CMAC 3990 – Systems Administration and Operations

Assignment 3 – 50 points

You need to create a new recursive DNS server for your private LAN and create a master DNS server for your subdomain. Follow the steps below to create and configure the necessary DNS services.

IP Address: 147.64.243.1## (01-25)
Hostname: cmac3990-1##.cs.edinboro.edu (01-25)
Subdomain: 41##.megastuff.biz

Install a bind nameserver and supporting bind-util packages (3 points):

```
dnf -y install bind bind-utils
```

Enable BIND nameserver and configure it to start on boot (3 points):

```
systemctl enable named; systemctl start named
```

Configure the IP addresses that the bind server listens on (3 points):
-   File /etc/named.conf

```
listen-on port 53 { any; };
listen-on-v6 port 53 { any; };
```

Disable the dnssec-validation parameter (1 points):
-   File /etc/named.conf

```
dnssec-validation no;
```

Make sure you have working localhost recursive DNS resolution from your machine (3 points):

```
nslookup google.com localhost
nslookup megastuff.biz localhost
```

Blocked external resolution on 147.64.242.0/24 network (from jason88 - 3 points):
-   File /etc/named.conf
-       Remove (comment out) the line that says "recursion yes;"

Add a custom version line to your server!
-   File /etc/named.conf

```
version "cmac3990.1##";
```

Only allow recursion from 147.64.243.96/27 (147.64.243.96 – 147.64.243.127 – 3 points)
-   ◦ Add allow recursion configuration (within main options section) in file /etc/named.conf:

```
allow-recursion {
        127.0.0.1;
        ::1;
        147.64.243.96/27;
        };
```

Add your zone info to the main configuration file. (3 points)
- /etc/named.conf file

```
zone "41##.megastuff.biz" {
  type master;
  file "/var/named/41##.megastuff.biz.hosts";
};
```

Create your /var/named/41##.megastuff.biz.hosts file (6 points)
- You must restart BIND after changes to this file to take effect! (systemctl restart named)

```
$ORIGIN 41##.megastuff.biz.
$TTL 43200            ; 12 hours
@    IN    SOA        41##.megastuff.biz. admin41##.megastuff.biz. (
                      2025083101       ; serial
                      21600            ; refresh (6 hours)
                      600              ; retry (10 minutes)
                      1209600          ; expire (2 weeks)
                      10800 )          ; minimum (3 hours)
     IN    NS         41##.megastuff.biz.

     IN    A          147.64.243.1##

www  IN    CNAME      41##.megastuff.biz.
```

Ensure you have working DNS resolution for your subdomain (4 points):
- nslookup 41##.megastuff.biz 147.64.243.1##
- nslookup www.41##.megastuff.biz 147.64.243.1##

Add an additional A record for **a3.41##.megastuff.biz** pointing to your IPv4 address 147.64.243.1## (3 points)
/var/named/41##.megastuff.biz.hosts file:

```
-    a3              IN       A            147.64.243.1##
```

Make sure your firewall is configured to allow DNS queries! (1 point)
- `firewall-cmd --zone=public --add-port=53/tcp --permanent`
- `firewall-cmd --zone=public --add-port=53/udp --permanent`
- `firewall-cmd --reload`

Make sure your system is updated (2 points)
- `dnf update -y`

Reboot your machine and validate DNS is still working correctly after reboot! (2 points)
- `reboot`

Create a document explaining what you did in this exercise, and upload it in D2L to the Dropbox folder HW3. (10 points)

Download and run my check script
https://jpatalon.cs.edinboro.edu/cmac3990/classfiles/assignment3check.sh