Lab Exercise 1 – BIND Installation

Objectives

Understand the concept of Domain Name System, particularly installation and setup of BIND DNS.

Background

For this lab, we will be using BIND, a free/open-source DNS application. Bind is the complete DNS software, which can be used as an authoritative or caching server or both. It is currently the most widely used DNS application on the Internet and is maintained by the Internet Services Consortium (ISC). The current version as of writing is BIND 9.9.8-P4.

What You Need

- DNS Bind:

    - Current version: Bind 9.9.8-P4
    - Download from `http://ftp.isc.org/isc/bind9/9.9.8-P4/bind-9.9.8-P4.tar.gz`

- OpenSSL

    - Current version: openssl-1.0.2h
    - Download from `https://www.openssl.org/source/openssl-1.0.2h.tar.gz`

- Operating System (preferred): Linux

- Optional Software: Unbound, NSD, PowerDNS

Steps:

A. Access to the servers

1. Login to your assigned servers using a remote access tool (Terminal for Linux/Mac platform, or SSH software such as PuTTY for Windows).

```
ssh apnic@192.168.101.1 (for server1)
password: training
```

B. Installing BIND from source

Download BIND source from www.isc.org. For our lab purposes, the BIND installer is already included in the working servers assigned to you and can be found in `/home/apnic/sw` folder.

- Note that you can also install using a package manager (`yum` or `apt-get`) or install from an .rpm file, if you know your way around Linux. Steps for this are not covered in this exercise.

1. Go to the folder containing the installer and unpack the source file

```
$ cd /home/apnic/sw
```

2. Installation and compilation are done by the root or a user with 'superuser' privileges. Please use 'sudo' before each the command.

```
sudo su
```

3. OpenSSL is required in some features of DNS such as DNSSEC. So we will first install this. (Note: OpenSSL may already be installed in your system. You may use that. Here we will use the current SSL version).

```
cd /home/apnic/sw
tar xvzf openssl-1.0.2h.tar.gz
cd openssl-1.0.2h
./config
make
make install
make clean
```

The default location is at `/usr/local/ssl` . Check that you have this folder.

```
ls -lah /usr/local/ssl
```

4. Install BIND.

Unpack the package installer

```
cd /home/apnic/sw
tar xvzf bind-9.9.8-P4.tar.gz
cd bind-9.9.8-P4
```

Configure with the following options

```
./configure --with-openssl=/usr/local/ssl
```

NOTES

```
You can specify a specific prefix/directory to be the default installation:

./configure —with-openssl=/usr/local/ssl/ --prefix=/var/named

If not, however, the default location of the installation are as follows:
/etc for system configuration (named.conf)
/usr/local/sbin for system binaries (named, RNDC, DNSSEC)
/usr/local/bin for local/user binaries (dig, host, nslookup, nsupdate)
```

5. Compile the package

```
make
```

Install BIND. The default installation folder is in `/usr/local/sbin` . Alternatively, you can specify another folder using the `--prefix` option.

```
make install
make clean
```

6. Verify the installation. Find the location where named is installed.

```
which named
```

Check the version number. If there was a previous BIND installation, this will tell you whether it is pointing to the new installation or not.

```
/usr/local/sbin/named -V
```

The output will look something like bellow. Make sure that BIND compiled with SSL

```
BIND 9.9.8-P4 (Extended Support Version) <id:deea0d7>
built by make with '--with-openssl=/usr/local/ssl'
compiled by GCC 4.8.4
compiled with OpenSSL version: OpenSSL 1.0.2h  3 May 2016
linked to OpenSSL version: OpenSSL 1.0.2h  3 May 2016
```

(optional) Add the installation location into the system PATH.

```
echo $PATH
set PATH=$PATH:/usr/local/sbin:/usr/local/bin
export PATH
```

You may now run named without specifying the exact path.

```
named -v
```