



Guide – Domain name server

Objectives:

- DNS configuration
- Zone creation
- Direct and reverse zones

1. Install domain name server

```
apt-get update
```

```
apt-get install bind9
```

2. Create a new zone with the name lr.estga.ua.pt com in which your server is the master server. Edit /etc/bind/named.conf.local and add the following lines at the bottom of the file:

```
zone "lr.estga.ua.pt" IN {  
    type master;  
    file "/etc/bind/zones/lr.estga.ua.pt";  
    allow-query{any;};  
};
```

3. Create the zone file (/etc/bind/zones/lr.estga.ua.pt)

```
mkdir /etc/bind/zones/
```

```
vi /etc/bind/zones/lr.estga.ua.pt
```

4. Editing the file and place there the following lines:

```
$ORIGIN lr.estga.ua.pt.  
$TTL 604800  
@ IN SOA ns1r.lr.estga.ua.pt. email.do.gestor. (  
    1 ; Serial  
    7200 ; Refresh  
    120 ; Retry  
    2419200 ; Expire  
    604800) ; Default TTL  
@ IN NS ns1r.lr.estga.ua.pt.  
ns1r IN A 192.168.1.1
```

5. Validate server's configuration and zone file.

```
named-checkconf
```

```
named-checkzone lr.estga.ua.pt /etc/bind/zones/lr.estga.ua.pt
```

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Note: Validation output reports problems that have to be fixed before proceeding.

6. Restart the server

```
/etc/init.d/bind9 restart
```

7. Test server's resolution requesting nslr.lr.estga.ua.pt resolution.

```
nslookup nslr.lr.estga.ua.pt 127.0.0.1
```

8. Add A records for zone machines:

- Hostmachine – 192.168.1.1
- Debapp- 192.168.1.2
- Win2008 - 192.168.1.3
- Elastix - 192.168.1.4
- Zentyal - 192.168.1.5
- pasg - 192.168.1.6
- lrnat - 192.168.1.254

9. Test server's resolution for the records added.

Note: Changes in configuration files require a server restart to take effect.

10. Add a MX record with a 10 value to the domain email.server named mail.lr.estga.ua.pt at the bottom of SOA record.

```
@ IN MX 10 mail.lr.estga.ua.pt.
```

Note: MX record just points out email server name, but it does not resolves its name.

11. Test server MX record

```
nslookup -query=MX lr.estga.ua.pt
```

12. Create an alias to mail.lr.estga.ua.pt named www, adding the following line to the zone records:

```
www IN CNAME mail.lr.estga.ua.pt
```

13. Test www.lr.estga.ua.pt resolution.

14. Create a new reverse zone named 1.168.192.IN-ADDR.ARPA in which your server is the a master server. Edit /etc/bind/named.conf.local and add the following lines at the bottom of the file:

```
zone "1.168.192.IN-ADDR.ARPA" IN {  
    type master;  
    file "/etc/bind/zones/192.168.1.rev";  
};
```

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15. Edit reverse zone file (`/etc/bind/zones/192.168.1.rev`) and add there a SOA record accordingly with the following lines:

```
@ IN SOA ns1r.lr.estga.ua.pt. admin.email.addr. (
    2011101501 ; Serial
    7200        ; Refresh
    120         ; Retry
    2419200     ; Expire
    604800)      ; Default TTL
1   IN NS    ns1r.lr.estga.ua.pt.
1   IN PTR   ns1r.lr.estga.ua.pt.
```

16. Validate servers and reverse zone configuration.

17. Test server reverse resolution:

```
nslookup 192.168.1.1 127.0.0.1
```

18. Taking in consideration the information from 8., complete reverse zone information.

19. Test servers resolution of names belonging to other zones:

```
nslookup mail.ua.pt 127.0.0.1
```

20. Configure forwarders addresses to the server, adding to the bottom of the file `/etc/bind/named.conf.options` the following lines:

```
forwarders {
    193.136.172.20;
    193.136.172.21;
};
```

21. Repeat the resolution of names belonging to other zones:

```
nslookup mail.ua.pt 127.0.0.1
```