

EXPERIMENT NO. 9

AIM: Perform remote login using Telnet Server

LO6: Design a network for an organization using a network design tool

THEORY:

- The main task of the internet is to provide services to users. For example, users want to run different application programs at the remote site and transfers a result to the local site. This requires a client-server program such as FTP, SMTP. But this would not allow us to create a specific program for each demand.
- The better solution is to provide a general client-server program that lets the user access any application program on a remote computer. Therefore, a program that allows a user to log on to a remote computer. A popular client-server program Telnet is used to meet such demands. Telnet is an abbreviation for **Terminal Network**.
- Telnet provides a connection to the remote computer in such a way that a local terminal appears to be at the remote side.

There are two types of login:

- Local Login
 - When a user logs into a local computer, then it is known as local login.
 - When the workstation running terminal emulator, the keystrokes entered by the user are accepted by the terminal driver. The terminal driver then passes these characters to the operating system which in turn, invokes the desired application program.
 - However, the operating system has special meaning to special characters. For example, in UNIX some combination of characters have special meanings such as control character with "z" means suspend. Such situations do not create any problem as the terminal driver knows the meaning of such characters. But, it can cause the problems in remote login.
- Remote login
 - When the user wants to access an application program on a remote computer, then the user must perform remote login.
 - How remote login occurs

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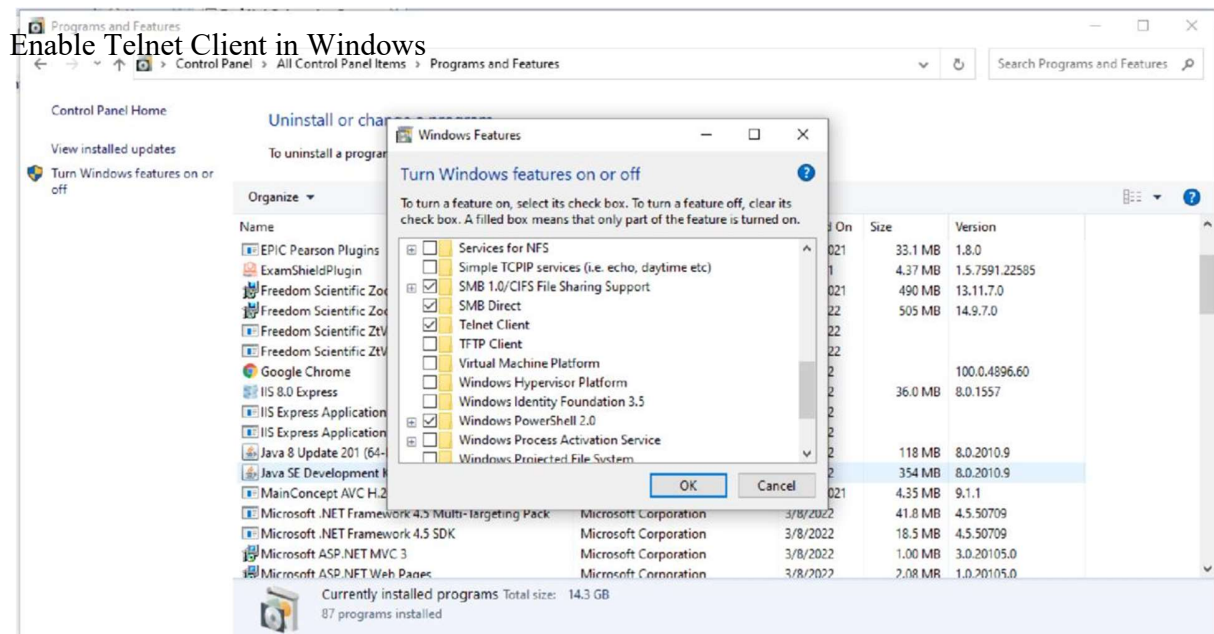
Roll No : 11
Batch: B

At the local site

The user sends the keystrokes to the terminal driver, the characters are then sent to the TELNET client. The TELNET client which in turn, transforms the characters to a universal character set known as network virtual terminal characters and delivers them to the local TCP/IP stack

At the remote site

The commands in NVT forms are transmitted to the TCP/IP at the remote machine. Here, the characters are delivered to the operating system and then pass to the TELNET server. The TELNET server transforms the characters which can be understandable by a remote computer. However, the characters cannot be directly passed to the operating system as a remote operating system does not receive the characters from the TELNET server. Therefore it requires some piece of software that can accept the characters from the TELNET server. The operating system then passes these characters to the appropriate application program.



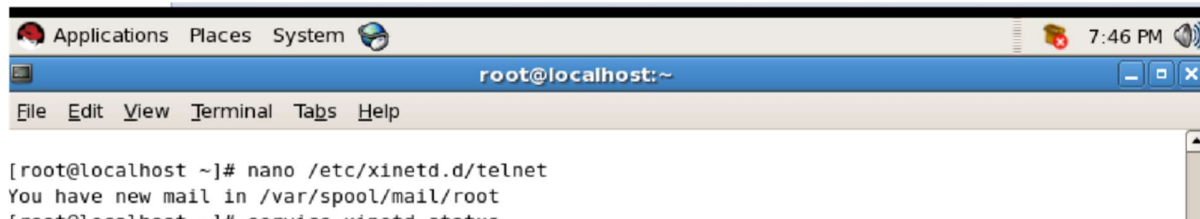
Creating user

```
New UNIX password:
BAD PASSWORD: it is too short
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
[root@localhost ~]# wireshark
```

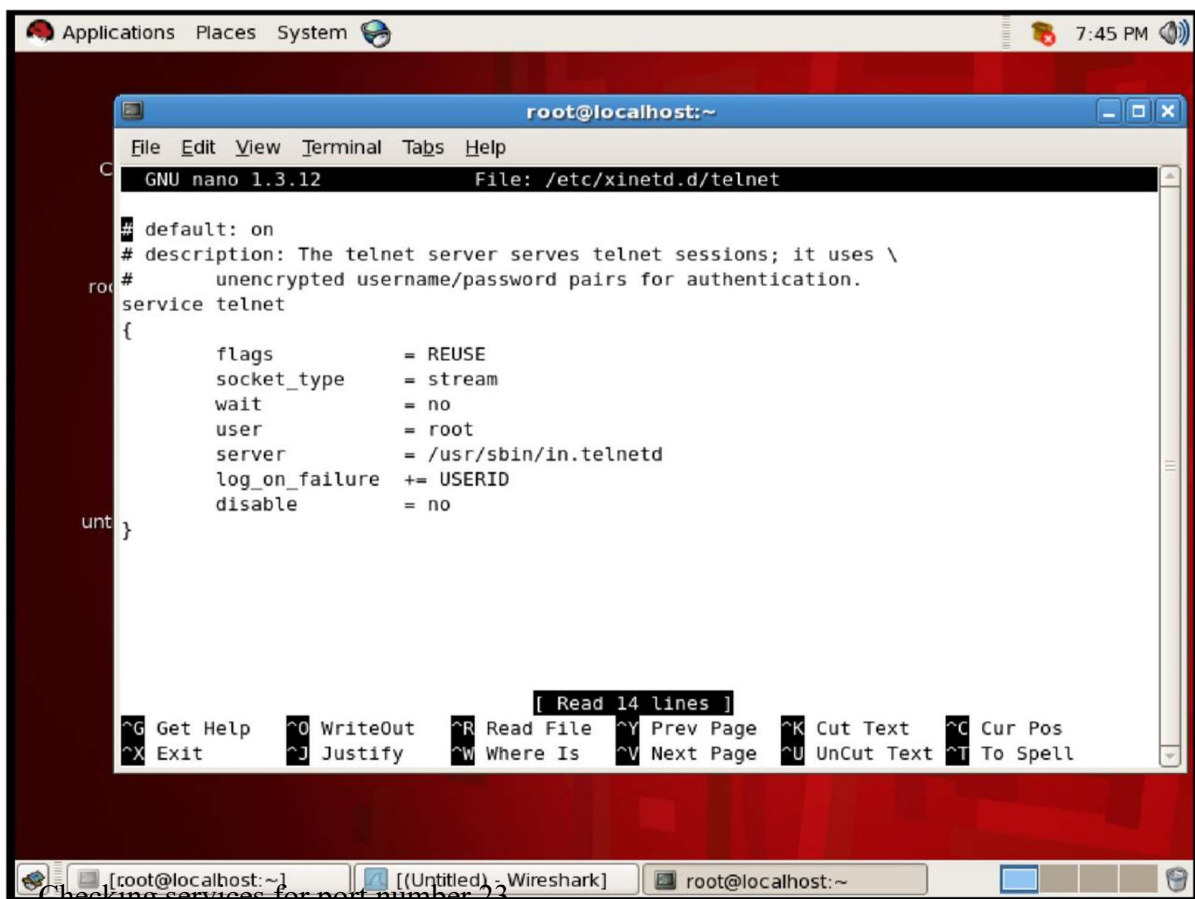
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Enable Telnet Server in Redhat



```
[root@localhost ~]# nano /etc/xinetd.d/telnet
You have new mail in /var/spool/mail/root
[root@localhost ~]# service xinetd status
```



```
GNU nano 1.3.12 File: /etc/xinetd.d/telnet
# default: on
# description: The telnet server serves telnet sessions; it uses \
# unencrypted username/password pairs for authentication.
service telnet
{
    flags             = REUSE
    socket_type       = stream
    wait              = no
    user              = root
    server             = /usr/sbin/in.telnetd
    log_on_failure    += USERID
    disable            = no
}
```

[root@localhost ~]# netstat -an|grep :23

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Checking service status

```
[root@localhost ~]# service xinetd start
Starting xinetd:
[root@localhost ~]# service xinetd restart
Stopping xinetd: [ OK ]
Starting xinetd: [ OK ]
[root@localhost ~]# netstat -an|grep :23
tcp      0      0 0.0.0.0:23          0.0.0.0:*
EN
[root@localhost ~]# who
root     pts/1        2022-04-07 16:38 (:0.0)
root     pts/2        2022-04-07 16:47 (:0.0)
root     pts/3        2022-04-07 16:57 (:0.0)
dhruv    pts/4        2022-04-07 17:01 (172.20.208.111)
```

Restarting the service

```
[root@localhost ~]# service xinetd restart
Stopping xinetd: [ OK ]
Starting xinetd: [ OK ]
```

Ifconfig in Redhat for IP address

```
[root@localhost ~]# ifconfig
eth0      Link encap:Ethernet  HWaddr 00:0C:29:A6:C1:6E
          inet addr:172.20.208.146  Bcast:172.20.208.255  Mask:255.255.255.0
          inet6 addr: fe80::20c:29ff:fea6:c16e/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:9359 errors:0 dropped:0 overruns:0 frame:0
          TX packets:271 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:1263836 (1.2 MiB)  TX bytes:23445 (22.8 KiB)

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:1280 errors:0 dropped:0 overruns:0 frame:0
          TX packets:1280 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:2035724 (1.9 MiB)  TX bytes:2035724 (1.9 MiB)
```

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Performing Remote login using Telnet Server

```
Red Hat Enterprise Linux Server release 5 (Tikanga)
Kernel 2.6.18-8.el5xen on an i686
login: Soham
Password:
[Soham@localhost ~]$ ls
[Soham@localhost ~]$ dir
[Soham@localhost ~]$ ls -s
total 0
[Soham@localhost ~]$ gedit soham
cannot open display:
Run 'gedit --help' to see a full list of available command line options.
[Soham@localhost ~]$ who
root      pts/1      2022-04-07 16:34 (:0.0)
root      pts/2      2022-04-07 16:36 (:0.0)
root      pts/3      2022-04-07 16:47 (:0.0)
Soham     pts/4      2022-04-07 17:01 (172.20.208.114)
Soham     pts/5      2022-04-07 17:03 (172.20.208.106)
Soham     pts/7      2022-04-07 17:03 (172.20.208.127)
Soham     pts/6      2022-04-07 17:03 (172.20.208.121)
[Soham@localhost ~]$ ls
[Soham@localhost ~]$ ls
sarvesh   tanvi
[Soham@localhost ~]$ ls
anussha   sarvesh   tanvi
[Soham@localhost ~]$ ls
anussha   sarvesh   tanvi
[Soham@localhost ~]$ mkdir Soham
[Soham@localhost ~]$ ls
anussha   sarvesh   Soham     tanvi
[Soham@localhost ~]$ dir
anussha   sarvesh   Soham     tanvi    unix
[Soham@localhost ~]$ ls
anussha   avinash   sanket    Soham    sohamwassup  unix
[Soham@localhost ~]$ rmdir sohamwassup/
[Soham@localhost ~]$ ls
anussha   avinash   sanket    Soham    unix
[Soham@localhost ~]$
```

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1014 860.741679 172.20.208.144 172.20.208.114 TELNET Telnet Data ...

1015 860.741810 172.20.208.114 172.20.208.144 TELNET Telnet Data ...

1061 862.939178 172.20.208.114 172.20.208.144 TELNET Telnet Data ...

1063 862.939552 172.20.208.144 172.20.208.114 TELNET Telnet Data ...

1066 863.867015 172.20.208.114 172.20.208.144 TELNET Telnet Data ...

1067 863.867121 172.20.208.144 172.20.208.114 TELNET Telnet Data ...

Frame 1014 (61 bytes on wire, 61 bytes captured)

Ethernet II, Src: Vmware_d6:2a:62 (00:0c:29:d6:2a:62), Dst: 1c:72:1d:fd:d9:e1 (1c:72:1d:fd:d9:e1)

Internet Protocol, Src: 172.20.208.144 (172.20.208.144), Dst: 172.20.208.114 (172.20.208.114)

Transmission Control Protocol, Src Port: telnet (23), Dst Port: cs-live (2129), Seq: 134

Telnet

0000 1c 72 1d fd d9 e1 00 0c 29 d6 2a 62 08 00 45 10 .r.....).*b..E.

0010 00 2f af 73 40 00 40 06 92 19 ac 14 d0 90 ac 14 ./s@.

0020 d0 72 00 17 08 51 d7 ee d3 c2 c2 a6 52 33 50 18 .r...Q...R3P.

0030 01 6d f9 4d 00 00 6c 6f 67 69 6e 3a 20 .m.M..lo gin:

1076 865.002953 172.20.208.144 172.20.208.114 TELNET Telnet Data ...

1079 865.211446 172.20.208.114 172.20.208.144 TELNET Telnet Data ...

1080 865.211652 172.20.208.144 172.20.208.114 TELNET Telnet Data ...

1084 865.738791 172.20.208.114 172.20.208.144 TELNET Telnet Data ...

1085 865.738845 172.20.208.144 172.20.208.114 TELNET Telnet Data ...

1087 865.781814 172.20.208.144 172.20.208.114 TELNET Telnet Data ...

Frame 1087 (64 bytes on wire, 64 bytes captured)

Ethernet II, Src: Vmware_d6:2a:62 (00:0c:29:d6:2a:62), Dst: 1c:72:1d:fd:d9:e1 (1c:72:1d:fd:d9:e1)

Internet Protocol, Src: 172.20.208.144 (172.20.208.144), Dst: 172.20.208.114 (172.20.208.114)

Transmission Control Protocol, Src Port: telnet (23), Dst Port: cs-live (2129), Seq: 148

Telnet

000 1c 72 1d fd d9 e1 00 0c 29 d6 2a 62 08 00 45 10 .r.....).*b..E.

010 00 32 af 7c 40 00 40 06 92 0d ac 14 d0 90 ac 14 .2.|@.

020 d0 72 00 17 08 51 d7 ee d3 d0 c2 a6 52 3d 50 18 .r...Q...R=P.

030 01 6d f9 50 00 00 50 61 73 73 77 6f 72 64 3a 20 .m.P..Pa ssword:

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After logging out: ✓

```
[root@localhost ~]# service xinetd stop
Stopping xinetd: .....
```

```
Connection to host lost.
```

CONCLUSION: From this experiment, it is concluded that we have successfully performed remote login using the Telnet server. And hence, with this experiment, we have achieved Lab Outcome 6 (LO6).