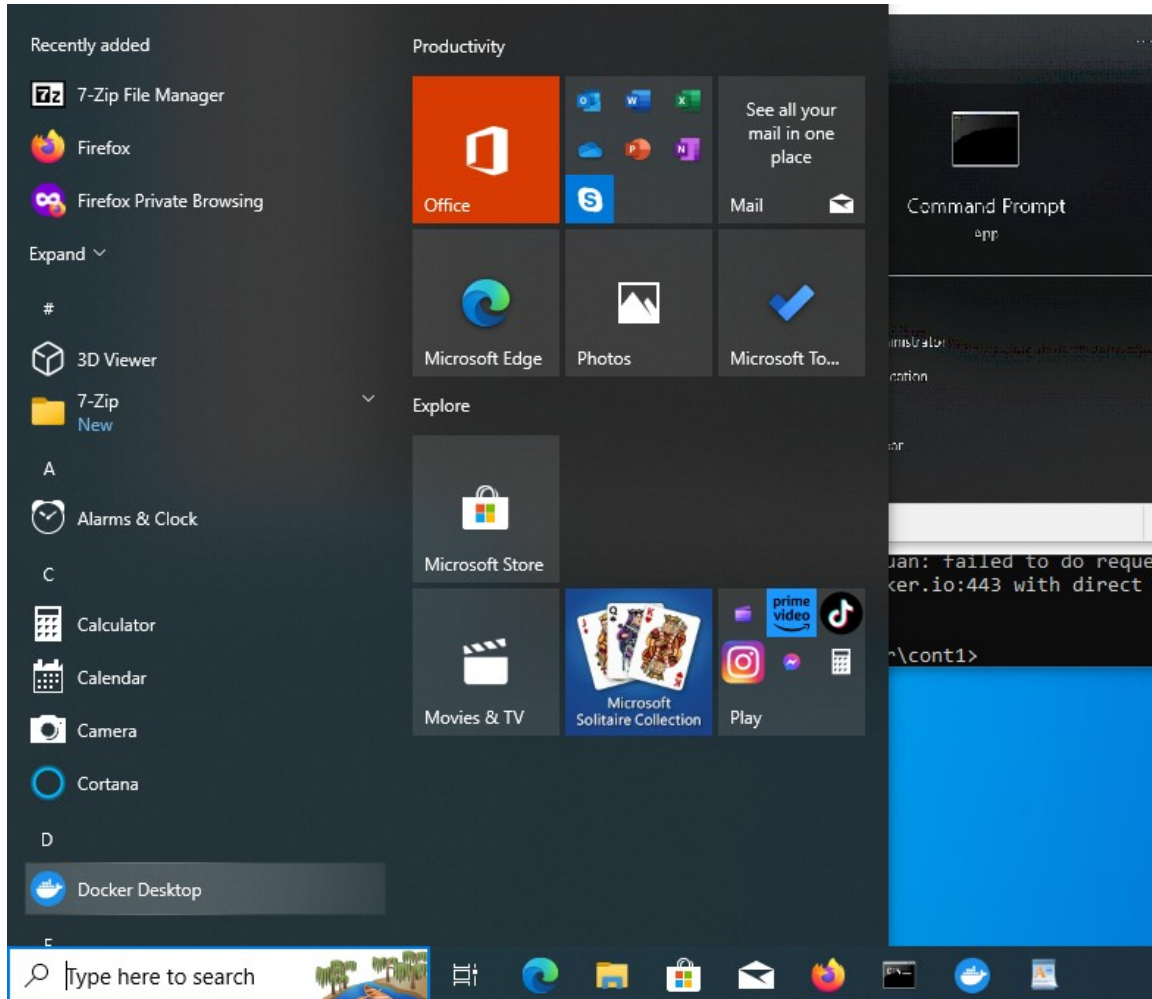# 1. johdanto

Huom. ennen konttien rakentamisia yms. pitää Dockerin olla käynnissä.

Eli käynnistysvalikko -> Docker Desktop ensin. Myös verkkoyhteyden oltava käytettävissä jotta Docker saa ladattua tarvittavat.
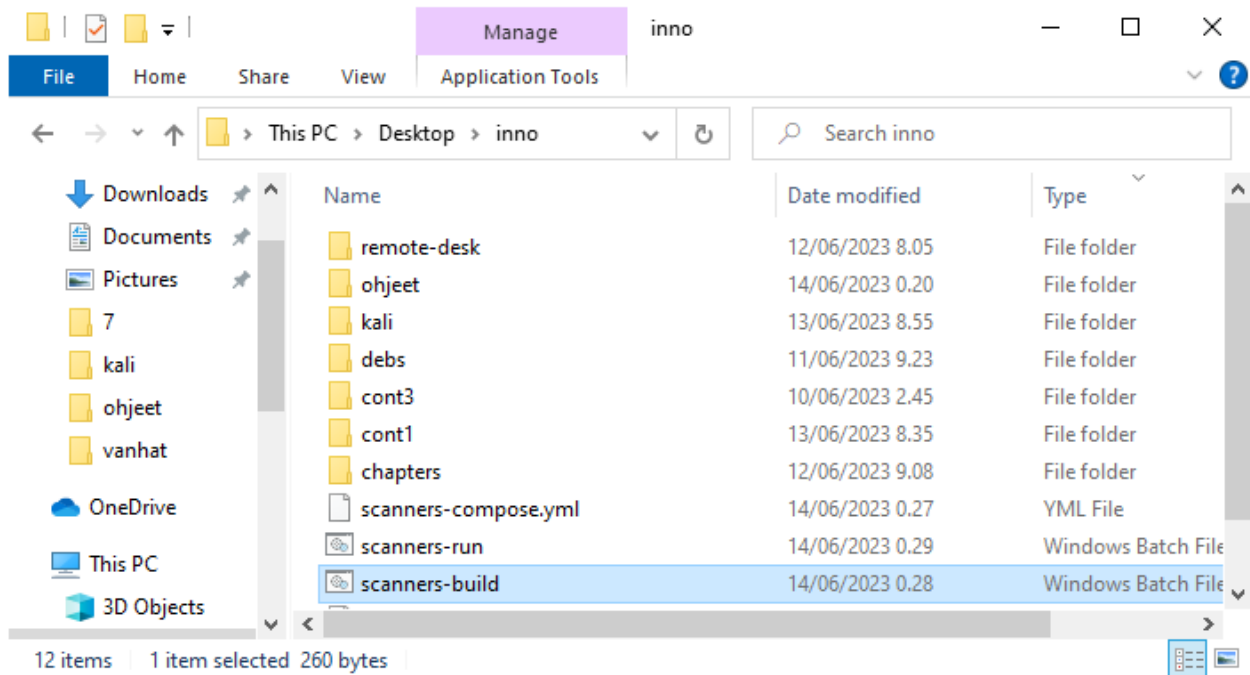
```
Select Command Prompt                                          —  □  ✕
--------------------
ERROR: failed to solve: kasmweb/alpine-317-desktop:1.13.0: failed to do request: Head "https://registry-1.docker.io/v2/k
asmweb/alpine-317-desktop/manifests/1.13.0": dialing registry-1.docker.io:443 with direct connection: resolving host reg
istry-1.docker.io: lookup registry-1.docker.io: no such host

C:\Users\henkka2\Desktop\New folder\cont4>_
```

Ilman verkkoyhteyttä tulee siis tämmöistä virheilmoitusta. Konttien rakentamisen jälkeen verkkoyhteys ei ole pakollinen mutta Docker Desktop:in oltava silloinkin käynnissä.

2. Skannaavien konttien rakennus

Jos haluaa käsipelillä rakentaa kontit niin kts. Ohjeen aiempi versio(ohjeet/vanhat/rautalankaohje_2_konttien_käyttöönotto.pdf).

Tuplaklikkaamalla tiedostoa scanners_build.bat , rakentuu 4 konttia.

Mahdolliseen "y/N"-kysymykseen vastataan y+enter. Klikkaa ensin pääteikkunaa hiiren vasemmalla ja sitten nuo näppäimet.

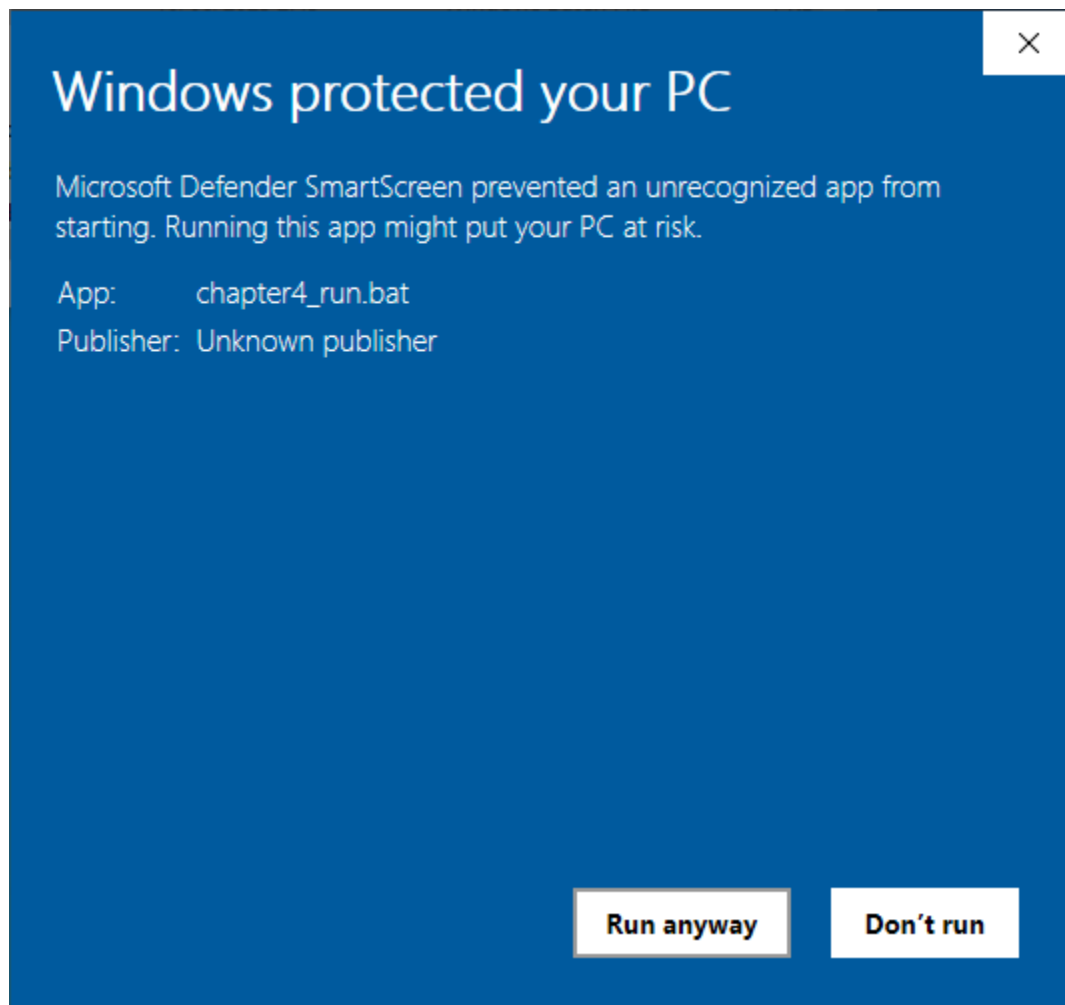(Tältä näyttää kun kontit rakentuvat. Jos jää miettimään niin paina enter.)

Huom. Virustorjunta voi valittaa bat-tiedostoista.
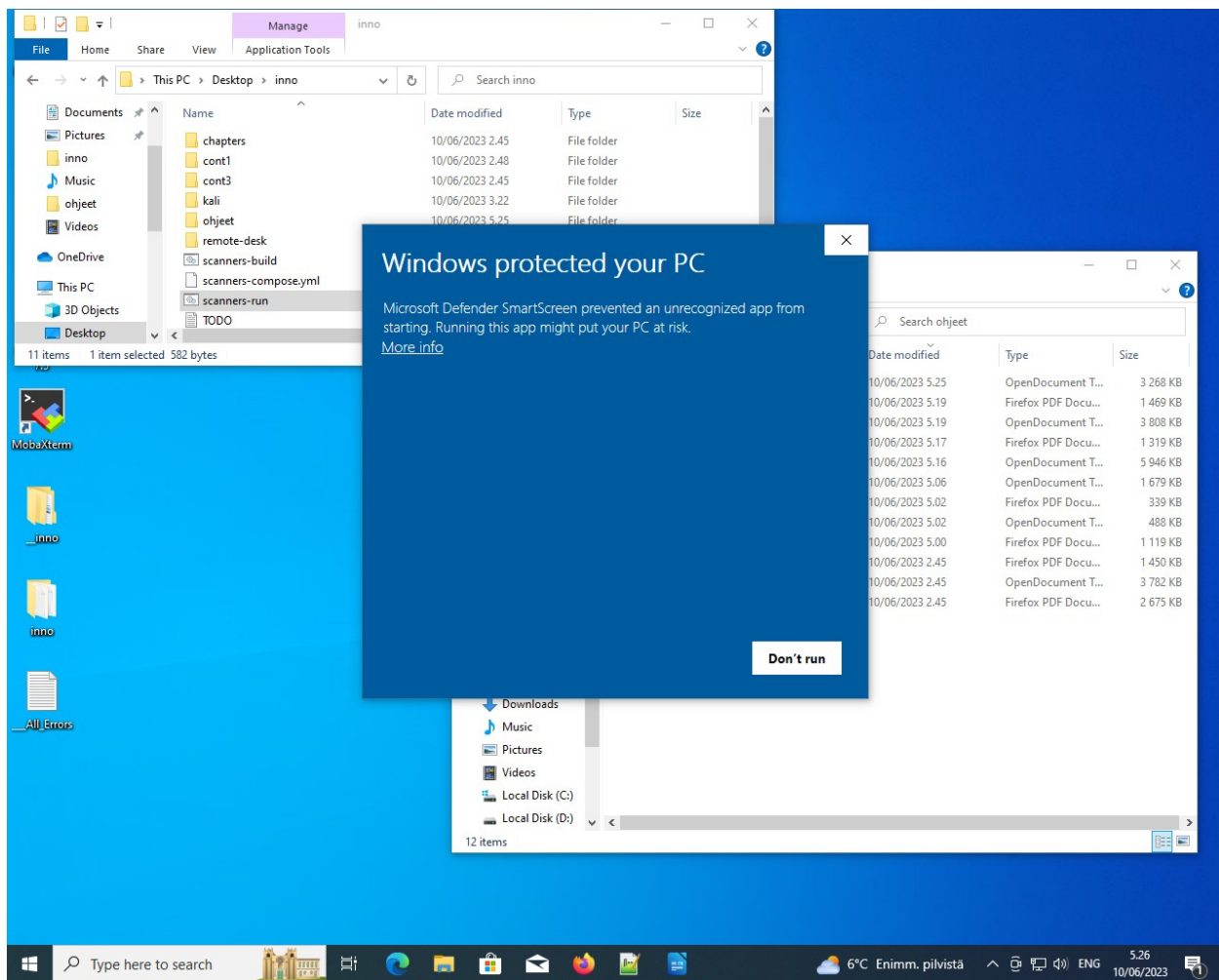
Tällöin ensin klikataan kohdasta "More info" hiiren vasemmalla painikkeella.

Jonka jälkeen klikataan "Run anyway".

Tämmöistä pitäisi näkyä onnistuneen bat-tiedoston käynnistyksen jälkeen.

```
C:\Windows\system32\cmd.exe                                                    —   □   ×

C:\Users\henkka2\Desktop\inno>docker network create --internal inno-net2
6707a525fbd0a3acd6e0e8ddadcfa25ae478176a8c7c72dc07a1046e399754e7

C:\Users\henkka2\Desktop\inno>docker compose -f scanners-compose.yml build
[+] Building 0.0s (0/0)
[+] Building 0.0s (0/0)
[+] Building 0.0s (0/2)
 => [internal] load build definition from Dockerfile2                          0.0s
 => => transferring dockerfile: 31B                                            0.0s
 => [internal] load .dockerignore                                             0.0s
[+] Building 0.9s (2/3)
 => [internal] load build definition from Dockerfile3                          0.1s
 => => transferring dockerfile: 427B                                           0.0s
 => [internal] load .dockerignore                                             0.1s
 => => transferring context: 2B                                               0.0s
 => [internal] load metadata for docker.io/devuan/devuan:latest               0.8s
[+] Building 1.1s (2/3)
 => [internal] load build definition from Dockerfile2                          0.1s
 => => transferring dockerfile: 416B                                           0.0s
 => [internal] load .dockerignore                                             0.1s
 => => transferring context: 2B                                               0.0s
 => [internal] load metadata for docker.io/devuan/devuan:latest               1.0s
```
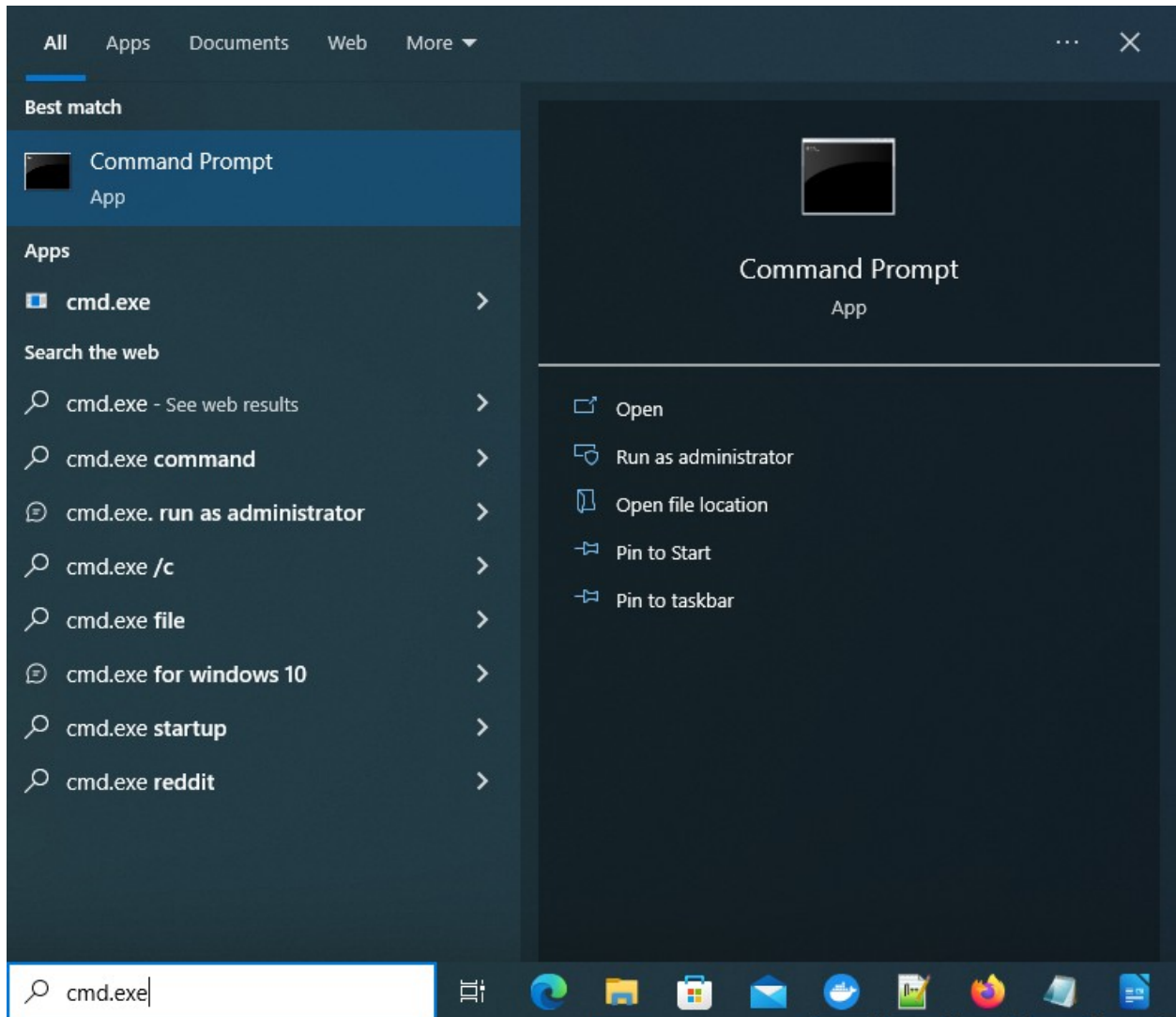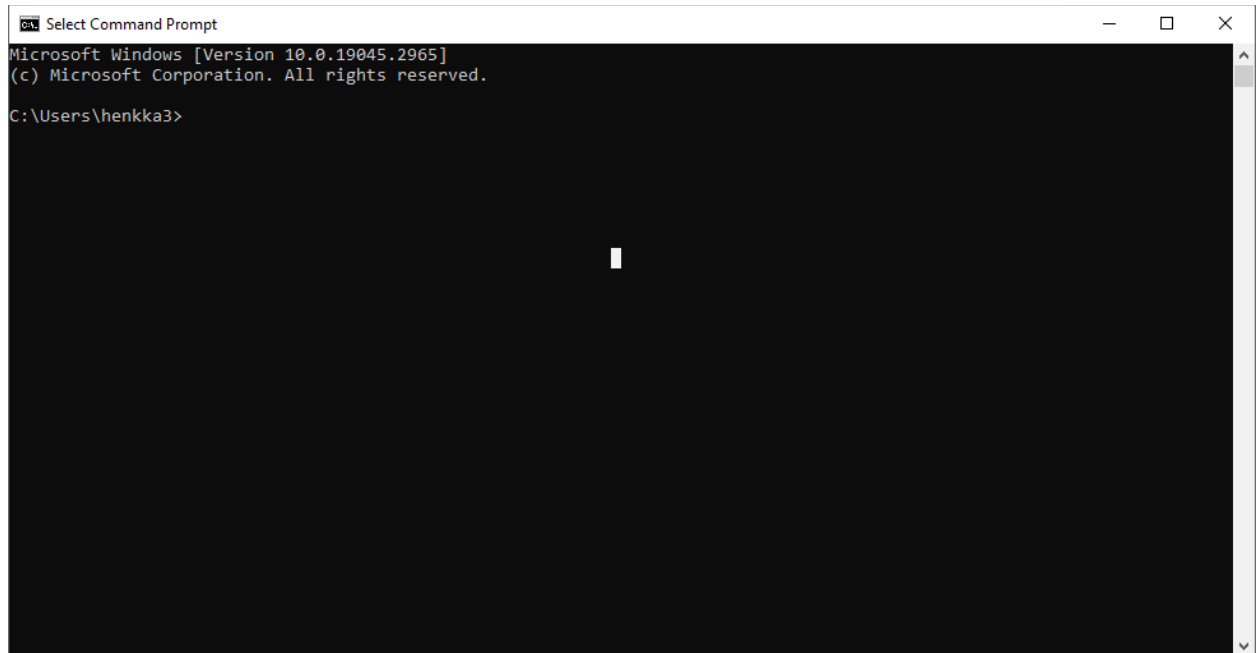
2,5. cmd.exe(eli komentotulkki)

Kun bat ajettu, katsotaan komennolla "docker images" että kontit rakentuneet.

Eli:

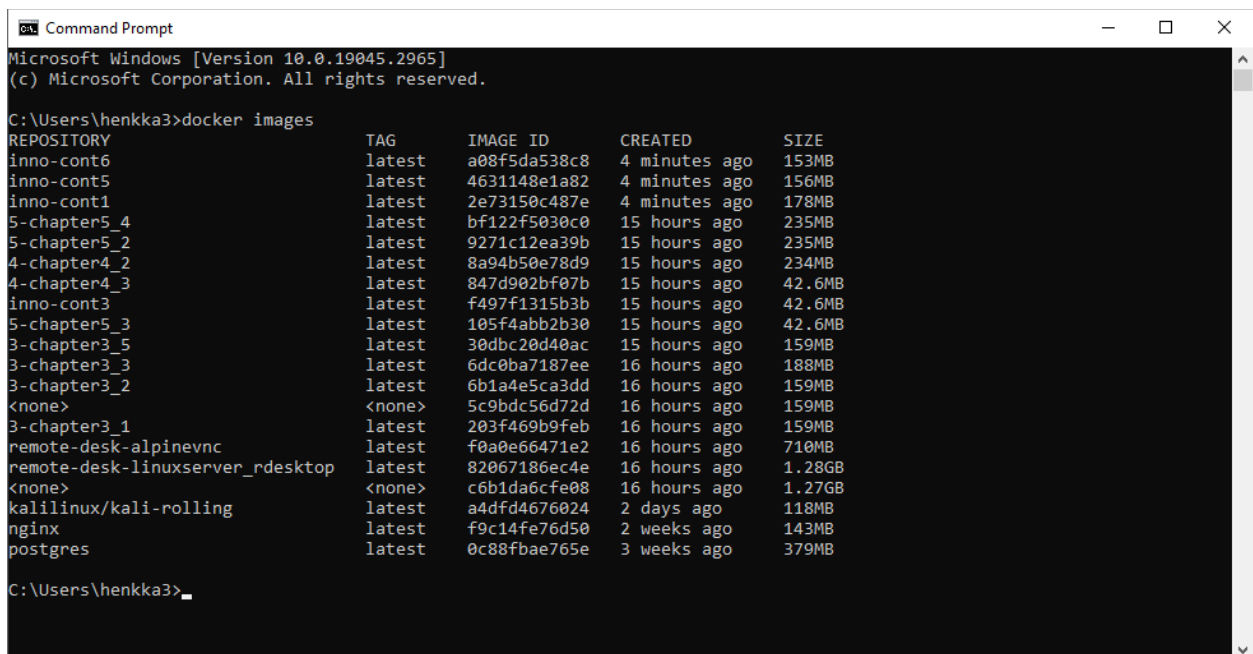syötetään windowsin alapalkin hakutoimintoon "cmd.exe" ja enter.

Näkyviin tulee tällainen ikkuna.

Klikataan ikkunaa hiiren vasemmalla painikkeella jonka jälkeen annetaan syötetään näppäimistöltä komento "docker images" ja sen jälkeen painetaan enter.

Pitäisi näkyä listassa inno-alkuisia rivejä.

3. Devuan
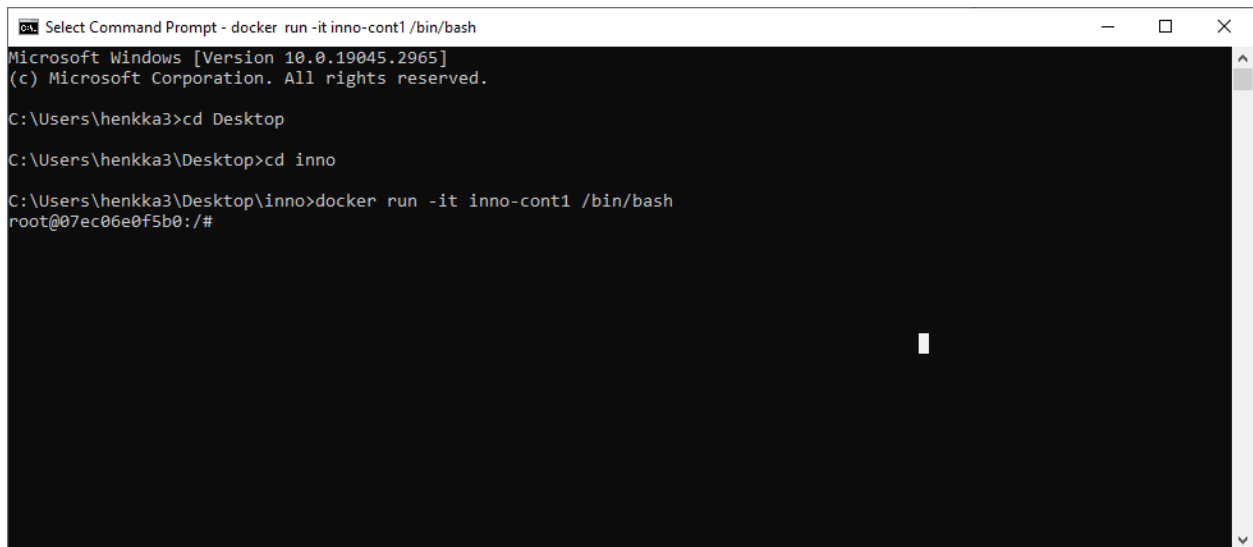
Ensin komentotulkilla inno-hakemistoon(tässä Desktop/inno) cd-komennolla.

(Komennolla "docker run -it inno-cont1 /bin/bash" päästään Devuan-kontin sisälle. Siis tuo komento syötetään cmd.exe:lle ja painetaan enter.)

Kontin sisällä voidaan nyt ajaa nmap. Muista enter.

Kontista poistutaan syöttämällä komento "exit"+enter.

Jos Devuan kiinnostaa niin kts. https://www.devuan.org/ .

3,5. kontin sammuttaminen komentorivin kautta

Komento "Docker ps" näyttää ajoon jääneet kontit.

```
Select Command Prompt                                                            —    □    ×

C:\Users\henkka3\Desktop\inno>docker ps
CONTAINER ID    IMAGE        COMMAND              CREATED            STATUS            PORTS     NAMES
ef902db418d3    inno-cont3   "/bin/sh -c /bin/sh" About a minute ago Up About a minute           neli
02ffa9cba104    inno-cont5   "/bin/sh -c '/usr/sb…" About a minute ago Up About a minute         kaks
6cbd3f9a8d66    inno-cont6   "/bin/sh -c '/usr/sb…" About a minute ago Up About a minute         yks
140925d7ae56    postgres     "docker-entrypoint.s…" 15 hours ago      Up 40 minutes              5-chapter5_1-1

C:\Users\henkka3\Desktop\inno>
```

Kontteja voi sammuttaa komennolla "docker kill <kontin_nimi>". Kontin nimen näkee "docker ps"-komennon listauksessa sarakkeesta "NAMES". Sammutetaan listan viimeinen eli 5-chapter5_1-1.

```
Select Command Prompt                                                            —    □    ×

C:\Users\henkka3\Desktop\inno>docker ps
CONTAINER ID    IMAGE        COMMAND              CREATED            STATUS            PORTS     NAMES
ef902db418d3    inno-cont3   "/bin/sh -c /bin/sh" About a minute ago Up About a minute           neli
02ffa9cba104    inno-cont5   "/bin/sh -c '/usr/sb…" About a minute ago Up About a minute         kaks
6cbd3f9a8d66    inno-cont6   "/bin/sh -c '/usr/sb…" About a minute ago Up About a minute         yks
140925d7ae56    postgres     "docker-entrypoint.s…" 15 hours ago      Up 40 minutes              5-chapter5_1-1

C:\Users\henkka3\Desktop\inno>docker kill 5-chapter5_1-1
5-chapter5_1-1

C:\Users\henkka3\Desktop\inno>docker ps
CONTAINER ID    IMAGE        COMMAND              CREATED          STATUS          PORTS     NAMES
ef902db418d3    inno-cont3   "/bin/sh -c /bin/sh" 4 minutes ago    Up 4 minutes              neli
02ffa9cba104    inno-cont5   "/bin/sh -c '/usr/sb…" 4 minutes ago    Up 4 minutes            kaks
6cbd3f9a8d66    inno-cont6   "/bin/sh -c '/usr/sb…" 4 minutes ago    Up 4 minutes            yks

C:\Users\henkka3\Desktop\inno>
```

Ja listan viimeinen poistui ajosta.

3,75 Docker Desktop

Kontteja voi myös käynnistää ja sammuttaa Docker Desktop:in kautta.

Images-välilehden kautta saadaan näkyviin paikalliselle koneelle ladatut kontti-kuvat. Niitä voi käynnistää "run"-kuvakkeen kautta.
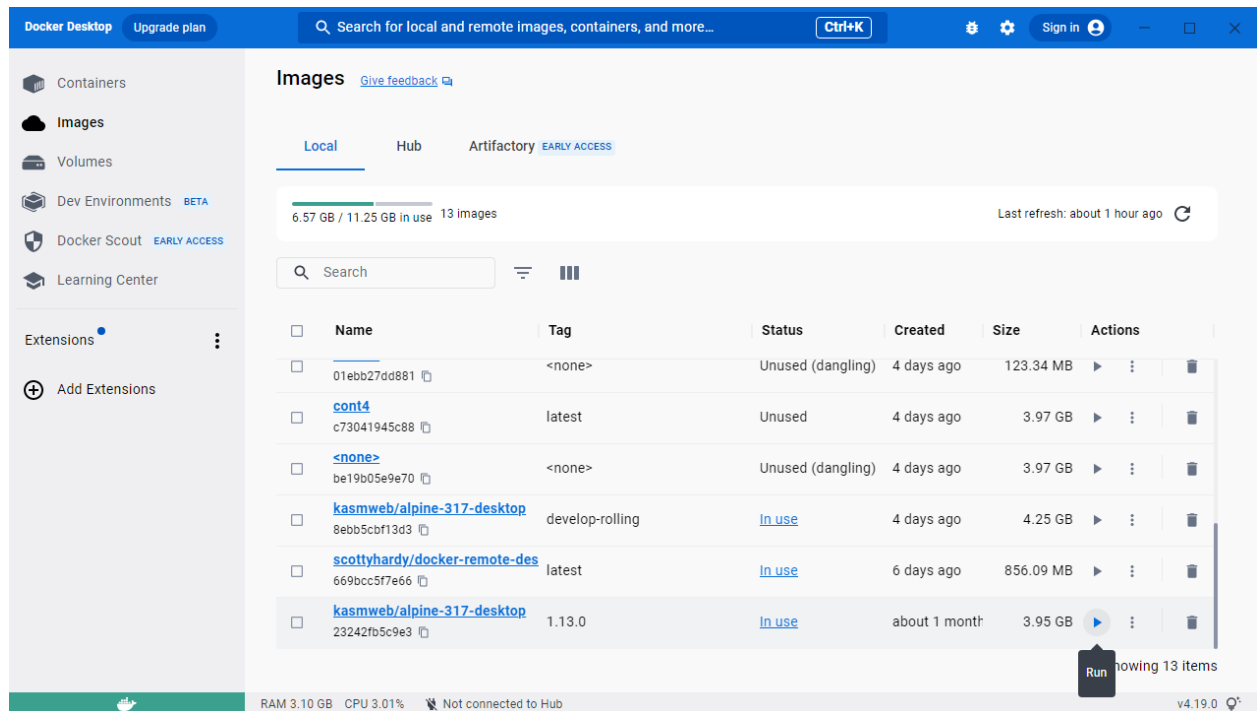
Sammuttaminen puolestaan tapahtuu "Stop"-painiketta klikkaamalla.
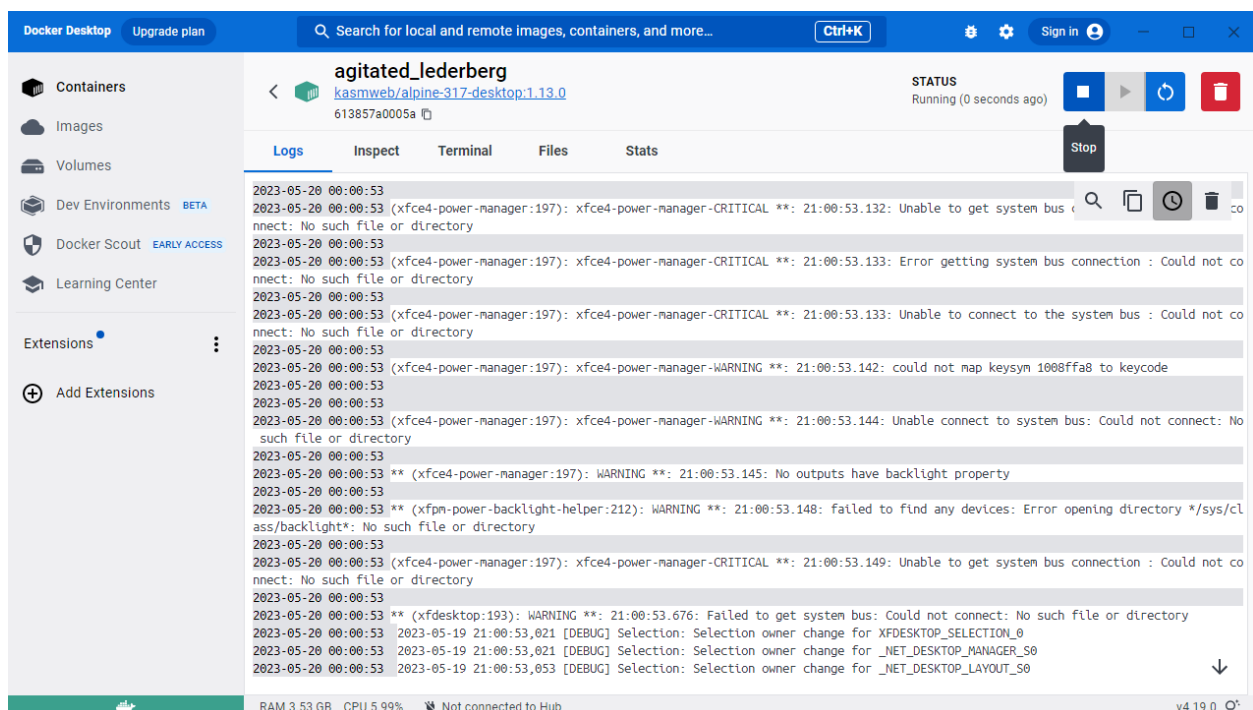
4. Nmap ja Alpine

Mennään kontin sisälle tällä kertaa komennolla "docker run -it inno-cont3 /bin/sh" sillä Alpinessa bash ei ole "vakiovaruste".

ja ajetaan tässäkin kontissa nmap.

Lopuksi "exit"+enter kuten aiemmin.
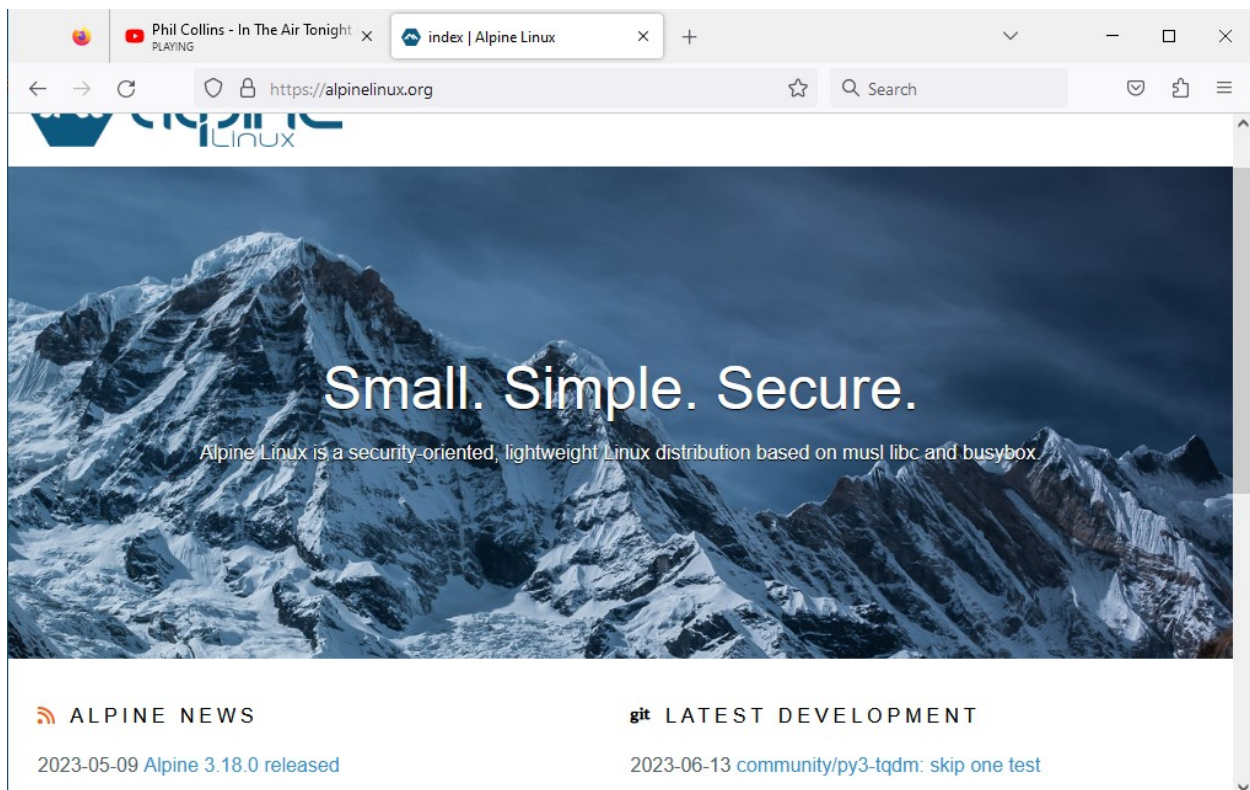
PS. https://alpinelinux.org/ kertoo lisää Alpinesta.

4b virhetilanteessa

Jos tämmöistä


```
C:\Users\henkka3\Desktop\inno>docker run -it inno-cont3 /bin/sh
Unable to find image 'inno-cont3:latest' locally
docker: Error response from daemon: pull access denied for inno-cont3, repository does not exist or ma
 login': denied: requested access to the resource is denied.
See 'docker run --help'.

C:\Users\henkka3\Desktop\inno>
```

ilmenee niin kontit on rakennettava uudelleen.
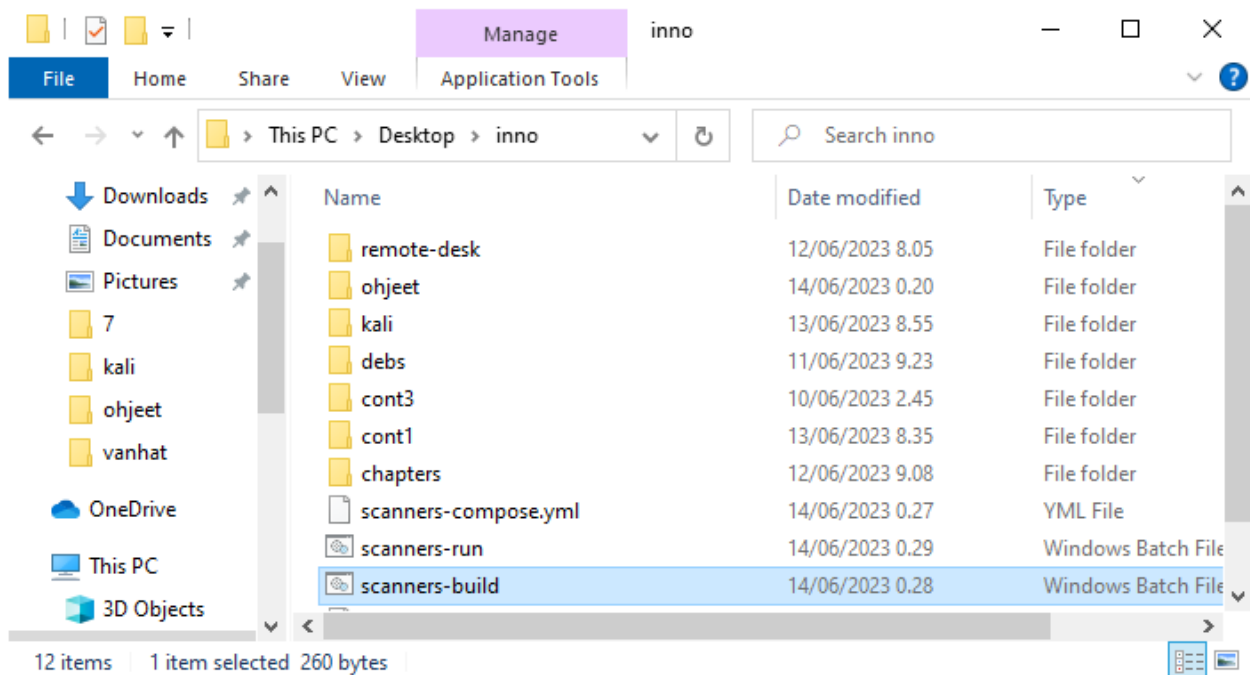
5.
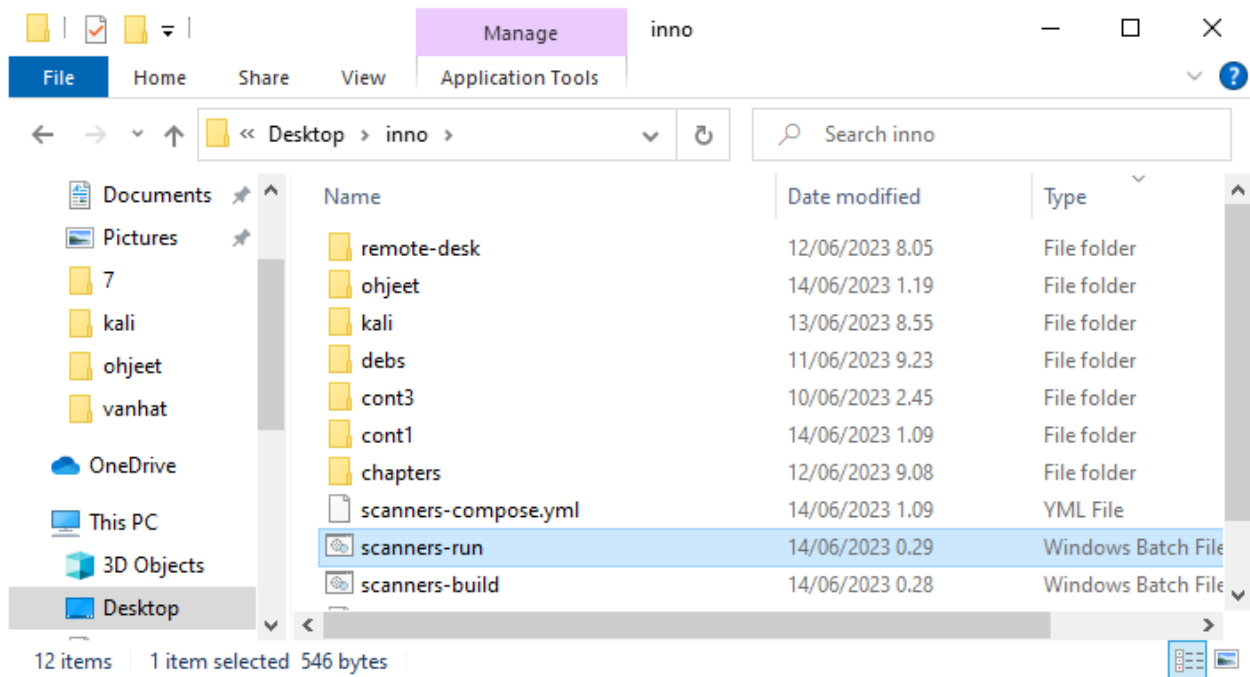
Löytyy myös scanners_run.bat.

```
C:\Users\henkka3\Desktop\inno>docker run --network inno-net2 --rm --name koli -d inno-cont1 -it /bin/bash
c7a81f031b62bdf3bd80979bafdad09f19ab19cf7837f964816129e0c66745d5
docker: Error response from daemon: failed to create task for container: failed to create shim task: OCI runtime create
failed: runc create failed: unable to start container process: exec: "-it": executable file not found in $PATH: unknown.

C:\Users\henkka3\Desktop\inno>docker run --network inno-net2 --rm --name neli -it inno-cont3
/ # ifconfig
eth0      Link encap:Ethernet  HWaddr 02:42:AC:1F:00:04
          inet addr:172.31.0.4  Bcast:172.31.255.255  Mask:255.255.0.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:7 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:746 (746.0 B)  TX bytes:0 (0.0 B)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

/ # nmap -v -T4 172.31.0.0/24
Starting Nmap 7.93 ( https://nmap.org ) at 2023-06-13 22:22 UTC
Initiating ARP Ping Scan at 22:22
Scanning 255 hosts [1 port/host]
Completed ARP Ping Scan at 22:22, 1.96s elapsed (255 total hosts)
Initiating Parallel DNS resolution of 3 hosts. at 22:22
```

```
Host is up (0.000073s latency).
Not shown: 999 closed tcp ports (reset)
PORT    STATE SERVICE
111/tcp open  rpcbind
MAC Address: 02:42:3B:D1:49:FB (Unknown)

Nmap scan report for yks.inno-net2 (172.31.0.2)
Host is up (0.000022s latency).
All 1000 scanned ports on yks.inno-net2 (172.31.0.2) are in ignored states.
Not shown: 1000 filtered tcp ports (no-response)
MAC Address: 02:42:AC:1F:00:02 (Unknown)

Nmap scan report for kaks.inno-net2 (172.31.0.3)
Host is up (0.000038s latency).
All 1000 scanned ports on kaks.inno-net2 (172.31.0.3) are in ignored states.
Not shown: 1000 filtered tcp ports (no-response)
MAC Address: 02:42:AC:1F:00:03 (Unknown)

Initiating SYN Stealth Scan at 22:22
Scanning 0f1b35337df8 (172.31.0.4) [1000 ports]
Completed SYN Stealth Scan at 22:22, 0.08s elapsed (1000 total ports)
Nmap scan report for 0f1b35337df8 (172.31.0.4)
Host is up (0.000014s latency).
All 1000 scanned ports on 0f1b35337df8 (172.31.0.4) are in ignored states.
Not shown: 1000 closed tcp ports (reset)

Read data files from: /usr/bin/../share/nmap
Nmap done: 256 IP addresses (4 hosts up) scanned in 20.21 seconds
           Raw packets sent: 6516 (278.512KB) | Rcvd: 3012 (124.388KB)
/ # _
```

```
Host is up (0.000073s latency).
Not shown: 999 closed tcp ports (reset)
PORT     STATE SERVICE
111/tcp open  rpcbind
MAC Address: 02:42:3B:D1:49:FB (Unknown)

Nmap scan report for yks.inno-net2 (172.31.0.2)
Host is up (0.000022s latency).
All 1000 scanned ports on yks.inno-net2 (172.31.0.2) are in ignored states.
Not shown: 1000 filtered tcp ports (no-response)
MAC Address: 02:42:AC:1F:00:02 (Unknown)

Nmap scan report for kaks.inno-net2 (172.31.0.3)
Host is up (0.000038s latency).
All 1000 scanned ports on kaks.inno-net2 (172.31.0.3) are in ignored states.
Not shown: 1000 filtered tcp ports (no-response)
MAC Address: 02:42:AC:1F:00:03 (Unknown)

Initiating SYN Stealth Scan at 22:22
Scanning 0f1b35337df8 (172.31.0.4) [1000 ports]
Completed SYN Stealth Scan at 22:22, 0.08s elapsed (1000 total ports)
Nmap scan report for 0f1b35337df8 (172.31.0.4)
Host is up (0.000014s latency).
All 1000 scanned ports on 0f1b35337df8 (172.31.0.4) are in ignored states.
Not shown: 1000 closed tcp ports (reset)

Read data files from: /usr/bin/../share/nmap
Nmap done: 256 IP addresses (4 hosts up) scanned in 20.21 seconds
          Raw packets sent: 6516 (278.512KB) | Rcvd: 3012 (124.388KB)
/ # exit
```

Exit+enter pääteikkunassa lopettaa.

```
Read data files from: /usr/bin/../share/nmap
Nmap done: 256 IP addresses (4 hosts up) scanned in 20.21 seconds
          Raw packets sent: 6516 (278.512KB) | Rcvd: 3012 (124.388KB)
/ # exit

C:\Users\henkka3\Desktop\inno>docker kill yks
yks

C:\Users\henkka3\Desktop\inno>docker kill kaks
kaks

C:\Users\henkka3\Desktop\inno>docker kill koli
Error response from daemon: Cannot kill container: koli: No such container: koli

C:\Users\henkka3\Desktop\inno>docker rmi -f inno-cont6
Untagged: inno-cont6:latest
Deleted: sha256:b850855703c62f3324b5632d30e0451d70e0f084e9d665997b3c9891d94013cb

C:\Users\henkka3\Desktop\inno>docker rmi -f inno-cont5
Untagged: inno-cont5:latest
Deleted: sha256:6350cb37ef3a910b1e38dcc79d43e72b1a82ac6ce9be032cf722b92da39952ef

C:\Users\henkka3\Desktop\inno>docker rmi -f inno-cont3
Untagged: inno-cont3:latest
Deleted: sha256:f497f1315b3bfd8c96bd9ab70f5ebfc77419ff3f89bba18b85a2542e13827f92

C:\Users\henkka3\Desktop\inno>docker rmi -f inno-cont1
Untagged: inno-cont1:latest
Deleted: sha256:bc9c7faf210345a2333748234737d330c77cf23f96bf93dc1bd71d39ca8e4d85
```