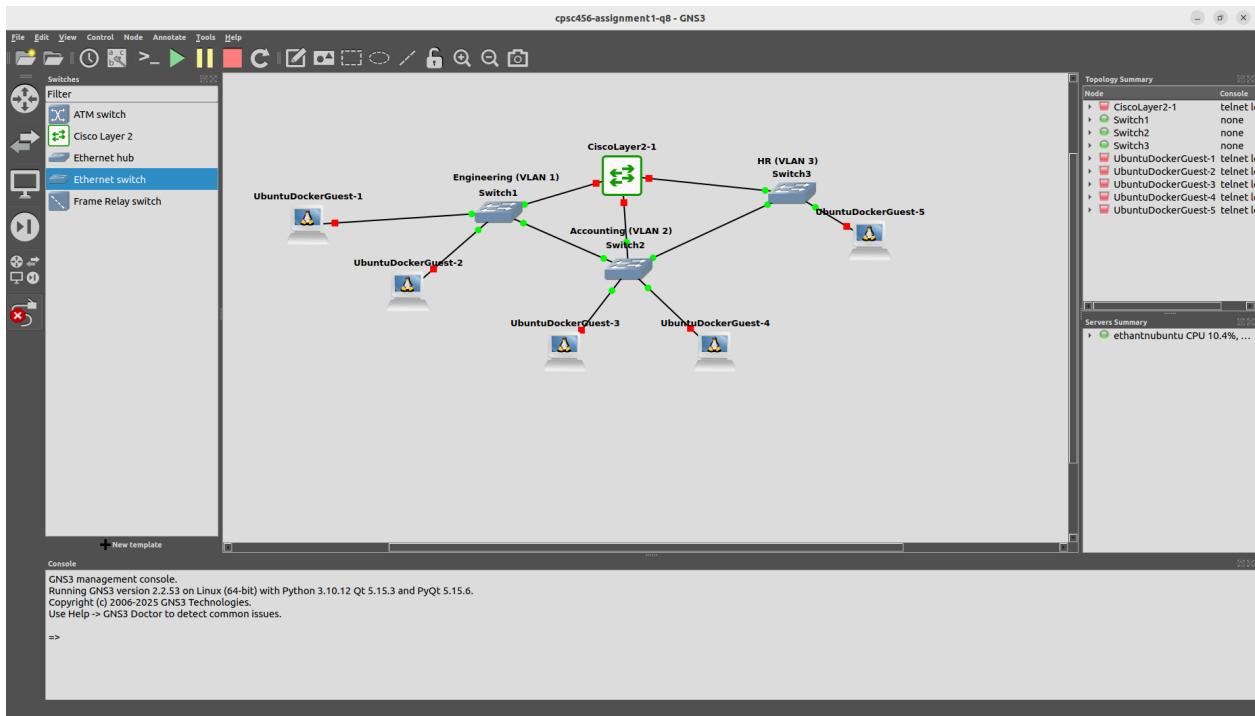


GNS3 topology



Engineering (VLAN 10) configuration.

```
root@UbuntuDockerGuest-1:~# nano /etc/network/interfaces *
# This is a sample network config, please uncomment lines to config#
#
# Uncomment this line to load custom interface files
# source /etc/network/interfaces.d/*
#
# Static config for eth0
auto eth0
iface eth0 inet static
    address 192.168.10.2
    netmask 255.255.255.0
    #
    gateway 192.168.0.1
    #
    up echo nameserver 192.168.0.1 > /etc/resolv.conf

# DHCP config for eth0
#auto eth0
#iface eth0 inet dhcp

root@UbuntuDockerGuest-2:~# nano /etc/network/interfaces *
# This is a sample network config, please uncomment lines to config#
#
# Uncomment this line to load custom interface files
# source /etc/network/interfaces.d/*
#
# Static config for eth0
auto eth0
iface eth0 inet static
    address 192.168.10.3
    netmask 255.255.255.0
    #
    gateway 192.168.0.1
    #
    up echo nameserver 192.168.0.1 > /etc/resolv.conf

# DHCP config for eth0
#auto eth0
#iface eth0 inet dhcp
```

Accounting (VLAN 20) configuration.

```

root@UbuntuDockerGuest-3: ~
GNU nano 7.2      /etc/network/interfaces *
#
# This is a sample network config, please uncomment lines to configure the interfaces
#
# Uncomment this line to load custom interface files
# source /etc/network/interfaces.d/*
#
# Static config for eth0
auto eth0
iface eth0 inet static
    address 192.168.20.2
    netmask 255.255.255.0
    gateway 192.168.0.1
    up echo nameserver 192.168.0.1 > /etc/resolv.conf

# DHCP config for eth0
#auto eth0
#iface eth0 inet dhcp

^G Help      ^O Write Out   ^W Where Is   ^K Cut       ^T Execute
^X Exit      ^R Read File   ^P Replace    ^U Paste     ^J Justify

root@UbuntuDockerGuest-4: ~
GNU nano 7.2      /etc/network/interfaces *
#
# This is a sample network config, please uncomment lines to configure the interfaces
#
# Uncomment this line to load custom interface files
# source /etc/network/interfaces.d/*
#
# Static config for eth0
auto eth0
iface eth0 inet static
    address 192.168.20.3
    netmask 255.255.255.0
    gateway 192.168.0.1
    up echo nameserver 192.168.0.1 > /etc/resolv.conf

# DHCP config for eth0
#auto eth0
#iface eth0 inet dhcp

^G Help      ^O Write Out   ^W Where Is   ^K Cut       ^T Execute
^X Exit      ^R Read File   ^P Replace    ^U Paste     ^J Justify

```

HR (VLAN 30) configuration.

```

root@UbuntuDockerGuest-5: ~
GNU nano 7.2      /etc/network/interfaces
#
# This is a sample network config, please uncomment lines to configure the interfaces
#
# Uncomment this line to load custom interface files
# source /etc/network/interfaces.d/*
#
# Static config for eth0
auto eth0
iface eth0 inet static
    address 192.168.30.2
    netmask 255.255.255.0
    gateway 192.168.0.1
    up echo nameserver 192.168.0.1 > /etc/resolv.conf

# DHCP config for eth0
#auto eth0
#iface eth0 inet dhcp
#    hostname UbuntuDockerGuest-5

[ Read 19 lines ]
^G Help      ^O Write Out   ^W Where Is   ^K Cut       ^T Execute
^X Exit      ^R Read File   ^P Replace    ^U Paste     ^J Justify

```

Reset and checked IPs for hosts in VLAN 10

```

root@UbuntuDockerGuest-1: ~
Connected to localhost.
Escape character is ']'.
UbuntuDockerGuest-1 console is now available... Press RETURN to get started.
root@UbuntuDockerGuest-1:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
    inet 192.168.10.2  netmask 255.255.255.0  broadcast 0.0.0.0
        ether 02:42:1c:18:33:00  txqueuelen 1000  (Ethernet)
            RX packets 115  bytes 18049 (18.0 KB)
            RX errors 0  dropped 4  overruns 0  frame 0
            TX packets 10  bytes 796 (796.0 B)
            TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

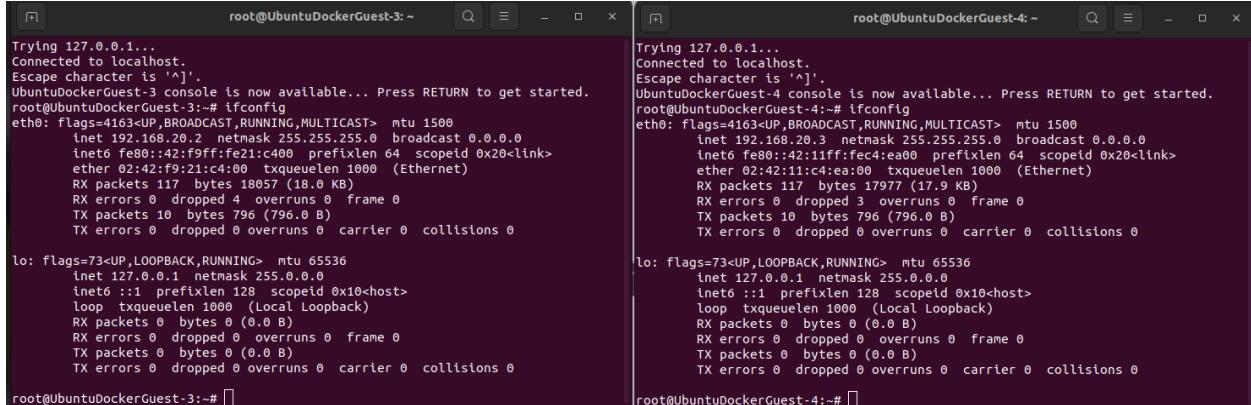
lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
    inet 127.0.0.1  netmask 255.0.0.0
        loop  txqueuelen 1000  (Local Loopback)
            RX packets 0  bytes 0 (0.0 B)
            RX errors 0  dropped 0  overruns 0  frame 0
            TX packets 0  bytes 0 (0.0 B)
            TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

root@UbuntuDockerGuest-2: ~
Connected to localhost.
Escape character is '^].
UbuntuDockerGuest-2 console is now available... Press RETURN to get started.
root@UbuntuDockerGuest-2:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
    inet 192.168.10.3  netmask 255.255.255.0  broadcast 0.0.0.0
        ether 02:42:f3ff:fe97:8c00  txqueuelen 1000  (Ethernet)
            RX packets 118  bytes 18259 (18.2 KB)
            RX errors 0  dropped 3  overruns 0  frame 0
            TX packets 10  bytes 796 (796.0 B)
            TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
    inet 127.0.0.1  netmask 255.0.0.0
        loop  txqueuelen 1000  (Local Loopback)
            RX packets 0  bytes 0 (0.0 B)
            RX errors 0  dropped 0  overruns 0  frame 0
            TX packets 0  bytes 0 (0.0 B)
            TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

```

Reset and checked IPS for hosts in VLAN 20

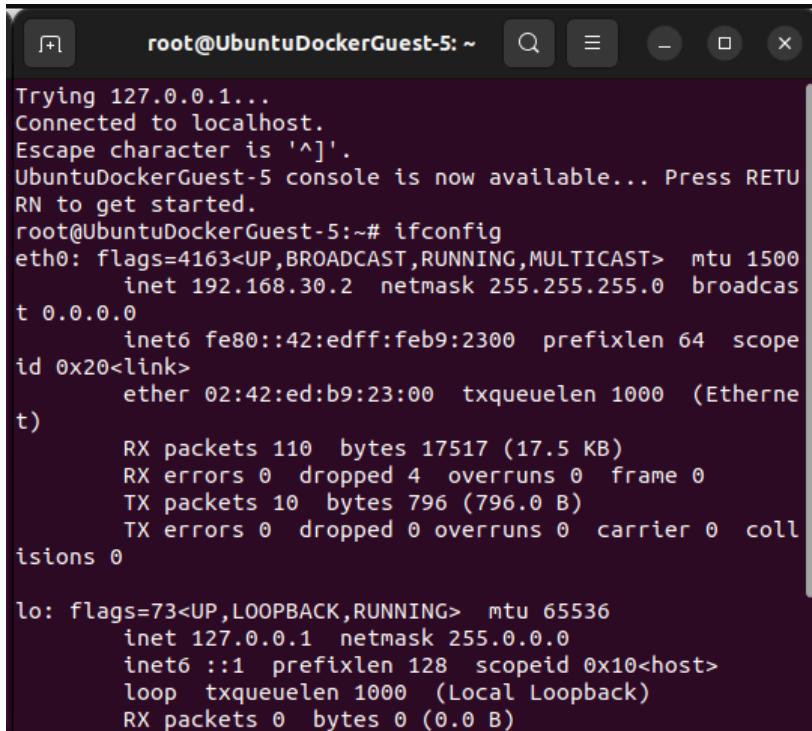


The image shows two terminal windows side-by-side. Both windows are titled "root@UbuntuDockerGuest-3: ~" and "root@UbuntuDockerGuest-4: ~". Each window displays the output of the "ifconfig" command. The output shows two interfaces: eth0 and lo. The eth0 interface has an IP of 192.168.20.2 and the lo interface has an IP of 127.0.0.1. The output includes statistics for RX and TX packets, errors, and collisions.

```
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^].
UbuntuDockerGuest-3 console is now available... Press RETURN to get started.
root@UbuntuDockerGuest-3:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.20.2 netmask 255.255.255.0 broadcast 0.0.0.0
        inet6 fe80::42:f9ff:fe21:c400 prefixlen 64 scopeid 0x20<link>
            ether 02:42:f9:21:c4:00 txqueuelen 1000 (Ethernet)
            RX packets 117 bytes 18957 (18.0 KB)
            RX errors 0 dropped 4 overruns 0 frame 0
            TX packets 10 bytes 796 (796.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
            loop txqueuelen 1000 (Local Loopback)
            RX packets 0 bytes 0 (0.0 B)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 0 bytes 0 (0.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
root@UbuntuDockerGuest-3:~# [REDACTED]

Trying 127.0.0.1...
Connected to localhost.
Escape character is '^].
UbuntuDockerGuest-4 console is now available... Press RETURN to get started.
root@UbuntuDockerGuest-4:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.20.3 netmask 255.255.255.0 broadcast 0.0.0.0
        inet6 fe80::42:11ff:fe4:ea00 prefixlen 64 scopeid 0x20<link>
            ether 02:42:11:c4:ea:00 txqueuelen 1000 (Ethernet)
            RX packets 117 bytes 17977 (17.9 KB)
            RX errors 0 dropped 3 overruns 0 frame 0
            TX packets 10 bytes 796 (796.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
            loop txqueuelen 1000 (Local Loopback)
            RX packets 0 bytes 0 (0.0 B)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 0 bytes 0 (0.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
root@UbuntuDockerGuest-4:~# [REDACTED]
```

Reset and checked IPS for hosts in VLAN 30



The image shows a single terminal window titled "root@UbuntuDockerGuest-5: ~". It displays the output of the "ifconfig" command. The output shows two interfaces: eth0 and lo. The eth0 interface has an IP of 192.168.30.2 and the lo interface has an IP of 127.0.0.1. The output includes statistics for RX and TX packets, errors, and collisions.

```
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^].
UbuntuDockerGuest-5 console is now available... Press RETU
RN to get started.
root@UbuntuDockerGuest-5:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.30.2 netmask 255.255.255.0 broadcast
t 0.0.0.0
        inet6 fe80::42:edff:feb9:2300 prefixlen 64 scope
id 0x20<link>
            ether 02:42:ed:b9:23:00 txqueuelen 1000 (Etherne
t)
            RX packets 110 bytes 17517 (17.5 KB)
            RX errors 0 dropped 4 overruns 0 frame 0
            TX packets 10 bytes 796 (796.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 coll
isions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
            loop txqueuelen 1000 (Local Loopback)
            RX packets 0 bytes 0 (0.0 B)
```

Ping from 192.168.10.2 to 192.168.10.3

```

root@UbuntuDockerGuest-1:~# ifconfig
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 0 bytes 0 (0.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 0 bytes 0 (0.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@UbuntuDockerGuest-1:~# ping 192.168.10.3
PING 192.168.10.3 (192.168.10.3) 56(84) bytes of data.
64 bytes from 192.168.10.3: icmp_seq=1 ttl=64 time=2.12 ms
64 bytes from 192.168.10.3: icmp_seq=2 ttl=64 time=0.531 ms
64 bytes from 192.168.10.3: icmp_seq=3 ttl=64 time=0.506 ms
64 bytes from 192.168.10.3: icmp_seq=4 ttl=64 time=0.466 ms
64 bytes from 192.168.10.3: icmp_seq=5 ttl=64 time=0.525 ms
64 bytes from 192.168.10.3: icmp_seq=6 ttl=64 time=0.331 ms
64 bytes from 192.168.10.3: icmp_seq=7 ttl=64 time=0.476 ms
64 bytes from 192.168.10.3: icmp_seq=8 ttl=64 time=0.515 ms
64 bytes from 192.168.10.3: icmp_seq=9 ttl=64 time=0.514 ms
64 bytes from 192.168.10.3: icmp_seq=10 ttl=64 time=0.447 ms
64 bytes from 192.168.10.3: icmp_seq=11 ttl=64 time=0.576 ms
64 bytes from 192.168.10.3: icmp_seq=12 ttl=64 time=0.456 ms
64 bytes from 192.168.10.3: icmp_seq=13 ttl=64 time=0.469 ms

Connected to localhost.
Escape character is ']'.
UbuntuDockerGuest-2 console is now available... Press RETURN to get started.
root@UbuntuDockerGuest-2:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 192.168.10.3 netmask 255.255.255.0 broadcast 0.0.0.0
inet6 fe80::42:f3ff:fe97:8c00 prefixlen 64 scopeid 0x20<link>
ether 02:42:f3:97:8c:00 txqueuelen 1000 (Ethernet)
RX packets 118 bytes 18259 (18.2 KB)
RX errors 0 dropped 3 overruns 0 frame 0
TX packets 10 bytes 796 (796.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 0 bytes 0 (0.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 0 bytes 0 (0.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@UbuntuDockerGuest-2:~# 
```

PING SUCCESSFUL

Ping from 192.168.10.2 to 192.168.30.2

```

root@UbuntuDockerGuest-1:~# ping 192.168.30.2
64 bytes from 192.168.10.3: icmp_seq=31 ttl=64 time=0.669 ms
64 bytes from 192.168.10.3: icmp_seq=32 ttl=64 time=0.535 ms
64 bytes from 192.168.10.3: icmp_seq=33 ttl=64 time=0.618 ms
64 bytes from 192.168.10.3: icmp_seq=34 ttl=64 time=0.532 ms
64 bytes from 192.168.10.3: icmp_seq=35 ttl=64 time=0.698 ms
64 bytes from 192.168.10.3: icmp_seq=36 ttl=64 time=0.898 ms
64 bytes from 192.168.10.3: icmp_seq=37 ttl=64 time=0.486 ms
64 bytes from 192.168.10.3: icmp_seq=38 ttl=64 time=0.603 ms
64 bytes from 192.168.10.3: icmp_seq=39 ttl=64 time=0.565 ms
64 bytes from 192.168.10.3: icmp_seq=40 ttl=64 time=0.559 ms
64 bytes from 192.168.10.3: icmp_seq=41 ttl=64 time=0.635 ms
64 bytes from 192.168.10.3: icmp_seq=42 ttl=64 time=1.29 ms
64 bytes from 192.168.10.3: icmp_seq=43 ttl=64 time=0.835 ms
64 bytes from 192.168.10.3: icmp_seq=44 ttl=64 time=0.690 ms
64 bytes from 192.168.10.3: icmp_seq=45 ttl=64 time=0.584 ms
64 bytes from 192.168.10.3: icmp_seq=46 ttl=64 time=0.617 ms
64 bytes from 192.168.10.3: icmp_seq=47 ttl=64 time=0.545 ms
^C
--- 192.168.10.3 ping statistics ---
47 packets transmitted, 47 received, 0% packet loss, time 47056ms
rtt min/avg/max/mdev = 0.331/0.665/2.678/0.397 ms
root@UbuntuDockerGuest-1:~# ping 192.168.30.2
ping: connect: Network is unreachable
root@UbuntuDockerGuest-1:~# 
```



```

UbuntuDockerGuest-5 console is now available... Press RETURN to get started.
root@UbuntuDockerGuest-5:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 192.168.30.2 netmask 255.255.255.0 broadcast 0.0.0.0
inet6 fe80::42:edff:feb9:2300 prefixlen 64 scopeid 0x20<link>
>
ether 02:42:ed:b9:23:00 txqueuelen 1000 (Ethernet)
RX packets 110 bytes 17517 (17.5 KB)
RX errors 0 dropped 4 overruns 0 frame 0
TX packets 10 bytes 796 (796.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 0 bytes 0 (0.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 0 bytes 0 (0.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@UbuntuDockerGuest-5:~# pico /etc/network/interfaces
root@UbuntuDockerGuest-5:~# 
```

PING UNSUCCESSFUL, NETWORK UNREACHABLE