

DOMAIN NAME SYSTEM



Disusun oleh :

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- Instalasi DNS Server

Jakankan perintah berikut untuk install bind9

```
mint2@mint2-VirtualBox:~$ apt install bind9
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  bind9-dnsutils bind9-host bind9-libs bind9-utils
Suggested packages:
  bind-doc resolvconf
The following NEW packages will be installed:
  bind9 bind9-utils
The following packages will be upgraded:
  bind9-dnsutils bind9-host bind9-libs
3 upgraded, 2 newly installed, 0 to remove and 349 not upgraded.
Need to get 1.876 kB of archives.
After this operation, 3.555 kB disk space will be freed.
```

Jika status firewall pada server aktif maka silahkan di Allow pada port 53 dengan perintah

```
mint2@mint2-VirtualBox:~$ sudo su
root@mint2-VirtualBox:/home/mint2# ufw allow 53
Rules updated
Rules updated (v6)
root@mint2-VirtualBox:/home/mint2#
```

- Konfigurasi Network Interface

Sebelumnya kita konfigurasi IP Address secara Static, Resolv.conf dan hosts seperti dibawah ini.

- Konfigurasi interface

```
root@mint2-VirtualBox: /home/mint2
File Edit View Search Terminal Help
GNU nano 6.2 /etc/netplan/00-installer-config.yaml *
# This is the network config written by 'subiquity'
network:
  ethernets:
    enp0s3:
      dhcp4: false
      addresses: [192.168.1.18/24]
      gateway4: 192.168.1.18
      nameservers: 192.168.1.1
      search: [trixaja.com]
      addresses: [192.168.1.18, 192.168.1.1]
version: 2
```

- Konfigurasi Resolv.conf

```
nameserver 192.168.1.18
nameserver 192.168.1.1
options edns0
search trixaja.com

^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execute   ^C Location
^X Exit      ^R Read File ^\ Replace   ^U Paste     ^J Justify   ^_ Go To Line
```

- Konfigurasi Hosts

```
root@mint2-VirtualBox: /home/mint2
File Edit View Search Terminal Help
GNU nano 6.2 /etc/hosts *
127.0.0.1 localhost
127.0.1.1 mint2-VirtualBox
192.168.1.18 trixaja.com

# 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
```

- Konfigurasi DNS Server

Pada bagian ini bind9 akan dikonfigurasi sebagai server utama dengan nama domain menggunakan nama trixaja.com.

```
root@mint2-VirtualBox: /home/mint2
File Edit View Search Terminal Help
GNU nano 6.2 /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";

zone "trixaja.com" {
    type master;
    file "/etc/bind/db.trixaja";
};
```

```
root@mint2-VirtualBox: /home/mint2
File Edit View Search Terminal Help
[1/2] /etc/bind/db.local *
;
; BIND data file for local loopback interface
;
$TTL      604800
@         IN      SOA      ns.trixaja.com. root.trixaja.com. (
                        2      ; Serial
                        604800 ; Refresh
                        86400  ; Retry
                        2419200; Expire
                        604800 )      ; Negative Cache TTL
;
@         IN      NS       ns.trixaja.com.
@         IN      A        192.168.1.18
@         IN      MX       10      mail.trixaja.com.
ns        IN      A        192.168.1.18
www       IN      CNAME    ns
mail      IN      A        192.168.1.18
```

Ok selanjutnya gunakan file zone yang sudah ada sebagai template untuk membuat file /etc/bind/db.trixaja

```
root@mint2-VirtualBox:/home/mint2# cp /etc/bind/db.local /etc/bind/db.trixaja
root@mint2-VirtualBox:/home/mint2# nano /etc/bind/db.local /etc/bind/db.trixaja
root@mint2-VirtualBox:/home/mint2# nano /etc/bind/db.local /etc/bind/db.trixaja
root@mint2-VirtualBox:/home/mint2# systemctl restart bind9.service
```

Simpan perubahan lalu restart service bind9

Selanjutnya kita akan membuat Reverse zone file. Reverse zone perlu ditambahkan untuk memungkinkan DNS untuk me resolv dari IP Address ke nama domain.

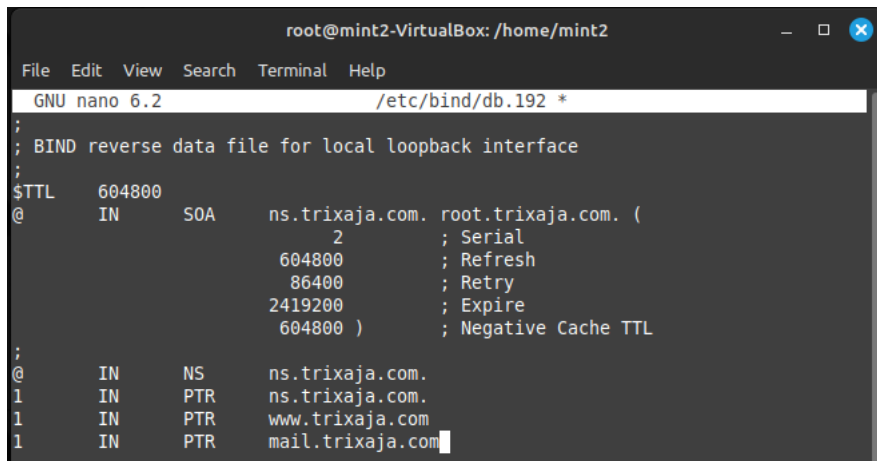
Edit file /etc/bind/named.conf.local lalu Tambahkan script dibawah ini.

```
root@mint2-VirtualBox: /home/mint2
File Edit View Search Terminal Help
GNU nano 6.2 /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";

zone "trixaja.com" {
    type master;
    file "/etc/bind/db.trixaja";
};

zone "1.168.192.in-addr.arpa" {
    type master;
    file "/etc/bind/db.192";
}
```

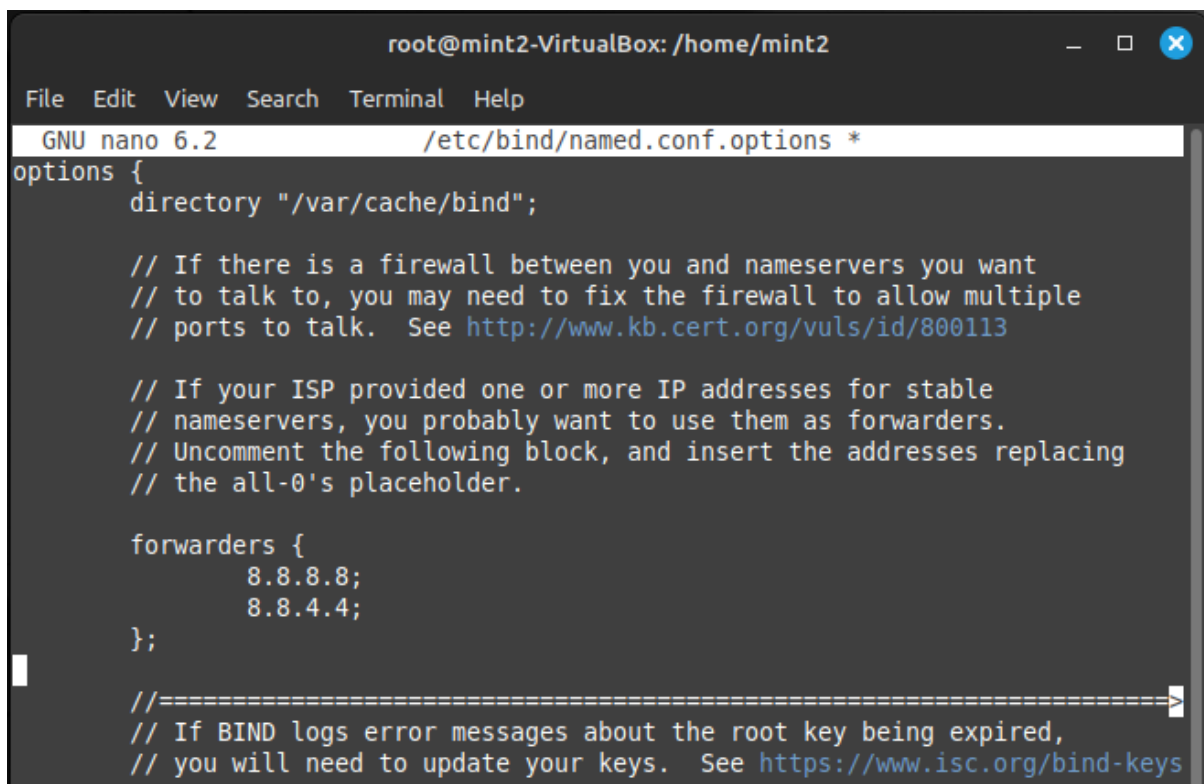
Selanjutnya buat file /etc/bind/db.192



```
root@mint2-VirtualBox: /home/mint2
GNU nano 6.2 /etc/bind/db.192 *
; BIND reverse data file for local loopback interface
;
$TTL      604800
@         IN      SOA      ns.trixaja.com. root.trixaja.com. (
                        2      ; Serial
                        604800 ; Refresh
                        86400  ; Retry
                        2419200 ; Expire
                        604800 ) ; Negative Cache TTL
;
@         IN      NS       ns.trixaja.com.
1         IN      PTR      ns.trixaja.com.
1         IN      PTR      www.trixaja.com
1         IN      PTR      mail.trixaja.com
```

Simpan perubahan lalu restart service bind9

DNS Caching berfungsi jika Client menggunakan DNS Local dan ingin terhubung dengan Internet. jadi PC Client masih bisa terhubung ke Internet meskipun Client menggunakan DNS Local. untuk konfigurasinya cukup simple anda hanya uncomment pada bagian forwarders dan mengganti dengan IP DNS dari ISP atau menggunakan IP DNS public disini saya mencoba menggunakan DNS public 8.8.8.8 dan 8.8.4.4 Edit file /etc/bind/named.conf.options lalu konfigurasi seperti dibawah ini.



```
root@mint2-VirtualBox: /home/mint2
GNU nano 6.2 /etc/bind/named.conf.options *
options {
    directory "/var/cache/bind";

    // If there is a firewall between you and nameservers you want
    // to talk to, you may need to fix the firewall to allow multiple
    // ports to talk.  See http://www.kb.cert.org/vuls/id/800113

    // If your ISP provided one or more IP addresses for stable
    // nameservers, you probably want to use them as forwarders.
    // Uncomment the following block, and insert the addresses replacing
    // the all-0's placeholder.

    forwarders {
        8.8.8.8;
        8.8.4.4;
    };

    //=====
    // If BIND logs error messages about the root key being expired,
    // you will need to update your keys.  See https://www.isc.org/bind-keys
```

Simpan perubahan lalu restart service bind9

- Pengetesan

Untuk pengetesan jalankan nslookup nama domain anda.

```
root@mint2-VirtualBox:/home/mint2# nslookup www.trixaja.com
Server:          192.168.1.18
Address:         192.168.1.18#53

www.trixaja.com canonical name = ns.trixaja.com.
Name:   ns.trixaja.com
Address: 192.168.1.18
```

Lalu test ping ke domain anda

```
root@mint2-VirtualBox:/home/mint2# ping -c 4 trixaja.com
PING trixaja.com (192.168.1.18) 56(84) bytes of data.
64 bytes from trixaja.com (192.168.1.18): icmp_seq=1 ttl=64 time=0.020 ms
64 bytes from trixaja.com (192.168.1.18): icmp_seq=2 ttl=64 time=0.029 ms
64 bytes from trixaja.com (192.168.1.18): icmp_seq=3 ttl=64 time=0.028 ms
^C
--- trixaja.com ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2054ms
```