LAB: nameserver (DNS)

Lab Environment:

The workshop wifi:

SSID: workshop

PASS: iij/2497

Hosts - Virtual machines (Ubuntu16.04LTS/LXC):

Hostname: nsXX.local

IPv6: fd00:2497:1::X

IPv4: 10.0.0.X

Note: XX is your group id

For group1, it's ns01.local, fd00:2497:1::1 and 10.0.0.1

For group10, its' ns10.local, fd00:2497:1::10 and 10.0.0.10

username: workshop

password: iij/2497

Domain names:

groupXX.local

Note: XX is your gourp id

group01.local for group1, group10.local for group10, and so on

Install and configure bind9:

ssh to your host, and install bind9

$ sudo apt install bind9

Note: sudo password is iij/2497

Edit '/etc/bind/named.conf.options' to modify options.

$ sudo vi /etc/bind/named.conf.options

To make the nameserver as an authoritative only server, change the 'dnssec-validation' option as a comment, and add 'recursion no;' as follows:

//dnssec-validation auto;

recursion no;

Edit '/etc/bind/named.conf.local' to manage your domain name.

$ sudo vi /etc/bind/named.conf.local

Add the following lines to the named.conf.local file to serve your zone.

zone "groupXX.local" {

type master;

file "/etc/bind/groupXX.local";

};

Note: XX is your group id

Create a zone file in '/etc/bind/' directory.

$ sudo vi /etc/bind/groupXX.local

Note: The filename should match with your zone configuration in the named.conf.local file (db.groupXX.local in this example).
And edit it as like follows:

@   IN   SOA   nsXX.local.   root.nsXX.local.   (

1

604800

86400

2419200

86400)

@   IN   NS   nsXX.local.

Start bind service

$ sudo systemctl start bind9

And check bind9 status by rndc and systemctl commands

$ sudo rndc status

$ sudo systemctl status bind9

Check bind9 by dig

$ dig   groupXX.local   @localhost

Add A record (IPv4):

Add the following record at the bottom of your zone file.

ping.groupXX.local.   IN   A   10.0.0.XX

Let bind9 reload the zone file.

$ sudo   rndc   reload   groupXX.local

ping your host by using the hostname.

$ ping   ping.groupXX.local

Add AAAA record:

Add the following record at the bottom of your zone file.

ping.groupXX.local.   IN   AAAA   fd00:2497:1::XX

Let bind9 reload the zone file.

$ sudo   rndc   reload   groupXX.local

ping your host by using the hostname.

$ ping6   ping.groupXX.local