Setting Up DNS Server On CentOS 7.9

DNS Server:

CPU – 2.1 Ghz (2 Core)
Memory - 2 GB
Storage - 20 GB
Hostname – dns-01.llc.co.ke
IP Address - 192.168.0.38/24
Operating System – CentOS 7.9

Installing BIND 9 DNS Server on CentOS 7:

Connect with dns-01.llc.co.ke using ssh as root user.
yum install -y bind bind-utils

Configure Primary DNS Server on CentOS 7:

By default named.service run on localhost. Since, we are configuring an authoritative DNS server for our Domain, therefore, we need to configure named.service to run on the interface that was connected with our network.

vi /etc/named.conf

Under options directive set following parameter to allow **named.service** to run on our network interface.
listen-on port 53 { 127.0.0.1; 192.168.0.38; };

We are also required to enable our **named.service** to allow client queries. Therefore, find and set following parameter in options directives.

allow-query   { localhost; 192.168.0.0/24; };

To keep the **named.conf** file clean, we are defining our DNS zones in a separate file.

vi /etc/named.conf.local

and add following directives in this file.

```
zone "llc.co.ke" {
   type master;
   file "/var/named/llc.co.ke";
};

zone "0.168.192.in-addr.arpa" {
   type master;
   file "/var/named/0.168.192.in-addr.arpa";
};
```

We have defined two DNS zones here, one is a Forward DNS zone and the other is Reverse DNS zone.

Include our **named.conf.local** file in the default **named.conf** file, so it will be called at the time of service startup.

echo 'include "/etc/named.conf.local";' >> /etc/named.conf

Configure forward zone for our Domain.

vi /var/named/llc.co.ke

and add following settings therein.

```
$TTL 1h
@       IN      SOA     llc.co.ke.    root.llc.co.ke. (
        2019080901      ; Serial YYYYMMDDnn
        24h             ; Refresh
        2h              ; Retry
        28d             ; Expire
        2d )            ; Minimum TTL

;Name Servers
@       IN      NS              dns-01

;Mail Servers
@       IN      MX      0       mail-01

;Other Servers
dns-01  IN      A               192.168.0.38
mail-01 IN      A               192.168.0.32
web-01  IN      A               192.168.0.35

;Canonical Names
www     IN      CNAME           web-01
mail    IN      CNAME           mail-01
```

Check forward zone file for any possible error.

named-checkzone example.com /var/named/llc.co.ke

zone example.com/IN: loaded serial 2019080901
OK

Configure a reverse zone for our Domain.

Configure a reverse zone for our Domain.

and add following settings therein.

$TTL 1h

```
@       IN      SOA     0.168.192.in-addr.arpa    root.llc.co.ke. (
        2019080901      ; Serial YYYYMMDDnn
        24h             ; Refresh
        2h              ; Retry
        28d             ; Expire
        2d )            ; Minimum TTL

;Name Servers
@       IN      NS              dns-01

;Other Servers
dns-01  IN      A       192.168.0.38

;PTR Records
38              IN      PTR             dns-01
32              IN      PTR             mail-01
35              IN      PTR             web-01
```

Check reverse zone file for any possible errors.

```
# named-checkzone example.com /var/named/0.168.192.in-addr.arpa

zone example.com/IN: loaded serial 2019080901
OK
```

Adjust file ownership of zone files.

```
# chgrp named /var/named/llc.co.ke

# chgrp named /var/named/0.168.192.in-addr.arpa
```

Enable and start **named.service**.

```
# systemctl enable --now named.service
```

Allow **DNS** service in Linux firewall.

```
# firewall-cmd --permanent --add-service=dns

# firewall-cmd --reload
```

Add our Primary (Master) DNS Server to client's **resolv.conf**.

```
# cat /etc/resolv.conf
# Generated by NetworkManager
search llc.co.ke
nameserver 192.168.0.38
```

Query our Primary (Master) DNS server using **dig** command.

```
# dig www.llc.co.ke

# dig mail.llc.co.ke
```