

# DNS

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```
//  
// Do any local configuration here  
//  
// Consider adding the 1918 zones here, if they are not used in your  
// organization  
//include "/etc/bind/zones.rfc1918  
  
zone "cnlab"{  
    type master;  
    file "/etc/bind/db.cnlab";  
};  
  
zone "1.10.10.10.in-addr.arpa" {  
    type master;  
    notify no;  
    file "/etc/bind/db.1.10.10.10";  
};
```

**/etc/bind/named.conf.local**

```
Connected (unencrypted) to: QEMU (263_20_33)
GNU nano 2.5.3 File: /etc/bind/db.cnlab

; BIND reverse data file for empty rfc1918 zone
;
; DO NOT EDIT THIS FILE - it is used for multiple zones.
; Instead, copy it, edit named.conf, and use that copy.
;
$TTL      86400
@          IN      SOA      ns.cnlab. root.localhost. (
                        1          ; Serial
                        604800     ; Refresh
                        86400      ; Retry
                        2419200    ; Expire
                        86400 )    ; Negative Cache TTL
;
server     IN      A        10.10.10.1
@          IN      NS       ns.cnlab.
r2         IN      A        10.10.10.2
r1         IN      A        10.10.10.1
kali       IN      A        10.10.10.3
r3         IN      A        10.10.10.10
r4         IN      A        10.10.10.17
ubuntu     IN      A        10.10.10.35
ns         IN      A        10.10.10.1
```

### R1 Forward (db.cnlab)

```
Connected (unencrypted) to: QEMU (263_20_33)
GNU nano 2.5.3 File: /etc/bind/db.revcnlab

; BIND reverse data file for local loopback interface
;
$TTL      604800
@          IN      SOA      ns.cnlab. root.localhost. (
                        2          ; Serial
                        604800     ; Refresh
                        86400      ; Retry
                        2419200    ; Expire
                        604800 )    ; Negative Cache TTL
;
@          IN      NS       ns.
1          IN      PTR      ns.cnlab.
1          IN      PTR      server.cnlab
1          IN      PTR      r1.cnlab
2          IN      PTR      r2.cnlab
3          IN      PTR      kali.cnlab
10         IN      PTR      r3.cnlab
17         IN      PTR      r4.cnlab
35         IN      PTR      ubuntu.cnlab
```

### R1 reverse (db.10.10.10)

```
Connected (unencrypted) to: QEMU (263_20_33)
GNU nano 2.5.3 File: /etc/resolv.conf
# Dynamic resolv.conf(5) file for glibc resolver(3) generated by resolvconf(8)
#     DO NOT EDIT THIS FILE BY HAND -- YOUR CHANGES WILL BE OVERWRITTEN
nameserver 10.10.10.1
search cnlab.
domain cnlab.
```

### R1 resolv.conf

```
Connected (unencrypted) to: QEMU (263_20_33)
GNU nano 2.5.3 File: /etc/resolv.conf
# Dynamic resolv.conf(5) file for glibc resolver(3) generated by resolvconf(8)
#     DO NOT EDIT THIS FILE BY HAND -- YOUR CHANGES WILL BE OVERWRITTEN
nameserver 10.10.10.1
search cnlab.
domain cnlab.
```

### R2 resolv.conf

```
Connected (unencrypted) to: QEMU (263_20_33)
GNU nano 2.5.3 File: /etc/resolv.conf
# Dynamic resolv.conf(5) file for glibc resolver(3) generated by resolvconf(8)
#     DO NOT EDIT THIS FILE BY HAND -- YOUR CHANGES WILL BE OVERWRITTEN
nameserver 10.10.10.1
search cnlab.
domain cnlab.
```

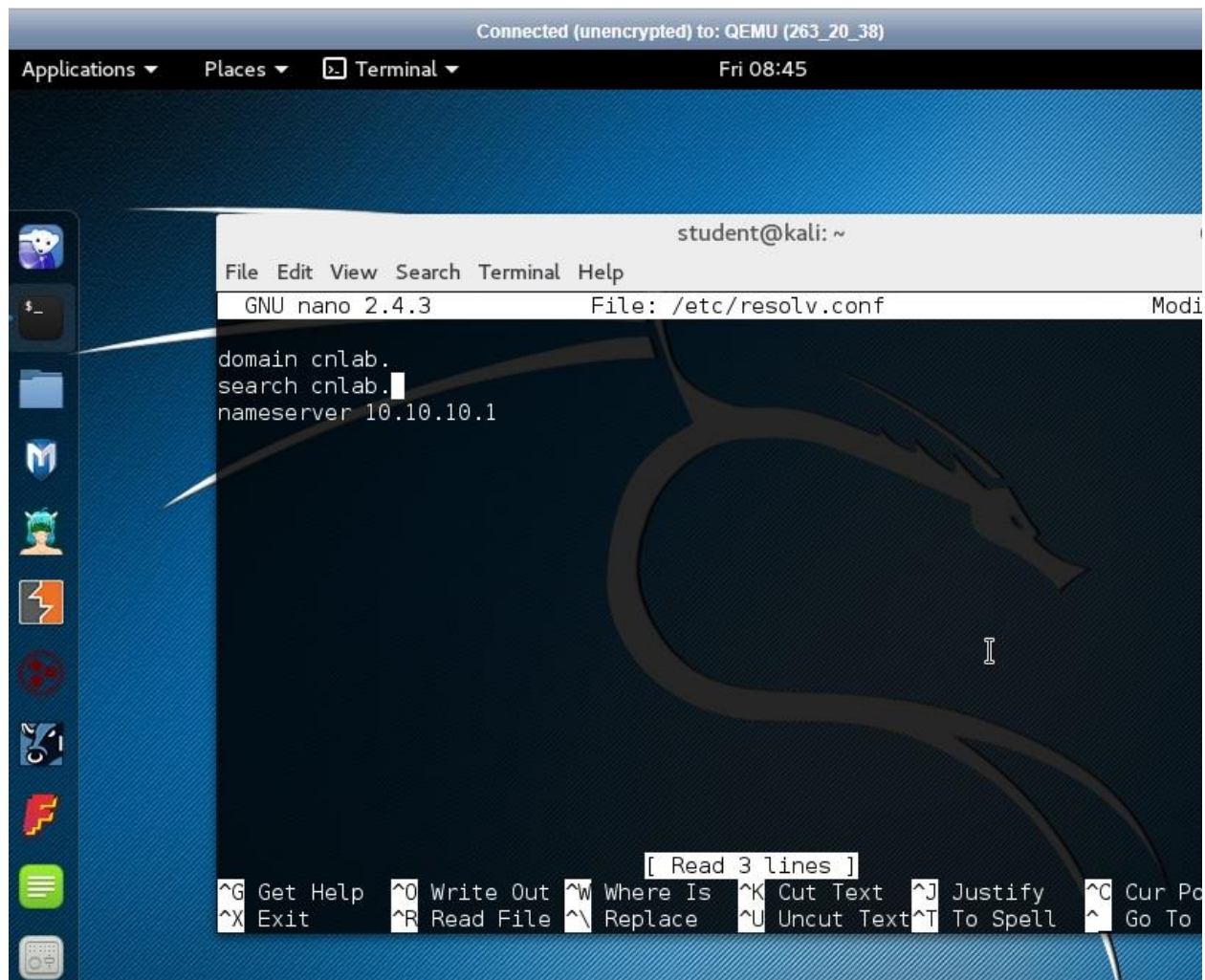
### R3 resolv.conf

```
Connected (unencrypted) to: QEMU (263_20_33)
GNU nano 2.5.3 File: /etc/resolv.conf
# Dynamic resolv.conf(5) file for glibc resolver(3) generated by resolvconf(8)
#     DO NOT EDIT THIS FILE BY HAND -- YOUR CHANGES WILL BE OVERWRITTEN
nameserver 10.10.10.1
search cnlab.
domain cnlab.
```

#### R4 resolv.conf

```
Connected (unencrypted) to: QEMU (263_20_33)
GNU nano 2.5.3 File: /etc/resolv.conf
# Dynamic resolv.conf(5) file for glibc resolver(3) generated by resolvconf(8)
#     DO NOT EDIT THIS FILE BY HAND -- YOUR CHANGES WILL BE OVERWRITTEN
nameserver 10.10.10.1
search cnlab.
domain cnlab.
```

#### Ubuntu resolv.conf



**Kali resolv.conf**

```
Connected (unencrypted) to: QEMU (263_20_33)
root@CN-R1:/# ping kali
PING kali.cnlab (10.10.10.3) 56(84) bytes of data.
64 bytes from kali.cnlab.10.10.10.in-addr.arpa (10.10.10.3): icmp_seq=1 ttl=64 time=0.847 ms
64 bytes from kali.cnlab.10.10.10.in-addr.arpa (10.10.10.3): icmp_seq=2 ttl=64 time=0.357 ms
^C
--- kali.cnlab ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.357/0.602/0.847/0.245 ms
root@CN-R1:/# ping ubuntu
PING ubuntu.cnlab (10.10.10.35) 56(84) bytes of data.
64 bytes from ubuntu.cnlab.10.10.10.in-addr.arpa (10.10.10.35): icmp_seq=1 ttl=62 time=1.91 ms
64 bytes from ubuntu.cnlab.10.10.10.in-addr.arpa (10.10.10.35): icmp_seq=2 ttl=62 time=1.75 ms
^C
--- ubuntu.cnlab ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 1.759/1.834/1.910/0.086 ms
root@CN-R1:/# _
```

## Ping machine

```
Connected (unencrypted) to: QEMU (263_20_33)
root@CN-R1:/# ping r1
PING r1.cnlab (10.10.10.1) 56(84) bytes of data.
64 bytes from r1.cnlab.10.10.10.in-addr.arpa (10.10.10.1): icmp_seq=1 ttl=64 time=0.025 ms
64 bytes from r1.cnlab.10.10.10.in-addr.arpa (10.10.10.1): icmp_seq=2 ttl=64 time=0.029 ms
^C
--- r1.cnlab ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1031ms
rtt min/avg/max/mdev = 0.025/0.027/0.029/0.002 ms
root@CN-R1:/# ping r2
PING r2.cnlab (10.10.10.2) 56(84) bytes of data.
64 bytes from r2.cnlab.10.10.10.in-addr.arpa (10.10.10.2): icmp_seq=1 ttl=64 time=0.313 ms
64 bytes from r2.cnlab.10.10.10.in-addr.arpa (10.10.10.2): icmp_seq=2 ttl=64 time=0.284 ms
^C
--- r2.cnlab ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1000ms
rtt min/avg/max/mdev = 0.284/0.298/0.313/0.022 ms
root@CN-R1:/# ping r3
PING r3.cnlab (10.10.10.10) 56(84) bytes of data.
64 bytes from r3.cnlab.10.10.10.in-addr.arpa (10.10.10.10): icmp_seq=1 ttl=63 time=1.41 ms
64 bytes from r3.cnlab.10.10.10.in-addr.arpa (10.10.10.10): icmp_seq=2 ttl=63 time=1.48 ms
^C
--- r3.cnlab ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 1.411/1.448/1.485/0.037 ms
root@CN-R1:/# ping r4
PING r4.cnlab (10.10.10.17) 56(84) bytes of data.
64 bytes from r4.cnlab.10.10.10.in-addr.arpa (10.10.10.17): icmp_seq=1 ttl=63 time=1.69 ms
64 bytes from r4.cnlab.10.10.10.in-addr.arpa (10.10.10.17): icmp_seq=2 ttl=63 time=1.49 ms
^C
--- r4.cnlab ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 1.497/1.595/1.694/0.106 ms
root@CN-R1:/#
```

## Ping machines



```
root@CN-R1:/# nslookup r1
Server:      10.10.10.1
Address:     10.10.10.1#53

Name:   r1.cnlab
Address: 10.10.10.1

root@CN-R1:/# nslookup r2
Server:      10.10.10.1
Address:     10.10.10.1#53

Name:   r2.cnlab
Address: 10.10.10.2

root@CN-R1:/# nslookup r3
Server:      10.10.10.1
Address:     10.10.10.1#53

Name:   r3.cnlab
Address: 10.10.10.10

root@CN-R1:/# nslookup r4
Server:      10.10.10.1
Address:     10.10.10.1#53

Name:   r4.cnlab
Address: 10.10.10.17
```

### Nslookup Routers

```
root@CN-R1:/# nslookup ubuntu
Server:      10.10.10.1
Address:     10.10.10.1#53

Name:   ubuntu.cnlab
Address: 10.10.10.35

root@CN-R1:/# nslookup kali
Server:      10.10.10.1
Address:     10.10.10.1#53

Name:   kali.cnlab
Address: 10.10.10.3
```

### Nslookup machines