

Chapter 8

Geet Babaria – gxb120730

Justin Horak – jmh161030

Lab Report 1. Once you are done with your configuration and testing, follow the below instructions to prepare your lab report: 1.

Include the content of the below configuration files at dns.univ.edu DNS name server in your lab report:

(a) /etc/bind/named.conf

```
user@dns:~$ more /etc/bind/named.conf
// This is the primary configuration file for the BIND DNS server named.
//
// Please read /usr/share/doc/bind9/README.Debian.gz for information on the
// structure of BIND configuration files in Debian, *BEFORE* you customize
// this configuration file.
//
// If you are just adding zones, please do that in /etc/bind/named.conf.local

include "/etc/bind/named.conf.options";
include "/etc/bind/named.conf.local";
include "/etc/bind/named.conf.default-zones";
```

(b) /etc/bind/named.conf.options

```
user@dns:~$ more /etc/bind/named.conf.options
options {
    . . . . .
    recursion yes;
    allow-recursion {130.120.0.0/16;};
    . . . . .
};
```

(c) /etc/bind/named.conf.local

```
user@dns:~$ more /etc/bind/named.conf.local
//
// 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 "univ.edu" {
type master;
file "/etc/bind/db.univ.edu";
};

zone "120.130.in-addr.arpa" {
type master;
file "/etc/bind/db.120.130";
};
```

(d) The forward and reverse zone files you created for univ.edu zone

- forward

```
user@dns:~$ more /etc/bind/db.univ.edu
;
; BIND data file for univ.edu zone
;
$ORIGIN univ.edu.
$TTL 1w ; default TTL for all records - one week
@ IN SOA dns.univ.edu. root.univ.edu. (
2016090101 ; Serial number
1w ; Refresh timer - one week
15m ; Retry timer - 15 minutes
4w ; Expire timer - four weeks
1w ) ; Negative Cache TTL
;
@ IN NS dns
dns IN A 130.120.1.2
www IN CNAME server ; www is an alias for server
@ IN MX 10 mail
mail IN A 130.120.1.6 ; need to have an explicit A record
; corresponding to MX record
server IN A 130.120.1.6 ; main server for univ.edu
```

-reverse

```
user@dns:~$ more /etc/bind/db.120.130
;
; BIND reverse data file for univ.edu zone
;
$TTL      1w
@         IN      SOA      dns.univ.edu. root.univ.edu. (
        2016090101      ; Serial
        1w              ; Refresh
        15m             ; Retry
        4w              ; Expire
        1w )            ; Negative Cache TTL
;
@         IN      NS       dns.univ.edu.
2.1       IN      PTR      dns.univ.edu.
;
6.1       IN      PTR      server.univ.edu.
;
10        IN      PTR      csserv.univ.edu.
;
20        IN      PTR      pc-ee.univ.edu.
```

2. On pc-ee.univ.edu system, issue dig server.univ.edu command and include its output in your lab report. Briefly explain the sections of the response returned by this command.

```
user@ee:~$ dig server.univ.edu

<<>> DiG 9.10.3-P4-Ubuntu <<>> server.univ.edu
; global options: +cmd
; Got answer:
; ->>HEADER<<- opcode: QUERY, status: SERVFAIL, id: 53569
; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1

; OPT PSEUDOSECTION:
; EDNS: version: 0, flags::; udp: 4096
; QUESTION SECTION:
server.univ.edu.                IN      A

; Query time: 16 msec
; SERVER: 130.120.20.3#53(130.120.20.3)
; WHEN: Fri Apr 26 19:48:16 CDT 2019
; MSG SIZE rcvd: 44
```

-- It is queried for server.univ.edu by 130.120.20.3, and servfail with 0 answers.

3. On pc-ee.univ.edu system, issue dig -x 130.120.10.3 command and include its output in your lab report. Briefly explain the sections of the response returned by this command.

```
user@ee:~$ dig -x 130.120.10.3

; <<>> DiG 9.10.3-P4-Ubuntu <<>> -x 130.120.10.3
;; global options: +cmd
;; Got answer:
;; ->HEADER<- opcode: QUERY, status: SERVFAIL, id: 18643
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;3.10.120.130.in-addr.arpa.      IN      PTR

;; Query time: 15 msec
;; SERVER: 130.120.20.3#53(130.120.20.3)
;; WHEN: Fri Apr 26 19:51:03 CDT 2019
;; MSG SIZE rcvd: 54
```

- It is queried for 130.120.10.3 by 130.120.20.3, and servfail with 0 answers.

4. On pc-ee.univ.edu system, issue dig -t MX univ.edu command and include its output in your lab report. Briefly explain the sections of the response returned by this command.

```
user@ee:~$ dig -t MX univ.edu

; <<>> DiG 9.10.3-P4-Ubuntu <<>> -t MX univ.edu
;; global options: +cmd
;; Got answer:
;; ->HEADER<- opcode: QUERY, status: SERVFAIL, id: 40887
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;univ.edu.                      IN      MX

;; Query time: 17 msec
;; SERVER: 130.120.20.3#53(130.120.20.3)
;; WHEN: Fri Apr 26 19:52:46 CDT 2019
;; MSG SIZE rcvd: 37
```

--- It is queried for univ.edu by 130.120.20.3, and servfail with 0 answers.

5. On pc-ee.univ.edu system, issue dig www.univ.edu command and include its output in your lab report. Briefly explain the sections of the response returned by this command.

```
user@ee:~$ dig www.univ.edu

; <<>> DiG 9.10.3-P4-Ubuntu <<>> www.univ.edu
;; global options: +cmd
;; Got answer:
;; ->>HEADER<- opcode: QUERY, status: SERVFAIL, id: 9004
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;www.univ.edu.                IN      A

;; Query time: 18 msec
;; SERVER: 130.120.20.3#53(130.120.20.3)
;; WHEN: Fri Apr 26 19:53:30 CDT 2019
;; MSG SIZE rcvd: 41
```

-- It is queried for www.univ.edu server by 130.120.20.3, and servfail with 0 answers.