

Exercise 5 Domain Name System(BIND) Configuration

Objectives

- An Ubuntu box connected to an Ethernet LAN
- Internet connection
- Basic linux skills (command line, text editing with vi , man)

Discussion (delivered by instructor)

- How the Domain Name System works
- BIND version 9

Activities

1. Prepare your linux box for the exercise.

```
$sudo -s
#apt-get install bind9
#cd /etc/bind
#ls
```

2. Configure the active interface with a static IP address using `ifconfig`. The IP address will be assigned by your instructor. Recall your exercise on linux TCP/IP configuration.

3. Fill-in the following information. Modify `/etc/bind/named.conf.local` appropriately.

1. Domain name (your choice): _____
2. Filename of your forward zone file: _____
3. Filename of your reverse zone file: _____

4. Create the appropriate zone files based on your answers in Activity 2.

Choose five(5) classmates and obtain their IP addresses. Create the appropriate entries in the forward and reverse zone files.

| Classmate | IP Address | Host name |
|-----------|------------|-----------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

5. Check the configuration files if there are no problems.

Read the man pages for `named-checkconf` and `named-checkzone`.

What is the result after using `named-checkconf` with correct parameters?

What is the result after using `named-checkzone` with correct parameters?

6. Start the server by running `/etc/init.d/bind9 restart`

7. Specify the DNS server/s to use by the resolver.

Do this by editing `/etc/resolv.conf` and adding the IP addresses of the DNS servers. Read the man page for `resolv.conf`

8. Test the DNS servers using the `dig` command.

Read the man page for the `dig` command. Use `dig` to query for the host names you specified in Activity 3. Test also the DNS servers configured by others by adding their IP addresses in your `resolv.conf`

Observations:

9. Test the resolution process using the `ping` command

Did the hosts in Activity 3 replied when “pinged” using their host names instead of their IP addresses? _____

10. Cleanup

1. Remove the entries you added in the `/etc/bind/named.conf.local` using `vi`
2. Remove the forward zone file you created using `rm <forward zone file>`
3. Remove the reverse zone file you created using `rm <reverse zone file>`
4. Remove the entries you added in `/etc/resolv.conf` using `vi`
5. `#history -c`

11. Reflection

Write a short reflection on your activity today.

Command list

- `vi, named, bind9, named-checkconf, named-checkzone, dig, ping`

References

- http://www.howtoforge.com/traditional_dns_howto
- <http://www.bind9.net>
- <http://www.bind9.net/manual/bind/9.2.5/Bv9ARM.html>
- <http://www.ietf.org/rfc/rfc1034.txt>
- <http://www.ietf.org/rfc/rfc1035.txt>

Sample configuration files

named.conf.local

```
zone "sinobatalaga.com" IN {
    type master;
    file "/etc/bind/db.sinobatalaga.com";
    allow-update {none; };
};

zone "1.168.192.in-addr.arpa" IN {
    type master;
    file "/etc/bind/db.192.168.1";
    allow-update {none};
};
```

db.sinobatalaga.com

```
$TTL 86400
@ IN SOA aida.sinobatalaga.com. si.aida.sinobatalaga.com. (
    2003081300 ; serial
    3H      ; refresh
    15M     ; retry
    1W      ; expiry
    1D      ; minimum
);
sinobatalaga.com. IN NS aida.sinobatalaga.com.
aida.sinobatalaga.com. IN A 192.168.1.1
;other A records follow
```

db.192.168.1

```
$TTL 86400
@ IN SOA aida.sinobatalaga.com. si.aida.sinobatalaga.com. (
    2003081300 ; serial
    3H      ; refresh
    15M     ; retry
    1W      ; expiry
    1D      ; minimum
);
sinobatalaga.com. IN NS aida.sinobatalaga.com.
1          IN PTR aida.sinobatalaga.com.
;other PTR records follow
```