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Network

### Network interfaces, IP-numbers and more

In a terminal run **Windows:** ipconfig /all **Linux/Unix**: sudo ifconfig –a

Answer the questions below:

1. What is the ip address of your wireless card?

192.168.50.105 (preferred, as I configured my router at home to use specific IPs for specific devices to not mismatch, my workstation(Desktop) is configured as a static ip)

1. What is special about the IP-addresses that starts with 10 (and 172.16 and 192.168)

IP addresses that start with the above mentioned, are used locally to establish connection with a private network.

1. Who or what gave you that address?

Essentially a DHCP from the Network provider, which “recommended” a 192.168.X.X for better ping across the web, I have tested it and went with such address, also using their own DNS, instead of something like Google's(8.8.8.8, 8.8.4.4)

1. What is a DHCP server (conceptually)

Basically a Data LANnet that makes sure that the end-user/recipient receives a correct IP which makes it possible to connect to the internet, amongst other things such as lease times on IPs, releasing IPs and fetching new ones.

1. What is the address of your DHCP Server

192.168.50.16

1. What is a DNS server (conceptually)

Essentially a DNS server is a name/IP stash translator that makes it possible to connect to various websites, using their domain names instead of IPs and vice versa.

1. What is the DNS server address of the network?

Translation between IP and domain names.

1. What is a MAC address

A MAC address is essentially an ID for each and one of the devices that are connected to a network interface, like for example an admin page of your router to identify the device that is connected. Each device has their own MAC address and each one of them are unique.

1. What is the MAC address of the your Network Interface(s)?

|  |
| --- |
| 7c:d1:c3:85:3d:fa |

Example: My Laptop's MAC address

1. How many network interfaces do you have?

If we’re talking about devices connected it’s around 10 or so, if we’re talking about routers it’s 2 running in bridge mode. Otherwise just one per device I suppose?

1. What is your public address (WAN) (can’t be found with ipconfig) address right now. Ask others in the class for theirs, do you all have the same public address ?

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### Networking

For these exercises you need to use the tools (figure out which ones): ping, netstat, whois, traceroute (windows) or traceroute (linux)

1. Find the IP address for cphbusiness.dk

IP for CPHBusinesss is [195.254.168.52]

1. When was cphbusiness.dk registered first time and whois the Registrant

Registered first time in: 2008-12-15

Registrant  
Handle: HKN40-DK  
Name: Knord S/I  
Address: Lundtoftevej 93  
Postalcode: 2800  
City: Kongens Lyngby  
Country: DK

1. Use ping to verify whether you Digitalocean Droplet is online

Indeed it is.

1. How many routers do you need to go through to reach dr.dk?

1 <1 ms 1 ms <1 ms 192.168.65.2

2 1 ms 1 ms 1 ms 194.255.55.45

3 103 ms 3 ms 2 ms 0xc213cf22.linknet.dk.telia.net [194.19.207.34]

4 1 ms 1 ms 1 ms 159.20.6.38

Apparently 4 routers.

1. How many routers do you need to go through to reach rhcloud.com?

1 1 ms <1 ms <1 ms 192.168.65.2

2 1 ms 1 ms 1 ms 194.255.55.45

3 1 ms 1 ms 1 ms kbn-b1-geth2-3.telia.net [213.248.66.145]

4 2 ms 1 ms 1 ms kbn-bb3-link.telia.net [62.115.142.214]

5 92 ms 85 ms 99 ms nyk-bb3-link.telia.net [213.155.134.50]

6 82 ms 82 ms 82 ms nyk-b5-link.telia.net [62.115.115.1]

7 82 ms 82 ms 82 ms 80.239.132.214 8 87 ms 92 ms 91 ms 52.93.4.89

9 86 ms 85 ms 85 ms 52.93.4.34

Supposedly 9.

1. How many active connections do you have on your computer?

25-30 ish connections, but bear in mind I having a lot of tabs open at the same time.

1. What is the round-trip time to reach google.com?

9ms for my connection.

1. Why is it so low if Google is in the United States?

Cause their servers/equipment are top of the line. Pretty much self explanatory if you’re Google.

1. Start your local Tomcat server and use netstat to verify whether “anyone” is listening on port 8080 and 3306 (what would you expect to find listening on 3306?)

Yes, and you would expect yourself I suppose as a localhost?

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### Domain Name System

For some of these exercises you can use the command line tool nslookup

1. Find the IP address for your domain name (won’t work, unless you have completed the steps below)
2. Set up your HostName to point to your droplet(s) as explained [here](https://docs.google.com/document/d/1dhdOmyrq2JQc-MxIgn-IsSq3if1crjPbgeFLy7vmWcw/edit#bookmark=id.xqa8n5tfiure) in the steps:

Configuring your Domain Part-1, Change your Domain Server, Configuring your Domain Part-2

1. Wait some time (why) perhaps an hour, and repeat step 2.
2. Verify that your droplet(s) can be using your domain name