



Module: IPv6 Web Server

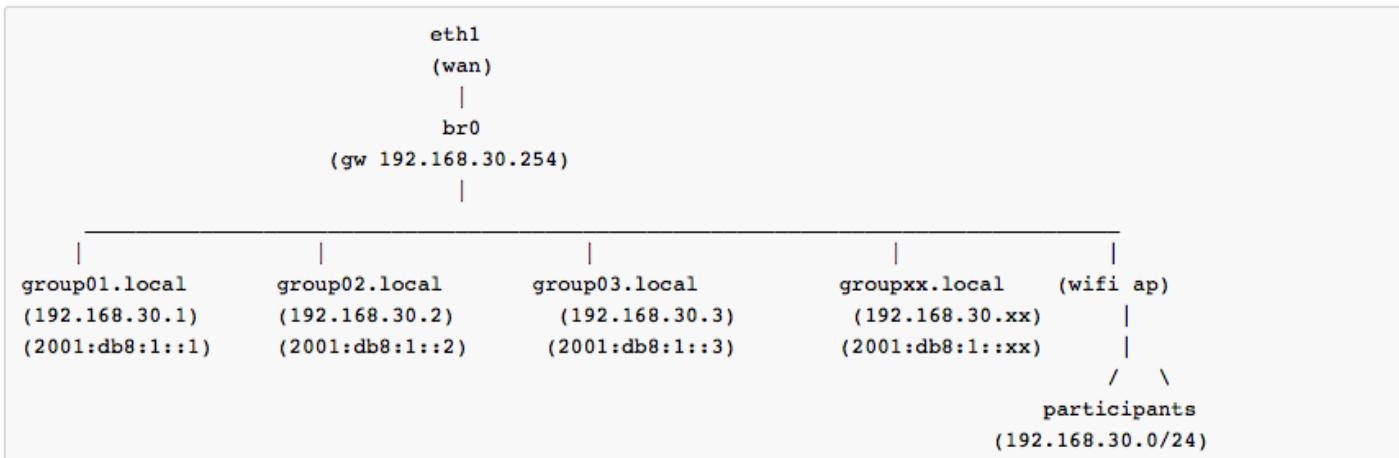
Lab Exercise – Apache Installation

Objective: To make your www site accessible with the following hostname: www.groupXX.net

Prerequisites: Installation of BIND, configuration of DNS zone and static IPv6 assigned.

Topology

The following will be the topology used for this lab. Note that the IP addresses are examples only. When working on the lab, use the actual IP addresses as indicated by the instructors. For the purpose of this guide, the IP address of 192.168.30.XX or 2001:db8::100::XX will refer to your Virtual Machine (VM).



Lab Notes

- Confirm interface name:
 - On the VM, check the IP configuration to see the interface Name

```
ip address show
OR
ip route show | grep " src " | cut -d " " -f 3,12
```

- In this guide the interface name is `eth0`. Depending on the version of Ubuntu the interface

name may be `enp0s3` or something different. Where `eth0` is used in this guide replace it with your interface name.

- Virtual Machine (Container) details

- Ubuntu 18.04 LTS/LXC
- Hostname = groupXX.apnictraining.net
- Domain name = apnictraining.net
- IPv4 Address = 192.168.30.xx
- IPv6 Address = 2001:db8:100::xx
- xx = group ID as allocated by the instructor

Steps:

A. Access to the servers

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

```
ssh apnic@192.168.30.1 (for group01)  
password: training
```

2. Test connectivity with the `eth0` IPv6 address.

```
ping6 2001:db8:100::254
```

B. Installing Apache2 Web Server

1. To install via a package manager type the following command:

```
sudo apt-get update  
sudo apt-get install -y apache2
```

2. Confirm the version of Apache

```
apache2 -v
```

3. The default location for html files is at `/var/www/html`. Check that you have this folder.

```
sudo ls -lah /var/www/html/
```

4. [Optional] Install a text based browser on the VM, by typing the following commands:

```
sudo apt-get update  
sudo apt-get install -y lynx
```

5. Test connectivity to the web server by opening a browser and access the following URLs:

```
http://192.168.30.XX/  
http://[2001:db8:100::XX]  
http://www.groupXX.net
```

To access via the text based browser

```
lynx http://www.groupXX.net
```

6. Check your apache2 log file to see the IPv6 connections.

```
sudo less /var/log/apache2/access.log
```

```
192.168.30.51 - - [13/Feb/2019:07:34:47 +0000] "GET / HTTP/1.1" 200 3525 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0) Gecko/20100101 Firefox/65.0"  
192.168.30.51 - - [13/Feb/2019:07:34:47 +0000] "GET /icons/ubuntu-logo.png HTTP/1.1" 200 3623 "http://192.168.30.29/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0)  
Gecko/20100101 Firefox/65.0"  
192.168.30.51 - - [13/Feb/2019:07:34:47 +0000] "GET /favicon.ico HTTP/1.1" 404 504 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0) Gecko/20100101 Firefox/65.0"  
192.168.30.51 - - [13/Feb/2019:07:37:32 +0000] "GET / HTTP/1.1" 200 3525 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0) Gecko/20100101 Firefox/65.0"  
192.168.30.51 - - [13/Feb/2019:07:37:32 +0000] "GET /icons/ubuntu-logo.png HTTP/1.1" 200 3623 "http://192.168.30.29/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0)  
Gecko/20100101 Firefox/65.0"  
192.168.30.51 - - [13/Feb/2019:07:37:32 +0000] "GET /favicon.ico HTTP/1.1" 404 504 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0) Gecko/20100101 Firefox/65.0"  
2001:db8:1::29 - - [13/Feb/2019:07:37:41 +0000] "GET / HTTP/1.0" 200 3488 "-" "Lynx/2.8.9dev.8 libwww-FM/2.14 SSL-MM/1.4.1 GNUTLS/3.4.9"  
2001:db8:1::29 - - [13/Feb/2019:07:38:37 +0000] "GET / HTTP/1.0" 200 3488 "-" "Lynx/2.8.9dev.8 libwww-FM/2.14 SSL-MM/1.4.1 GNUTLS/3.4.9"  
(END)
```

7. [Optional] Modify the `index.html` file as you like:

```
sudo vi /var/www/html/index.html
```

NOTE

In a production environment additional DNS records would only be added after the service is running. However, the A and AAAA web server records were added in a previous lab. To view zone and host details:

```
sudo cat /var/named/master/db.groupXX.net  
sudo cat /var/named/named.conf
```

Lab Exercise – Apache 2 Installation

Updated: 14 Sep 2020

Version 2.2