

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 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

```

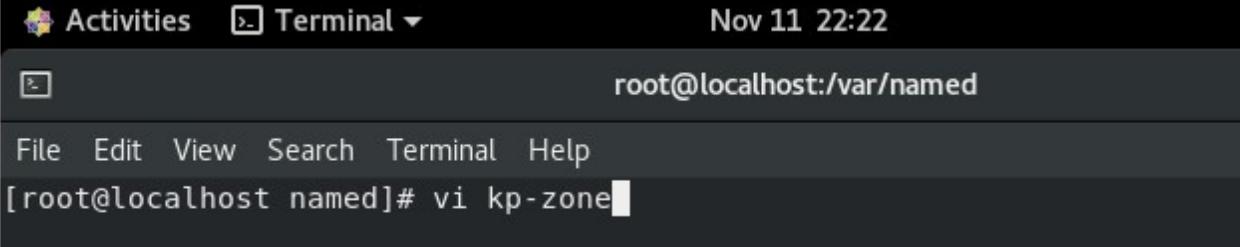
[root@localhost ~]# named-checkconf /etc/named.conf
[root@localhost ~]# cd /var/named
[root@localhost named]# vi ec-zone
[root@localhost named]#

```

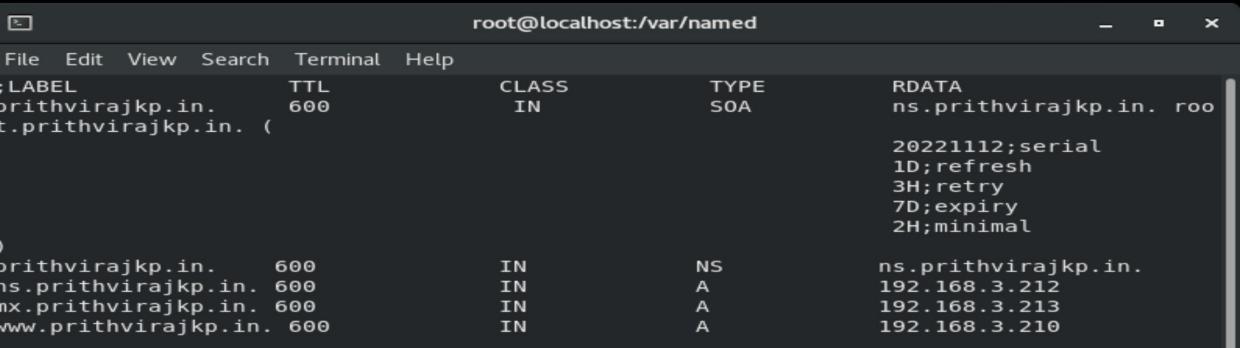
Step-4:- create a zone file “prithvirajec.in” /var/named.

File	Edit	View	Search	Terminal	Help	
;LABEL		TTL		CLASS	TYPE	RDATA
prithvirajec.in.		600		IN	SOA	ns.prithvirajec.in. root
t.prithvirajec.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.

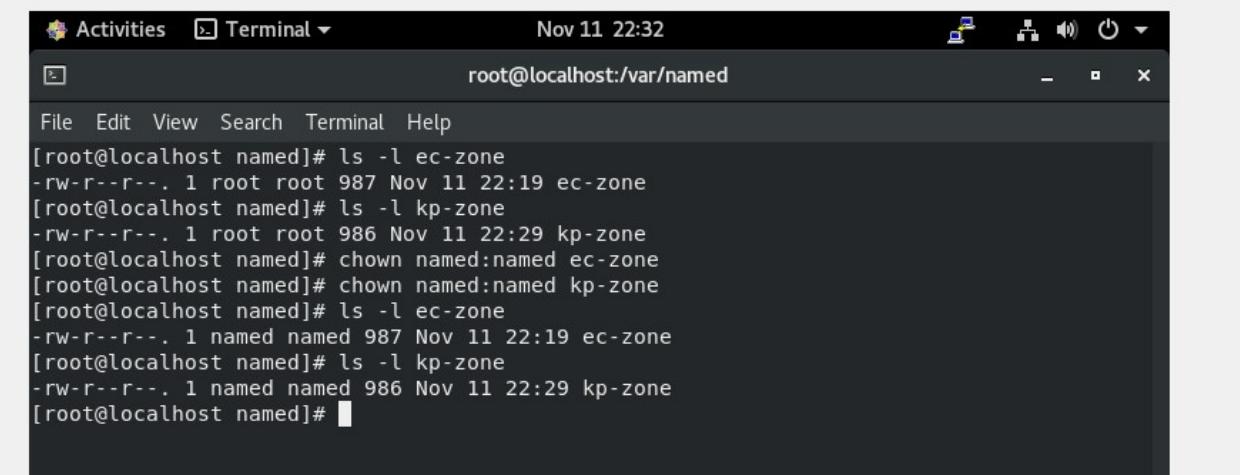


```
Activities Terminal Nov 11 22:22
root@localhost:/var/named
File Edit View Search Terminal Help
[root@localhost named]# vi kp-zone
```



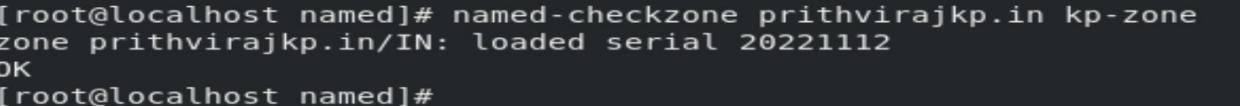
	TTL	CLASS	TYPE	RDATA
;LABEL				
prithvirajkp.in.	600	IN	SOA	ns.prithvirajkp.in. root
t.prithvirajkp.in.	(20221112;serial
				1D;refresh
				3H;retry
				7D;expiry
				2H:minimal
)				
prithvirajkp.in.	600	IN	NS	ns.prithvirajkp.in.
ns.prithvirajkp.in.	600	IN	A	192.168.3.212
mx.prithvirajkp.in.	600	IN	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



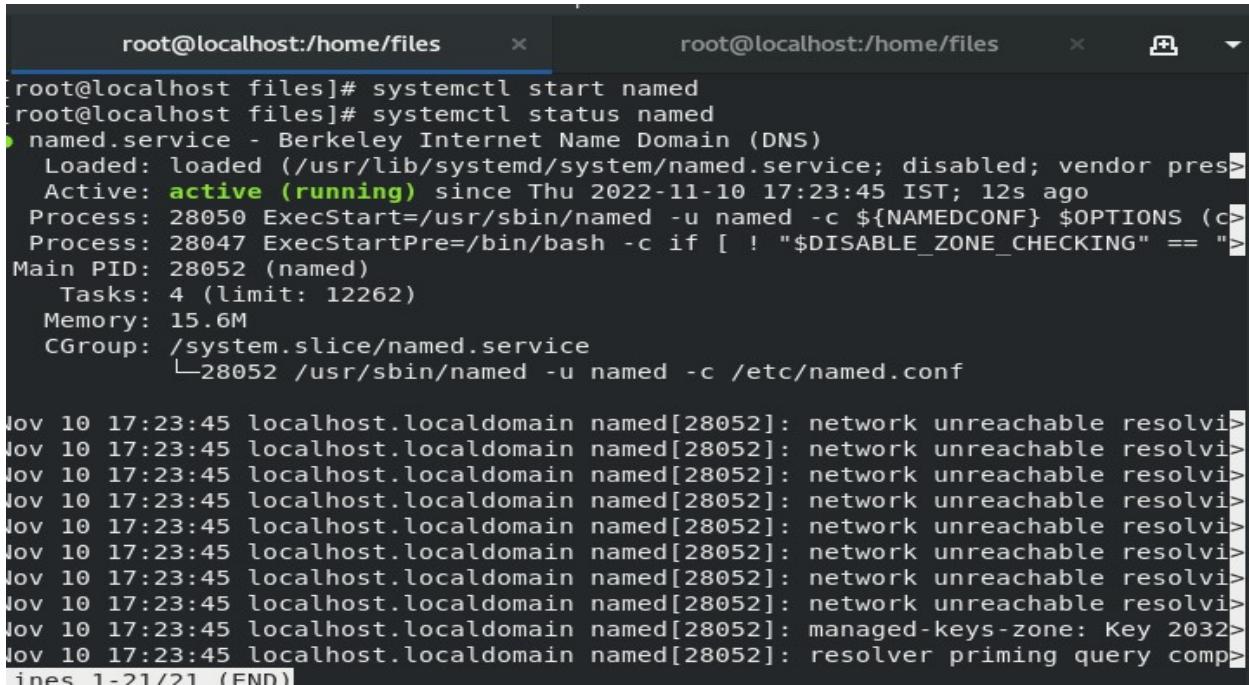
```
Activities Terminal Nov 11 22:32
root@localhost:/var/named
File Edit View Search Terminal Help
[root@localhost named]# ls -l ec-zone
-rw-r--r--. 1 root root 987 Nov 11 22:19 ec-zone
[root@localhost named]# ls -l kp-zone
-rw-r--r--. 1 root root 986 Nov 11 22:29 kp-zone
[root@localhost named]# chown 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



```
[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

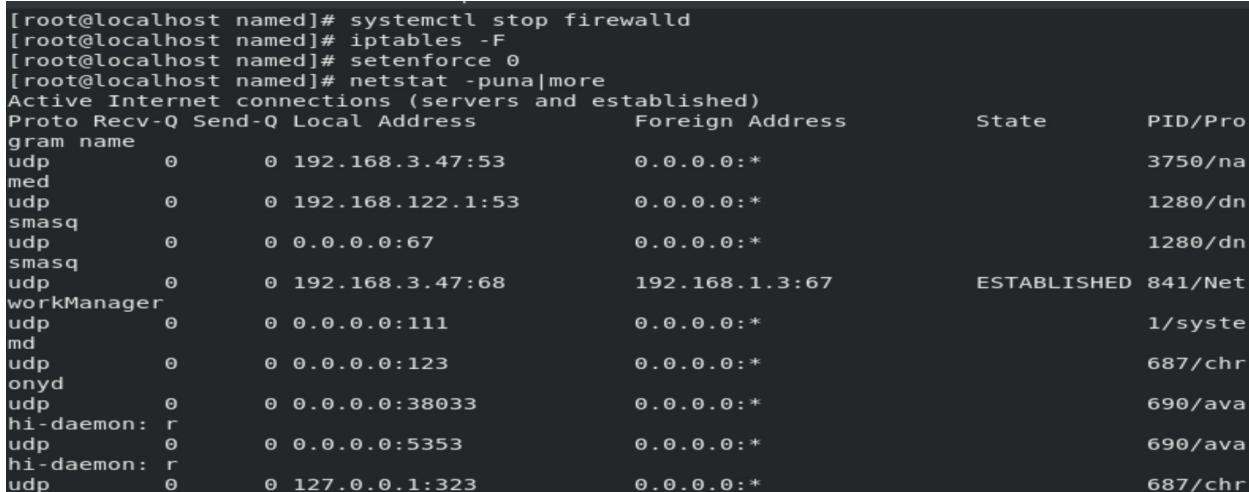


The screenshot shows two terminal windows side-by-side. Both windows have the title 'root@localhost:/home/files'. The left window shows the command 'systemctl start named' being run, followed by the output of 'systemctl status named'. The right window shows the same commands being run again. The output indicates that the 'named' service is active and running.

```
[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]: 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.



The screenshot shows a single terminal window with the title 'root@localhost named'. The user runs 'systemctl stop firewalld', 'iptables -F', and 'setenforce 0'. Then, they run 'netstat -n | more' to view the active internet connections. The output shows various network connections, including ones for 'med', 'smasq', 'workManager', 'ondy', and 'hi-daemon' processes.

```
[root@localhost named]# systemctl stop firewalld
[root@localhost named]# iptables -F
[root@localhost named]# setenforce 0
[root@localhost named]# netstat -n | 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:*
med
udp        0      0  192.168.122.1:53       0.0.0.0:*
smasq
udp        0      0  0.0.0.0:67           0.0.0.0:*
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:*
md
udp        0      0  0.0.0.0:123           0.0.0.0:*
ondy
udp        0      0  0.0.0.0:38033         0.0.0.0:*
hi-daemon: r
udp        0      0  0.0.0.0:5353          0.0.0.0:*
hi-daemon: r
udp        0      0  127.0.0.1:323         0.0.0.0:*
```

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.

```
ca 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
>
```