Fundamental Network Topics

### Understanding Basic Network Terms like IP, TCP/IP, DNS, DHCP and more.

These exercises are meant to be answered with text, based on internet searches so write down your reply so you will remember for later.

* What is your public IP address right now, and how did you find it?

217.71.0.26

Jeg googlede mig frem til den.

* What is your private IP address right now (do this both at home and in school), and who/what gave you that address?

192.168.0.131

Jeg brugte ifconfig i min terminal, der bla. viste mig min private ip.

* What’s special about these address ranges?
  + 10.0.0.0 – 10.255.255.255
  + 172.16.0.0 – 172.31.255.255
  + 192.168.0.0 – 192.168.255.255

Private netværks Ip addresser.

* What’s special about this ip-address: 127.0.0.1?

En reseveret ip adresse til local host.

* What kind of service would you expect to find on a server using these ports: 22, 23, 25, 53, 80, 443?

Applicationer der burger tcp eller udp protocol.

22: ssh

23: telnet

25: sntp

53: DNS

80: http

443: https

* What is the IP address of studypoints.info and how did you find it?

157.230.21.145

Brugte terminalen hvor jeg pinged domain navnet.

* If you write https://studypoints.info in your browser, how did “it” figure out that it should go to the IP address you discovered above?

Ved hjælp DNS.

* Explain shortly the purpose of an ip-address and a port-number and why we need both

Ip-adressen bruges til at lokalisere der hvor data skal sendes hen og port nummer hvilken protocol der skal bruges.

* What is your (nearest) DNS server?
* What is (conceptually) the DNS system and the purpose with a DNS Server?

Virker som en telefonbog din computer slog op i får at finde det domain name du skriver ind i din browser for at finde ip-adressen til den server der holder hjemmesiden.

* What is your current Gateway, and how did you find it?

192.168.0.1 – routerens ip-adresse?

Ved hjælp af Netstat -rn.

* What is the address of your current DHCP-Server, and how did you find it?

192.168.0.1

Ved hjælp af ipconfig getpacket en0.

* Explain (conceptually) about the TCP/IP-protocol stack

Hvis du skal sende noget data, så som en mail eller fil bruger du TCP/IP-protocollen.   
Det fungere ved at der er sat nogle regler for kommunikationen mellem lagende i stacken, således kan forskellige produkter kommunikere ved hjælp af de samme guidelines.

* Explain about the HTTP Protocol (the following exercises will go much deeper into this protocol)

Denne protocol fungerer som en request-response protocol i et client-server miljø.

* Explain (conceptually) how HTTP and TCP/IP are connected (what can HTTP do, and where does it fit into TCP/IP)

HTTP protocollen ligger inde under TCP/IP protokol stacken i applications laget. http har nemlig brug en sikker transport layer protocol – oftest bruges TCP, men der kan og bruges ikke så sikre så som UDP (ex. Streaming).

TCP/IP protocollen kan lede din computer til en forbindelse med en anden på den anden side af jorden. Men hvis du har gjort dette over din browser hvordan skal serveren du har forbindelse til så vide hvad der skal vises. Det er her http protokollen kommer ind.