

# Lab – Remote Access

## Objectives

Compare SSH and Telnet for accessing a remote host.

## Background / Scenario

You will use SSH and Telnet to establish remote connections to a host. SSH is a secure method for remotely accessing an SSH host. Telnet is an insecure method for accessing a Telnet host.

## Required Resources

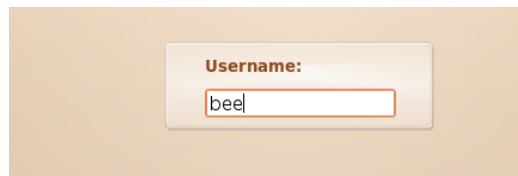
- PC with Ubuntu 16.04 Desktop LTS installed in a VirtualBox or VMware virtual machine.

### Step 1: Open a terminal window in Ubuntu

- Log in to Ubuntu using the following credentials:

User: **bee**

Password: **bug**



- Click on the terminal icon to open a terminal window.



### Step 2: Telnet to localhost

- At the command prompt, enter the following command:

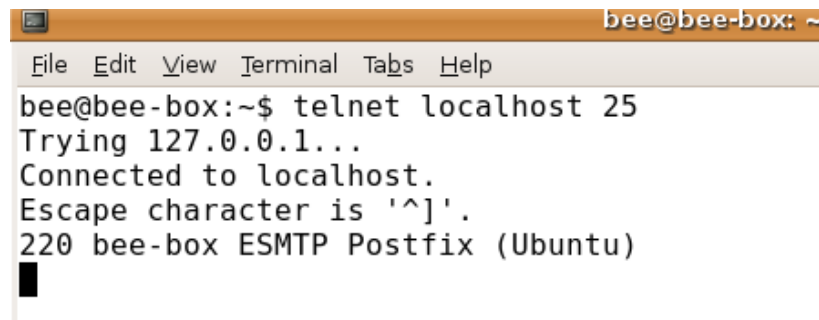
```
bee@bee-box:~$ telnet localhost
```

- You are prompted for a login account and password for an account that exists on the host:

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Ubuntu login: **bee**

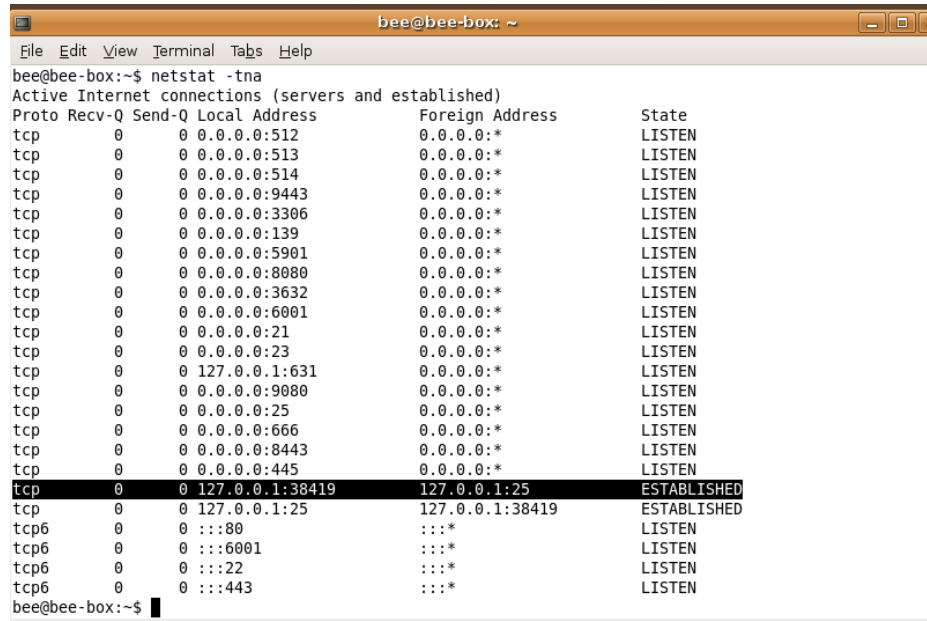
Password: **bug**



```
bee@bee-box: ~  
File Edit View Terminal Tabs Help  
bee@bee-box:~$ telnet localhost 25  
Trying 127.0.0.1...  
Connected to localhost.  
Escape character is '^]'.  
220 bee-box ESMTP Postfix (Ubuntu)  
█
```

You have successfully logged into your own machine using Telnet.

- c. Now let's confirm this by netstat:

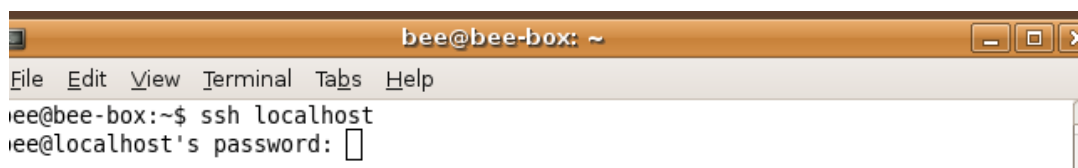


```
bee@bee-box: ~  
File Edit View Terminal Tabs Help  
bee@bee-box:~$ netstat -tna  
Active Internet connections (servers and established)  
Proto Recv-Q Send-Q Local Address           Foreign Address         State  
tcp        0      0 0.0.0.0:512             0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:513             0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:514             0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:9443            0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:3306            0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:139             0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:5901            0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:8080            0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:3632            0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:6001            0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:21              0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:23              0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:1:631           0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:9080            0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:25              0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:666             0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:8443            0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:445             0.0.0.0:*               LISTEN  
tcp        0      0 0.0.0.0:1:38419         127.0.0.1:25            ESTABLISHED  
tcp        0      0 127.0.0.1:25            127.0.0.1:38419        ESTABLISHED  
tcp6       0      0 :::80                   :::*                    LISTEN  
tcp6       0      0 :::6001                  :::*                    LISTEN  
tcp6       0      0 :::22                     :::*                    LISTEN  
tcp6       0      0 :::443                     :::*                    LISTEN  
bee@bee-box:~$ █
```

### Step 3: SSH to localhost

- a. Type the following command in terminal to access the localhost using SSH:

```
bee@bee-box:~$ ssh localhost
```



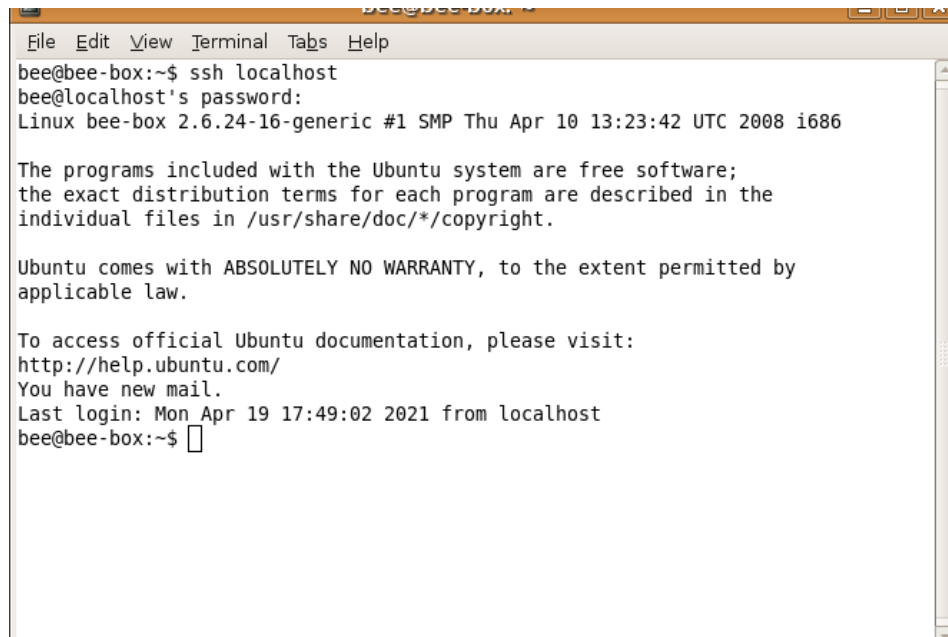
```
bee@bee-box: ~  
File Edit View Terminal Tabs Help  
bee@bee-box:~$ ssh localhost  
bee@localhost's password: █
```

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**Note:** If this is the first time connecting with SSH, the security keys will need to be saved to the system. If you are prompted as to whether to proceed, type **yes** to proceed with the connection.

- b. Use the password **bug** for the user **bee**.



```
File Edit View Terminal Tabs Help
bee@bee-box:~$ ssh localhost
bee@localhost's password:
Linux bee-box 2.6.24-16-generic #1 SMP Thu Apr 10 13:23:42 UTC 2008 i686

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.

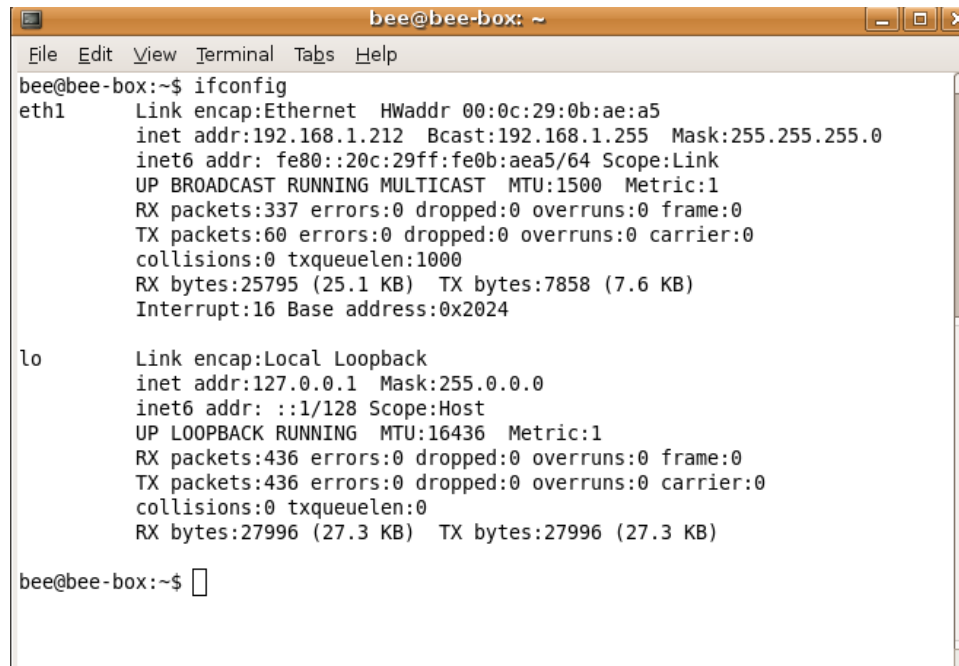
To access official Ubuntu documentation, please visit:
http://help.ubuntu.com/
You have new mail.
Last login: Mon Apr 19 17:49:02 2021 from localhost
bee@bee-box:~$
```

- c. You have successfully logged in to your machine using SSH.


### Step 4: Accessing a Remote Host

- a. Pick a partner and change the network adapters on both of your virtual machines to bridged. To do this you will need to release your cursor from the virtual machine, go to **Machine > Settings** and click **Network** and change **Attached to: NAT** to **Attached to: Bridged Adapter**. Wait for the network to reconnect. Now check your IP address by typing in the following command:

```
bee@bee-box:~$ ifconfig
```



```
bee@bee-box: ~  
File Edit View Terminal Tabs Help  
bee@bee-box:~$ ifconfig  
eth1      Link encap:Ethernet  HWaddr 00:0c:29:0b:ae:a5  
          inet addr:192.168.1.212  Bcast:192.168.1.255  Mask:255.255.255.0  
          inet6 addr: fe80::20c:29ff:fe0b:aea5/64 Scope:Link  
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1  
          RX packets:337 errors:0 dropped:0 overruns:0 frame:0  
          TX packets:60 errors:0 dropped:0 overruns:0 carrier:0  
          collisions:0 txqueuelen:1000  
          RX bytes:25795 (25.1 KB)  TX bytes:7858 (7.6 KB)  
          Interrupt:16 Base address:0x2024  
  
lo        Link encap:Local Loopback  
          inet addr:127.0.0.1  Mask:255.0.0.0  
          inet6 addr: ::1/128 Scope:Host  
          UP LOOPBACK RUNNING  MTU:16436  Metric:1  
          RX packets:436 errors:0 dropped:0 overruns:0 frame:0  
          TX packets:436 errors:0 dropped:0 overruns:0 carrier:0  
          collisions:0 txqueuelen:0  
          RX bytes:27996 (27.3 KB)  TX bytes:27996 (27.3 KB)  
  
bee@bee-box:~$
```

**Note:** If you did not receive a new IP address, click the network icon (). Disconnect and reconnect the wired connection.

- b. Repeat the SSH and Telnet commands but this time instead of localhost use your partner's IP address.