

Assignments:10

Module:- COSA(ec-zone& kp-zone& Reverse lookup address)

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Lab Assignment :-

1. Install and configure bind server and create a domain

“with_your_Name_ec.in and your_Name_kp.in ” with following records:

A. Name server for “your_Name_ec.in” : 192.168.3.212 B. Web server ip for “your_Name_ec.in” : 192.168.3.210 C. Mail server ip for

“your_Name_ec.in”: 192.168.3.211 D. Name server for

“your_Name_kp.in” : 192.168.3.212 E. Web server for

“your_Name_kp.in” : 192.168.3.210 F. Mail Server for

“your_Name_kp.in” : 192.168.3.213

In the client machine execute following command to verify the installation:

A.

```
#nslookup > your_Name_ec.in
```

```
>set type=NS
```

```
>your_Name_ec.in
```

```
>set type=MX
```

```
> your_Name_kp.in
```

```
> your_Name_ec.in
```

```
>set type=A
```

```
>www.your_Name_ec.in
```

```
>www.your_Name_kp.in
```

SERVER

Step-1:- install the dns server at use bind command

```
root@localhost:/home/files
File Edit View Search Terminal Tabs Help

root@localhost:/home/files x root@localhost:/home/files x [icon] v

[root@localhost files]# dnf -y install bind
Last metadata expiration check: 1:03:30 ago on Thu 10 Nov 2022 04:15:09 PM IST.
Dependencies resolved.
=====
Package Architecture Version Repository Size
=====
Installing:
bind x86_64 32:9.11.36-5.el8 appstream 2.1 M
Upgrading:
bind-libs x86_64 32:9.11.36-5.el8 appstream 175 k
bind-libs-lite x86_64 32:9.11.36-5.el8 appstream 1.2 M
bind-license noarch 32:9.11.36-5.el8 appstream 103 k
bind-utils x86_64 32:9.11.36-5.el8 appstream 452 k
python3-bind noarch 32:9.11.36-5.el8 appstream 151 k
Transaction Summary
=====
Install 1 Package
Upgrade 5 Packages

Total download size: 4.2 M
Downloading Packages:
(1/6): bind-libs-9.11.36-5.el8.x86_64.rpm 260 kB/s | 175 kB 00:00
```

Step-2:- configure DNS server and declare the domain information for prithvirajec.in and prithvirajkp.in domain in /etc/named.conf
#vi /etc/named.conf

```
root@localhost:/var/named
File Edit View Search Terminal Help
severity dynamic;
};
};
zone "." IN {
    type hint;
    file "named.ca";
};
zone "ditiss.in" IN {
    type master;
    file "ditiss-zone";
};
zone "prithvirajec.in" IN {
    type master;
    file "ec-zone";
};
zone "prithvirajkp.in" IN {
    type master;
    file "kp-zone";
};
include "/etc/named.rfc1912.zones";
include "/etc/named.root.key";
```

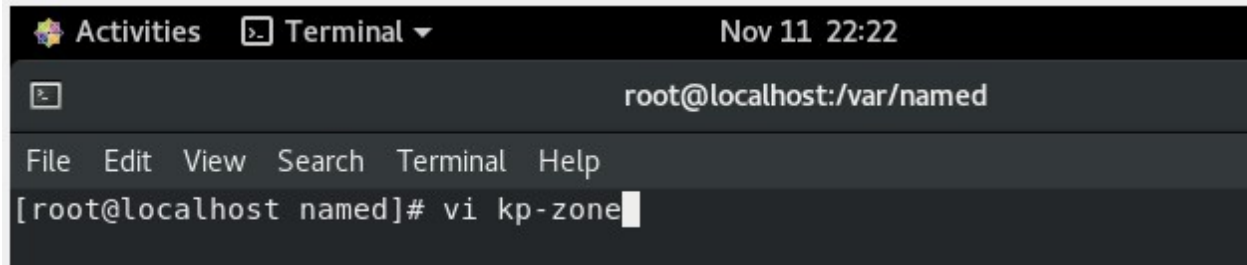
Step-3:- to check configuration error

```
[root@localhost ~]# named-checkconf /etc/named.conf
[root@localhost ~]# cd /var/named
[root@localhost named]# vi ec-zone
[root@localhost named]#
```

Step-4:- create a zone file “prithvirajec.in” /var/named.

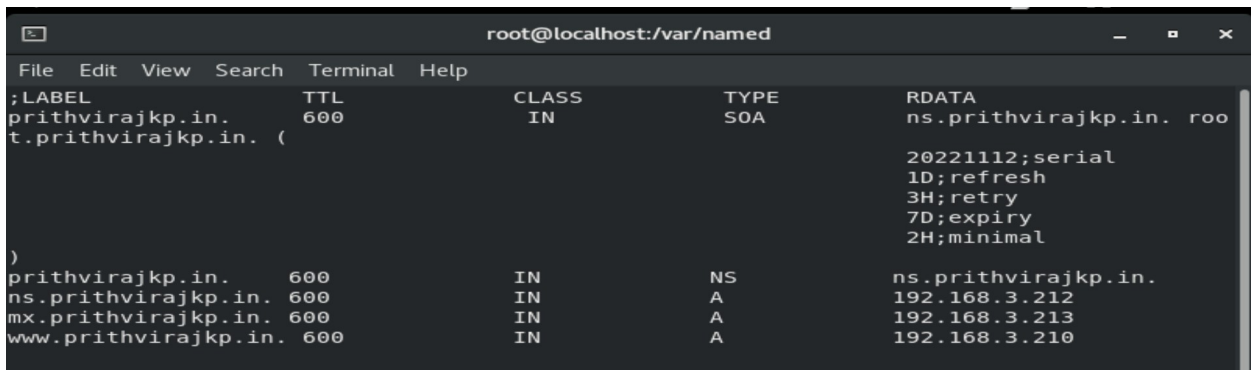
```
File Edit View Search Terminal Help
;LABEL          TTL          CLASS      TYPE      RDATA
prithvirajec.in. 600          IN         SOA       ns.prithviraj.in. roo
t.prithviraj.in. (
                                20221110;serial
                                1D;refresh
                                3H;retry
                                7D;expiry
                                2H;minimal
)
prithvirajec.in. 600          IN         NS        ns.prithvirajec.in.
ns.prithvirajec.in. 600          IN         A         192.168.3.212
mail.prithvirajec.in. 600          IN         A         192.168.3.211
www.prithvirajec.in. 600          IN         A         192.168.3.210
~
```

Step-5:- create a zone file “prithvirajkp.in” /var/named.



A terminal window titled "Terminal" with a timestamp of "Nov 11 22:22". The prompt is "root@localhost:/var/named". The command "vi kp-zone" is entered at the prompt.

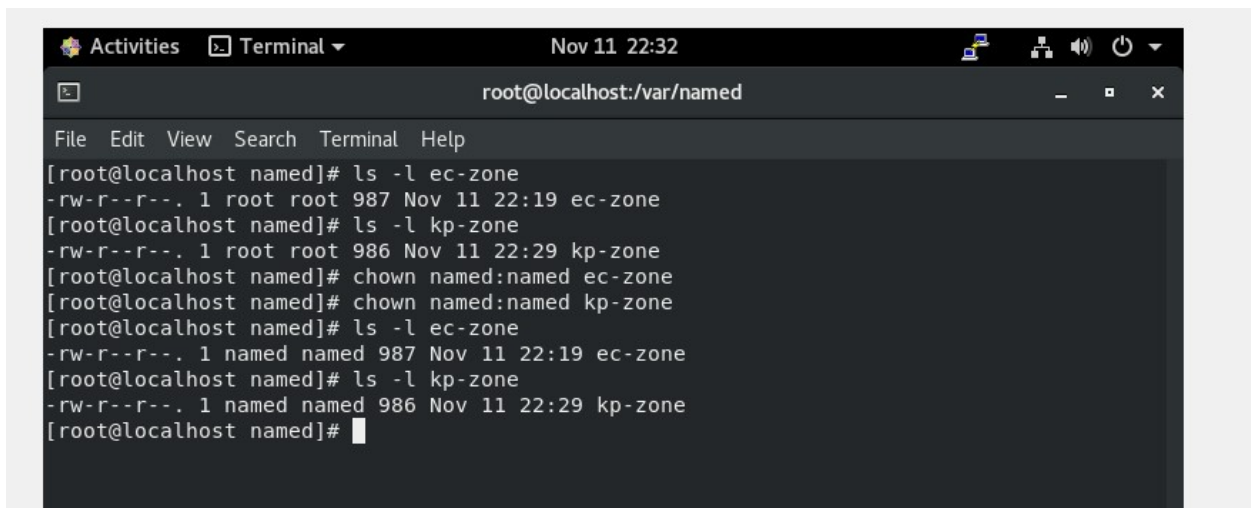
```
File Edit View Search Terminal Help
[root@localhost named]# vi kp-zone
```



A terminal window titled "root@localhost:/var/named" showing the contents of the "kp-zone" file. The file contains DNS zone data for "prithvirajkp.in".

```
File Edit View Search Terminal Help
;LABEL
prithvirajkp.in.      TTL      CLASS      TYPE      RDATA
t.prithvirajkp.in. (
                    600      IN         SOA       ns.prithvirajkp.in. roo
                    20221112;serial
                    1D;refresh
                    3H;retry
                    7D;expiry
                    2H;minimal
)
prithvirajkp.in.     600      IN         NS        ns.prithvirajkp.in.
ns.prithvirajkp.in. 600      IN         A         192.168.3.212
mx.prithvirajkp.in. 600      IN         A         192.168.3.213
www.prithvirajkp.in. 600      IN         A         192.168.3.210
```

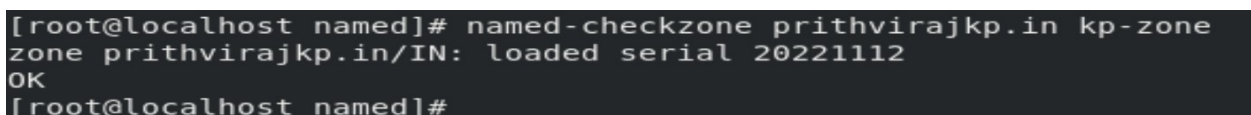
Step-6:- change the ownership of ec-zone and kp-zone



A terminal window titled "Terminal" with a timestamp of "Nov 11 22:32". The prompt is "root@localhost:/var/named". The user runs "ls -l ec-zone" and "ls -l kp-zone" to check ownership. Then, "chown named:named ec-zone" and "chown named:named kp-zone" are run to change ownership to the "named" user and group. Finally, "ls -l ec-zone" and "ls -l kp-zone" are run again to confirm the change.

```
File Edit View Search Terminal Help
[root@localhost named]# ls -l ec-zone
-rw-r--r--. 1 root root 987 Nov 11 22:19 ec-zone
[root@localhost named]# ls -l kp-zone
-rw-r--r--. 1 root root 986 Nov 11 22:29 kp-zone
[root@localhost named]# chown named:named ec-zone
[root@localhost named]# chown named:named kp-zone
[root@localhost named]# ls -l ec-zone
-rw-r--r--. 1 named named 987 Nov 11 22:19 ec-zone
[root@localhost named]# ls -l kp-zone
-rw-r--r--. 1 named named 986 Nov 11 22:29 kp-zone
[root@localhost named]#
```

Step-7:- check the zone file for the error



A terminal window showing the command "named-checkzone prithvirajkp.in kp-zone" being run. The output indicates the zone is loaded successfully.

```
[root@localhost named]# named-checkzone prithvirajkp.in kp-zone
zone prithvirajkp.in/IN: loaded serial 20221112
OK
[root@localhost named]#
```

Step-8:- restart DNS server

```
root@localhost:/home/files x root@localhost:/home/files x
root@localhost files]# systemctl start named
root@localhost files]# systemctl status named
named.service - Berkeley Internet Name Domain (DNS)
  Loaded: loaded (/usr/lib/systemd/system/named.service; disabled; vendor pres>
  Active: active (running) since Thu 2022-11-10 17:23:45 IST; 12s ago
  Process: 28050 ExecStart=/usr/sbin/named -u named -c ${NAMEDCONF} $OPTIONS (c>
  Process: 28047 ExecStartPre=/bin/bash -c if [ ! "$DISABLE_ZONE_CHECKING" == ">
  Main PID: 28052 (named)
  Tasks: 4 (limit: 12262)
  Memory: 15.6M
  CGroup: /system.slice/named.service
          └─28052 /usr/sbin/named -u named -c /etc/named.conf

Nov 10 17:23:45 localhost.localdomain named[28052]: network unreachable resolv>
Nov 10 17:23:45 localhost.localdomain named[28052]: network unreachable resolv>
Nov 10 17:23:45 localhost.localdomain named[28052]: network unreachable resolv>
Nov 10 17:23:45 localhost.localdomain named[28052]: network unreachable resolv>
Nov 10 17:23:45 localhost.localdomain named[28052]: network unreachable resolv>
Nov 10 17:23:45 localhost.localdomain named[28052]: network unreachable resolv>
Nov 10 17:23:45 localhost.localdomain named[28052]: network unreachable resolv>
Nov 10 17:23:45 localhost.localdomain named[28052]: network unreachable resolv>
Nov 10 17:23:45 localhost.localdomain named[28052]: managed-keys-zone: Key 2032>
Nov 10 17:23:45 localhost.localdomain named[28052]: resolver priming query comp>
lines 1-21/21 (END)
```

Step-9:-Stop Firewalld and run netstat command.

```
[root@localhost named]# systemctl stop firewalld
[root@localhost named]# iptables -F
[root@localhost named]# setenforce 0
[root@localhost named]# netstat -puna|more
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Pro
gram name
udp        0      0 192.168.3.47:53         0.0.0.0:*               3750/na
med
udp        0      0 192.168.122.1:53        0.0.0.0:*               1280/dn
smasq
udp        0      0 0.0.0.0:67             0.0.0.0:*               1280/dn
smasq
udp        0      0 192.168.3.47:68        192.168.1.3:67         ESTABLISHED 841/Net
workManager
udp        0      0 0.0.0.0:111            0.0.0.0:*               1/syste
md
udp        0      0 0.0.0.0:123            0.0.0.0:*               687/chr
onyd
udp        0      0 0.0.0.0:38033          0.0.0.0:*               690/ava
hi-daemon: r
udp        0      0 0.0.0.0:5353           0.0.0.0:*               690/ava
hi-daemon: r
udp        0      0 127.0.0.1:323          0.0.0.0:*               687/chr
```

Client

Step-1:- go to client side on command prompt

```
Command Prompt - nslookup

C:\Users\CDAC>nslookup
Default Server:  stuns.blr1.cdac.in
Address:  192.168.1.3

> server 192.168.3.47
Default Server:  [192.168.3.47]
Address:  192.168.3.47

> www.prithvirajec.in
Server:  [192.168.3.47]
Address:  192.168.3.47

Name:    www.prithvirajec.in
Address:  192.168.3.210

> set type=NS
> www.prithvirajec.in
Server:  [192.168.3.47]
Address:  192.168.3.47

prithvirajec.in
    primary name server = ns.prithviraj.in
    responsible mail addr = root.prithviraj.in
    serial = 20221110
    refresh = 86400 (1 day)
    retry = 10800 (3 hours)
    expire = 604800 (7 days)
    default TTL = 7200 (2 hours)
> www.prithvirajkp.in
Server:  [192.168.3.47]
Address:  192.168.3.47

prithvirajkp.in
    primary name server = ns.prithvirajkp.in
    responsible mail addr = root.prithvirajkp.in
    serial = 20221112
    refresh = 86400 (1 day)
    retry = 10800 (3 hours)
    expire = 604800 (7 days)
    default TTL = 7200 (2 hours)
> set type=A
> www.prithvirajec.in
Server:  [192.168.3.47]
Address:  192.168.3.47

Name:    www.prithvirajec.in
Address:  192.168.3.210

> www.prithvirajkp.in
Server:  [192.168.3.47]
Address:  192.168.3.47

Name:    www.prithvirajkp.in
Address:  192.168.3.210

> _
```



```
> set type=MX
> www.prithvirajec.in
Server: [192.168.3.47]
Address: 192.168.3.47

prithvirajec.in
    primary name server = ns.prithviraj.in
    responsible mail addr = root.prithviraj.in
    serial = 20221110
    refresh = 86400 (1 day)
    retry = 10800 (3 hours)
    expire = 604800 (7 days)
    default TTL = 7200 (2 hours)
> google.com
Server: [192.168.3.47]
Address: 192.168.3.47

Non-authoritative answer:
google.com      MX preference = 10, mail exchanger = smtp.google.com

google.com      nameserver = ns3.google.com
google.com      nameserver = ns2.google.com
google.com      nameserver = ns4.google.com
google.com      nameserver = ns1.google.com
ns2.google.com  internet address = 216.239.34.10
ns1.google.com  internet address = 216.239.32.10
ns3.google.com  internet address = 216.239.36.10
ns4.google.com  internet address = 216.239.38.10
ns2.google.com  AAAA IPv6 address = 2001:4860:4802:34::a
ns1.google.com  AAAA IPv6 address = 2001:4860:4802:32::a
ns3.google.com  AAAA IPv6 address = 2001:4860:4802:36::a
ns4.google.com  AAAA IPv6 address = 2001:4860:4802:38::a
> cdac.in
Server: [192.168.3.47]
Address: 192.168.3.47

Non-authoritative answer:
cdac.in MX preference = 5, mail exchanger = mx4.cdac.in
cdac.in MX preference = 1, mail exchanger = mx1.cdac.in

cdac.in nameserver = ns2.easydns.com
cdac.in nameserver = remote1.easydns.com
cdac.in nameserver = remote3.easydns.com
cdac.in nameserver = ns2.cdac.in
cdac.in nameserver = ns1.cdac.in
cdac.in nameserver = ns2-v6.cdac.in
cdac.in nameserver = ns1-v6.cdac.in
cdac.in nameserver = ns1.easydns.com
cdac.in nameserver = remote2.easydns.com
ns1-v6.cdac.in  internet address = 196.1.113.248
ns2.cdac.in     internet address = 196.1.113.249
ns2-v6.cdac.in  internet address = 196.1.113.249
ns1.cdac.in     internet address = 196.1.113.248
>
```

2. Configure DNS Server for reverse lookup for the network 192.168.1.0/24.

```
Command Prompt - nslookup

C:\Users\CDAC>nslookup
Default Server:  stuns.blr1.cdac.in
Address:  192.168.1.3

> set type=ptr
> 192.168.1.3
Server:  stuns.blr1.cdac.in
Address:  192.168.1.3

3.1.168.192.in-addr.arpa      name = stuns.blr1.cdac.in
1.168.192.in-addr.arpa  nameserver = stuns.blr1.cdac.in
stuns.blr1.cdac.in      internet address = 192.168.1.3
>
```