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
```