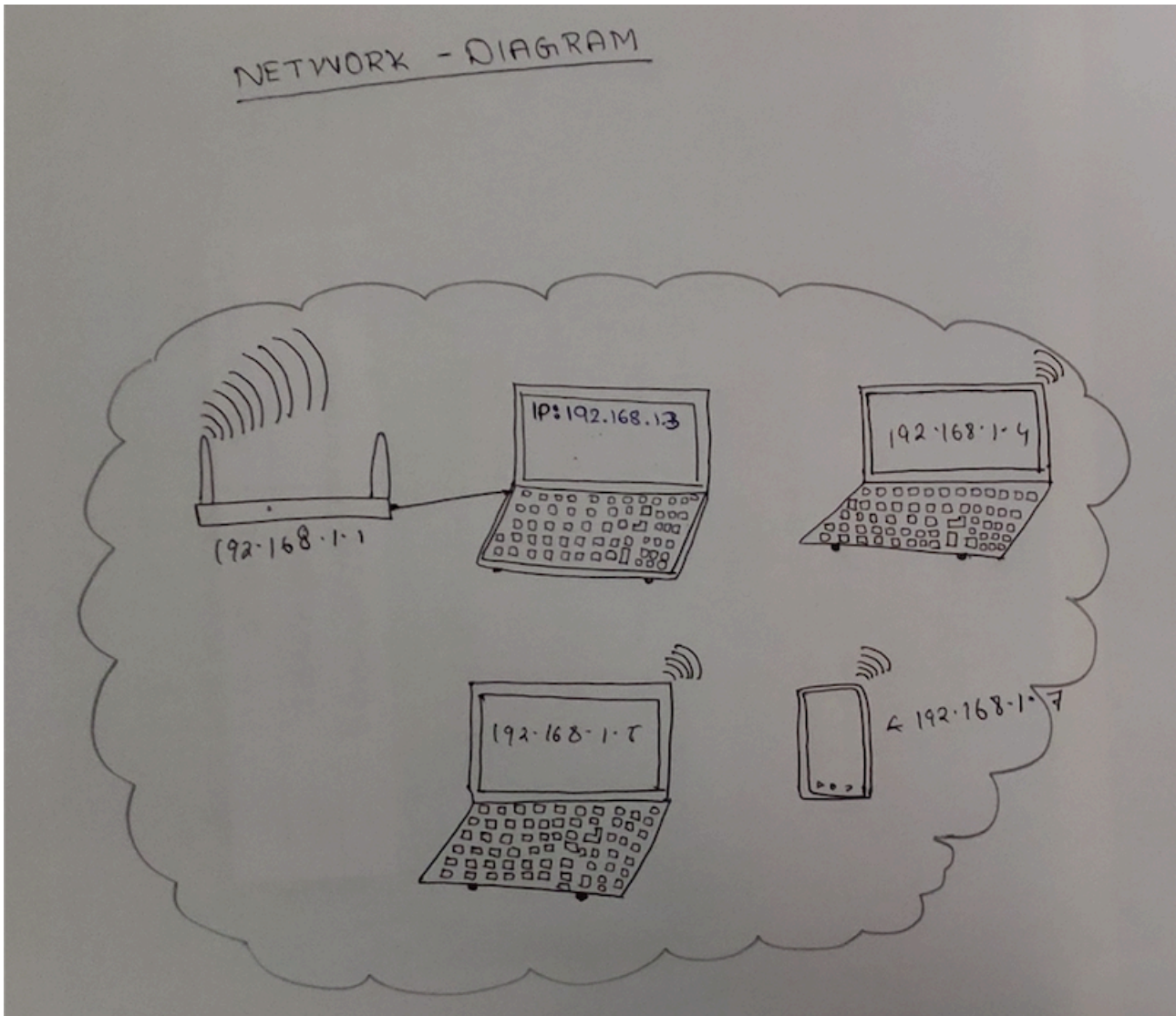


Network Design



Abstract

We will be establishing a INTRANET using apache web server where we can store websites for internal purpose and we can share the data among all the users in the network.

Introduction:

INTRANET is a service we can setup here to share a common communication channel for the all the devices attached to the network. We will be using intranet for sharing a common website to the all the nodes connected to it.

Process:

Step 1: Update the system

Step 2: `install apache (sudo apt-get install apache2)`

Step 3: Verify the installation by typing localhost in web browser. If installation is right it will display the home page of apache. If it is not showing please restart the apache server by using - (sudo service apache2 restart). Create a web directory inside var/www/sumanta.com

Command: `mkdir -p /var/www/html/sumanta.com`

```
shaminaz@shaminaz-Lenovo-G50-30:/var/www/html$ ls
sumanta.com
shaminaz@shaminaz-Lenovo-G50-30:/var/www/html$
```

Step 4: We will setup a network of 3 devices , all connected to the same local network using a Router. So server got an IP address i.e. 192.168.1.2

Step 5: Now our web server is set, we need setup our Virtual host i.e. website.

`Cd /etc/apache2/sites-available`

```
shaminaz@shaminaz-Lenovo-G50-30:/var/www/html$ ls
sumanta.com
shaminaz@shaminaz-Lenovo-G50-30:/var/www/html$ cd /etc/apache2/
bash: cd: /etc/apache2/: No such file or directory
shaminaz@shaminaz-Lenovo-G50-30:/var/www/html$ cd /etc/apache2
shaminaz@shaminaz-Lenovo-G50-30:/etc/apache2$ ls
apache2.conf  conf-available  conf-enabled  envvars  magic  mods-available  mods-enabled  ports.conf  sites-available  sites-enabled
shaminaz@shaminaz-Lenovo-G50-30:/etc/apache2$ cd sites-available/
shaminaz@shaminaz-Lenovo-G50-30:/etc/apache2/sites-available$ ls
000-default.conf  default-ssl.conf  sumanta.com.conf
shaminaz@shaminaz-Lenovo-G50-30:/etc/apache2/sites-available$
```

Now copy the default file into another file.

`Cp 000-default.conf Sumanta.com.conf`

Now Edit the file and add these lines to it.
Save the file.

Step 6: MAP the domain to the host by editing host file

`Sudo nano /etc/hosts`

Here ip address is the address of the server machine.

```
127.0.0.1    localhost
127.0.1.1    shaminaz-Lenovo-G50-30
192.168.1.2  sumanta.com
#sumanta.com 192.168.1.2

# The following lines are desirable for IPv6 capable hosts
::1         ip6-localhost ip6-loopback
fe00::0     ip6-localnet
ff00::0     ip6-mcastprefix
ff02::1     ip6-allnodes
ff02::2     ip6-allrouters
```

```
shaminaz@shaminaz-Lenovo-G50-30: /var/www/html/sumanta.com
16:24:37.009135 IP sumanta.com.http > 192.168.1.4.49837: Flags [.], ack 1, win 235, options [nop,nop,TS val 994722404 ecr 509462207], length 0
16:24:37.009160 IP 192.168.1.4.49838 > sumanta.com.http: Flags [F.], seq 3962350498, ack 1262401876, win 2058, options [nop,nop,TS val 509462207 ecr 994693566], length 0
16:24:37.009702 IP sumanta.com.http > 192.168.1.4.49836: Flags [F.], seq 1, ack 2, win 227, options [nop,nop,TS val 994722404 ecr 509462207], length 0
16:24:37.009859 IP sumanta.com.http > 192.168.1.4.49838: Flags [.], ack 1, win 227, options [nop,nop,TS val 994722404 ecr 509462207], length 0
16:24:37.010038 IP sumanta.com.http > 192.168.1.4.49838: Flags [F.], seq 1, ack 1, win 227, options [nop,nop,TS val 994722405 ecr 509462207], length 0
16:24:37.019748 IP 192.168.1.4.49836 > sumanta.com.http: Flags [.], ack 2, win 2058, options [nop,nop,TS val 509462236 ecr 994722404], length 0
16:24:37.019820 IP 192.168.1.4.49838 > sumanta.com.http: Flags [.], ack 2, win 2058, options [nop,nop,TS val 509462236 ecr 994722405], length 0
16:24:37.061855 ARP, Request who-has 192.168.1.4 tell 192.168.1.4, length 46
16:24:37.313351 IP6 fe80::ba8a:5869:7059:9e8b > ff02::16: HBH ICMP6, multicast listener report v2, 1 group record(s), length 28
16:24:37.743277 ARP, Request who-has www.routerlogin.com tell 192.168.1.4, length 46
16:24:38.655024 IP 0.0.0.0.bootpc > 255.255.255.255.bootps: BOOTP/DHCP, Request from 24:1b:7a:d4:5d:1a (oui Unknown), length 300
16:24:39.623713 44:c:a8:6b:13:3f (oui Unknown) > Broadcast Null Unnumbered, xid, Flags [Response], length 46: 01 02
16:24:39.772043 IP6 fe80::ba8a:5869:7059:9e8b > ff02::16: HBH ICMP6, multicast listener report v2, 1 group record(s), length 28
16:24:39.814478 ARP, Request who-has www.routerlogin.com tell 192.168.1.4, length 46
16:24:39.993903 ARP, Request who-has 192.168.1.4 tell 192.168.1.4, length 46
16:24:40.006733 IP6 fe80::ba8a:5869:7059:9e8b > ff02::16: HBH ICMP6, multicast listener report v2, 1 group record(s), length 28
16:24:40.324807 ARP, Request who-has www.routerlogin.com tell 192.168.1.4, length 46
16:24:41.492215 44:c:a8:6b:13:3f (oui Unknown) > Broadcast Null Unnumbered, xid, Flags [Response], length 46: 01 02
16:24:41.636125 IP6 fe80::ba8a:5869:7059:9e8b > ff02::16: HBH ICMP6, multicast listener report v2, 1 group record(s), length 28
16:24:41.841546 IP6 fe80::ba8a:5869:7059:9e8b > ff02::16: HBH ICMP6, multicast listener report v2, 1 group record(s), length 28
16:24:42.200906 IP 192.168.1.6.36338 > sumanta.com.https: Flags [S], seq 634905011, win 29200, options [mss 1460,sackOK,TS val 2238196355 ecr 0,nop,wscale 7], length 0
16:24:42.201074 IP sumanta.com.https > 192.168.1.6.36338: Flags [R.], seq 0, ack 634905012, win 0, length 0
16:24:43.557844 44:c:a8:6b:13:3f (oui Unknown) > Broadcast Null Unnumbered, xid, Flags [Response], length 46: 01 02
16:24:43.696789 IP6 fe80::ba8a:5869:7059:9e8b > ff02::16: HBH ICMP6, multicast listener report v2, 1 group record(s), length 28
16:24:43.789264 24:1b:7a:d4:5d:1a (oui Unknown) > Broadcast Null Unnumbered, xid, Flags [Response], length 46: 01 02
16:24:44.005618 ARP, Request who-has 192.168.1.4 tell 192.168.1.4, length 46
16:24:44.456974 ARP, Request who-has www.routerlogin.com tell 192.168.1.4, length 46
16:24:44.910182 b4:c4:fc:9f:02:c4 (oui Unknown) > Broadcast Null Unnumbered, xid, Flags [Response], length 46: 01 02
16:24:45.123848 IP 0.0.0.0.bootpc > 255.255.255.255.bootps: BOOTP/DHCP, Request from 24:1b:7a:d4:5d:1a (oui Unknown), length 300
^C^[[A^[[C
^C^C^X16:24:45.201985 IP6 :: > ff02::1:ff9f:2c4: ICMP6, neighbor solicitation, who has fe80::b6c4:fcff:fe9f:2c4, length 32
153 packets captured
```

```
<VirtualHost *:80>
# The ServerName directive sets the request scheme, hostname and port that
# the server uses to identify itself. This is used when creating
# redirection URLs. In the context of virtual hosts, the ServerName
# specifies what hostname must appear in the request's Host: header to
# match this virtual host. For the default virtual host (this file) this
# value is not decisive as it is used as a last resort host regardless.
# However, you must set it for any further virtual host explicitly.
ServerName sumanta.com

ServerAdmin webmaster@sumanta.com
ServerAlias www.sumanta.com
DocumentRoot /var/www/html/sumanta.com

# Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
# error, crit, alert, emerg.
# It is also possible to configure the loglevel for particular
# modules, e.g.
#LogLevel info ssl:warn

ErrorLog ${APACHE_LOG_DIR}/error.log
LogLevel ${APACHE_LOG_DIR}/access.log combined

# For most configuration files from conf-available/, which are
# enabled or disabled at a global level, it is possible to
# include a line for only one particular virtual host. For example the
# following line enables the CGI configuration for this host only
# after it has been globally disabled with "a2disconf".
#Include conf-available/serve-cgi-bin.conf
</VirtualHost>
```

Step 7: connect to the network with any other device and hit the address 192.168.1.2 or sumanta.com as domain.

Step 8: Use tcp dump to trace the incoming connection to the server machine.

=====**OutPut**=====



