

# DNS

MSSV: 2051150106

Họ và tên: Đoàn Kim Hân

## Bước 1: Cài đặt DNS

yum install bind bind-utils -y

```
[root@doankimhan ~]# yum install bind bind-utils -y
Last metadata expiration check: 0:21:26 ago on Fri 15 Nov 2024 06:10:14 PM +07.
Package bind-utils-32:9.16.23-3.el9.x86_64 is already installed.
Dependencies resolved.
=====
Package                Arch      Version              Repository           Size
=====
Installing:
bind                   x86_64    32:9.16.23-24.el9    appstream            505 k
Upgrading:
bind-libs              x86_64    32:9.16.23-24.el9    appstream            1.2 M
bind-license           noarch    32:9.16.23-24.el9    appstream            14 k
bind-utils             x86_64    32:9.16.23-24.el9    appstream            210 k
Installing dependencies:
bind-dnssec-doc        noarch    32:9.16.23-24.el9    appstream            46 k
python3-bind           noarch    32:9.16.23-24.el9    appstream            68 k
python3-ply            noarch    3.11-14.el9          baseos               106 k
=====
```

## Bước 2: Sao lưu tập tin cấu hình

cp /etc/named.conf /etc/named.conf.backup

```
[root@doankimhan ~]# cp /etc/named.conf /etc/named.conf.backup
```

```
[root@doankimhan ~]# ls /etc/ | grep "named.conf"
named.conf
named.conf.backup
[root@doankimhan ~]#
```

## Bước 3: Cấu hình /etc/named.conf

vi /etc/named.conf

```
options {
    listen-on port 53 { 127.0.0.1;localhost;192.168.1.62 };
    listen-on-v6 port 53 { ::1; };
    directory      "/var/named";
    dump-file      "/var/named/data/cache_dump.db";
    statistics-file "/var/named/data/named_stats.txt";
    memstatistics-file "/var/named/data/named_mem_stats.txt";
    secroots-file  "/var/named/data/named.secroots";
    recursing-file  "/var/named/data/named.recursing";
    allow-query     { localhost;192.168.1.0/24; };
}
```

[ Wrote 59 lines ]

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

```
GNU nano 5.6.1 /etc/named.conf Modified
zone "." IN {
    type hint;
    file "named.ca";
};

zone "doankimhan.com" IN {
    type master;
    file "/var/named/doankimhan.com.db";
    allow-update { none; };
};

zone "0.168.192.in-addr.arpa" IN {
    type master;
    file "/var/named/192.168.0.db";
    allow-update { none; };
};
```

**Bước 4:** Cấu hình /var/named/doankimhan.com.db

vi /var/named/doankimhan.com.db

```
GNU nano 5.6.1 /var/named/doankimhan.com.db
$TTL 86400 ; Default TTL (Time To Live)

; Start of Authority (SOA) Record
@ IN SOA ns1.doankimhan.local. root.doankimhan.local. (
    1001 ; Serial
    3H ; Refresh
    15M ; Retry
    1W ; Expire
    1D ; Minimum TTL
)

; Name Server (NS) Record
@ IN NS ns1.buiduongthe.local.

; A Record - IP address of Name Server
ns1 IN A 192.168.1.62

; Mail Exchanger (MX) Record
doankimhan.local. IN MX 10 mail.doankimhan.local.

; A Record for WWW
@ IN A 192.168.1.62

; A Record for Mail
mail IN A 192.168.1.62

; CNAME Record for FTP
ftp IN CNAME www.doankimhan.local.

; A Record for WWW (Redundant entry)
www IN A 192.168.1.62
```

**Bước 5:** Cấu hình /var/named/192.168.0.db

vi /var/named/192.168.0.db

```
GNU nano 5.6.1 /var/named/192.168.0.db
$TTL 86400      ; Default TTL (Time To Live)

; Start of Authority (SOA) Record
@ IN SOA ns1.doankimhan.local. root.doankimhan.local. (
    1001        ; Serial
    3H          ; Refresh
    15M         ; Retry
    1W          ; Expire
    1D          ; Minimum TTL
)

; Name Server (NS) Record
@ IN NS ns1.doankimhan.local.

10 IN PTR ns1.doankimhan.local.

100 IN PTR www.doankimhan.local.

150 IN PTR mail.doankimhan.local.
```

**Bước 6:** Cấu hình /etc/resolv.conf

vi /etc/resolv.conf

```
GNU nano 5.6.1 /etc/resolv.conf
# Generated by NetworkManager
#nameserver fe80::1%enp0s3
nameserver 192.168.1.160
nameserver 192.168.1.1
```

**Bước 7:** Khởi động lại mạng và named

systemctl restart NetworkManager

systemctl restart named

systemctl enable named

```
[root@doankimhan ~]# systemctl restart NetworkManager
```

```
[root@doankimhan ~]# systemctl restart named
[root@doankimhan ~]# systemctl enable named
Created symlink /etc/systemd/system/multi-user.target.wants/named.service → /usr/lib/systemd/system/named.service.
[root@doankimhan ~]#
```

#### Bước 8: Cấu hình tường lửa

```
firewall-cmd --permanent --add-port=53/udp
```

```
firewall-cmd --permanent --add-port=53/tcp
```

```
firewall-cmd --reload
```

```
[root@doankimhan ~]# firewall-cmd --permanent --add-port=53/udp
success
[root@doankimhan ~]# firewall-cmd --permanent --add-port=53/tcp
success
[root@doankimhan ~]# firewall-cmd --reload
usage: see firewall-cmd man page
firewall-cmd: error: unrecognized arguments: --reload
[root@doankimhan ~]# firewall-cmd --reload
success
[root@doankimhan ~]#
```

#### Bước 9: Kiểm tra cấu hình

```
named-checkconf /etc/named.conf
```

```
named-checkzone buiduongthe.local /var/named/doankimhan.com.db
```

```
named-checkzone buiduongthe.local /var/named/192.168.0.db
```

```
[root@doankimhan ~]# named-checkconf /etc/named.conf
[root@doankimhan ~]# named-checkzone doankimhan.local /var/named/doankimhan.com.db
zone doankimhan.local/IN: loaded serial 1001
OK
[root@doankimhan ~]# named-checkzone doankimhan.local /var/named/192.168.0.db
zone doankimhan.local/IN: loaded serial 1001
OK
[root@doankimhan ~]#
```

```
nslookup doankimhan.com
```

```
[root@doankimhan ~]# nslookup doankimhan.com
Server:          192.168.1.62
Address:         192.168.1.62#53

Name:   doankimhan.com
Address: 192.168.1.62

[root@doankimhan ~]#
```

dig doankimhan.com

```
[root@doankimhan ~]# dig doankimhan.com

; <<>> DiG 9.16.23-RH <<>> doankimhan.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 52068
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; COOKIE: b38c32a47998d0970100000067374fdc894381d86011534b (good)
;; QUESTION SECTION:
;doankimhan.com.                IN      A

;; ANSWER SECTION:
doankimhan.com.                86400   IN      A      192.168.1.62

;; Query time: 1 msec
;; SERVER: 192.168.1.62#53(192.168.1.62)
;; WHEN: Fri Nov 15 20:42:52 +07 2024
;; MSG SIZE rcvd: 87

[root@doankimhan ~]#
```

**Bước 10:** Ping đến doankimhan.com từ máy cục bộ

ping doankimhan.com

```
[root@doankimhan ~]# ping doankimhan.com
PING doankimhan.com (192.168.1.62) 56(84) bytes of data:
64 bytes from doankimhan.com (192.168.1.62): icmp_seq=1 ttl=64 time=0.015 ms
64 bytes from doankimhan.com (192.168.1.62): icmp_seq=2 ttl=64 time=0.027 ms
64 bytes from doankimhan.com (192.168.1.62): icmp_seq=3 ttl=64 time=0.040 ms
^C
--- doankimhan.com ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2079ms
rtt min/avg/max/mdev = 0.015/0.027/0.040/0.010 ms
[root@doankimhan ~]#
```

**Bước 11:** Ping đến doankimhan.com từ máy Window

ping doankimhan.com

```
C:\Users\ASUS>ping doankimhan.com

Pinging doankimhan.com [192.168.1.62] with 32 bytes of data:
Reply from 192.168.1.62: bytes=32 time<1ms TTL=64
Reply from 192.168.1.62: bytes=32 time<1ms TTL=64
Reply from 192.168.1.62: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.1.62:
    Packets: Sent = 3, Received = 3, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
Control-C
```