

# DNS SERVER

Step 1:- Update and Upgrade Your System

Command:-`sudo apt update`

`sudo apt upgrade`

Step 2:- Install bind9

Command:-`sudo apt install bind9`

```
root@navjot-VMware-Virtual-Platform:/home/navjot# apt install bind9
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  bind9-utils
Suggested packages:
  bind-doc
The following NEW packages will be installed:
  bind9 bind9-utils
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
Need to get 413 kB of archives.
After this operation, 1,599 kB of additional disk space will be used.
```

Step 3:- Configure bind9

Command:-`sudo nano /etc/bind/named.conf.local`

```
root@navjot-VMware-Virtual-Platform:/home/navjot# nano /etc/bind/named.conf.local
root@navjot-VMware-Virtual-Platform:/home/navjot#
```

Step 4:- Add a zone for your domain as the Following:-

```
GNU nano 7.2 /etc/bind/named.conf.local *
//
// Do any local configuration here
//
// Consider adding the 1918 zones here, if they are not used in your
// organization
//include "/etc/bind/zones.rfc1918";
//forward lookup zone
zone "navjot.com" IN{
    type master;
    file "etc/bind/db.navjot.local";
};
```

Step 5:- Create the zone file

Command:- sudo cp /etc/bind/db.local /etc/bind/db.example.com Command:- sudo nano /etc/bind/db.example.com

```
root@navjot-VMware-Virtual-Platform:/home/navjot# cp /etc/bind/db.local /etc/bind/db.navjot.com
root@navjot-VMware-Virtual-Platform:/home/navjot# nano /etc/bind/db.navjot.com
```

Step 6:- Edit the zone file (^db.example.com`):

```
GNU nano 7.2 /etc/bind/db.navjot.com *
;
; BIND data file for local loopback interface
;
$TTL      604800
@         IN      SOA      ns1.navjot.com.root.navjot.com (
                        2      ; Serial
                        604800 ; Refresh
                        86400  ; Retry
                        2419200 ; Expire
                        604800 ) ; Negative Cache TTL
;
@         IN      NS       ns1.navjot.com.
ns1       IN      A        192.168.152.130
@         IN      A        192.168.152.130
www       IN      A        192.168.152.130
```

Step 7:- Restart BIND9

Command:- sudo systemctl restart bind9

```
root@navjot-VMware-Virtual-Platform:/home/navjot# systemctl restart bind9
```

## Step 8:- Install Apache

Command:- `sudo apt install apache2`

```
root@navjot-VMware-Virtual-Platform:/home/navjot# apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3
  libaprutil1-ldap libaprutil1t64
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1t64
  libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
```

## Step 9:- Create a new virtual host file

Command:- `sudo nano /etc/apache2/sites-available/example.com.conf`

```
root@navjot-VMware-Virtual-Platform:/home/navjot# nano /etc/apache2/sites-available/navjot.com.conf
```

## Step 10:- Add the following configuration

```
GNU nano 7.2 /etc/apache2/sites-available/navjot.com.conf *
<VirtualHost *:80>
ServerAdmin webmaster@navjot.com
ServerName navjot.com
ServerAlias www.navjot.com
DocumentRoot /var/www/navjot.com
ErrorLog ${APACHE_LOG_DIR}/error.log
CustomLog ${APACHE_LOG_DIR}/access.log combined
</VirtualHost>
```

Step 11:- Enable the virtual host

Command:- `sudo a2ensite example.com.conf`

Command:- `sudo systemctl reload apache2`

```
root@navjot-VMware-Virtual-Platform:/home/navjot# a2ensite navjot.com.conf
Enabling site navjot.com.
To activate the new configuration, you need to run:
    systemctl reload apache2
root@navjot-VMware-Virtual-Platform:/home/navjot# systemctl reload apache2
```

Step 12:- Create the document root directory and a test index.html file

Command:- `sudo mkdir -p /var/www/example.com`

Command:- `sudo apt install gedit`

```
root@navjot-VMware-Virtual-Platform:/home/navjot# apt install gedit
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
gedit is already the newest version (46.2-2).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
```

Command:- `gedit /var/www/example.com/index.html`

```
root@navjot-VMware-Virtual-Platform:/home/navjot# gedit /var/www/navjot.com/index.html
```



```
*index.html
/var/www/navjot.com

1 <html>
2 <body>
3 <h1>
4 It works!
5 </h1>
6 </body>
7 </html>
8
```

### Step 13:- Check Apache Configuration

Command:- `sudo apache2ctl configtest`

Command:- `sudo systemctl restart apache2`

```
root@navjot-VMware-Virtual-Platform:/home/navjot# apache2ctl configtest
AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 127.0.1.1. Set the 'ServerName' directive globally to suppress this message
Syntax OK
root@navjot-VMware-Virtual-Platform:/home/navjot#
```

```
root@navjot-VMware-Virtual-Platform:/home/navjot# systemctl restart apache2
root@navjot-VMware-Virtual-Platform:/home/navjot#
```

### Step 14:- Configure Your Local Machine's DNS

Command:- `sudo nano /etc/hosts`

```
root@navjot-VMware-Virtual-Platform:/home/navjot# nano /etc/hosts
```

### Step 15:- Add your domain to the `/etc/hosts` file

```
GNU nano 7.2 /etc/hosts *
127.0.0.1 localhost
127.0.1.1 navjot-VMware-Virtual-Platform

# The following lines are desirable for IPv6 capable hosts
::1 ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters

192.168.152.130 navjot.com
192.168.152.130 www.navjot.com
```

### Step 16:- Ensure both BIND9 and Apache are running

Command:- `sudo systemctl restart bind9`

Command:- `sudo systemctl restart apache2`

```
root@navjot-VMware-Virtual-Platform:/home/navjot# systemctl restart bind9
root@navjot-VMware-Virtual-Platform:/home/navjot# systemctl restart apache2
```

Step 17:- Use `dig` to check if the DNS is resolving correctly

Command:- dig @localhost example.com

```
root@navjot-VMware-Virtual-Platform:/home/navjot# dig 192.168.152.130

; <<>> DiG 9.18.24-0ubuntu5-Ubuntu <<>> 192.168.152.130
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 15263
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;192.168.152.130.                IN      A

;; ANSWER SECTION:
192.168.152.130.                5       IN      A      192.168.152.130

;; Query time: 29 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Tue Jun 25 21:49:32 IST 2024
;; MSG SIZE rcvd: 60
```

Step 18:- Access the Website: Open a web browser and navigate to `http://example.com`.

