

**NAME : ADITYA RAJESH SAWANT**  
**ROLL NO. : 46**  
**CLASS : TE-4-D**  
**SUBJECT : CN**

## **EXPERIMENT NO.10**

**AIM:** Perform Remote login using Telnet server

### **THEORY:**

#### **THEORY:**

Telnet protocol allows you to connect to remote hosts over TCP/IP network. Telnet was developed in 1969. Telnet was initially developed for private use where security was not primary concern. Telnet protocol has serious security issue. Security expert recommend that the use of Telnet for remote login should be discontinued under all normal circumstances. ● Telnet Server ● Telnet Client

#### **Telnet Sever**

Telnet server software is installed on remote host. You need to configure it before client can connect with it.

#### **Telnet Client**

Telnet client software allows you to connect telnet server. Once telnet client establishes a connection to the remote host, client becomes a virtual terminal, allowing you to communicate with the remote host from your computer.

#### **Security issue with Telnet**

- Telnet by default does not encrypt any data sent over the connection.
- Anyone who has access to network device located on the network between the two hosts like router, switch, hub or gateway where Telnet is being used can intercept the packets passing by and obtain login, password and whatever else is typed with a packet sniffer software.
- Telnet protocol have no implementations that would ensure that communication is carried out between the two hosts is not intercepted in the middle.
- In RHEL Telnet is part of the **xinetd** daemon.
- Telnet use plain text to transmit password.
- root user is not allowed to connect using Telnet.
- Command-line telnet clients are built into all major operating systems.

#### **IMPLEMENTATION:**

## Configure Telnet in RHEL 6

Three RPM are required to configure telnet server in linux.

- ☐ xinetd
- ☐ telnet-server
- ☐ telnet-client

### Step 1: Installation of Packages

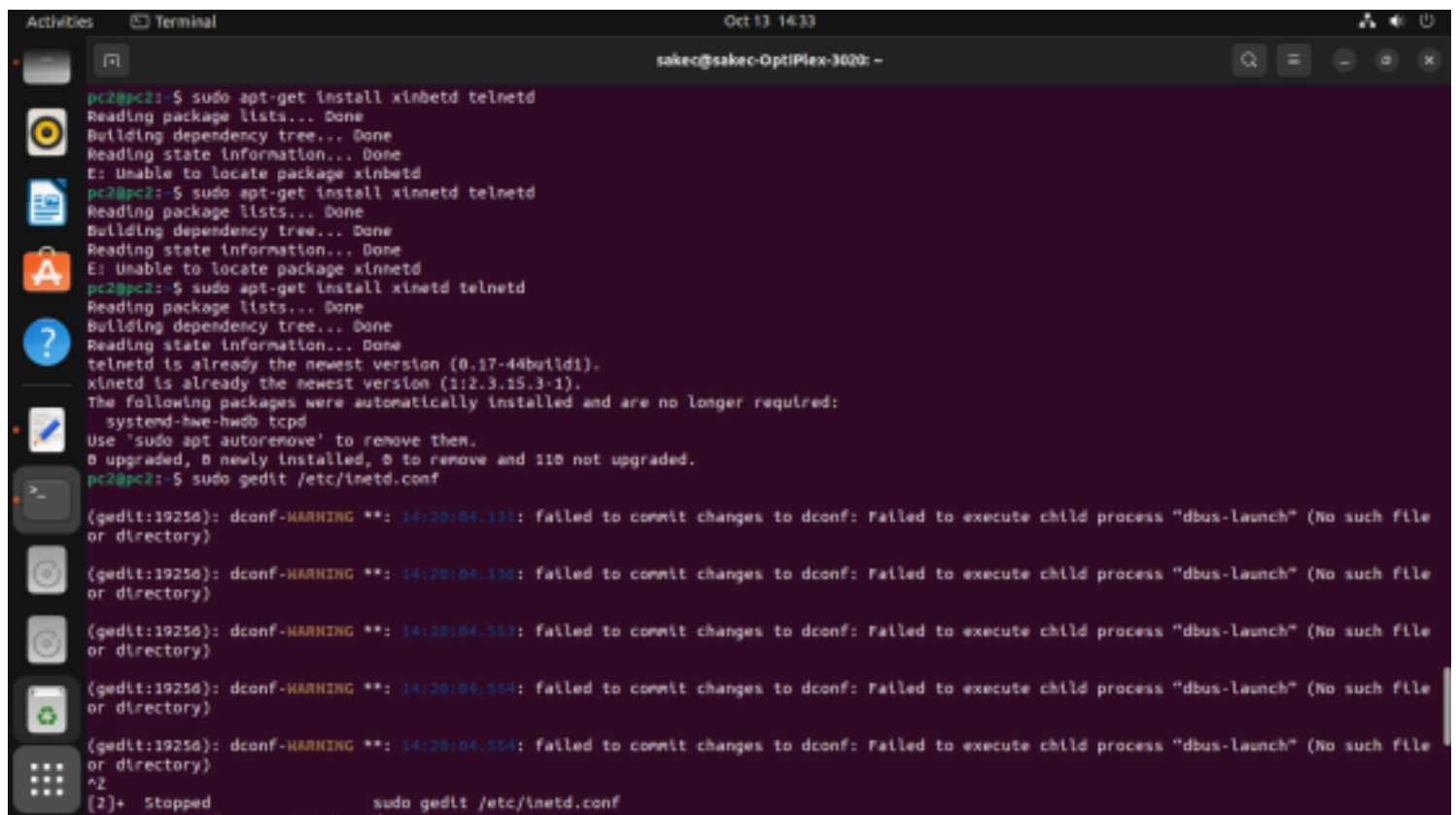
1. Login using root account. Necessary rpm for telnet server is **xinetd**, **telnet-server** and **telnet** .

```
# rpm -ivh xinetd-2.3.14-31.el6.X86_64
```

```
# rpm -ivh telnet-server-
```

```
# rpm -ivh telnet
```

2.To check whether the package is installed on the system.



```
pc2@pc2:~$ sudo apt-get install xinetd telnetd
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package xinetd

pc2@pc2:~$ sudo apt-get install xinetd telnetd
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package xinetd

pc2@pc2:~$ sudo apt-get install xinetd telnetd
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
telnetd is already the newest version (0.17-44build1).
xinetd is already the newest version (1:2.3.15.3-1).
The following packages were automatically installed and are no longer required:
  systemd-hwe-hwdb tcpd
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 110 not upgraded.
pc2@pc2:~$ sudo gedit /etc/inetd.conf
(gedit:19256): dconf-WARNING **: 14:20:04.131: failed to commit changes to dconf: Failed to execute child process "dbus-launch" (No such file or directory)
(gedit:19256): dconf-WARNING **: 14:20:04.136: failed to commit changes to dconf: Failed to execute child process "dbus-launch" (No such file or directory)
(gedit:19256): dconf-WARNING **: 14:20:04.553: failed to commit changes to dconf: Failed to execute child process "dbus-launch" (No such file or directory)
(gedit:19256): dconf-WARNING **: 14:20:04.554: failed to commit changes to dconf: Failed to execute child process "dbus-launch" (No such file or directory)
(gedit:19256): dconf-WARNING **: 14:20:04.554: failed to commit changes to dconf: Failed to execute child process "dbus-launch" (No such file or directory)
^Z
[2]+  Stopped                  sudo gedit /etc/inetd.conf
```

The version numbers of the package should not matter, Red Hat Network (RHN) will always provide you with the latest version of the package.

### Step 2: Check Configuration files

Once you have the packages installed, check the **/etc/xinetd.d/telnet** file

ensure that **disable = yes** is changed to read **disable = no**.

Activities Terminal Oct 13 14:43

pc2@pc2: -

GNU nano 6.2 /etc/inetd.conf

```
# /etc/inetd.conf: see inetd(8) for further informations.
#
# Internet superserver configuration database
#
# Lines starting with "#:LABEL:" or "#:off#" should not
# be changed unless you know what you are doing!
#
# If you want to disable an entry so it isn't touched during
# package updates just comment it out with a single '#' character.
#
# Packages should modify this file by using update-inetd(8)
#
# <service_name> <sock_type> <proto> <flags> <user> <server_path> <args>
#
#:INTERNAL: Internal services
telnetd stream tcp nowait root internal
#telnetd stream tcp nowait root internal
#daytime stream tcp nowait root internal
#time stream tcp nowait root internal

#:STANDARD: These are standard services.
telnet stream tcp nowait telnetd /usr/sbin/tcpd /usr/sbin/in.telnetd

#:BSD: Shell, login, rsh and talk are BSD protocols.

#:MAIL: Mail, news and uucp services.

#:INFO: Info services

#:BOOT: TFTP service is provided primarily for booting. Host alies
# use this only on machines acting as "boot servers."

#:RPC: RPC based services
```

Read 39 lines

Help Write Out Where Is Cut Execute Location Undo Set Mark To Bracket  
Exit Read File Replace Paste Justify Go To Line Redo Copy Where Was

Activities Terminal Oct 13 14:43

pc2@pc2: -

GNU nano 6.2 /etc/xinetd.conf

```
# Simple configuration file for xinetd
#
# Some defaults, and include /etc/xinetd.d/
defaults
{
# Please note that you need a log_type line to be able to use log_on_success
# and log_on_failure. The default is the following :
# log_type = SYSLOG daemon info
instances = 60
log_type = SYSLOG authpriv
log_on_success = HOST PID
log_on_failure = HOST
cps = 25 30
}

#includedir /etc/xinetd.d
```

Read 19 lines

Help Write Out Where Is Cut Execute Location Undo Set Mark To Bracket  
Exit Read File Replace Paste Justify Go To Line Redo Copy Where Was

```

Activities Terminal Oct 13 14:42 pc2@pc2 -
abc.c abcdcf.pcap a.sh- desktop dosk.py.save exp exp.sh- f1 f1 Pictures san
abc.c- abc.pcap a.txt desktop dos.py exp1.sh f1 Pictures Templates
sakec@sakec-OptiPlex-3020:~$ ls
abc abcdcf.pcap a.out b.sh desktop dos.py exp1.sh f1 Pictures Templates
abc- abcd.pcap a.sh b.sh documents Downloads exp1.sh factorial.sh pract.txt Videos
abc.c abcdcf.pcap a.sh- cm dosk.py examples.desktop exp.sh factorial.sh- Public
abc.c- abc.pcap a.txt desktop dosk.py.save exp exp.sh- f1- san
sakec@sakec-OptiPlex-3020:~$ exit
logout
Connection closed by foreign host.
pc2@pc2:~$ sudo /etc/init.d/xinetd restart
Restarting xinetd (via systemctl): xinetd.service.
pc2@pc2:~$ telnet 172.16.60.137
Trying 172.16.60.137...
telnet: Unable to connect to remote host: Connection refused
pc2@pc2:~$ telnet 172.16.60.205
Trying 172.16.60.205...
Connected to 172.16.60.205.
Escape character is '^]'.
Ubuntu 14.04.5 LTS
sakec@OptiPlex-3020 login: sakec
Password:
Last login: Thu Oct 13 14:38:27 IST 2022 from 172.16.60.97 on pts/4
Welcome to Ubuntu 14.04.5 LTS (GNU/Linux 4.4.0-131-generic x86_64)

 * Documentation: https://help.ubuntu.com/

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

Your Hardware Enablement Stack (HWE) is supported until April 2019.
sakec@sakec-OptiPlex-3020:~$ ls
abc abcdcf.pcap a.out b.sh desktop dos.py exp1.sh f1 Pictures Templates
abc- abcd.pcap a.sh b.sh documents Downloads exp1.sh factorial.sh pract.txt Videos
abc.c abcdcf.pcap a.sh- cm dosk.py examples.desktop exp.sh factorial.sh- Public
abc.c- abc.pcap a.txt desktop dosk.py.save exp exp.sh- f1- san
sakec@sakec-OptiPlex-3020:~$ exit
logout
Connection closed by foreign host.

```

```

# default: on
# description: The telnet server serves telnet
# unencrypted username/password pairs for
service telnet
(
    disable = no
    flags      = REUSE
    socket_type = stream
    wait       = no
    user       = root
    server     = /usr/sbin/in.telnetd
    log_on_failure += USERID
)

```

### Step 3: Restart the xinetd service

```

[root@linuxclient ~]# service xinetd restart
Stopping xinetd:
Starting xinetd:
[root@linuxclient ~]# _
[ OK ]
[ OK ]
able = no

```

#### Step 4: Check connectivity with server

```
[root@linuxclient ~]# ping 192.168.1.1
PING 192.168.1.1 (192.168.1.1) 56(84) bytes of data:
64 bytes from 192.168.1.1: icmp_seq=1 ttl=64 time=8.86 ms
^C
--- 192.168.1.1 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 761ms
rtt min/avg/max/mdev = 8.868/8.868/8.868/0.000 ms
[root@linuxclient ~]# _
```

We are getting reply of ping from server so we have connectivity with server. connect with telnet server. root user is not allowed to login from telnet. We need to create a normal user account.

### Configure telnet client in RHEL

#### Step 1: Installation of Packages

1. Login using root account. Necessary rpm for telnet server is x

```
# rpm -ivh xinetd-2.3.14-31.el6.x86_64
```

```
# rpm -ivh telnet-
```

2. To check whether the package is installed on the system.

```
[root@linuxclient ~]# rpm -qa telnet
telnet-0.17-46.el6.x86_64
[root@linuxclient ~]# rpm -qa xinetd
xinetd-2.3.14-31.el6.x86_64
[root@linuxclient ~]# _
```

#### Conclusion –

**Telnet** is an application protocol used on the Internet or local area networks to provide a bidirectional interactive text-oriented communication facility using a virtual terminal connection. However, telnet by default does not encrypt any data sent over the connection (including passwords), and so it is

```

[root@server ~]# ifconfig eth0
eth0      Link encap:Ethernet  HWaddr 88:8C:29:6F:D9:13
          inet addr:192.168.1.1  Bcast:192.168.1.255  Mask:255.255.255.0
          inet6 addr: fe80::28c:29ff:fe6f:d913/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:25 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 b)  TX bytes:4489 (4.3 KiB)

[root@server ~]# telnet 192.168.1.1
Trying 192.168.1.1...
Connected to 192.168.1.1.
Escape character is '^]'.
Red Hat Enterprise Linux Server release 6.1 (Santiago)
Kernel 2.6.32-131.0.15.el6.x86_64 on an x86_64
login: testuser
Password:
[testuser@server ~]$ _

```

We have successfully connected with Telnet server. To terminate telnet session logout from test user. We have successfully configured Telnet client on RHEL 6.

**To terminate telnet session logout from logged in user.**

```

[root@server ~]# telnet 192.168.1.1
Trying 192.168.1.1...
Connected to 192.168.1.1.
Escape character is '^]'.
Red Hat Enterprise Linux Server release 6.1 (Santiago)
Kernel 2.6.32-131.0.15.el6.x86_64 on an x86_64
login: testuser
Password:
[testuser@server ~]$ exit
logout
Connection closed by foreign host.
[root@server ~]# _

```

oftenfeasible to eavesdrop on the communications and use the password later for malicious purposes.

Questions :

1. What is Telnet?
2. Explain Telnet Client.
3. Explain Telnet Server.
4. What are Security issue with Telnet?
5. How do you test if a TCP/IP port is open in Linux?