Procedure for Setting Up a DNS Server

Follow these step by step instructions for setting up a DNS server

1. Login to the Ubuntu server using the username and password
2. Complete the "Procedure for Setting Up a Network Card" for static IP address
3. Remove Network Manager

username@ubuntu1:~$ sudo apt-get remove network-manager network-manager-gnome

Answer yes to removing the Network Manager. If the files cannot be found, then we can move forward.

4. We need to add Bind9 to setup the DNS service. We type the following.

username@ubuntu1:~$ sudo apt-get install bind9

5. Change the directory to bind by typing:

username@ubuntu1:~$ cd /etc/bind
username@ubuntu1:/etc/bind$

6. Next, we will setup forward lookup zones for the DNS server. So we open a file in the bind folder named named.conf.options.

username@ubuntu1:~$ sudo nano named.conf.options

The file will open and further down is a bracket with forwarders. Remove the slashes so the code looks like:

```
forwarders {

};
```

Then, we should type the IP addresses of the path to the Internet or router followed by a semicolon and the two DNS IP addresses from the Internet Service Provider (ISP) and the two free DNS addresses from Google.

```
forwarders {
      192.168.10.1;
      209.18.47.61;
      209.18.47.62;
      8.8.8.8;
      8.8.4.4;
};
```

7. We press CTRL – X and then "y" for yes to save the file and Enter.

8. Next, we will setup forward and reverse lookup zones for the DNS server. Sp we open a file in the bind folder named named.conf.local.

username@ubuntu1:/etc/bind$ sudo nano named.conf.local

Then, we should type the following code that identifies the files that hold the forward and reverse lookup zones. charles.local is the forward lookup zone name and we will make a directory in the bind folder and place a file called "charles.local.db" to hold the forward lookup information. This file holds the A records.

```
# forward lookup zone
zone "charles.local"
{
 type master;
file "/etc/bind/zones/charles.local.db";
};

# reverse lookup zone
zone "0.168.192.in-addr.arpa"
{
 type master;
file "rev.0.168.192.in-addr.arpa";
};
```

The reverse lookup zone is called "0.168.192.in-addr.arpa" and the file is named "rev.0.168.192.in-addr.arpa". This file holds the PTR records.

9. We press CTRL – X and then "y" for yes to save the file and Enter.

10. After that, we will make a directory called "zones" to hold our files

username@ubuntu1:/etc/bind$ sudo mkdir zones

11. Change the directory to zones by typing:

username@ubuntu1:~$ cd zones
username@ubuntu1:/etc/zones$

12. To make a new file for the A records, we type

username@ubuntu1:/etc/zones$ sudo nano charles.local.db

The file editor will open and shows a blank file, so we type in the following information:

```
$TTL 3D
@ IN SOA    ubuntu1.charles.local. admin. charles.local. (
            2007031001    ; serial#
            28800         ; refresh, seconds
            3600          ; retry, seconds
            604800        ; expire, seconds
            38400)        ; minimum, seconds


charles.local   IN NS       unbuntu1.charles.local.
localhost       IN A        127.0.0.1
ubuntu1         IN A        192.168.10.80
client1         IN A        192.168.10.100
www             IN CNAME    ubuntu1
```

13. We press CTRL – X and then "y" for yes to save the file and Enter.

14. To make a new file for the PTR records, we type

username@ubuntu1:/etc/zones$ sudo nano rev.0.168.192.in-addr.arpa

The file editor will open and shows a blank file, so we type in the following information:

```
$TTL 3D
@ IN SOA     www. charles.local.com.  hostmaster. charles.local. (
            2007031001      ; serial number
            8H              ; refresh, seconds
            2H              ; retry, seconds
            4W              ; expire, seconds
            1D )            ; minimum, seconds


            IN NS       ubuntu1.charles.local.
80          PTR     ubuntu1.charles.local.
100         PTR     client1.charles.local.
1           PTR     gw.charles.local.
```

15. We press CTRL – X and then "y" for yes to save the file and Enter.

16. To add the DNS server IP to the resolv.conf file, we type

username@ubuntu1:/etc/bind/zones$ cd ..
username@ubuntu1:/etc/bind$ cd ..
username@ubuntu1:/etc/ sudo nano resolv.conf

The file will open and shows:

```
nameserver   209.18.47.61
nameserver   209.18.47.62
```

17. We type the following:

```
search charles.local.
nameserver   209.18.47.61
nameserver   209.18.47.62
```

18. We press CTRL – X and then "y" for yes to save the file and Enter.

19. Now we'll just need to restart the bind9 components:

username@ubuntu1:/etc$ sudo /etc/init.d/bind9 restart

20. If everything is typed correctly, we will see * Stopping Domain Name Service and Starting Domain Name Service… without any error comments.

21. Use NSLookup to test the DNS server

username@ubuntu1:/etc$ nslookup

22. Use Ping to test the DNS forwarders to the Internet

username@ubuntu1:/etc$ ping www.google.com