Lab exercise 4 - Reverse DNS

Objective:

- Participants should be able to create a reverse zone for their 192.168.x.0/24 and create the corresponding PTR records for it.
- Secondary name server should be configured to get the copy of that reverse zone.
- Familiarization with classless reverse dns by configuring your primary name server (192.168.x.1) for /24 and your secondary for /26 assignment.

1. Create a reverse zone for your 192.168.x.0/24 ip block under /var/named/master. Create the corresponding PTR record based on the A records of your forward zone. Update your named.conf for this reverse zone and make sure zone transfer happens between master & slave. Use dig to test your name servers if you're getting the correct A record or PTR record from both name servers.

a) Configure the /24 reverse zone in named.conf of master and slave name server.

```
    //Primay name server named.conf
    zone    "x.168.192.in-addr.arpa." {
            type master;
            file "db.192.168.0";
            allow-transfer { 192.168.x.1; };
            };

   //Secondary name server named.conf
   zone         "x.168.192.in-addr.arpa." {
                type slave;
                file "db.192.168.0.bak";
                allow-transfer { none; };
            masters { 192.168.x.1; };
                };
```

b) Configure the /24 reverse zone file in master name server. No need to create this in the slave since it will load the zone file from the master.

```
$ORIGIN x.168.192.in-addr.arpa.
$TTL 1d
@     SOA   ns1.pcx.net.      root.pcx.net.     (
                        20030418
                        1h
                        30m
                        1w
                        24h
                                    )
            NS    ns1.pcx.net.
1           PTR   ns1.pcx.net.
```

2. Configure your master name server for classless reverse delegation. Let's assume you're assigning 2 X /26 from your ip block 192.168.x.0/24 thus

192.168.x.0/26 (192.168.x.0 - 192.168.x.63) - You're currently using this so no need to delegate.
192.168.x.64/26 (192.168.x.64- 192.168.x.127)- for customer 1

3. Update your existing 192.168.x.0/24 reverse zone to include delegation of /26 subdomain for your customer. The pc on your right will act as your customer so they will configure /26 zone. This should be done in the master name server. You should use the CNAME and glue records to accomplish the classless delegation.

```
;Existing /24 zone file

$ORIGIN x.168.192.in-addr.arpa.
$TTL 1d
@       SOA     ns1.pcx.net.    root.pcx.net.   (
                                20030418
                                1h
                                30m
                                1w
                                24h
                                                )
                  NS          ns1.pcx.net.
                  NS          ns2.pcx.net.

1                 PTR         ns1.pcx.net.
2                 PTR         ns2.pcx.net.


;Inserting the /26 delegation

64-127      NS    ns2.pcx.net. ;In real life this is the customer name server.
                                ;and should have atleast 2 name server.
65          CNAME 65.64-127
66          CNAME 66.64-127
67          CNAME 67.64-127     ;it goes up to 126, use $GENERATE to automate.
                                ;Note that the "." was intentionally omitted
                                ;for the origin (x.168.192.in-addr.arpa) be
                                ;appended to it.
```

4. In your customer’s name server, (/var/named/master) create the /26 subdomain. Update your customer’s named.conf to load this /26 subdomain thus acting as primary for this /26 subdomain.

a) Updating customer’s named.conf to reflect the /26 subdomain.

```
   //customer’s name server named.conf

   zone         "x.168.192.in-addr.arpa." {
                type slave;
                file "db.192.168.0.bak";
                allow-transfer { none; };
                masters { 192.168.x.1; };
                };

   zone           "64-127.x.168.192.in-addr.arpa." {
            type master;
            file "db.192.168.x.64";
            };
```

b)  Create the /26 zone file in the customer name server

```
$ORIGIN 64-127.x.168.192.in-addr.arpa.
@     SOA ns2.pcx.net.  root.pcx.net. (
                        20040218
                        1h
                        30m
                        1w
                        24h
                                    )
            NS    ns2.pcx.net.

65          PTR   www.pcx.net.
66          PTR   ftp.pcx.net.
67          PTR   mail.pcx.net.
```

5. use dig to check if delegation works.

ex:

```
% dig @server   -x 192.168.x.x            #dig will look for PTR record.

% dig @server hostname.domain-name.net     #dig will look for A record.
```