)mail or (O)kay/(Q)uit? o
We need to generate a lot of random bytes. It is a good idea to perform
some other action (type on the keyboard, move the mouse, utilize the
disks) during the prime generation; this gives the random number
generator a better chance to gain enough entropy.
We need to generate a lot of random bytes. It is a good idea to perform

```

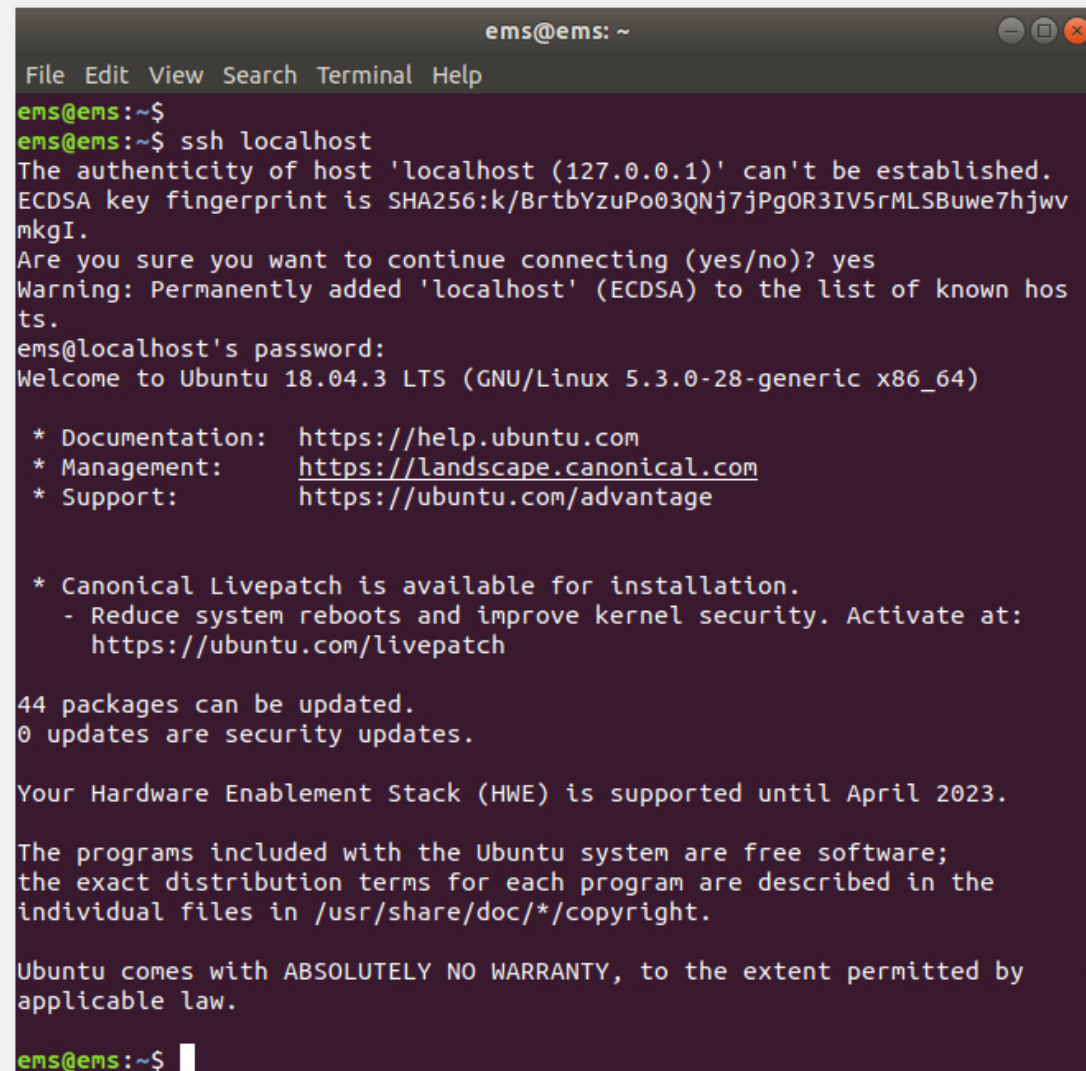
## Generating public/private ssh key pairs.

```
humair@ems:~$ gpg -c ./mangpg
```

## Configuring SSH Server For Remote Access.

```
humair@ems:~$ ssh localhost
```

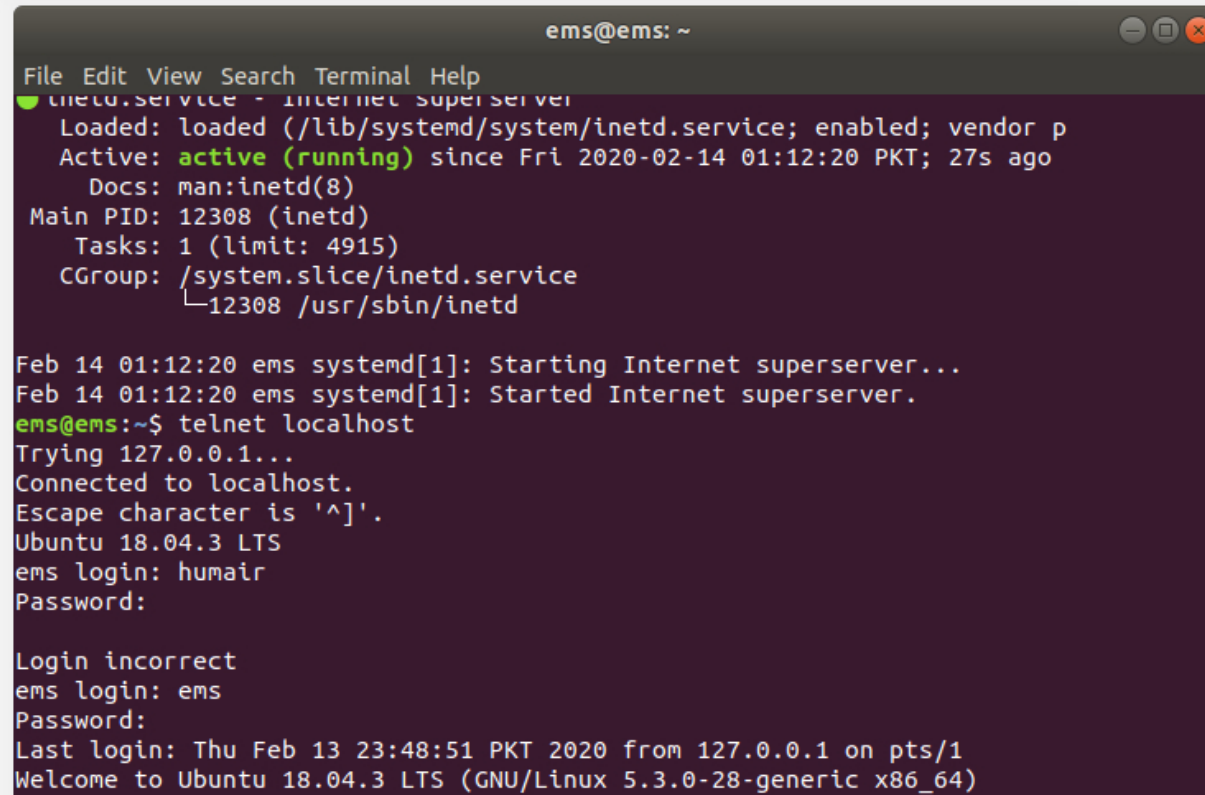
The command for connecting to the remote & this server was also fairly the same.  
However do we need to portforward in order for it to work on different network machines?

A terminal window titled 'ems@ems: ~' with standard window controls. The terminal shows the execution of 'ssh localhost', which prompts for host authenticity, password, and displays the Ubuntu 18.04.3 LTS login screen with system updates and hardware enablement information.

```
ems@ems: ~  
File Edit View Search Terminal Help  
ems@ems:~$  
ems@ems:~$ ssh localhost  
The authenticity of host 'localhost (127.0.0.1)' can't be established.  
ECDSA key fingerprint is SHA256:k/BrtbYzuPo03QNj7jPgOR3IV5rMLSBuwe7hjwv  
mkgI.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added 'localhost' (ECDSA) to the list of known hos  
ts.  
ems@localhost's password:  
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 5.3.0-28-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  
  
44 packages can be updated.  
0 updates are security updates.  
  
Your Hardware Enablement Stack (HWE) is supported until April 2023.  
  
The programs included with the Ubuntu system are free software;  
the exact distribution 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.  
ems@ems:~$
```

## Configuring telnet for Remote Access.

```
humair@ems:~$ telnet
```

A terminal window titled 'ems@ems: ~' with standard window controls. It displays the output of the 'systemctl status inetd.service' command, showing it is active and running. Below this, it shows the output of 'telnet localhost', which connects to 127.0.0.1. The user 'humair' is prompted for a login and password, but the login is incorrect. The user 'ems' is then prompted for a login and password, and the connection is successful, showing the last login time and the Ubuntu version.

```
ems@ems: ~
File Edit View Search Terminal Help
● inetd.service - Internet superserver
   Loaded: loaded (/lib/systemd/system/inetd.service; enabled; vendor p
   Active: active (running) since Fri 2020-02-14 01:12:20 PKT; 27s ago
     Docs: man:inetd(8)
  Main PID: 12308 (inetd)
    Tasks: 1 (limit: 4915)
   CGroup: /system.slice/inetd.service
           └─12308 /usr/sbin/inetd

Feb 14 01:12:20 ems systemd[1]: Starting Internet superserver...
Feb 14 01:12:20 ems systemd[1]: Started Internet superserver.
ems@ems:~$ telnet localhost
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^]'.
Ubuntu 18.04.3 LTS
ems login: humair
Password:

Login incorrect
ems login: ems
Password:
Last login: Thu Feb 13 23:48:51 PKT 2020 from 127.0.0.1 on pts/1
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 5.3.0-28-generic x86_64)
```