

## Lab Exercise 4 – Reverse DNS

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### 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. Participants will also familiarize with classless reverse DNS by configuring your primary name server (192.168.x.1) for /24 and your secondary for /26 assignment.

The IP block assignments are as follows:

192.168.11.0/24	Server 1
192.168.12.0/24	Server 2
192.168.13.0/24	Server 3
...	
192.168.X.0/24	Server X

### Steps

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.*

```
//Primary name server named.conf
zone "x.168.192.in-addr.arpa." {
    type master;
    file "db.192.168.x";
    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.  (
                                20121101
                                1h
                                30m
```

```

                                1w
                                24h )

1          NS      ns1.pcx.net.
          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)- delegate to 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.    (
                                20121026
                                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.      ; This is the customer name server.
                                           ; and should have at least 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) to 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. (
                                20121026
                                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.

This command will use dig to look for a PTR record.  
`dig @server -x 192.168.x.x`

This command uses dig to look for an A record.  
`dig @server hostname.domain-name.net`