

## Урок 5. Docker Compose и Docker Swarm

### Задание 1:

- 1) создать сервис, состоящий из 2 различных контейнеров: 1 - веб, 2 - БД
- 2) далее необходимо создать 3 сервиса в каждом окружении (dev, prod, lab)
- 3) по итогу на каждой ноде должно быть по 2 работающих контейнера
- 4) выводы зафиксировать

### Задание 2\*:

- 1) нужно создать 2 ДК-файла, в которых будут описываться сервисы
- 2) повторить задание 1 для двух окружений: lab, dev
- 3) обязательно проверить и зафиксировать результаты, чтобы можно было выслать преподавателю для проверки

Задание со звездочкой - повышенной сложности, это нужно учесть при выполнении (но сделать его необходимо).

Формат сдачи ДЗ: предоставить доказательства выполнения задания посредством ссылки на google-документ с правами на комментирование/редактирование.

Результатом работы будет: текст объяснения, логи выполнения, история команд и скриншоты (важно придерживаться такой последовательности).

В названии работы должны быть указаны ФИ, номер группы и номер урока.

### Задание 1.

# проверяю наличие docker в системе

```
docker --help
```

# устанавливаю docker

```
sudo apt update
```

```
sudo apt install docker.io -y
```

# убеждаюсь в наличии установленного docker'a

```
docker --help
```

# проверяю наличие установленного docker-compose

```
docker-compose --help
```

# устанавливаю docker-compose

```
sudo apt install docker-compose -y
```

# убеждаюсь в наличии

```
docker-compose -version
```

# создаю папку для проекта и перехожу в нее

```
mkdir work_4
```

```
cd work_4/
```

# создаю файл docker-compose.yml

```
touch docker-compose.yml
```

```
nano docker-compose.yml
```

```
GNU nano 6.2
version: '3'

services:
  db:
    image: mariadb:10.10.2
    restart: always
    environment:
      MYSQL_ROOT_PASSWORD: 12345
  adminer:
    image: adminer:4.8.1
    restart: always
    ports:
      - 6880:8090
```

# запускаю под демоном

`docker-compose up-d`

# проверяю статус

`docker ps`

# аналогичные действия провожу еще на двух виртуальных машинах. Для создания трех сервисов использую

# возможности VirtualBox. В сетевых настройках виртуальных машин включаю по второму сетевому адаптеру

# «виртуальный адаптер хоста». VirtualBox предлагает 56-ую сеть, ее и оставляю.

# выставляю айпи адреса следующим образом: DEV 192.168.56.7 (будет manager), LAB 192.168.56.8 и

# PROD 192.168.56.9 (будут worker'ы).

# на DEV настраиваю порты:

`Iptables -I INPUT -p tcp --dport 2376 -j ACCEPT`

`Iptables -I INPUT -p tcp --dport 2377 -j ACCEPT`

`Iptables -I INPUT -p tcp --dport 7946 -j ACCEPT`

`Iptables -I INPUT -p udp --dport 7946 -j ACCEPT`

`Iptables -I INPUT -p udp --dport 4789 -j ACCEPT`

# на worker'ах

`Iptables -I INPUT -p tcp --dport 2376 -j ACCEPT`

`Iptables -I INPUT -p tcp --dport 7946 -j ACCEPT`

`Iptables -I INPUT -p udp --dport 7946 -j ACCEPT`

`Iptables -I INPUT -p udp --dport 4789 -j ACCEPT`

# пинги с DEV (root@dev) на LAB (192.168.56.8) и PROD (192.168.56.9)

```
root@dev:/home/cru/work_4# ping 192.168.56.8
PING 192.168.56.8 (192.168.56.8) 56(84) bytes of data.
 64 bytes from 192.168.56.8: icmp_seq=1 ttl=64 time=1.04 ms
 64 bytes from 192.168.56.8: icmp_seq=2 ttl=64 time=3.50 ms
 64 bytes from 192.168.56.8: icmp_seq=3 ttl=64 time=2.41 ms
^C
--- 192.168.56.8 ping statistics ---
 3 packets transmitted, 3 received, 0% packet loss, time 2008ms
 rtt min/avg/max/mdev = 1.040/2.316/3.496/1.004 ms
root@dev:/home/cru/work_4# ping 192.168.56.9
PING 192.168.56.9 (192.168.56.9) 56(84) bytes of data.
 64 bytes from 192.168.56.9: icmp_seq=1 ttl=64 time=3.30 ms
 64 bytes from 192.168.56.9: icmp_seq=2 ttl=64 time=1.63 ms
 64 bytes from 192.168.56.9: icmp_seq=3 ttl=64 time=1.71 ms
^C
--- 192.168.56.9 ping statistics ---
 3 packets transmitted, 3 received, 0% packet loss, time 2004ms
 rtt min/avg/max/mdev = 1.634/2.215/3.302/0.768 ms
root@dev:/home/cru/work_4#
```

# пинги с LAB (root@lab) на DEV (192.168.56.7) и PROD (192.168.56.9)

```
root@lab:/home/cru# ping 192.168.56.7
PING 192.168.56.7 (192.168.56.7) 56(84) bytes of data.
64 bytes from 192.168.56.7: icmp_seq=1 ttl=64 time=1.23 ms
64 bytes from 192.168.56.7: icmp_seq=2 ttl=64 time=3.87 ms
^C
--- 192.168.56.7 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1002ms
rtt min/avg/max/mdev = 1.230/2.548/3.866/1.318 ms
root@lab:/home/cru# ping 192.168.56.9
PING 192.168.56.9 (192.168.56.9) 56(84) bytes of data.
64 bytes from 192.168.56.9: icmp_seq=1 ttl=64 time=1.48 ms
64 bytes from 192.168.56.9: icmp_seq=2 ttl=64 time=1.36 ms
64 bytes from 192.168.56.9: icmp_seq=3 ttl=64 time=1.77 ms
^C
--- 192.168.56.9 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2005ms
rtt min/avg/max/mdev = 1.358/1.534/1.767/0.171 ms
root@lab:/home/cru#
```

# пинги с PROD (root@prod) на DEV (192.168.56.7) и LAB (192.168.56.9)

```
root@prod:/home/cru# ping 192.168.56.7
PING 192.168.56.7 (192.168.56.7) 56(84) bytes of data.
64 bytes from 192.168.56.7: icmp_seq=1 ttl=64 time=3.70 ms
64 bytes from 192.168.56.7: icmp_seq=2 ttl=64 time=1.12 ms
64 bytes from 192.168.56.7: icmp_seq=3 ttl=64 time=2.01 ms
^C
--- 192.168.56.7 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2009ms
rtt min/avg/max/mdev = 1.122/2.278/3.702/1.070 ms
root@prod:/home/cru# ping 192.168.56.8
PING 192.168.56.8 (192.168.56.8) 56(84) bytes of data.
64 bytes from 192.168.56.8: icmp_seq=1 ttl=64 time=0.192 ms
64 bytes from 192.168.56.8: icmp_seq=2 ttl=64 time=2.38 ms
^C
--- 192.168.56.8 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1066ms
rtt min/avg/max/mdev = 0.192/1.287/2.382/1.095 ms
root@prod:/home/cru#
```

# на менеджере инициализирую Swarm

docker swarm init --advertise-addr 192.168.56.7

# результатом получаю токен и сохраняю его

# на worker'ах ввожу команду (забыл сделать скрины, в истории команд это есть)

docker swarm join --token SWMTKN-1-<токен> 192.168.56.7:2377

# на менеджере ввожу команду

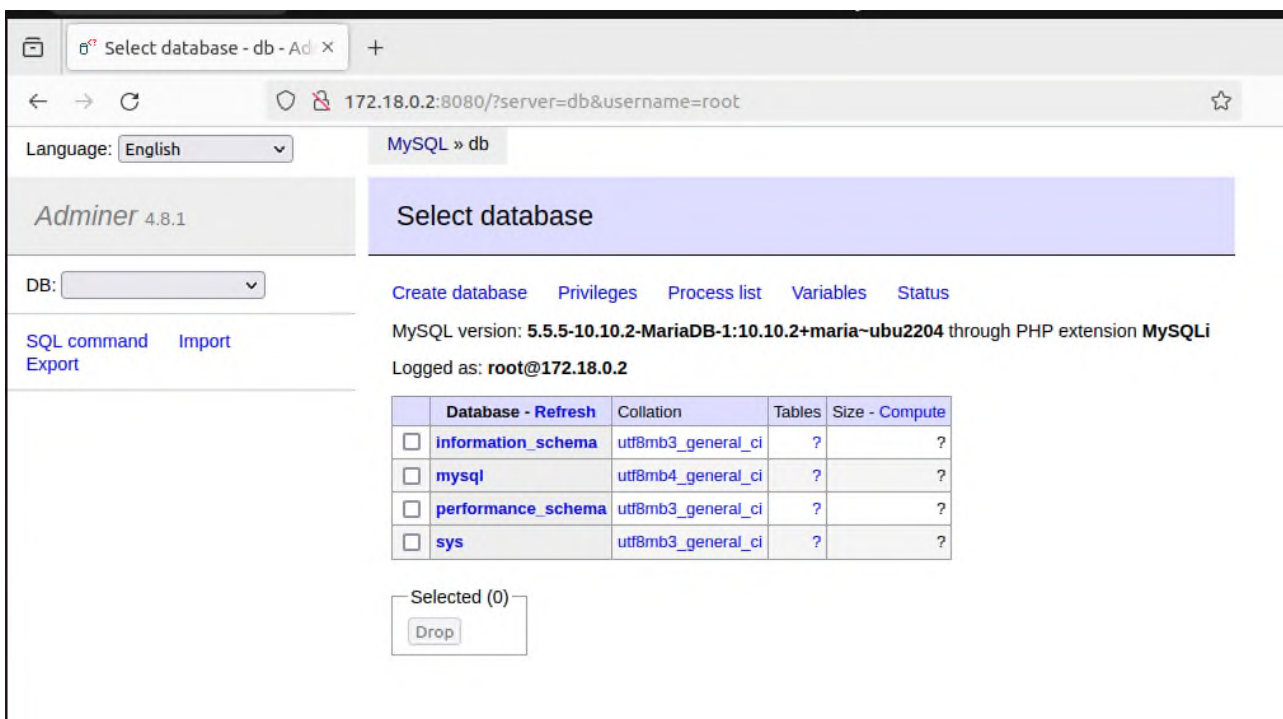
docker node ls

# получаю результат, вижу все три ноды – dev, lab, prod

```
root@dev:/home/cru/work_4# docker-compose up -d
WARNING: The Docker Engine you're using is running in swarm mode.

Compose does not use swarm mode to deploy services to multiple nodes in a swarm. All containers will
be placed on the same host. To deploy your application across the swarm, use `docker stack deploy`.

Removing work_4_db_1
Recreating 2174adea8d28_work_4_db_1 ... done
Starting work_4_adminer_1 ... done
root@dev:/home/cru/work_4# docker node ls
ID                                HOSTNAME    STATUS    AVAILABILITY    MANAGER STATUS    ENGINE VERSION
ocbgmubzro9mimzgu8kegjy94 *     dev        Ready     Active           Leader             24.0.5
0bt42m3t5dxdpdoqgm3cu7p3l      lab        Ready     Active           Active              24.0.5
dmt8iaerqu7th1ulwq9xvu3hl      prod       Ready     Active           Active              24.0.5
root@dev:/home/cru/work_4# ping 192.168.56.8
```



## Задание 2.

# создал два сервиса, исходники взяты из интернета

# вижуалайзер dockersamples/visualizer и просмотр состояния нодов через web интерфейс

# запуск прошел

```
root@dev: /home/cru
GNU nano 6.2 /home/cru/work_4/viz.yml
version: '3'

services:
  viz:
    image: dockersamples/visualizer
    ports:
      - 8080:8090
    volumes:
      - /var/run/docker.sock:/var/run/docker.sock
    deploy:
      placement:
        constraints: [node.role == manager]
```

```
mc [root@dev]:/home/cru/work_4
GNU nano 6.2 /home/cru/work_4/ww.yml
version: '3'

services:
  web1:
    image: nginx
    ports:
      - 8082:80
    deploy:
      replicas: 3
  web2:
    image: httpd
    ports:
      - 8083:80
    deploy:
      replicas: 2
```



```
root@dev:/home/cru/work_4# docker stack ls
NAME          SERVICES
viz           1
ww            2
root@dev:/home/cru/work_4# docker stack ps viz
ID            NAME          PORTS          IMAGE                                NODE     DESIRED STATE  CURRENT STATE          ERROR
vbma9ohfiian  viz_viz.1    dockersamples/visualizer:latest  dev     Ready          Rejected 1 second ago  "mkdir /var/lib
/docker: read-o..."
phl69spsy7rt  \_ viz_viz.1  dockersamples/visualizer:latest  dev     Shutdown      Rejected 6 seconds ago  "mkdir /var/lib
/docker: read-o..."
r16nbobnffgu  \_ viz_viz.1  dockersamples/visualizer:latest  dev     Shutdown      Rejected 11 seconds ago  "mkdir /var/lib
/docker: read-o..."
qzgeg1c2narl  \_ viz_viz.1  dockersamples/visualizer:latest  dev     Shutdown      Rejected 16 seconds ago  "mkdir /var/lib
/docker: read-o..."
idwm1l9ciojt  \_ viz_viz.1  dockersamples/visualizer:latest  dev     Shutdown      Rejected 21 seconds ago  "mkdir /var/lib
/docker: read-o..."
root@dev:/home/cru/work_4#
```

```
root@dev:/home/cru# docker stack ps viz
ID            NAME          PORTS          IMAGE                                NODE     DESIRED STATE  CURRENT STATE          ERROR
yj4pth3of72b  viz_viz.1    dockersamples/visualizer:latest  Running  Pending 2 minutes ago  "no suitable node (sc
heduling ..."
```

# но к сожалению выполнить полностью задание не получилось, не хватило знаний, где-то ошибаюсь

Приложение. История команд.

DEV. 192.168.56.7. Manager.

Activities Terminal жхи9 05:31 root@dev: /home/cru/work\_4

```
WW            2
root@dev:/home/cru/work_4# docker stack ps viz
ID            NAME          PORTS          IMAGE                                NODE     DESIRED STATE  CURRENT STATE          ERROR
vbma9ohfiian  viz_viz.1    dockersamples/visualizer:latest  dev     Ready          Rejected 1 second ago  "mkdir /var/lib
/docker: read-o..."
phl69spsy7rt  \_ viz_viz.1  dockersamples/visualizer:latest  dev     Shutdown      Rejected 6 seconds ago  "mkdir /var/lib
/docker: read-o..."
r16nbobnffgu  \_ viz_viz.1  dockersamples/visualizer:latest  dev     Shutdown      Rejected 11 seconds ago  "mkdir /var/lib
/docker: read-o..."
qzgeg1c2narl  \_ viz_viz.1  dockersamples/visualizer:latest  dev     Shutdown      Rejected 16 seconds ago  "mkdir /var/lib
/docker: read-o..."
idwm1l9ciojt  \_ viz_viz.1  dockersamples/visualizer:latest  dev     Shutdown      Rejected 21 seconds ago  "mkdir /var/lib
/docker: read-o..."
root@dev:/home/cru/work_4# export HISTTIMEFORMAT='%F %T'
root@dev:/home/cru/work_4# history
1 2024-08-09 04:49:06cp bin/bash gb/bin
2 2024-08-09 04:49:06cp /bin/bash gb/bin
3 2024-08-09 04:49:06chroot gb
4 2024-08-09 04:49:06ldd /bin/bash
5 2024-08-09 04:49:06mkdir gb/lib
6 2024-08-09 04:49:06mkdir gb/lib64
7 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libinfo.so.6 gb/lib
8 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libtinfo.so.6 gb/lib
9 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libc.so.6 gb/lib
10 2024-08-09 04:49:06cp /lib64/ld-linux-x86-64.so.2 gb/lib64
11 2024-08-09 04:49:06chroot gb
12 2024-08-09 04:49:06exit
13 2024-08-09 04:49:06ip a
14 2024-08-09 04:49:06exit
15 2024-08-09 04:49:06mkdir cru_test
16 2024-08-09 04:49:06mkdir cru_test/bin
17 2024-08-09 04:49:06cp /bin/bash cru_test/bin
18 2024-08-09 04:49:06ldd /bin/bash
19 2024-08-09 04:49:06mkdir cru_test/lib
20 2024-08-09 04:49:06mkdir cru_test/lib64
21 2024-08-09 04:49:06cp /lib/x86-64-linux-gnu/libtinfo.so.6 cru_test/lib
22 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_test/lib
23 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libc.so.6 cru_test/lib
24 2024-08-09 04:49:06cp /lib64/ld-linux-x86-64.so.2 cru_test/lib64
```

```
Activities Terminal жнй 9 05:31 root@dev: /home/cru/work_4
25 2024-08-09 04:49:06chroot cru_test/
26 2024-08-09 04:49:06cp /bin/ls cru_test/bin
27 2024-08-09 04:49:06ldd /bin/ls
28 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_test/lib
29 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_test/lib
30 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libpcre2-8.so.0 cru_test/lib
31 2024-08-09 04:49:06chroot cru_test/
32 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_test/lib
33 2024-08-09 04:49:06chroot cru_test/
34 2024-08-09 04:49:06ls -l /proc/$$/ns
35 2024-08-09 04:49:06lsns
36 2024-08-09 04:49:06man unshare
37 2024-08-09 04:49:06ip netns list
38 2024-08-09 04:49:06ip netns add testns
39 2024-08-09 04:49:06ip netns list
40 2024-08-09 04:49:06ip netns exec testns bash
41 2024-08-09 04:49:06ip a
42 2024-08-09 04:49:06clear
43 2024-08-09 04:49:06exit
44 2024-08-09 04:49:06ip a
45 2024-08-09 04:49:06exit
46 2024-08-09 04:49:06ip netns add testns
47 2024-08-09 04:49:06ip netns exec testns bash
48 2024-08-09 04:49:06exit
49 2024-08-09 04:49:06ip link add veth0 type veth peer veth1
50 2024-08-09 04:49:06ip link add veth1 netns cru_test
51 2024-08-09 04:49:06ip link set veth1 netns cru_test
52 2024-08-09 04:49:06ip link set veth1 netns testns
53 2024-08-09 04:49:06clear
54 2024-08-09 04:49:06ip link set veth1 netns cru
55 2024-08-09 04:49:06ip link add veth0 type veth peer veth1
56 2024-08-09 04:49:06ip link set veth1 netns cru_test
57 2024-08-09 04:49:06ip link set veth1 netns testns
58 2024-08-09 04:49:06ip a
59 2024-08-09 04:49:06clear
60 2024-08-09 04:49:06ip a
61 2024-08-09 04:49:06ip addr add 10.0.0.1/24 dev veth0
62 2024-08-09 04:49:06ip a
63 2024-08-09 04:49:06ip link set dev veth0 up
64 2024-08-09 04:49:06ip a
```

```
Activities Terminal жнй 9 05:32 root@dev: /home/cru/work_4
65 2024-08-09 04:49:06clear
66 2024-08-09 04:49:06ip link add veth0 type veth peer name veth1
67 2024-08-09 04:49:06ip link add veth0 type veth peer name veth1
68 2024-08-09 04:49:06clear
69 2024-08-09 04:49:06ip link add veth0 type veth peer name veth1
70 2024-08-09 04:49:06ip link add veth0 type veth peer name veth2
71 2024-08-09 04:49:06ip link set veth1 netns testns
72 2024-08-09 04:49:06mc
73 2024-08-09 04:49:06ip link set veth1 netns cru
74 2024-08-09 04:49:06ip link list
75 2024-08-09 04:49:06netns list
76 2024-08-09 04:49:06lsns
77 2024-08-09 04:49:06ip link add veth1 peer name veth1
78 2024-08-09 04:49:06ip link add veth0 peer name veth1
79 2024-08-09 04:49:06clear
80 2024-08-09 04:49:06ip link add veth0 type veth peer name veth1
81 2024-08-09 04:49:06ip link set veth1 netns coke
82 2024-08-09 04:49:06lsns
83 2024-08-09 04:49:06ls -l /proc/$$/ns
84 2024-08-09 04:49:06chroot cru_test
85 2024-08-09 04:49:06mc
86 2024-08-09 04:49:06chroot cru_test
87 2024-08-09 04:49:06unshare --pid --net --fork --mount-poc /bin/bash
88 2024-08-09 04:49:06unshare --pid --net --fork --mount-proc /bin/bash
89 2024-08-09 04:49:06exit
90 2024-08-09 04:49:06ip netns exec testns bash
91 2024-08-09 04:49:06ip netns exec cru_test bash
92 2024-08-09 04:49:06./lib64
93 2024-08-09 04:49:06mkdir cru_home_work_1
94 2024-08-09 04:49:06mkdir cru_home_work_1/bin
95 2024-08-09 04:49:06cp /bin/bash cru_home_work_1/bin
96 2024-08-09 04:49:06ldd /bin/bash
97 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
98 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
99 2024-08-09 04:49:06cp /lib64/ld-linux-x86-64.so.2 cru_home_work_1/lib64
100 2024-08-09 04:49:06cp /bin/ls cru_home_work_1/bin
101 2024-08-09 04:49:06ldd /bin/ls
102 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_home_work_1/lib
103 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libpcre2-8.so.0 cru_home_work_1/lib
104 2024-08-09 04:49:06chroot cru_homework_1
```



```
Activities Terminal жнй 9 05:32
root@dev: /home/cru/work_4

105 2024-08-09 04:49:06clear
106 2024-08-09 04:49:06mkdir cru_work_1
107 2024-08-09 04:49:06mkdir cru_work_1/bin
108 2024-08-09 04:49:06cp /bin/bash cru_work_1/bin
109 2024-08-09 04:49:06ldd /bin/bash
110 2024-08-09 04:49:06mkdir cru_work_1/lib
111 2024-08-09 04:49:06mkdir cru_work_1/lib64
112 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
113 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
114 2024-08-09 04:49:06cp /lib64/ld-linux-x86-64.so.2 cru_home_work_1/lib64
115 2024-08-09 04:49:06cp /bin/ls cru_home_work_1/bin
116 2024-08-09 04:49:06ldd /bin/ls
117 2024-08-09 04:49:06clear
118 2024-08-09 04:49:06mkdir cru_10
119 2024-08-09 04:49:06clear
120 2024-08-09 04:49:06mkdir cru_home_work_1
121 2024-08-09 04:49:06mkdir cru_home_work_1/bin
122 2024-08-09 04:49:06cp /bin/bash cru_home_work_1/bin
123 2024-08-09 04:49:06ldd /bin/bash
124 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
125 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
126 2024-08-09 04:49:06cp /lib64/ld-linux-x86-64.so.2 cru_home_work_1/lib64
127 2024-08-09 04:49:06cp /bin/ls cru_home_work_1/bin
128 2024-08-09 04:49:06ldd /bin/ls
129 2024-08-09 04:49:06clear
130 2024-08-09 04:49:06mkdir cru_home_work_1
131 2024-08-09 04:49:06mkdir cru_home_work_1/bin
132 2024-08-09 04:49:06cp /bin/bash cru_home_work_1/bin
133 2024-08-09 04:49:06ldd /bin/bash
134 2024-08-09 04:49:06mkdir cru_home_work/lib
135 2024-08-09 04:49:06clear
136 2024-08-09 04:49:06mkdir cru_home_work_1
137 2024-08-09 04:49:06xlear
138 2024-08-09 04:49:06clear
139 2024-08-09 04:49:06mkdir cru_home_work_1
140 2024-08-09 04:49:06mkdir cru_home_work_1/bin
141 2024-08-09 04:49:06cp /bin/bash cru_home_work_1/bin
142 2024-08-09 04:49:06ldd /bin/bash
143 2024-08-09 04:49:06mkdir cru_home_work_1/lib
144 2024-08-09 04:49:06mkdir cru_home_work_1/lib64
```

```
Activities Terminal жнй 9 05:33
root@dev: /home/cru/work_4

145 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
146 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
147 2024-08-09 04:49:06cp /lib64/ld-linux-x86-64.so.2 cru_home_work_1/lib64
148 2024-08-09 04:49:06cp /bin/ls cru_home_work_1/bin
149 2024-08-09 04:49:06ldd /bin/ls
150 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_home_work_1/lib
151 2024-08-09 04:49:06cp /lib/x86_64-linux-gnu/libpcre2-8.so.0 cru_home_work_1/lib
152 2024-08-09 04:49:06chroot cru_home_work_1
153 2024-08-09 04:49:06mc
154 2024-08-09 04:49:06chroot cru_home_work_1
155 2024-08-09 04:49:06clear
156 2024-08-09 04:49:06exit
157 2024-08-09 04:49:06clear
158 2024-08-09 04:49:06exit
159 2024-08-09 04:49:06clear
160 2024-08-09 04:49:06docker --help
161 2024-08-09 04:49:06apt update
162 2024-08-09 04:49:06apt install docker.io
163 2024-08-09 04:49:06docker run --rm -d
164 2024-08-09 04:49:06mkdir hw3
165 2024-08-09 04:49:06clear
166 2024-08-09 04:49:06docker ps -a
167 2024-08-09 04:49:06clear
168 2024-08-09 04:49:06docker images
169 2024-08-09 04:49:06clear
170 2024-08-09 04:49:06docker run -it ubuntu:22.04 bash
171 2024-08-09 04:49:06docker ps -a
172 2024-08-09 04:49:06docker run -it -n Bludnik ubuntu:22.04 bash
173 2024-08-09 04:49:06docker run -it -h Bludnik ubuntu:22.04 bash
174 2024-08-09 04:49:06docker ps -a
175 2024-08-09 04:49:06docker exec -it Bludnik bash
176 2024-08-09 04:49:06docker run -it -h Bludnik ubuntu:22.04 bash
177 2024-08-09 04:49:06docker ps -a
178 2024-08-09 04:49:06mkdir /home/home_work_4
179 2024-08-09 04:49:06cd /home/home_work_4
180 2024-08-09 04:49:06touch dockerfile
181 2024-08-09 04:49:06nano dockerfile
182 2024-08-09 04:49:06docker build -t my_nginx .
183 2024-08-09 04:49:06docker build my_nginx .
184 2024-08-09 04:49:06docker build -t my_nginx .
```

```
Activities Terminal жнй 9 05:33 root@dev: /home/cru/work_4
185 2024-08-09 04:49:06nano dockerfile
186 2024-08-09 04:49:06docker build -t my_nginx .
187 2024-08-09 04:49:06nano dockerfile
188 2024-08-09 04:49:06docker build -t my_nginx .
189 2024-08-09 04:49:06nano dockerfile
190 2024-08-09 04:49:06docker build -t my_nginx .
191 2024-08-09 04:49:06nano dockerfile
192 2024-08-09 04:49:06docker build -t my_nginx .
193 2024-08-09 04:49:06docker ps -a
194 2024-08-09 04:49:06docker ps
195 2024-08-09 04:49:06docker start -it gallant_varahamihira
196 2024-08-09 04:49:06docker start -d gallant_varahamihira
197 2024-08-09 04:49:06docker start gallant_varahamihira
198 2024-08-09 04:49:06mc
199 2024-08-09 04:49:06docker ps
200 2024-08-09 04:49:06docker ps -a
201 2024-08-09 04:49:06docker build -t -h my_nginx .
202 2024-08-09 04:49:06docker run -name my_nginx
203 2024-08-09 04:49:06docker run gallant_varahamihira
204 2024-08-09 04:49:06docker run -it my_nginx
205 2024-08-09 04:49:06docker run -d my_nginx
206 2024-08-09 04:49:06docker ps -a
207 2024-08-09 04:49:06docker start my_nginx
208 2024-08-09 04:49:06docker start focused_euler
209 2024-08-09 04:49:06docker exec -it focused_euler
210 2024-08-09 04:49:06docker exec -it focused_euler bash
211 2024-08-09 04:49:06docker start focused_euler
212 2024-08-09 04:49:06docker exec -it focused_euler bash
213 2024-08-09 04:49:06docker start -d focused_euler
214 2024-08-09 04:49:06docker ps -a
215 2024-08-09 04:49:06mc
216 2024-08-09 04:49:06docker build -t -h my_nginx_2 .
217 2024-08-09 04:49:06docker build -t -h my_nginx .
218 2024-08-09 04:49:06docker build -t my_nginx_2 .
219 2024-08-09 04:49:06docker ps -a
220 2024-08-09 04:49:06clear
221 2024-08-09 04:49:06docker ps -a
222 2024-08-09 04:49:06docker ps
223 2024-08-09 04:49:06docker ps -a
224 2024-08-09 04:49:06clear
```

```
Activities Terminal жнй 9 05:33 root@dev: /home/cru/work_4
225 2024-08-09 04:49:06docker ps -a
226 2024-08-09 04:49:06clear
227 2024-08-09 04:49:06docker build -t my_2 .
228 2024-08-09 04:49:06clear
229 2024-08-09 04:49:06docker ps -a
230 2024-08-09 04:49:06cd ..
231 2024-08-09 04:49:06mkdir work_4
232 2024-08-09 04:49:06cd work_4
233 2024-08-09 04:49:06touch Dockerfile
234 2024-08-09 04:49:06nano Dockerfile
235 2024-08-09 04:49:06docker build -t Bludnik .
236 2024-08-09 04:49:06nano Dockerfile
237 2024-08-09 04:49:06docker build -t Bludnik .
238 2024-08-09 04:49:06docker build -t bludnik .
239 2024-08-09 04:49:06nano Dockerfile
240 2024-08-09 04:49:06docker build -t bludnik .
241 2024-08-09 04:49:06nano Dockerfile
242 2024-08-09 04:49:06docker build -t bludnik .
243 2024-08-09 04:49:06nano Dockerfile
244 2024-08-09 04:49:06docker build -t bludnik .
245 2024-08-09 04:49:06nano Dockerfile
246 2024-08-09 04:49:06docker build -t bludnik .
247 2024-08-09 04:49:06docker ps -a
248 2024-08-09 04:49:06clear
249 2024-08-09 04:49:06docker ps -a
250 2024-08-09 04:49:06images
251 2024-08-09 04:49:06docker run -it -h bludnik
252 2024-08-09 04:49:06docker run -it -h bludnik bash
253 2024-08-09 04:49:06images
254 2024-08-09 04:49:06docker run -name bludnik -t -i bludnik
255 2024-08-09 04:49:06docker run -h bludnik -t -i bludnik
256 2024-08-09 04:49:06mc
257 2024-08-09 04:49:06docker start bludnik
258 2024-08-09 04:49:06docker exec -it bludnik bash
259 2024-08-09 04:49:06docker run -h bludnik -t -i bludnik
260 2024-08-09 04:49:06docker run -h bludnik -d -t -i bludnik
261 2024-08-09 04:49:06docker ps -a
262 2024-08-09 04:49:06mc
263 2024-08-09 04:49:06clear
264 2024-08-09 04:49:06docker ps
```



```
Activities Terminal жнп 9 05:34 root@dev: /home/cru/work_4
265 2024-08-09 04:49:06docker run -p 127.0.0.1:8090:8090
266 2024-08-09 04:49:06docker start brave_engelbart
267 2024-08-09 04:49:06docker exec -it brave_engelbart
268 2024-08-09 04:49:06docker exec -it 93cba391815
269 2024-08-09 04:49:06docker run -h bludnik -d -t -i bludnik
270 2024-08-09 04:49:06clear
271 2024-08-09 04:49:06docker ps
272 2024-08-09 04:49:06docker stop bludnik
273 2024-08-09 04:49:06docker stop naughty_poitras
274 2024-08-09 04:49:06docker stop brave_engelbart
275 2024-08-09 04:49:06mc
276 2024-08-09 04:49:06docker run -h server -d -t -i bludnik
277 2024-08-09 04:49:06docker ps
278 2024-08-09 04:49:06docker run -d unruffled_shamir
279 2024-08-09 04:49:06docker run -d 926e97b3eea2
280 2024-08-09 04:49:06docker images
281 2024-08-09 04:49:06docker run -p 8090:80 my_2
282 2024-08-09 04:49:06docker run -g -p 8090:80 my_2
283 2024-08-09 04:49:06docker run -g daemon off -p 8090:80 my_2
284 2024-08-09 04:49:06docker run -p 8090:80 my_2 -g daemon ff;
285 2024-08-09 04:49:06mc
286 2024-08-09 04:49:06docker build -t my_3
287 2024-08-09 04:49:06history
288 2024-08-09 04:49:06docker build -t my_3 .
289 2024-08-09 04:49:06clear
290 2024-08-09 04:49:06docker images
291 2024-08-09 04:49:06docker run -p 8090:80 my_3
292 2024-08-09 04:49:06docker ps
293 2024-08-09 04:49:06mc
294 2024-08-09 04:49:06exit
295 2024-08-09 04:49:06mc
296 2024-08-09 04:49:06touch project.yaml
297 2024-08-09 04:49:06nano project.yaml
298 2024-08-09 04:49:06docker-compose up
299 2024-08-09 04:49:06apt update
300 2024-08-09 04:49:06apt install docker-compose
301 2024-08-09 04:49:06docker-compose up
302 2024-08-09 04:49:06mc
303 2024-08-09 04:49:06docker-compose up
304 2024-08-09 04:49:06mc
```

```
Activities Terminal жнп 9 05:34 root@dev: /home/cru/work_4
305 2024-08-09 04:49:06docker-compose up
306 2024-08-09 04:49:06mc
307 2024-08-09 04:49:06cd work_4
308 2024-08-09 04:49:06ls -a
309 2024-08-09 04:49:06docker-compose up
310 2024-08-09 04:49:06nano docker-compose.yml
311 2024-08-09 04:49:06snap install docker
312 2024-08-09 04:49:06docker-compose up
313 2024-08-09 04:49:06nano docker-compose.yml
314 2024-08-09 04:49:06docker-compose images
315 2024-08-09 04:49:06nano docker-compose.yml
316 2024-08-09 04:49:06docker-compose up
317 2024-08-09 04:49:06nano docker-compose.yml
318 2024-08-09 04:49:06docker-compose up
319 2024-08-09 04:49:06nano docker-compose.yml
320 2024-08-09 04:49:06docker-compose up
321 2024-08-09 04:49:06nano docker-compose.yml
322 2024-08-09 04:49:06docker-compose up
323 2024-08-09 04:49:06nano docker-compose.yml
324 2024-08-09 04:49:06docker-compose up
325 2024-08-09 04:49:06nano docker-compose.yml
326 2024-08-09 04:49:06docker-compose up
327 2024-08-09 04:49:06nano docker-compose.yml
328 2024-08-09 04:49:06docker-compose up
329 2024-08-09 04:49:06nano docker-compose.yml
330 2024-08-09 04:49:06docker-compose up
331 2024-08-09 04:49:06docker-compose up -d
332 2024-08-09 04:49:06docker ps
333 2024-08-09 04:49:06docker container inspect root_adminer_1
334 2024-08-09 04:49:06docker container inspect work_4_root_adminer_1
335 2024-08-09 04:49:06docker container inspect work_4_adminer_1
336 2024-08-09 04:49:06nano docker-compose.yml
337 2024-08-09 04:49:06ping 172.18.0.1
338 2024-08-09 04:49:06ping 172.18.0.2
339 2024-08-09 04:49:06clear
340 2024-08-09 04:49:06docker ps
341 2024-08-09 04:49:06exit
342 2024-08-09 04:49:06mc
343 2024-08-09 04:49:06docker --version
344 2024-08-09 04:49:06docker-compose --version
```

```
Activities Terminal жкН 9 05:34 root@dev: /home/cru/work_4
345 2024-08-09 04:49:06iptables -I INPUT -p tcp --dport 2376 -j ACCEPT
346 2024-08-09 04:49:06iptables -I INPUT -p tcp --dport 7946 -j ACCEPT
347 2024-08-09 04:49:06iptables -I INPUT -p udp --dport 7946 -j ACCEPT
348 2024-08-09 04:49:06iptables -I INPUT -p udp --dport 4789 -j ACCEPT
349 2024-08-09 04:49:06iptables -I INPUT -p tcp --dport 2377 -j ACCEPT
350 2024-08-09 04:49:06mc
351 2024-08-09 04:49:06docker swarm init --advertise-addr 192.168.1.7
352 2024-08-09 04:49:06docker node ls
353 2024-08-09 04:49:06docker info
354 2024-08-09 04:49:06docker swarm join --token SWMTKN-1-5rq2l862xanlly2iauivmq5hv38zfo15twm1by8m7xdb472w3n-ej538pilw4urpbg4pcx
lov9g 192.168.1.7:2377
355 2024-08-09 04:49:06clear
356 2024-08-09 04:49:06docker node ls
357 2024-08-09 04:49:06exit
358 2024-08-09 04:49:06docker node ls
359 2024-08-09 04:49:06mc
360 2024-08-09 04:49:06docker info
361 2024-08-09 04:49:06exit
362 2024-08-09 04:49:06mc
363 2024-08-09 04:49:06ssh
364 2024-08-09 04:49:06ssh server
365 2024-08-09 04:49:06apt update
366 2024-08-09 04:49:06apt install ssh-server
367 2024-08-09 04:49:06clear
368 2024-08-09 04:49:06docker swarm init
369 2024-08-09 04:49:06docker node ls
370 2024-08-09 04:49:06docker info
371 2024-08-09 04:49:06mc
372 2024-08-09 04:49:06docker swarm-token --quiet worker
373 2024-08-09 04:49:06docker swarm leave
374 2024-08-09 04:49:06docker swarm leave --force
375 2024-08-09 04:49:06docker node ls
376 2024-08-09 04:49:06docker swarm init
377 2024-08-09 04:49:06docker swarm init dvertise-addr 192.168.56.2
378 2024-08-09 04:49:06docker swarm init --advertise-addr 192.168.56.2
379 2024-08-09 04:49:06docker node ls
380 2024-08-09 04:49:06docker info
381 2024-08-09 04:49:06docker swarm leave --force
382 2024-08-09 04:49:06exit
383 2024-08-09 04:49:06docker node ls
```

```
Activities Terminal жкН 9 05:35 root@dev: /home/cru/work_4
384 2024-08-09 04:49:06docker swarm init
385 2024-08-09 04:49:06docker swarm init --advertise-addr 192.168.56.7
386 2024-08-09 04:49:06docker node ls
387 2024-08-09 04:49:06docker info
388 2024-08-09 04:49:06docker node ls
389 2024-08-09 04:49:06exit
390 2024-08-09 04:49:06docker node ls
391 2024-08-09 04:49:06docker images
392 2024-08-09 04:49:06ping 172.18.0.2
393 2024-08-09 04:49:06mc
394 2024-08-09 04:49:06ls
395 2024-08-09 04:49:06cd ..
396 2024-08-09 04:49:06ls
397 2024-08-09 04:49:06cd work_4
398 2024-08-09 04:49:06docker-compose up -d
399 2024-08-09 04:49:06nano docker-compose.yml
400 2024-08-09 04:49:06ls
401 2024-08-09 04:49:06mc
402 2024-08-09 04:49:06cd cdu
403 2024-08-09 04:49:06/home/cru/work_4/docker-compose up -d
404 2024-08-09 04:49:06cd ..
405 2024-08-09 04:49:06/cru
406 2024-08-09 04:49:06cru/
407 2024-08-09 04:49:06ls
408 2024-08-09 04:49:06cd cru
409 2024-08-09 04:49:06cd work_4
410 2024-08-09 04:49:06docker-compose up -d
411 2024-08-09 04:49:06nano docker-compose.yml
412 2024-08-09 04:49:06docker-compose up -d
413 2024-08-09 04:49:06docker ps
414 2024-08-09 04:49:06docker images
415 2024-08-09 04:49:06docker container inspect work_4_adminer_1
416 2024-08-09 04:49:06ping 172.18.0.2
417 2024-08-09 04:49:06ip a
418 2024-08-09 04:49:06clear
419 2024-08-09 04:49:06exit
420 2024-08-09 04:49:06ping 192.168.56.8
421 2024-08-09 04:49:06mc
422 2024-08-09 04:49:06ip a
423 2024-08-09 04:49:06network manager
```



```
Activities Terminal жнй 9 05:35 root@dev: /home/cru/work_4
424 2024-08-09 04:49:06netman
425 2024-08-09 04:49:06clear
426 2024-08-09 04:49:06ip a
427 2024-08-09 04:49:06exit
428 2024-08-09 04:49:06history
429 2024-08-09 04:49:06ping 192.168.56.8
430 2024-08-09 04:49:06ping 172.18.0.2
431 2024-08-09 04:49:06docker images
432 2024-08-09 04:49:06docker ps
433 2024-08-09 04:49:06docker node ls
434 2024-08-09 04:49:06docker-compose up -d
435 2024-08-09 04:49:06mc
436 2024-08-09 04:49:06cd /work_4
437 2024-08-09 04:49:06cd work_4/
438 2024-08-09 04:49:06docker-compose up -d
439 2024-08-09 04:49:06docker ps
440 2024-08-09 04:49:06docker stack deploy
441 2024-08-09 04:49:06mc
442 2024-08-09 04:49:06docker-compose up -d
443 2024-08-09 04:49:06mc
444 2024-08-09 04:49:06docker-compose up -d
445 2024-08-09 04:49:06mc
446 2024-08-09 04:49:06docker ps
447 2024-08-09 04:49:06mc
448 2024-08-09 04:49:06docker-compose stop
449 2024-08-09 04:49:06docker-compose stop -force
450 2024-08-09 04:49:06docker kill $(docker ps -q)
451 2024-08-09 04:49:06aa-remove-unknown
452 2024-08-09 04:49:06docker images
453 2024-08-09 04:49:06docker ps
454 2024-08-09 04:49:06docker kill $(docker ps -q)
455 2024-08-09 04:49:06docker ps
456 2024-08-09 04:49:06docker images
457 2024-08-09 04:49:06docker-compose up -d
458 2024-08-09 04:49:06mc
459 2024-08-09 04:49:06docker-compose up -d
460 2024-08-09 04:49:06docker stack deploy
461 2024-08-09 04:49:06docker stack ls
462 2024-08-09 04:49:06docker stack
463 2024-08-09 04:49:06docker stack deploy
```

```
Activities Terminal жнй 9 05:36 root@dev: /home/cru/work_4
464 2024-08-09 04:49:06exit
465 2024-08-09 04:49:06docker ps
466 2024-08-09 04:49:06docker-compose up -d
467 2024-08-09 04:49:06cd work_4/
468 2024-08-09 04:49:06clear
469 2024-08-09 04:49:06docker-compose up -d
470 2024-08-09 04:49:06mc
471 2024-08-09 04:49:06clear
472 2024-08-09 04:49:06docker-compose up -d
473 2024-08-09 04:49:06docker images
474 2024-08-09 04:49:06aa-remove-unknown
475 2024-08-09 04:49:06history
476 2024-08-09 04:49:06docker kill $(docker ps -q)
477 2024-08-09 04:49:06docker-compose up -d
478 2024-08-09 04:49:06touch docker stack ls
479 2024-08-09 04:49:06docker images
480 2024-08-09 04:49:06docker ps
481 2024-08-09 04:49:06docker-compose stop
482 2024-08-09 04:49:06cd work_4/
483 2024-08-09 04:49:06docker-compose stop
484 2024-08-09 04:49:06aa-remove-unknown
485 2024-08-09 04:49:06docker ps
486 2024-08-09 04:49:06history
487 2024-08-09 04:49:06docker kill $(docker ps -q)
488 2024-08-09 04:49:06docker-compose up -d
489 2024-08-09 04:49:06docker node ls
490 2024-08-09 04:49:06ping 192.168.56.8
491 2024-08-09 04:49:06ping 192.168.56.9
492 2024-08-09 04:49:06mc
493 2024-08-09 04:49:06docker stack ls
494 2024-08-09 04:49:06mc
495 2024-08-09 04:49:06touch viz.yml
496 2024-08-09 04:49:06nano viz.yml
497 2024-08-09 04:49:06docker stak deploy -c viz.yml viz
498 2024-08-09 04:49:06docker stack deploy -c viz.yml viz
499 2024-08-09 04:49:06docker stack ls
500 2024-08-09 04:49:06mc
501 2024-08-09 04:49:06apt update
502 2024-08-09 04:49:06mc
503 2024-08-09 04:49:06apt install -y nginx
```



```
Activities Terminal жнп 9 05:36 root@dev: /home/cru/work_4
504 2024-08-09 04:49:06systemctl status nginx
505 2024-08-09 04:49:06docker stack ls
506 2024-08-09 04:49:06docker stack ps
507 2024-08-09 04:49:06exit
508 2024-08-09 04:49:06docker stack ls
509 2024-08-09 04:49:06nano viz.yml
510 2024-08-09 04:49:06cd work_4/
511 2024-08-09 04:49:06nano viz.yml
512 2024-08-09 04:49:06docker ps
513 2024-08-09 04:49:06docker node ls
514 2024-08-09 04:49:06history
515 2024-08-09 04:49:06docker images
516 2024-08-09 04:49:06docker ps
517 2024-08-09 04:49:06docker-compose start -d
518 2024-08-09 04:49:06docker-compose up -d
519 2024-08-09 04:49:06docker-compose stop srv
520 2024-08-09 04:49:06docker-compose stop
521 2024-08-09 04:49:06docker-compose up -d
522 2024-08-09 04:49:06exit
523 2024-08-09 04:49:06docker images
524 2024-08-09 04:49:06docker ps
525 2024-08-09 04:49:06cd work_4/
526 2024-08-09 04:49:06docker-compose up -d
527 2024-08-09 04:49:06nano viz.yml
528 2024-08-09 04:49:06touch ww.yml
529 2024-08-09 04:49:06nano ww.yml
530 2024-08-09 04:49:06docker stack deploy -c ww.yml ww
531 2024-08-09 04:49:06docker stack ls
532 2024-08-09 04:49:06nano ww.yml
533 2024-08-09 04:49:06docker stack deploy -c ww.yml ww
534 2024-08-09 04:49:06docker stack ls
535 2024-08-09 04:49:06apt remove nginx
536 2024-08-09 04:49:06systemctl status nginx
537 2024-08-09 04:49:06exit
538 2024-08-09 04:49:12ip a
539 2024-08-09 04:50:18docker stack ls
540 2024-08-09 04:50:34docker stack ps viz
541 2024-08-09 04:50:50docker stack ps ww
542 2024-08-09 04:53:46clear
543 2024-08-09 04:57:46docker stack ls
```

```
Activities Terminal жнп 9 05:36 root@dev: /home/cru/work_4
519 2024-08-09 04:49:06docker-compose stop srv
520 2024-08-09 04:49:06docker-compose stop
521 2024-08-09 04:49:06docker-compose up -d
522 2024-08-09 04:49:06exit
523 2024-08-09 04:49:06docker images
524 2024-08-09 04:49:06docker ps
525 2024-08-09 04:49:06cd work_4/
526 2024-08-09 04:49:06docker-compose up -d
527 2024-08-09 04:49:06nano viz.yml
528 2024-08-09 04:49:06touch ww.yml
529 2024-08-09 04:49:06nano ww.yml
530 2024-08-09 04:49:06docker stack deploy -c ww.yml ww
531 2024-08-09 04:49:06docker stack ls
532 2024-08-09 04:49:06nano ww.yml
533 2024-08-09 04:49:06docker stack deploy -c ww.yml ww
534 2024-08-09 04:49:06docker stack ls
535 2024-08-09 04:49:06apt remove nginx
536 2024-08-09 04:49:06systemctl status nginx
537 2024-08-09 04:49:06exit
538 2024-08-09 04:49:12ip a
539 2024-08-09 04:50:18docker stack ls
540 2024-08-09 04:50:34docker stack ps viz
541 2024-08-09 04:50:50docker stack ps ww
542 2024-08-09 04:53:46clear
543 2024-08-09 04:57:46docker stack ls
544 2024-08-09 04:57:55docker stack ps viz
545 2024-08-09 04:58:08docker stack ps ww
546 2024-08-09 04:58:17clear
547 2024-08-09 04:58:21docker stack ls
548 2024-08-09 04:58:28docker stack ps viz
549 2024-08-09 04:58:50docker node ls
550 2024-08-09 04:59:05docker stack ps viz
551 2024-08-09 05:00:21cd work_4/
552 2024-08-09 05:00:51docker stack deploy -c viz.yml viz
553 2024-08-09 05:01:19docker stack deploy -c ww.yml ww
554 2024-08-09 05:02:05docker stack ls
555 2024-08-09 05:02:12docker stack ps viz
556 2024-08-09 05:30:42export HISTTIMEFORMAT='%F %T'
557 2024-08-09 05:30:47history
root@dev: /home/cru/work_4#
```

```
Activities Terminal жкН 9 05:27 root@lab: /home/cru
cru@lab: $ sudo su
[sudo] password for cru:
root@lab:/home/cru# export HISTTIMEFORMAT='%F %T'
root@lab:/home/cru# history
1 2024-08-09 05:26:12cp bin/bash gb/bin
2 2024-08-09 05:26:12cp /bin/bash gb/bin
3 2024-08-09 05:26:12chroot gb
4 2024-08-09 05:26:12ldd /bin/bash
5 2024-08-09 05:26:12mkdir gb/lib
6 2024-08-09 05:26:12mkdir gb/lib64
7 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libinfo.so.6 gb/lib
8 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libtinfo.so.6 gb/lib
9 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libc.so.6 gb/lib
10 2024-08-09 05:26:12cp /lib64/ld-linux-x86-64.so.2 gb/lib64
11 2024-08-09 05:26:12chroot gb
12 2024-08-09 05:26:12exit
13 2024-08-09 05:26:12ip a
14 2024-08-09 05:26:12exit
15 2024-08-09 05:26:12mkdir cru_test
16 2024-08-09 05:26:12mkdir cru_test/bin
17 2024-08-09 05:26:12cp /bin/bash cru_test/bin
18 2024-08-09 05:26:12ldd /bin/bash
19 2024-08-09 05:26:12mkdir cru_test/lib
20 2024-08-09 05:26:12mkdir cru_test/lib64
21 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_test/lib
22 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_test/lib
23 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libc.so.6 cru_test/lib
24 2024-08-09 05:26:12cp /lib64/ld-linux-x86-64.so.2 cru_test/lib64
25 2024-08-09 05:26:12chroot cru_test/
26 2024-08-09 05:26:12cp /bin/ls cru_test/bin
27 2024-08-09 05:26:12ldd /bin/ls
28 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_test/lib
29 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_test/lib
30 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libpcre2-8.so.0 cru_test/lib
31 2024-08-09 05:26:12chroot cru_test/
32 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_test/lib
33 2024-08-09 05:26:12chroot cru_test/
34 2024-08-09 05:26:12ls -l /proc/$$/ns
35 2024-08-09 05:26:12lsns
36 2024-08-09 05:26:12man unshare
```

```
Activities Terminal жкН 9 05:27 root@lab: /home/cru
37 2024-08-09 05:26:12ip netns list
38 2024-08-09 05:26:12ip netns add testns
39 2024-08-09 05:26:12ip netns list
40 2024-08-09 05:26:12ip netns exec testns bash
41 2024-08-09 05:26:12ip a
42 2024-08-09 05:26:12clear
43 2024-08-09 05:26:12exit
44 2024-08-09 05:26:12ip a
45 2024-08-09 05:26:12exit
46 2024-08-09 05:26:12ip netns add testns
47 2024-08-09 05:26:12ip netns exec testns bash
48 2024-08-09 05:26:12exit
49 2024-08-09 05:26:12ip link add veth0 type veth peer veth1
50 2024-08-09 05:26:12ip link add veth1 netns cru_test
51 2024-08-09 05:26:12ip link set veth1 netns cru_test
52 2024-08-09 05:26:12ip link set veth1 netns testns
53 2024-08-09 05:26:12clear
54 2024-08-09 05:26:12ip link set veth1 netns cru
55 2024-08-09 05:26:12ip link add veth0 type veth peer veth1
56 2024-08-09 05:26:12ip link set veth1 netns cru_test
57 2024-08-09 05:26:12ip link set veth1 netns testns
58 2024-08-09 05:26:12ip a
59 2024-08-09 05:26:12clear
60 2024-08-09 05:26:12ip a
61 2024-08-09 05:26:12ip addr add 10.0.0.1/24 dev veth0
62 2024-08-09 05:26:12ip a
63 2024-08-09 05:26:12ip link set dev veth0 up
64 2024-08-09 05:26:12ip a
65 2024-08-09 05:26:12clear
66 2024-08-09 05:26:12ip link add veth0 type veth peer name veth1
67 2024-08-09 05:26:12ip link add veth0 type veth peer name veth1
68 2024-08-09 05:26:12clear
69 2024-08-09 05:26:12ip link add veth0 type veth peer name veth1
70 2024-08-09 05:26:12ip link add veth0 type veth peer name veth2
71 2024-08-09 05:26:12ip link set veth1 netns testns
72 2024-08-09 05:26:12mc
73 2024-08-09 05:26:12ip link set veth1 netns cru
74 2024-08-09 05:26:12ip link list
75 2024-08-09 05:26:12netns list
76 2024-08-09 05:26:12lsns
```



```
Activities Terminal жкН 9 05:27
root@lab: /home/cru

77 2024-08-09 05:26:12ip link add veth1 peer name veth1
78 2024-08-09 05:26:12ip link add veth0 peer name veth1
79 2024-08-09 05:26:12clear
80 2024-08-09 05:26:12ip link add veth0 type veth peer name veth1
81 2024-08-09 05:26:12ip link set veth1 netns coke
82 2024-08-09 05:26:12lsns
83 2024-08-09 05:26:12ls -l /proc/$$/ns
84 2024-08-09 05:26:12chroot cru_test
85 2024-08-09 05:26:12mc
86 2024-08-09 05:26:12chroot cru_test
87 2024-08-09 05:26:12unshare --pid --net --fork --mount-poc /bin/bash
88 2024-08-09 05:26:12unshare --pid --net --fork --mount-proc /bin/bash
89 2024-08-09 05:26:12exit
90 2024-08-09 05:26:12ip netns exec testns bash
91 2024-08-09 05:26:12ip netns exec cru_test bash
92 2024-08-09 05:26:12./lib64
93 2024-08-09 05:26:12mkdir cru_home_work_1
94 2024-08-09 05:26:12mkdir cru_home_work_1/bin
95 2024-08-09 05:26:12cp /bin/bash cru_home_work_1/bin
96 2024-08-09 05:26:12ldd /bin/bash
97 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
98 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
99 2024-08-09 05:26:12cp /lib64/ld-linux-x86-64.so.2 cru_home_work_1/lib64
100 2024-08-09 05:26:12cp /bin/ls cru_home_work_1/bin
101 2024-08-09 05:26:12ldd /bin/ls
102 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_home_work_1/lib
103 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libpcre2-8.so.0 cru_home_work_1/lib
104 2024-08-09 05:26:12chroot cru_homework_1
105 2024-08-09 05:26:12clear
106 2024-08-09 05:26:12mkdir cru_work_1
107 2024-08-09 05:26:12mkdir cru_work_1/bin
108 2024-08-09 05:26:12cp /bin/bash cru_work_1/bin
109 2024-08-09 05:26:12ldd /bin/bash
110 2024-08-09 05:26:12mkdir cru_work_1/lib
111 2024-08-09 05:26:12mkdir cru_work_1/lib64
112 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
113 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
114 2024-08-09 05:26:12cp /lib64/ld-linux-x86-64.so.2 cru_home_work_1/lib64
115 2024-08-09 05:26:12cp /bin/ls cru_home_work_1/bin
116 2024-08-09 05:26:12ldd /bin/ls
```

```
Activities Terminal жкН 9 05:28
root@lab: /home/cru

117 2024-08-09 05:26:12clear
118 2024-08-09 05:26:12mkdir cru-10
119 2024-08-09 05:26:12clear
120 2024-08-09 05:26:12mkdir cru_home_work_1
121 2024-08-09 05:26:12mkdir cru_home_work_1/bin
122 2024-08-09 05:26:12cp /bin/bash cru_home_work_1/bin
123 2024-08-09 05:26:12ldd /bin/bash
124 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
125 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
126 2024-08-09 05:26:12cp /lib64/ld-linux-x86-64.so.2 cru_home_work_1/lib64
127 2024-08-09 05:26:12cp /bin/ls cru_home_work_1/bin
128 2024-08-09 05:26:12ldd /bin/ls
129 2024-08-09 05:26:12clear
130 2024-08-09 05:26:12mkdir cru_home_work_1
131 2024-08-09 05:26:12mkdir cru_home_work_1/bin
132 2024-08-09 05:26:12cp /bin/bash cru_home_work_1/bin
133 2024-08-09 05:26:12ldd /bin/bash
134 2024-08-09 05:26:12mkdir cru_home_work/lib
135 2024-08-09 05:26:12clear
136 2024-08-09 05:26:12mkdir cru_home_work_1
137 2024-08-09 05:26:12xlear
138 2024-08-09 05:26:12clear
139 2024-08-09 05:26:12mkdir cru_home_work_1
140 2024-08-09 05:26:12mkdir cru_home_work_1/bin
141 2024-08-09 05:26:12cp /bin/bash cru_home_work_1/bin
142 2024-08-09 05:26:12ldd /bin/bash
143 2024-08-09 05:26:12mkdir cru_home_work_1/lib
144 2024-08-09 05:26:12mkdir cru_home_work_1/lib64
145 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
146 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
147 2024-08-09 05:26:12cp /lib64/ld-linux-x86-64.so.2 cru_home_work_1/lib64
148 2024-08-09 05:26:12cp /bin/ls cru_home_work_1/bin
149 2024-08-09 05:26:12ldd /bin/ls
150 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_home_work_1/lib
151 2024-08-09 05:26:12cp /lib/x86_64-linux-gnu/libpcre2-8.so.0 cru_home_work_1/lib
152 2024-08-09 05:26:12chroot cru_home_work_1
153 2024-08-09 05:26:12mc
154 2024-08-09 05:26:12chroot cru_home_work_1
155 2024-08-09 05:26:12ip a
156 2024-08-09 05:26:12exit
```



```
Activities Terminal жкН 9 05:28 root@lab: /home/cru
157 2024-08-09 05:26:12ip a
158 2024-08-09 05:26:12clear
159 2024-08-09 05:26:12ip link add veth0 type veth peer veth1
160 2024-08-09 05:26:12ip link set veth1 netns cruns
161 2024-08-09 05:26:12ip a
162 2024-08-09 05:26:12ip addr add 10.0.0.1/24 dev veth0
163 2024-08-09 05:26:12ip a
164 2024-08-09 05:26:12ip link set dev veth0 up
165 2024-08-09 05:26:12ip a
166 2024-08-09 05:26:12ping 10.0.0.2
167 2024-08-09 05:26:12clear
168 2024-08-09 05:26:12ip netns list
169 2024-08-09 05:26:12ip netns add cruns
170 2024-08-09 05:26:12ip netns exec cruns bash
171 2024-08-09 05:26:12ip a
172 2024-08-09 05:26:12clear
173 2024-08-09 05:26:12ip link add virt0 type veth peer name virt1
174 2024-08-09 05:26:12ip addr add 10.0.0.1/24 dev virt0
175 2024-08-09 05:26:12ip addr add 10.0.0.2/24 dev virt1
176 2024-08-09 05:26:12ip link set virt1 netns cru
177 2024-08-09 05:26:12history
178 2024-08-09 05:26:12unshare --pid --net --fork --mount-poc /bin/bash
179 2024-08-09 05:26:12chroot cru_home_work_1
180 2024-08-09 05:26:12ip netns list
181 2024-08-09 05:26:12ip netns exec cruns bash
182 2024-08-09 05:26:12mkdir /sys/fs/cgroup/testgroup1
183 2024-08-09 05:26:12ls /sys/fs/cgroup/testgroup1
184 2024-08-09 05:26:12cat /sys/fs/cgroup/testgroup1/cpu
185 2024-08-09 05:26:12cat /sys/fs/cgroup/testgroup1/cpu.stat
186 2024-08-09 05:26:12cat /proc/$$/status | grep 'allowed'
187 2024-08-09 05:26:12clear
188 2024-08-09 05:26:12lxc-create -n test123 -t ubuntu -f usr/share/doc/lxc/examples/lxc-veth.conf
189 2024-08-09 05:26:12apt update
190 2024-08-09 05:26:12apt install lxc-utils
191 2024-08-09 05:26:12lxc-create -n test123 -t ubuntu -f usr/share/doc/lxc/examples/lxc-veth.conf
192 2024-08-09 05:26:12lxc-start -d -n test123
193 2024-08-09 05:26:12clear
194 2024-08-09 05:26:12lxc-create --name=con1 --template=ubuntu
195 2024-08-09 05:26:12lxc-attach -n test123
196 2024-08-09 05:26:12clear
```

```
Activities Terminal жкН 9 05:29 root@lab: /home/cru
197 2024-08-09 05:26:12exit
198 2024-08-09 05:26:12mc
199 2024-08-09 05:26:12iptables -I INPUT -p tcp --dport 2376 -j ACCEPT
200 2024-08-09 05:26:12iptables -I INPUT -p tcp --dport 7946 -j ACCEPT
201 2024-08-09 05:26:12iptables -I INPUT -p udp --dport 7946 -j ACCEPT
202 2024-08-09 05:26:12iptables -I INPUT -p udp --dport 4789 -j ACCEPT
203 2024-08-09 05:26:12clear
204 2024-08-09 05:26:12docker swarm join --token SWMTKN-1-5rq2l862xanlly2iau1vmq5hv38zf0i5twm1by8m7xdb472w3n-ej538pilw4urpbgb4pc
xlov9g 192.168.1.7:2377
205 2024-08-09 05:26:12apt update
206 2024-08-09 05:26:12apt install docker.io
207 2024-08-09 05:26:12clear
208 2024-08-09 05:26:12docker swarm join --token SWMTKN-1-5rq2l862xanlly2iau1vmq5hv38zf0i5twm1by8m7xdb472w3n-ej538pilw4urpbgb4pc
xlov9g 192.168.1.7:2377
209 2024-08-09 05:26:12docker swarm join --token SWMTKN-1-5rq2l862xanlly2iau1vmq5hv38zf0i5twm1by8m7xdb472w3n-ej538pilw4urpbgb4pc
xlov9g
210 2024-08-09 05:26:12docker swarm join --token SWMTKN-1-5rq2l862xanlly2iau1vmq5hv38zf0i5twm1by8m7xdb472w3n-ej538pilw4urpbgb4pcx
lov9g 192.168.1.7:2377
211 2024-08-09 05:26:12docker info
212 2024-08-09 05:26:12docker machine --help
213 2024-08-09 05:26:12docker machine --version
214 2024-08-09 05:26:12docker-machine create -d virtualbox node1
215 2024-08-09 05:26:12snap install docker
216 2024-08-09 05:26:12docker-machine create -d virtualbox node1
217 2024-08-09 05:26:12ssh node2
218 2024-08-09 05:26:12docker swarm join-token worker
219 2024-08-09 05:26:12docker swarm join
220 2024-08-09 05:26:12clear
221 2024-08-09 05:26:12docker swarm init
222 2024-08-09 05:26:12docker node ls
223 2024-08-09 05:26:12docker swarm leave
224 2024-08-09 05:26:12docker swarm leave --force
225 2024-08-09 05:26:12docker node ls
226 2024-08-09 05:26:12docker swarm join
227 2024-08-09 05:26:12docker swarm join --token SWMTKN-1-5rq2l862xanlly2iau1vmq5hv38zf0i5twm1vy8m7xdb472w3n-ej538pilw4urpbgb4pcx
lov9g 192.168.1.7:2377
228 2024-08-09 05:26:12docker info
229 2024-08-09 05:26:12exit
230 2024-08-09 05:26:12docker node ls
231 2024-08-09 05:26:12docker swarm join --token SWMTKN-1-5zauy2qsxxaj8608ifuov2wwwfmmu0go25jg7ap3i6ywwa-032ujhg29emlicizdqnx676
```



```
Activities Terminal жкп 9 05:29 root@lab: /home/cru
219 2024-08-09 05:26:12docker swarm join
220 2024-08-09 05:26:12clear
221 2024-08-09 05:26:12docker swarm init
222 2024-08-09 05:26:12docker node ls
223 2024-08-09 05:26:12docker swarm leave
224 2024-08-09 05:26:12docker swarm leave --force
225 2024-08-09 05:26:12docker node ls
226 2024-08-09 05:26:12docker swarm join
227 2024-08-09 05:26:12docker swarm join --token SWMTKN-1-5rq2l862xanlly2iau1vmq5hv38zfo15twm1vy8m7xdb472w3n-ej538pilw4urpbggb4pcx
lov9g 192.168.1.7:2377
228 2024-08-09 05:26:12docker info
229 2024-08-09 05:26:12exit
230 2024-08-09 05:26:12docker node ls
231 2024-08-09 05:26:12docker swarm join --token SWMTKN-1-5zauy2qsxxaj8608ifuov2wwwfmmu0go25jg7ap3i6ywza-032ujhg29emlicizdqnxy676
9 192.168.56.7:2377
232 2024-08-09 05:26:12ping 192.168.56.7
233 2024-08-09 05:26:12clear
234 2024-08-09 05:26:12docker swarm join --token SWMTKN-1-5zauy2qsxxaj8608ifuov2wwwfmmu0go25jg7ap3i6ywza-032ujhg29emlicizdqnxy67
69 192.168.56.7:2377
235 2024-08-09 05:26:12docker swarm join --token SWMTKN-1-5zauy2qsxxaj86u6408ifuov2wwwfmmu0go25jg7ap3i6ywza-032ujhg29emlicizdqnxy
6769 192.168.56.7:2377
236 2024-08-09 05:26:12docker swarm join --token SWMTKN-1-5zauy2qsxxaj86u6408ifuov2wwwfmmu0go25jg7ap3i6ywza-032ujhg29emlicizdqnxy
y6769 192.168.56.7:2377
237 2024-08-09 05:26:12exit
238 2024-08-09 05:26:12docker node ls
239 2024-08-09 05:26:12exit
240 2024-08-09 05:26:12ping 192.168.56.7
241 2024-08-09 05:26:12ping 192.168.56.8
242 2024-08-09 05:26:12history
243 2024-08-09 05:26:12docker node ls
244 2024-08-09 05:26:12exit
245 2024-08-09 05:26:12touch docker-compose.yml
246 2024-08-09 05:26:12docker ps
247 2024-08-09 05:26:12ping 192.168.56.7
248 2024-08-09 05:26:12ping 192.168.56.9
249 2024-08-09 05:26:12docker stack ls
250 2024-08-09 05:26:12exit
251 2024-08-09 05:26:41export HISTTIMEFORMAT='%F %T'
252 2024-08-09 05:26:46history
root@lab: /home/cru#
```

PROD. 192.168.56.9. Worker.

```
Activities Terminal жкп 9 05:20 root@prod: /home/cru
297 ping 192.168.56.8
298 exit
299 history
root@prod: /home/cru# export HISTTIMEFORMAT='%F %T'
root@prod: /home/cru# history
1 2024-08-09 05:15:28cp bin/bash gb/bin
2 2024-08-09 05:15:28cp /bin/bash gb/bin
3 2024-08-09 05:15:28chroot gb
4 2024-08-09 05:15:28ldd /bin/bash
5 2024-08-09 05:15:28mkdir gb/lib
6 2024-08-09 05:15:28mkdir gb/lib64
7 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libinfo.so.6 gb/lib
8 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libtinfo.so.6 gb/lib
9 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libc.so.6 gb/lib
10 2024-08-09 05:15:28cp /lib64/ld-linux-x86-64.so.2 gb/lib64
11 2024-08-09 05:15:28chroot gb
12 2024-08-09 05:15:28exit
13 2024-08-09 05:15:28ip a
14 2024-08-09 05:15:28exit
15 2024-08-09 05:15:28mkdir cru_test
16 2024-08-09 05:15:28mkdir cru_test/bin
17 2024-08-09 05:15:28cp /bin/bash cru_test/bin
18 2024-08-09 05:15:28ldd /bin/bash
19 2024-08-09 05:15:28mkdir cru_test/lib
20 2024-08-09 05:15:28mkdir cru_test/lib64
21 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_test/lib
22 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_test/lib
23 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libc.so.6 cru_test/lib
24 2024-08-09 05:15:28cp /lib64/ld-linux-x86-64.so.2 cru_test/lib64
25 2024-08-09 05:15:28chroot cru_test/
26 2024-08-09 05:15:28cp /bin/ls cru_test/bin
27 2024-08-09 05:15:28ldd /bin/ls
28 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_test/lib
29 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_test/lib
30 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libpcre2-8.so.0 cru_test/lib
31 2024-08-09 05:15:28chroot cru_test/
32 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_test/lib
33 2024-08-09 05:15:28chroot cru_test/
34 2024-08-09 05:15:28ls -l /proc/$$/ns
35 2024-08-09 05:15:28lsns
```



```
Activities Terminal жкп 9 05:21 root@prod: /home/cru
34 2024-08-09 05:15:28ls -l /proc/$$/ns
35 2024-08-09 05:15:28lsns
36 2024-08-09 05:15:28man unshare
37 2024-08-09 05:15:28ip netns list
38 2024-08-09 05:15:28ip netns add testns
39 2024-08-09 05:15:28ip netns list
40 2024-08-09 05:15:28ip netns exec testns bash
41 2024-08-09 05:15:28ip a
42 2024-08-09 05:15:28clear
43 2024-08-09 05:15:28exit
44 2024-08-09 05:15:28ip a
45 2024-08-09 05:15:28exit
46 2024-08-09 05:15:28ip netns add testns
47 2024-08-09 05:15:28ip netns exec testns bash
48 2024-08-09 05:15:28exit
49 2024-08-09 05:15:28ip link add veth0 type veth peer veth1
50 2024-08-09 05:15:28ip link add veth1 netns cru_test
51 2024-08-09 05:15:28ip link set veth1 netns cru_test
52 2024-08-09 05:15:28ip link set veth1 netns testns
53 2024-08-09 05:15:28clear
54 2024-08-09 05:15:28ip link set veth1 netns cru
55 2024-08-09 05:15:28ip link add veth0 type veth peer veth1
56 2024-08-09 05:15:28ip link set veth1 netns cru_test
57 2024-08-09 05:15:28ip link set veth1 netns testns
58 2024-08-09 05:15:28ip a
59 2024-08-09 05:15:28clear
60 2024-08-09 05:15:28ip a
61 2024-08-09 05:15:28ip addr add 10.0.0.1/24 dev veth0
62 2024-08-09 05:15:28ip a
63 2024-08-09 05:15:28ip link set dev veth0 up
64 2024-08-09 05:15:28ip a
65 2024-08-09 05:15:28clear
66 2024-08-09 05:15:28ip link add veth0 type veth peer name veth1
67 2024-08-09 05:15:28ip link add veth0 type veth peer name veth1
68 2024-08-09 05:15:28clear
69 2024-08-09 05:15:28ip link add veth0 type veth peer name veth1
70 2024-08-09 05:15:28ip link add veth0 type veth peer name veth2
71 2024-08-09 05:15:28ip link set veth1 netns testns
72 2024-08-09 05:15:28mc
73 2024-08-09 05:15:28ip link set veth1 netns cru
```

```
Activities Terminal жкп 9 05:22 root@prod: /home/cru
73 2024-08-09 05:15:28ip link set veth1 netns cru
74 2024-08-09 05:15:28ip link list
75 2024-08-09 05:15:28netns list
76 2024-08-09 05:15:28lsns
77 2024-08-09 05:15:28ip link add veth1 peer name veth1
78 2024-08-09 05:15:28ip link add veth0 peer name veth1
79 2024-08-09 05:15:28clear
80 2024-08-09 05:15:28ip link add veth0 type veth peer name veth1
81 2024-08-09 05:15:28ip link set veth1 netns coke
82 2024-08-09 05:15:28lsns
83 2024-08-09 05:15:28ls -l /proc/$$/ns
84 2024-08-09 05:15:28chroot cru_test
85 2024-08-09 05:15:28mc
86 2024-08-09 05:15:28chroot cru_test
87 2024-08-09 05:15:28unshare --pid --net --fork --mount-poc /bin/bash
88 2024-08-09 05:15:28unshare --pid --net --fork --mount-proc /bin/bash
89 2024-08-09 05:15:28exit
90 2024-08-09 05:15:28ip netns exec testns bash
91 2024-08-09 05:15:28ip netns exec cru_test bash
92 2024-08-09 05:15:28./lib64
93 2024-08-09 05:15:28mkdir cru_home_work_1
94 2024-08-09 05:15:28mkdir cru_home_work_1/bin
95 2024-08-09 05:15:28cp /bin/bash cru_home_work_1/bin
96 2024-08-09 05:15:28ldd /bin/bash
97 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
98 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
99 2024-08-09 05:15:28cp /lib64/ld-linux-x86-64.so.2 cru_home_work_1/lib64
100 2024-08-09 05:15:28cp /bin/ls cru_home_work_1/bin
101 2024-08-09 05:15:28ldd /bin/ls
102 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_home_work_1/lib
103 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libpcre2-8.so.0 cru_home_work_1/lib
104 2024-08-09 05:15:28chroot cru_homework_1
105 2024-08-09 05:15:28clear
106 2024-08-09 05:15:28mkdir cru_work_1
107 2024-08-09 05:15:28mkdir cru_work_1/bin
108 2024-08-09 05:15:28cp /bin/bash cru_work_1/bin
109 2024-08-09 05:15:28ldd /bin/bash
110 2024-08-09 05:15:28mkdir cru_work_1/lib
111 2024-08-09 05:15:28mkdir cru_work_1/lib64
112 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
113 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
```



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Activities Terminal жнй 9 05:22 root@prod: /home/cru
111 2024-08-09 05:15:28mkdir cru_work_1/lib64
112 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
113 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
114 2024-08-09 05:15:28cp /lib64/ld-linux-x86-64.so.2 cru_home_work_1/lib64
115 2024-08-09 05:15:28cp /bin/ls cru_home_work_1/bin
116 2024-08-09 05:15:28ldd /bin/ls
117 2024-08-09 05:15:28clear
118 2024-08-09 05:15:28mkdir cru-10
119 2024-08-09 05:15:28clear
120 2024-08-09 05:15:28mkdir cru_home_work_1
121 2024-08-09 05:15:28mkdir cru_home_work_1/bin
122 2024-08-09 05:15:28cp /bin/bash cru_home_work_1/bin
123 2024-08-09 05:15:28ldd /bin/bash
124 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
125 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
126 2024-08-09 05:15:28cp /lib64/ld-linux-x86-64.so.2 cru_home_work_1/lib64
127 2024-08-09 05:15:28cp /bin/ls cru_home_work_1/bin
128 2024-08-09 05:15:28ldd /bin/ls
129 2024-08-09 05:15:28clear
130 2024-08-09 05:15:28mkdir cru_home_work_1
131 2024-08-09 05:15:28mkdir cru_home_work_1/bin
132 2024-08-09 05:15:28cp /bin/bash cru_home_work_1/bin
133 2024-08-09 05:15:28ldd /bin/bash
134 2024-08-09 05:15:28mkdir cru_home_work/lib
135 2024-08-09 05:15:28clear
136 2024-08-09 05:15:28mkdir cru_home_work_1
137 2024-08-09 05:15:28xlear
138 2024-08-09 05:15:28clear
139 2024-08-09 05:15:28mkdir cru_home_work_1
140 2024-08-09 05:15:28mkdir cru_home_work_1/bin
141 2024-08-09 05:15:28cp /bin/bash cru_home_work_1/bin
142 2024-08-09 05:15:28ldd /bin/bash
143 2024-08-09 05:15:28mkdir cru_home_work_1/lib
144 2024-08-09 05:15:28mkdir cru_home_work_1/lib64
145 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libtinfo.so.6 cru_home_work_1/lib
146 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libc.so.6 cru_home_work_1/lib
147 2024-08-09 05:15:28cp /lib64/ld-linux-x86-64.so.2 cru_home_work_1/lib64
148 2024-08-09 05:15:28cp /bin/ls cru_home_work_1/bin
149 2024-08-09 05:15:28ldd /bin/ls
150 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libselinux.so.1 cru_home_work_1/lib
```

```
Activities Terminal жнй 9 05:23 root@prod: /home/cru
151 2024-08-09 05:15:28cp /lib/x86_64-linux-gnu/libpcr2-8.so.0 cru_home_work_1/lib
152 2024-08-09 05:15:28chroot cru_home_work_1
153 2024-08-09 05:15:28mc
154 2024-08-09 05:15:28chroot cru_home_work_1
155 2024-08-09 05:15:28ip a
156 2024-08-09 05:15:28exit
157 2024-08-09 05:15:28ip a
158 2024-08-09 05:15:28clear
159 2024-08-09 05:15:28ip link add veth0 type veth peer veth1
160 2024-08-09 05:15:28ip link set veth1 netns cruns
161 2024-08-09 05:15:28ip a
162 2024-08-09 05:15:28ip addr add 10.0.0.1/24 dev veth0
163 2024-08-09 05:15:28ip a
164 2024-08-09 05:15:28ip link set dev veth0 up
165 2024-08-09 05:15:28ip a
166 2024-08-09 05:15:28ping 10.0.0.2
167 2024-08-09 05:15:28clear
168 2024-08-09 05:15:28ip netns list
169 2024-08-09 05:15:28ip netns add cruns
170 2024-08-09 05:15:28ip netns exec cruns bash
171 2024-08-09 05:15:28ip a
172 2024-08-09 05:15:28clear
173 2024-08-09 05:15:28ip link add virt0 type veth peer name virt1
174 2024-08-09 05:15:28ip addr add 10.0.0.1/24 dev virt0
175 2024-08-09 05:15:28ip addr add 10.0.0.2/24 dev virt1
176 2024-08-09 05:15:28ip link set virt1 netns cru
177 2024-08-09 05:15:28history
178 2024-08-09 05:15:28unshare --pid --net --fork --mount-poc /bin/bash
179 2024-08-09 05:15:28chroot cru_home_work_1
180 2024-08-09 05:15:28ip netns list
181 2024-08-09 05:15:28ip netns exec cruns bash
182 2024-08-09 05:15:28mkdir /sys/fs/cgroup/testgroup1
183 2024-08-09 05:15:28ls /sys/fs/cgroup/testgroup1
184 2024-08-09 05:15:28cat /sys/fs/cgroup/testgroup1/cpu
185 2024-08-09 05:15:28cat /sys/fs/cgroup/testgroup1/cpu.stat
186 2024-08-09 05:15:28cat /proc/$$/status | grep 'allowed'
187 2024-08-09 05:15:28clear
188 2024-08-09 05:15:28lxc-create -n test123 -t ubuntu -f usr/share/doc/lxc/examples/lxc-veth.conf
189 2024-08-09 05:15:28apt update
190 2024-08-09 05:15:28apt install lxc-utils
```



```
Activities Terminal жкН 9 05:23 root@prod: /home/cru
191 2024-08-09 05:15:28lxc-create -n test123 -t ubuntu -f usr/share/doc/lxc/examples/lxc-veth.conf
192 2024-08-09 05:15:28lxc-start -d -n test123
193 2024-08-09 05:15:28clear
194 2024-08-09 05:15:28lxc-create --name=con1 --template=ubuntu
195 2024-08-09 05:15:28lxc-attach -n test123
196 2024-08-09 05:15:28clear
197 2024-08-09 05:15:28exit
198 2024-08-09 05:15:28mc
199 2024-08-09 05:15:28iptables -I INPUT -p tcp --dport 2376 -j ACCEPT
200 2024-08-09 05:15:28iptables -I INPUT -p tcp --dport 7946 -j ACCEPT
201 2024-08-09 05:15:28iptables -I INPUT -p udp --dport 7946 -j ACCEPT
202 2024-08-09 05:15:28iptables -I INPUT -p udp --dport 4789 -j ACCEPT
203 2024-08-09 05:15:28clear
204 2024-08-09 05:15:28docker swarm join --token SWMTKN-1-5rq2l862xanlly2iau1vmq5hv38zf0i5twm1by8m7xdb472w3n-ej538pilw4urpbgb4pc
xlov9g 192.168.1.7:2377
205 2024-08-09 05:15:28apt update
206 2024-08-09 05:15:28apt install docker.io
207 2024-08-09 05:15:28clear
208 2024-08-09 05:15:28docker swarm join --token SWMTKN-1-5rq2l862xanlly2iau1vmq5hv38zf0i5twm1by8m7xdb472w3n-ej538pilw4urpbgb4pc
xlov9g 192.168.1.7:2377
209 2024-08-09 05:15:28docker swarm join --token SWMTKN-1-5rq2l862xanlly2iau1vmq5hv38zf0i5twm1by8m7xdb472w3n-ej538pilw4urpbgb4pc
xlov9g
210 2024-08-09 05:15:28docker swarm join --token SWMTKN-1-5rq2l862xanlly2iau1vmq5hv38zf0i5twm1by8m7xdb472w3n-ej538pilw4urpbgb4pcx
lov9g 192.168.1.7:2377
211 2024-08-09 05:15:28docker info
212 2024-08-09 05:15:28docker machine --help
213 2024-08-09 05:15:28docker machine --version
214 2024-08-09 05:15:28docker-machine create -d virtualbox node1
215 2024-08-09 05:15:28snap install docker
216 2024-08-09 05:15:28docker-machine create -d virtualbox node1
217 2024-08-09 05:15:28ssh node2
218 2024-08-09 05:15:28docker swarm join-token worker
219 2024-08-09 05:15:28docker swarm join
220 2024-08-09 05:15:28clear
221 2024-08-09 05:15:28docker swarm init
222 2024-08-09 05:15:28docker node ls
223 2024-08-09 05:15:28docker swarm leave
224 2024-08-09 05:15:28docker swarm leave --force
225 2024-08-09 05:15:28docker node ls
226 2024-08-09 05:15:28docker swarm join
```

```
Activities Terminal жкН 9 05:24 root@prod: /home/cru
227 2024-08-09 05:15:28docker swarm join --token SWMTKN-1-5rq2l862xanlly2iau1vmq5hv38zf0i5twm1vy8m7xdb472w3n-ej538pilw4urpbgb4pcx
lov9g 192.168.1.7:2377
228 2024-08-09 05:15:28docker info
229 2024-08-09 05:15:28exit
230 2024-08-09 05:15:28docker node ls
231 2024-08-09 05:15:28docker swarm join --token SWMTKN-1-5zauy2qsxxaj8608ifuov2wwwfmmu0go25jg7ap3i6ywza-032ujhg29emlicizdqnx676
9 192.168.56.7:2377
232 2024-08-09 05:15:28ping 192.168.56.7
233 2024-08-09 05:15:28clear
234 2024-08-09 05:15:28docker swarm join --token SWMTKN-1-5zauy2qsxxaj8608ifuov2wwwfmmu0go25jg7ap3i6ywza-032ujhg29emlicizdqnx67
69 192.168.56.7:2377
235 2024-08-09 05:15:28docker swarm join --token SWMTKN-1-5zauy2qsxxaj86u6408ifuov2wwwfmmu0go25jg7ap3i6ywza-032ujhg29emlicizdqnx
6769 192.168.56.7:2377
236 2024-08-09 05:15:28docker swarm join --token SWMTKN-1-5zauy2qsxxaj86u6408ifuov2wwwfmmu0go25jg7ap3i6ywza-032ujhg29emlicizdqnx
y6769 192.168.56.7:2377
237 2024-08-09 05:15:28exit
238 2024-08-09 05:15:28docker node ls
239 2024-08-09 05:15:28exit
240 2024-08-09 05:15:28ping 192.168.56.7
241 2024-08-09 05:15:28ping 192.168.56.8
242 2024-08-09 05:15:28history
243 2024-08-09 05:15:28docker node ls
244 2024-08-09 05:15:28exit
245 2024-08-09 05:15:28ip a
246 2024-08-09 05:15:28docker swarm join --token SWMTKN-1-5zauy2qsxxaj86u6408ifuov2wwwfmmu0go25jg7ap3i6ywza-032ujhg29emlicizdqnx
y6769 192.168.56.7:2377
247 2024-08-09 05:15:28docker swarm leave
248 2024-08-09 05:15:28docker swarm join --token SWMTKN-1-5zauy2qsxxaj86u6408ifuov2wwwfmmu0go25jg7ap3i6ywza-032ujhg29emlicizdqnx
y6769 192.168.56.7:2377
249 2024-08-09 05:15:28mkdir work_4
250 2024-08-09 05:15:28cd work_4/
251 2024-08-09 05:15:28ls
252 2024-08-09 05:15:28touch docker-compose.yml
253 2024-08-09 05:15:28nano docker-compose.yml
254 2024-08-09 05:15:28docker-cjmpose up -d
255 2024-08-09 05:15:28docker-compose up -d
256 2024-08-09 05:15:28nano docker-compose.yml
257 2024-08-09 05:15:28docker-compose up -d
258 2024-08-09 05:15:28mc
259 2024-08-09 05:15:28docker-compose up -d
```



```
Activities Terminal жкН 9 05:24 root@prod: /home/cru
260 2024-08-09 05:15:28docker ps
261 2024-08-09 05:15:28docker info
262 2024-08-09 05:15:28docker ps
263 2024-08-09 05:15:28docker node ls
264 2024-08-09 05:15:28docker-compose stop
265 2024-08-09 05:15:28aaa-remove-unknown
266 2024-08-09 05:15:28docker-compose stop
267 2024-08-09 05:15:28docker node ls
268 2024-08-09 05:15:28docker-compose up -d
269 2024-08-09 05:15:28docker images
270 2024-08-09 05:15:28docker kill $(docker ps -q)
271 2024-08-09 05:15:28docker-compose up -d
272 2024-08-09 05:15:28apt install docker-compose -y
273 2024-08-09 05:15:28docker-compose up -d
274 2024-08-09 05:15:28snap install docker-compose
275 2024-08-09 05:15:28snap install docker
276 2024-08-09 05:15:28docker-compose up -d
277 2024-08-09 05:15:28snap refresh
278 2024-08-09 05:15:28docker-compose up -d
279 2024-08-09 05:15:28snap refresh core --ignore-validation
280 2024-08-09 05:15:28docker-compose up -d
281 2024-08-09 05:15:28exit
282 2024-08-09 05:15:28docker images
283 2024-08-09 05:15:28docker ps
284 2024-08-09 05:15:28docker-compose stop
285 2024-08-09 05:15:28cd work_4/
286 2024-08-09 05:15:28docker-compose stop
287 2024-08-09 05:15:28aaa-remove-unknown
288 2024-08-09 05:15:28docker-compose stop
289 2024-08-09 05:15:28docker-compose up -d
290 2024-08-09 05:15:28docker ps
291 2024-08-09 05:15:28ping 192.168.56.7
292 2024-08-09 05:15:28ping 192.168.56.8
293 2024-08-09 05:15:28ip
294 2024-08-09 05:15:28clear
295 2024-08-09 05:15:28docker ps
296 2024-08-09 05:15:28ping 192.168.56.7
297 2024-08-09 05:15:28ping 192.168.56.8
298 2024-08-09 05:15:28exit
299 2024-08-09 05:15:34history
```

```
Activities Terminal жкН 9 05:24 root@prod: /home/cru
263 2024-08-09 05:15:28docker node ls
264 2024-08-09 05:15:28docker-compose stop
265 2024-08-09 05:15:28aaa-remove-unknown
266 2024-08-09 05:15:28docker-compose stop
267 2024-08-09 05:15:28docker node ls
268 2024-08-09 05:15:28docker-compose up -d
Files 2024-08-09 05:15:28docker images
2024-08-09 05:15:28docker kill $(docker ps -q)
271 2024-08-09 05:15:28docker-compose up -d
272 2024-08-09 05:15:28apt install docker-compose -y
273 2024-08-09 05:15:28docker-compose up -d
274 2024-08-09 05:15:28snap install docker-compose
275 2024-08-09 05:15:28snap install docker
276 2024-08-09 05:15:28docker-compose up -d
277 2024-08-09 05:15:28snap refresh
278 2024-08-09 05:15:28docker-compose up -d
279 2024-08-09 05:15:28snap refresh core --ignore-validation
280 2024-08-09 05:15:28docker-compose up -d
281 2024-08-09 05:15:28exit
282 2024-08-09 05:15:28docker images
283 2024-08-09 05:15:28docker ps
284 2024-08-09 05:15:28docker-compose stop
285 2024-08-09 05:15:28cd work_4/
286 2024-08-09 05:15:28docker-compose stop
287 2024-08-09 05:15:28aaa-remove-unknown
288 2024-08-09 05:15:28docker-compose stop
289 2024-08-09 05:15:28docker-compose up -d
290 2024-08-09 05:15:28docker ps
291 2024-08-09 05:15:28ping 192.168.56.7
292 2024-08-09 05:15:28ping 192.168.56.8
293 2024-08-09 05:15:28ip
294 2024-08-09 05:15:28clear
295 2024-08-09 05:15:28docker ps
296 2024-08-09 05:15:28ping 192.168.56.7
297 2024-08-09 05:15:28ping 192.168.56.8
298 2024-08-09 05:15:28exit
299 2024-08-09 05:15:34history
300 2024-08-09 05:19:57export HISTTIMEFORMAT='%F %T'
301 2024-08-09 05:20:03history
root@prod:/home/cru#
```