

Karthick VM

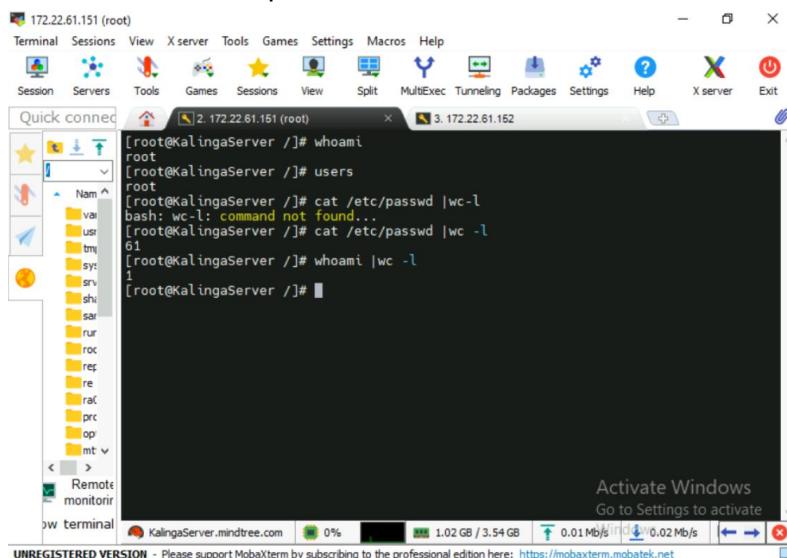
Batch – CIS -1.3

Mock Assessment -2 – Linux

Execute the following tasks

a. Display how many users logged in your machine

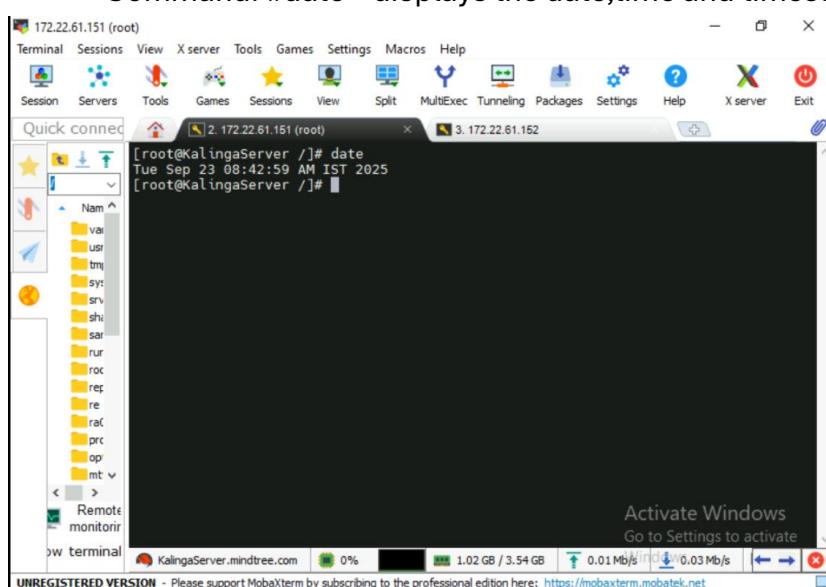
- #whoami – display current logged-in user – here:1
- At file : /etc/passwd we have the whole list of users in server – here:61



```
[root@KalingaServer /]# whoami
root
[root@KalingaServer /]# users
root
[root@KalingaServer /]# cat /etc/passwd |wc -l
bash: wc-l: command not found...
[root@KalingaServer /]# cat /etc/passwd |wc -l
61
[root@KalingaServer /]# whoami |wc -l
1
[root@KalingaServer /]#
```

b. Display the Date and Time of Server Machine

- Command: #date – displays the date,time and timestamp



```
[root@KalingaServer /]# date
Tue Sep 23 08:42:59 AM IST 2025
[root@KalingaServer /]#
```

c. What is the command to check mounted partitions

- #lsblk – Displays the details of size of disk and details of partitioned disk with details of mount points.

The screenshot shows a terminal window titled "2. 172.22.61.151 (root)" displaying the output of the lsblk command. The output lists various disk and partition entries:

```
[root@KalingaServer /]# lsblk
NAME   MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
sda      8:0    0   60G  0 disk 
├─sda1   8:1    0    2G  0 part /boot
├─sda2   8:2    0    1G  0 part /boot/efi
└─sda3   8:3    0   44G  0 part
    ├─cs-root 253:0   0   10G  0 lvm  /
    ├─cs-swap 253:1   0    4G  0 lvm  [SWAP]
    ├─cs-tmp  253:2   0    5G  0 lvm  /tmp
    └─cs-var  253:3   0   20G  0 lvm  /var
    └─cs-home 253:4   0    5G  0 lvm  /home
sdb      8:16   0   30G  0 disk 
sdc      8:32   0   30G  0 disk 
sr0     11:0    1 1024M 0 rom
```

The terminal window is part of the MobaXterm interface, which includes a file manager sidebar and a status bar at the bottom.

d. Display the Ip configuration of both client and server

- Server – Command : #ipconfig

The screenshot shows a terminal window titled "2. 172.22.61.151 (root)" displaying the output of the ifconfig command. The output shows network interface configurations:

```
[root@KalingaServer /]# ifconfig
ens160: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 172.22.61.151  netmask 255.255.255.0  broadcast 172.22.61.255
              inet6 fe80::250:56ff:fe00:a202  prefixlen 64  scopeid 0x20<link>
                ether 00:50:56:b1:a2:02  txqueuelen 1000  (Ethernet)
                  RX packets 36081771  bytes 2761620096 (2.5 GiB)
                  RX errors 0  dropped 78596  overruns 0  frame 0
                  TX packets 3098475  bytes 400037334 (381.5 MiB)
                  TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
          inet6 ::1  prefixlen 128  scopeid 0x10<host>
            loop  txqueuelen 1000  (Local Loopback)
              RX packets 902  bytes 74907 (73.1 KiB)
              RX errors 0  dropped 0  overruns 0  frame 0
              TX packets 902  bytes 74907 (73.1 KiB)
              TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

[root@KalingaServer /]#
```

The terminal window is part of the MobaXterm interface, which includes a file manager sidebar and a status bar at the bottom.

- Client

```
[root@KalingaClient ~]# ifconfig
ens160: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet 172.22.61.152 netmask 255.255.255.0 broadcast 172.22.61.255
              inet6 fe80::2e8:1ff:fe1d:85a prefixlen 64 scopeid 0x20<link>
                    ether 00:50:56:b1:d8:5a txqueuelen 1000 (Ethernet)
                      RX packets 54207798 bytes 4113870093 (3.8 GiB)
                      RX errors 0 dropped 119709 overruns 0 frame 0
                      TX packets 1199913 bytes 138540389 (132.1 MiB)
                      TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
        inet 127.0.0.1 netmask 255.0.0.0
              inet6 ::1 prefixlen 128 scopeid 0x10<host>
                    loop txqueuelen 1000 (Local Loopback)
                      RX packets 5208 bytes 411541 (401.8 KiB)
                      RX errors 0 dropped 0 overruns 0 frame 0
                      TX packets 5208 bytes 411541 (401.8 KiB)
                      TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

[root@KalingaClient ~]#
```

The screenshot shows a terminal window in MobaXterm with the title bar "172.22.61.152". The window contains the output of the "ifconfig" command. It lists two interfaces: "ens160" and "lo". The "ens160" interface has an IP of 172.22.61.152 and is connected to an Ethernet card with MAC address 00:50:56:b1:d8:5a. The "lo" interface is the loopback interface with IP 127.0.0.1.

- e. Display the content of /proc directory

- #ls – This Command displays the contents present in the directory.

```
[root@KalingaServer ~]# ls /proc
1          1944441  2119    458   69   809   894      kallsyms
1064658   1944442  2128    459   7    81    896542    kcore
1064955   1790960  1944443  2140    46   70   810   9      keys
1073      1790961  1944444  23     461   71   811   90    key-users
1074      1790962  1944445  24     462   72   812   909   kmsg
108       1790963  1944446  25     47   73   813   91    kpagemgroup
1082260   1794     1944447  26     49   733  814   92    kpagecount
1082262   18      1945704  27     5    734  815   93    kpageflags
1083      1804     1945795  29     50   735  816   94    loadavg
1086431   1811     1945797  3      51   74   817  940745    locks
1088      1812     1945867  34     52   745  818  940747    mdstat
1089      1815     1945872  35     53   746  819  940748    meminfo
1091      1841     1945873  36     533  747  82    95    misc
1093504   1872     1945874  37     54   75   820  951992    modules
1093505   1873     1945876  388493  540  76   821   96    mounts
1093506   1874     1945891  388494  55   77   83    97    mpt
1093507   1876     1945892  39     558  774  835   acpi    mtrr
1093670   1883     1945928  394963  559  78   837   asound   net
11        1885     1945929  394971  56   787  84    bootconfig pagetypeinfo
1111      1888     1997     394972  560  788  85    buddyinfo partitions
1126      1891     2       394973  561  789  86    bus    schedstat
1128      1892     20      394974  562  79   863   cgroups scsi
115       1894     2005135  394975  563  791  864   cmdline slabinfo
116       1895     2017400  394976  564  793  865   consoles
```

The screenshot shows a terminal window in MobaXterm with the title bar "172.22.61.152". The window contains the output of the "ls /proc" command. It lists numerous files and directories under the /proc directory, including "1", "kallsyms", "kcore", "keys", "key-users", "kmsg", "kpagemgroup", "kpagecount", "kpageflags", "loadavg", "locks", "mdstat", "meminfo", "misc", "modules", "mounts", "mpt", "mtrr", "asound", "bootconfig", "pagetypeinfo", "buddyinfo", "partitions", "bus", "schedstat", "cgroups", "scsi", "cmdline", "slabinfo", and "consoles".

1. Install and configure DNS server and do the name resolution of both Server and client Machines.

- Configure file -- /etc/named.conf
 - Add your ip in port 53 then add 'any;' in allow-query

```

// named.conf
// Provided by Red Hat bind package to configure the ISC BIND named(8) DNS
// server as a caching only nameserver (as a localhost DNS resolver only).
//
// See /usr/share/doc/bind*/sample/ for example named configuration files.
//
options {
    listen-on port 53 { 127.0.0.1; 172.22.61.151; };
    listen-on-v6 port 53 { ::1; };
    directory      "/var/named";
    dump-file     "/var/named/data/cache_dump.db";
    statistics-file "/var/named/data/named_stats.txt";
    memstatistics-file "/var/named/data/named_mem_stats.txt";
    secroots-file  "/var/named/data/named.secroots";
    recursing-file "/var/named/data/named.recursing";
    allow-query    { localhost; any; };

    /*
     - If you are building an AUTHORITATIVE DNS server, do NOT enable recursion
    */
};

zone ".";
{
    type hint;
    file "named.ca";
};

zone "training.com" IN {
    type master;
    file "forward.training.com";
    allow-update {none;};
};

zone "61.22.172.in-addr-arpa" IN{
    type master;
    file "reverse.training.com";
    allow-update {none;};
};

include "/etc/named.rfc1912.zones";
include "/etc/named.root.key";

```

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```

};

zone ".";
{
    type hint;
    file "named.ca";
};

zone "training.com" IN {
    type master;
    file "forward.training.com";
    allow-update {none;};
};

zone "61.22.172.in-addr-arpa" IN{
    type master;
    file "reverse.training.com";
    allow-update {none;};
};

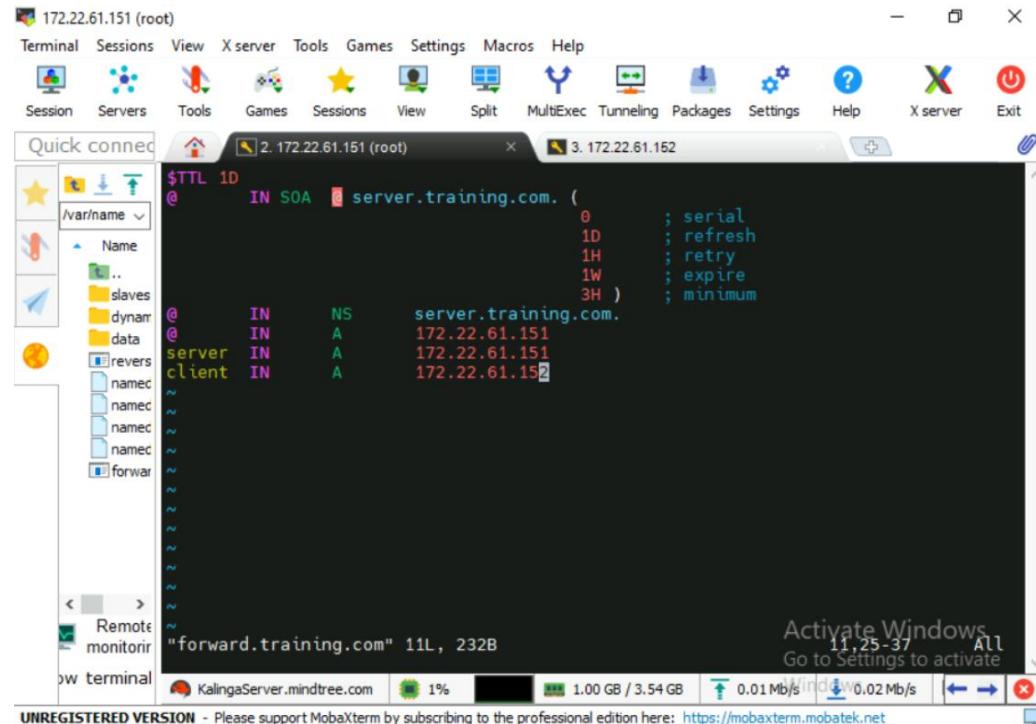
include "/etc/named.rfc1912.zones";
include "/etc/named.root.key";
"/etc/named.conf" 72L, 1944B

```

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- Configure file -- /var/named/forward.training.com and /var/named/reverse.training.com

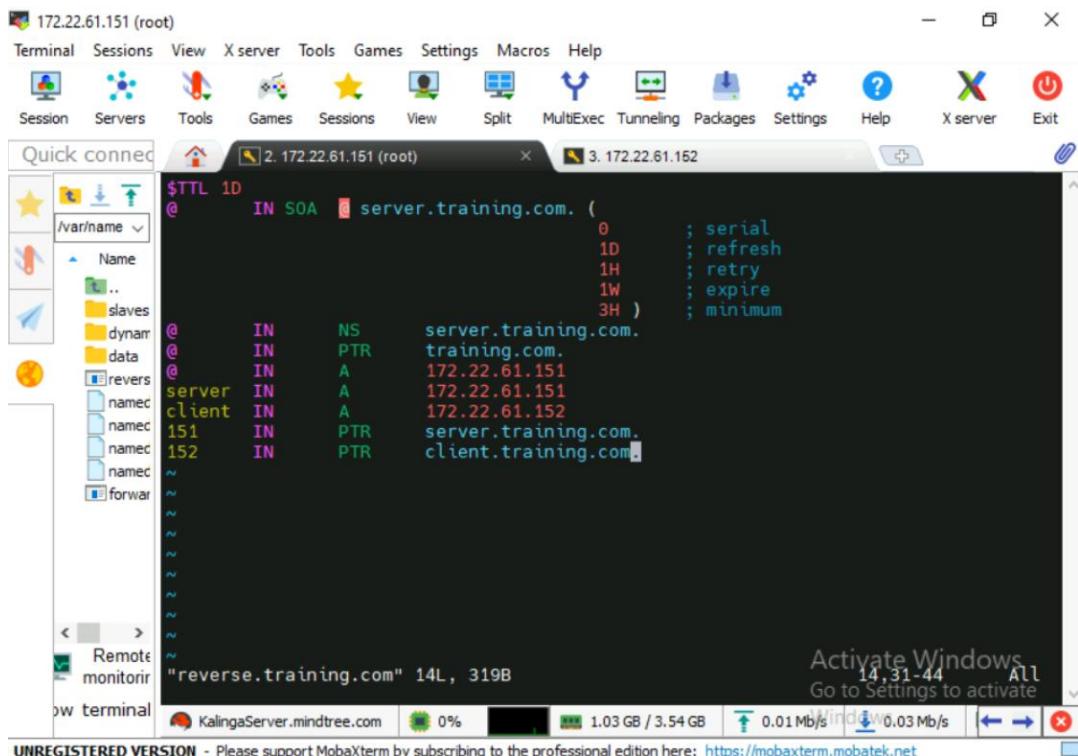


The screenshot shows the MobaXterm interface with two sessions open. Session 2 (top) displays the contents of the /var/named/forward.training.com zone file. The file contains the following SOA record:

```
$TTL 1D
@ IN SOA server.training.com. (
    0 ; serial
    1D ; refresh
    1H ; retry
    1W ; expire
    3H ) ; minimum
```

It also lists NS records for 'server' and 'client' and PTR records for '151' and '152'.

Session 3 (bottom) shows the configuration of the reverse named zone, with the command "rndc reload" being typed.



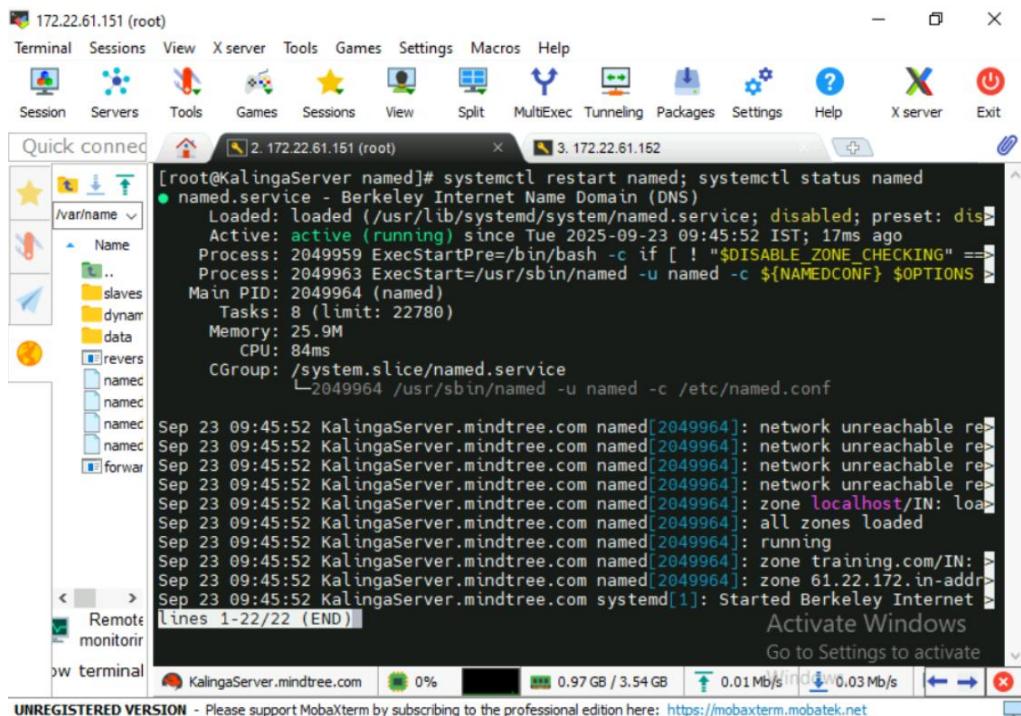
The screenshot shows the MobaXterm interface with two sessions open. Session 2 (top) displays the contents of the /var/named/reverse.training.com zone file. The file contains the following SOA record:

```
$TTL 1D
@ IN SOA server.training.com. (
    0 ; serial
    1D ; refresh
    1H ; retry
    1W ; expire
    3H ) ; minimum
```

It also lists PTR records for 'training.com.', '172.22.61.151', '172.22.61.152', 'server.training.com.', and 'client.training.com.'

Session 3 (bottom) shows the configuration of the reverse named zone, with the command "rndc reload" being typed.

- Restart and check status of named using “systemctl”

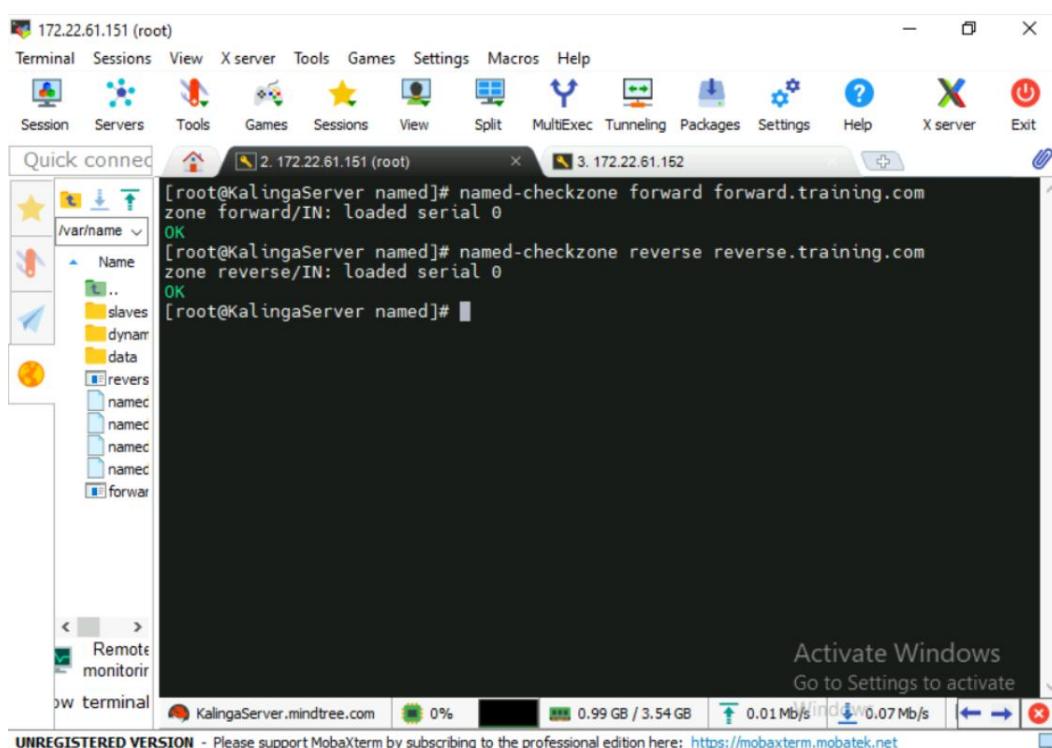


The screenshot shows the MobaXterm interface with two terminal windows. The left window is titled "Quick connect" and shows a file tree under "/var/named". The right window is titled "2. 172.22.61.151 (root)" and displays the command output:

```
[root@KalingaServer named]# systemctl restart named; systemctl status named
● named.service - Berkeley Internet Name Domain (DNS)
   Loaded: loaded (/usr/lib/systemd/system/named.service; disabled; preset: disabled)
   Active: active (running) since Tue 2025-09-23 09:45:52 IST; 17ms ago
     Process: 2049959 ExecStartPre=/bin/bash -c if [ ! "$DISABLE_ZONE_CHECKING" == "0" ] &>
    Main PID: 2049964 (named)
      Tasks: 8 (limit: 22780)
        Memory: 25.9M
          CPU: 84ms
        CGroup: /system.slice/named.service
                └─2049964 /usr/sbin/named -u named -c /etc/named.conf

Sep 23 09:45:52 KalingaServer.mindtree.com named[2049964]: network unreachable re...
Sep 23 09:45:52 KalingaServer.mindtree.com named[2049964]: zone localhost/IN: loaded
Sep 23 09:45:52 KalingaServer.mindtree.com named[2049964]: all zones loaded
Sep 23 09:45:52 KalingaServer.mindtree.com named[2049964]: running
Sep 23 09:45:52 KalingaServer.mindtree.com named[2049964]: zone training.com/IN: loaded
Sep 23 09:45:52 KalingaServer.mindtree.com named[2049964]: zone 61.22.172.in-addr...
Sep 23 09:45:52 KalingaServer.mindtree.com systemd[1]: Started Berkeley Internet Name D...
Lines 1-22/22 (END)
```

The status shows the named service is active and running.



The screenshot shows the MobaXterm interface with two terminal windows. The left window is titled "Quick connect" and shows a file tree under "/var/named". The right window is titled "2. 172.22.61.151 (root)" and displays the command output:

```
[root@KalingaServer named]# named-checkzone forward forward.training.com
zone forward/IN: loaded serial 0
OK
[root@KalingaServer named]# named-checkzone reverse reverse.training.com
zone reverse/IN: loaded serial 0
OK
[root@KalingaServer named]#
```

The output indicates that both forward and reverse zones have been successfully loaded.

2. Create a website by using httpd and host a webpage so that that can accessed from Jump server.

- Install package httpd

```
[root@KalingaServer ~]# yum reinstall -y httpd
Last metadata expiration check: 2:31:12 ago on Tue 23 Sep 2025 06:27:42 AM IST.
Dependencies resolved.
=====
 Package           Architecture   Version        Repository      Size
Reinstalling:
httpd            x86_64        2.4.62-4.el9    yumserver       47 k
=====
Transaction Summary
=====
Total size: 47 k
Installed size: 59 k
Downloading Packages:
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Preparing:
  Reinstalling : httpd-2.4.62-4.el9.x86_64          1/1
  Running scriptlet: httpd-2.4.62-4.el9.x86_64      1/2
  Running scriptlet: httpd-2.4.62-4.el9.x86_64      1/2
  Cleanup       : httpd-2.4.62-4.el9.x86_64          2/2
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```

- Configure the file httpd.conf at path: /etc/httpd/conf with details of servername and document root

```
#ErrorDocument 404 http://www.example.com/subscription_info.html
#
# EnableMMAP and EnableSendfile: On systems that support it,
# memory-mapping or the sendfile syscall may be used to deliver
# files. This usually improves server performance, but must
# be turned off when serving from networked-mounted
# filesystems or if support for these functions is otherwise
# broken on your system.
# Defaults if commented: EnableMMAP On, EnableSendfile Off
#
#EnableMMAP off
EnableSendfile on

<VirtualHost 172.22.61.151:80>
    DocumentRoot /var/www/www.webz.in
    ServerName www.webz.in
</VirtualHost>

# Supplemental configuration
#
# Load config files in the "/etc/httpd/conf.d" directory, if any.
IncludeOptional conf.d/*.conf
"/etc/httpd/conf/httpd.conf" 363L, 12111B
```

- Create a html file → index.html at /var/www/www.webz.in

The screenshot shows a MobaXterm window titled "172.22.61.151 (root)". The terminal tab contains the following HTML code:

```
<html>
  <body>
    <h1>Hello Webz.in</h1>
  </body>
</html>
```

The status bar at the bottom indicates "index.html" has 5L and 58B. A watermark for "Activate Windows" is visible in the bottom right corner.

- Go to any browser and type the server ip – i.e 172.22.61.151 to view the webpage.



Hello Webz.in

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3. Securely copy the files of /opt directory of server machine to /opt directory in client machine using SCP
 - Install packages vsftpd and ftp

```
[root@KalingaServer /]# yum reinstall -y vsftpd ftp
Last metadata expiration check: 2:43:48 ago on Tue 23 Sep 2025 06:27:42 AM IST.
Dependencies resolved.
=====
Package           Architecture   Version      Repository      Size
=====
Reinstalling:
  ftp             x86_64        0.17-89.el9    yumserver      62 k
  vsftpd          x86_64        3.0.5-6.el9    yumserver     168 k

Transaction Summary
=====
Total size: 230 k
Installed size: 459 k
Downloading Packages:
  Running transaction check
  Transaction check succeeded.
  Running transaction test
  Transaction test succeeded.
  Running transaction
    Preparing
    Reinstalling : vsftpd-3.0.5-6.el9.x86_64
    Running scriptlet: vsftpd-3.0.5-6.el9.x86_64
    Reinstalling : ftp-0.17-89.el9.x86_64
  1/1
  1/4
  2/4
  2/4
  Go to Settings to activate
```

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- Create files t1,t2 in /opt and using command #scp – a secured copy of these files are transferred to the client machine's /opt

```
[root@KalingaServer /]# cd opt
[root@KalingaServer opt]# ls
t1  t2
[root@KalingaServer opt]# scp /opt/t2 root@172.22.61.152:/opt
root@172.22.61.152's password:
t2                                         100%   0     0.0KB/s  00:00
[root@KalingaServer opt]# scp /opt/t1 root@172.22.61.152:/opt
root@172.22.61.152's password:
Permission denied, please try again.
root@172.22.61.152's password:
t1                                         100%   0     0.0KB/s  00:00
[root@KalingaServer opt]#
```

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- Now going to the client machine's /opt directory we can clearly see the t1,t2 files .

The screenshot shows a MobaXterm window titled "172.22.61.152". The interface includes a top menu bar with "Terminal", "Sessions", "View", "X server", "Tools", "Games", "Settings", "Macros", "Help", and "Exit". Below the menu is a toolbar with icons for "Session", "Servers", "Tools", "Games", "Sessions", "View", "Split", "MultiExec", "Tunneling", "Packages", "Settings", "Help", "X server", and "Exit". A "Quick connect" sidebar on the left shows a list of sessions, with "/opt/" selected. The main terminal window displays the following command output:

```
[root@KalingaClient ~]# cd opt
[root@KalingaClient opt]# ls
t1 t2
[root@KalingaClient opt]#
```

The status bar at the bottom of the terminal window shows "Activate Windows Go to Settings to activate". The footer of the window indicates it is an "UNREGISTERED VERSION".