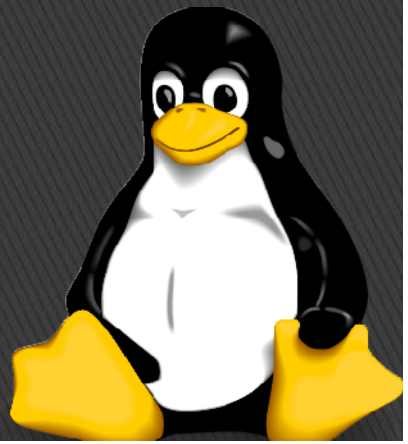
DNS Server

What is DNS

- Developed in the 80's by students at Berkeley University,
- **BIND** (**Berkeley Internet Name Domain**) is an open source **DNS server** that provides DNS services on Linux distributions.
- So, what is a DNS server ? A **DNS** server is a service that helps to resolve a fully qualified domain name (**FQDN**) into an IP address and additionally, perform a reverse translation- translation of an IP address to a user-friendly domain name.

- Why is name resolution important? Well, computers locate services on servers using IP addresses. However, IP addresses are not as user-friendly as domain names and it would be a big headache trying to remember each IP address that is associated with every domain name. A DNS server steps in and helps to resolve these domain names to computer IP addresses.
- DNS use port no =53



Purpose of DNS

Names are easy to remember than numbers

The Domain Name System (DNS) is a method used to translate human-readable domain names (or Fully Qualified Domain Names (FQDN)) to machine-readable IP addresses, to locate a computer in a network such as the Internet.

Forward DNS

Resolving hostname to your IP address

Reverse DNS

Resolve IP address to Hostname

Set host name

Set IP configuration

#nmcli connection add con-name india ifname enp0s3 type ethernet ipv4.add 192.168.1.2/24 gw4 192.1268.1.1 ipv4.dns 192.168.1.2 connection.autoconnect yes ipv4.method manual

#hostname

#hostnamectl set-hostaname server1.redhat.com

#hostname

Install Package

#yum clean all

#yum repolist

#yum install bind* -y [bind=Berkeley Internet Name Domain]

Start and enable service

#systemctl start named
#systemctl enable named
#systemctl restart named

Set Firewall

```
#firewall-cmd --permanent --add-service=dns
#firewall-cmd --reload
#firewall-cmd --list-all
```

Edit Configuration File

```
#vim   /etc/named.conf
Options  {
        listen-on port 53 { 127.0.0.1;  192.168.1.2;  };
.
.
        allow-query     {  localhost;  any; }

zone    "example.com"           IN      {
        type master;
        file      "forward.example.com";
        allow-update     {   none;  };
};
zone    "1.168.192.in-addr.arpa"                IN      {
        type master;
        file      "reverse.example.com";
        allow-update    {   none;   };
};
```

Create Fw & Rev zone file

#cd /var/named/

#cp -rvf named.localhost forward.example.com

#cp -rvf forward.example.com reverse.example.com

Edit Forward Lookup Zone

```
#vim    forward.example.com
@       IN    SOA     server0.example.com    root.example.com.    {
.
.

@               IN      NS      server0.example.com.
@               IN      A       192.168.1.2
Server0         IN      A       192.168.1.2
Desktop0        IN      A       192.168.1.3
Desktop1        IN      A       192.168.1.4

:wq
```

Edit reverse Lookup Zone

```
#vim    reverse.example.com
@       IN    SOA     server0.example.com    root.example.com.    {
.
.

@               IN      NS      server0.example.com.
@               IN      A       192.168.1.2
Server0         IN      A       192.168.1.2
Desktop0        IN      A       192.168.1.3
Desktop1        IN      A       192.168.1.4
2               IN      PTR     server0.example.com.
3               IN      PTR     desktop0.example.com.
4               IN      PTR     desktop1.example.com.

:wq
```

Change ownership

```
#chown    root:named    forward.example.com
#chown    root:named    reverse.example.com
```

Step 6:Check configuration

#named-checkconf -z /etc/named.conf

Start and enable service

```
#systemctl      start          named
#systemctl       restart       named
#systemctl      enable         named
```

verify

```
#ping    server0
#ping    desktop0
#ping    desktop1
#ping    google.com
```

Go to desktop system and configure setup

Set hostname

#hostnamectl set-hostname desktop0.example.com

#hostname

Setup ip confiuration with dns ip

#nmcli connection add con-name bharat ifname enp0s3 type ethernet ipv4.add 192.168.1.3/24 gw4 192.1268.1.1 ipv4.dns 192.168.1.2 connection.autoconnect yes ipv4.method manual

To Verify

#nslookup server0

#nslookup desktop0

#nslookup 192.168.1.2

#ping server0.example.com