Report

Home Assignment, CCOM38

Dennis Bennhage & Hampus Lidin

May 18th, 2015

Task 1 :

    a) When running the `ifconfig` command (in Mac OSX/Unix), you get all the information about the different interfaces at the host computer. Running the command in a home network, we get the following information about the `Ethernet0 (en0)` interface:

```
$ ifconfig

<output omitted>

en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
     ether 20:c9:d0:7f:0f:25
     inet6 fe80::22c9:d0ff:fe7f:f25\%en0 prefixlen 64 scopeid 0x4
     inet 192.168.1.119 netmask 0xffffff00 broadcast 192.168.1.255
     nd6 options=1<PERFORMNUD>
     media: autoselect
     status: active

<output omitted>
```

      The `inet` field shows information about the IPv4 configuration for that interface. The unicast IP-address is then `129.16.182.106/20` and the broadcast address for this network is `129.16.191.255/20`. However, the IP-address is within the private address space, so the router has to convert it into a globally unique IP-address using *Network Address Translation* (NAT). This address is provided to the router by the *Internet Service Provider* (ISP), and all traffic in the local network going out from the router will then use this address to communicate through the Internet.

    b) The hostname can be found using the `nslookup` command on the IP-address obtained in the previous task:

```
$ nslookup 192.168.1.1

Server:   192.168.1.1
Address:  192.168.1.1#53

119.1.168.192.in—addr.arpa  name = Hampus—MBP.huawei.com.
```

      The answer is given by the name server `119.1.168.192.in-addr.arpa`. The hostname that was given is `Hampus-MBP.huawei.com`.

Task 2 :

    a) Answer.

    b) Answer.

Task 3 :

    a) Answer.

    b) Answer.

Task 4 :

    a) Answer.

b) Answer.

c) Answer.

Task 5 :

a) Answer.

b) Answer.

Task 6 :

a) Answer.

b) Answer.

Task 7 :

a) Answer.

b) Answer.