Switch Konfiguration

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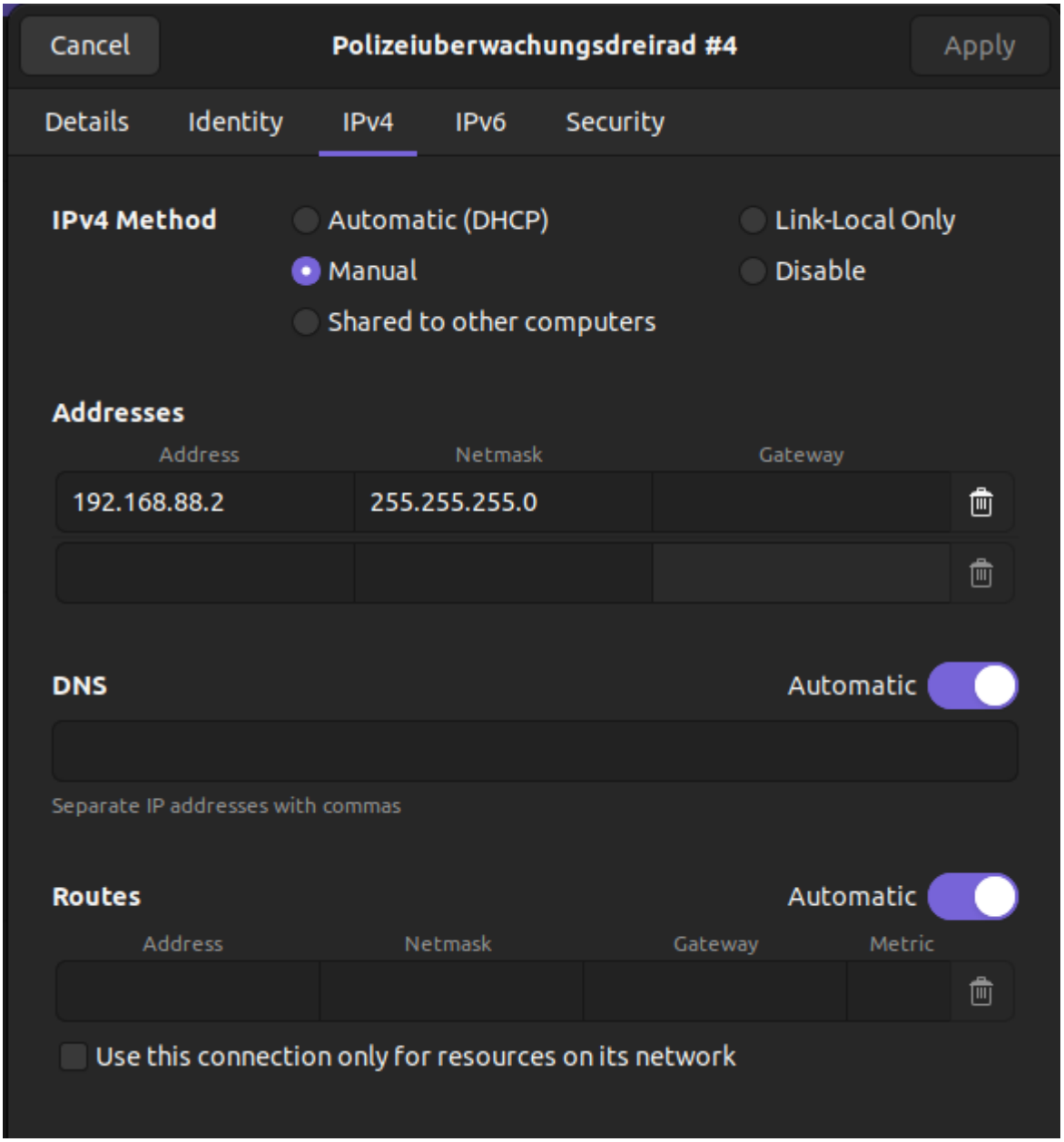
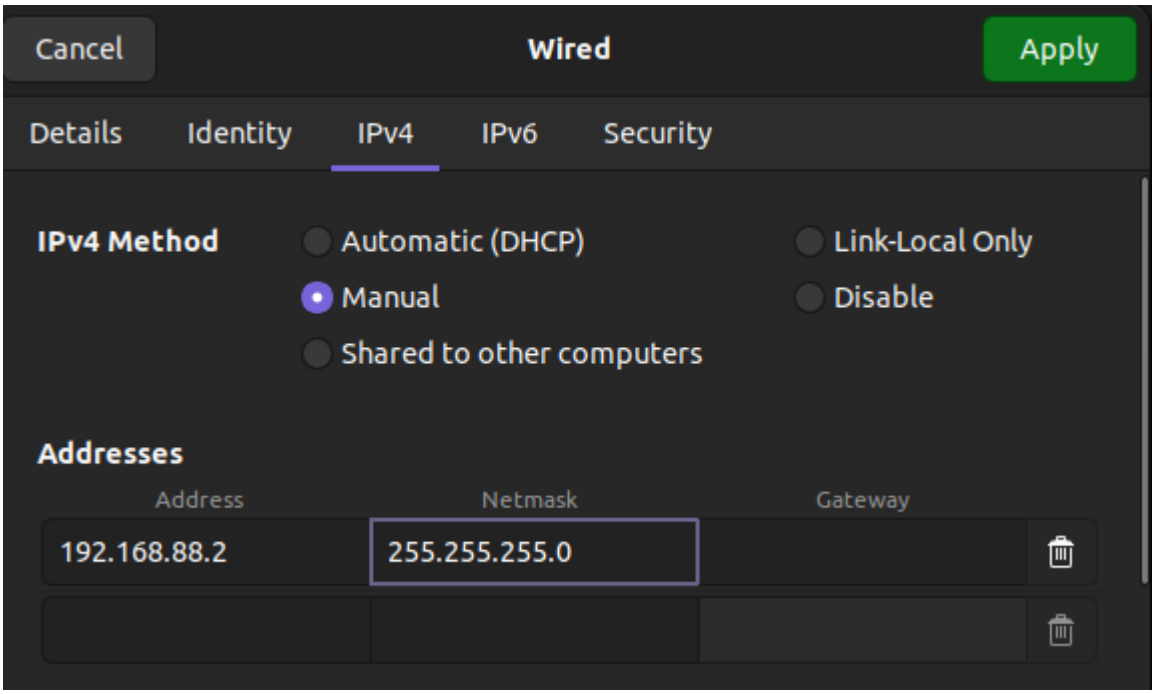
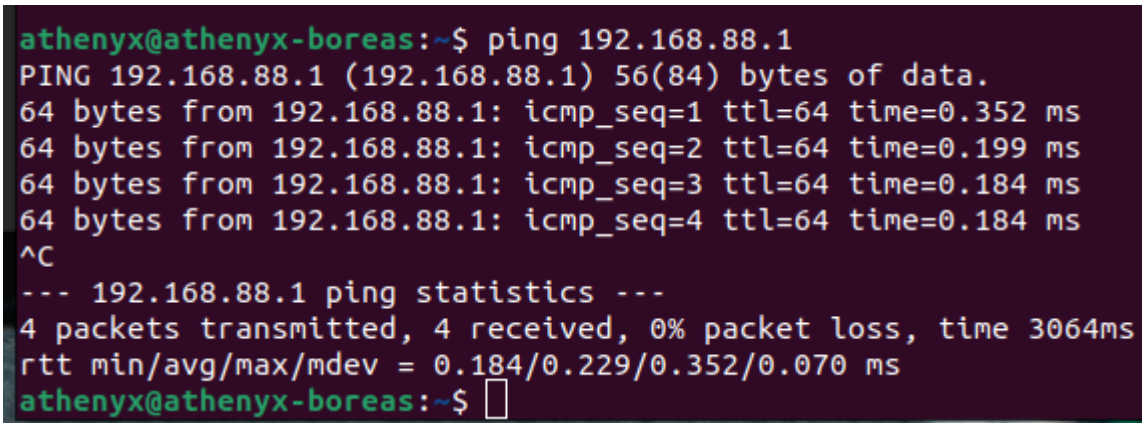
(Final Version)

First connection ad RouterOS





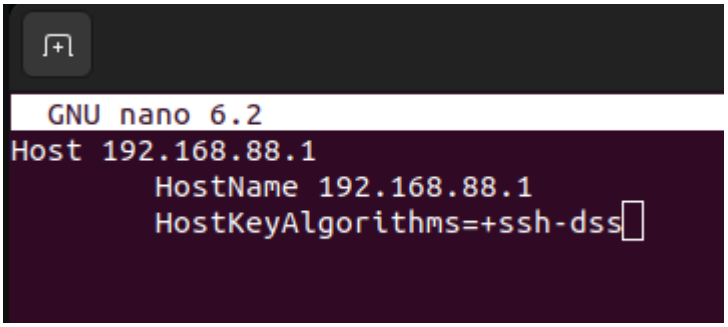
First, we have made the necessary network configurations on our computer to access the router, setting the address 192.168.88.2, and the netmask 255.255.255.0 to access the subnet /24.

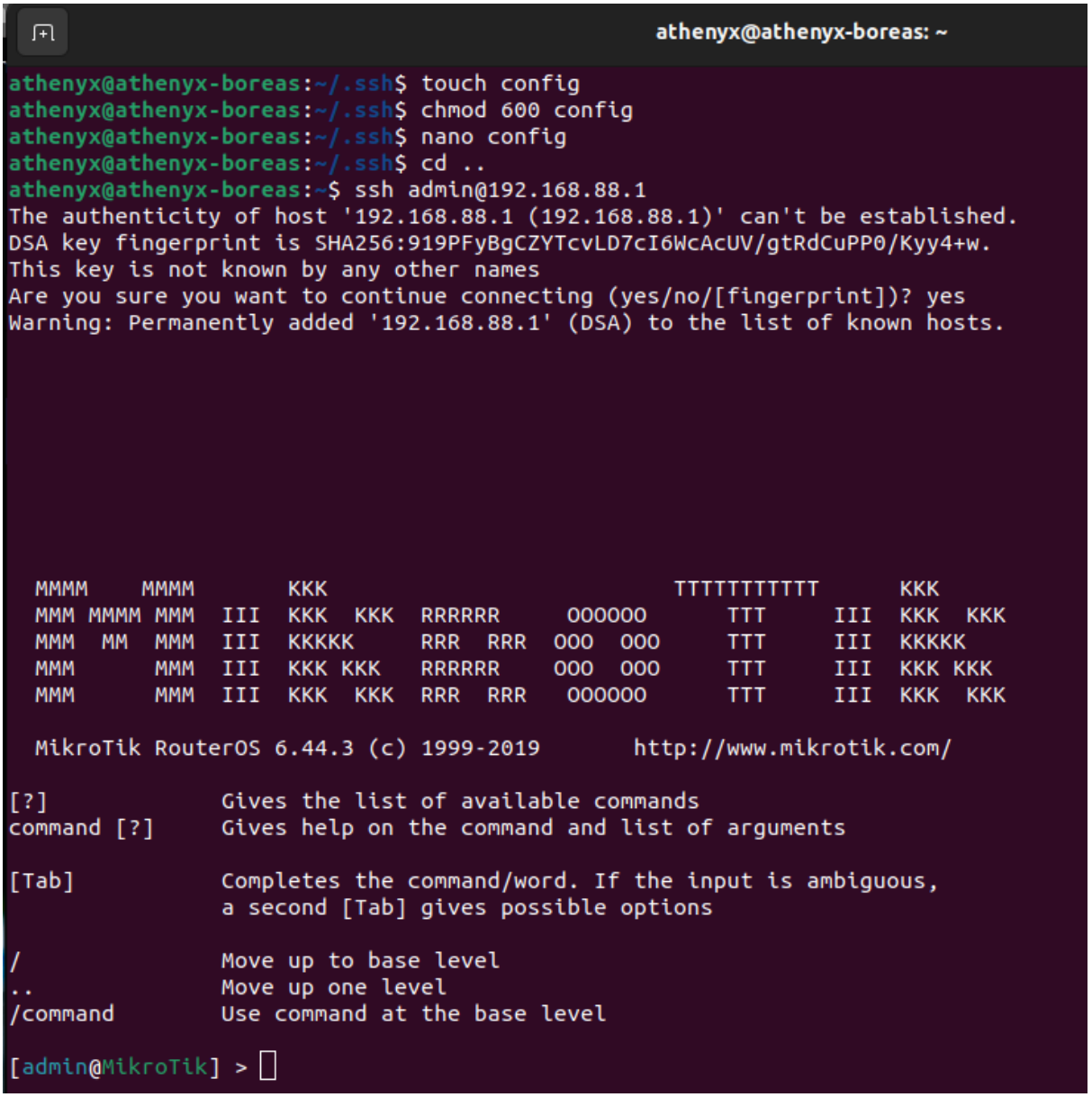


Then, we ping the network to verify that the device detects the Mikrotik router, as you can see in the image, the ping is successful, so we proceed to the ssh connection from our machine to the router.

```
athenyx@athenyx-boreas:~$ ssh admin@192.168.88.1
Unable to negotiate with 192.168.88.1 port 22: no matching host key type found. Their offer: ssh-dss,ssh-rsa
```

At the beginning we had an error and it was not possible to connect to our Mikrotik. The solution was to make a change in the .ssh/config file as shown in the following image.





Connection to RouterOS

```
[admin@MikroTik] /ip> print
bad command name print (line 1 column 1)
[admin@MikroTik] /ip>

.. -- go up to root
accounting -- Traffic accounting
address -- Address management
arp -- ARP entries management
cloud --
dhcp-client -- DHCP client settings
dhcp-relay -- DHCP relay settings
dhcp-server -- DHCP server settings
dns -- DNS settings
firewall -- Firewall management
hotspot -- HotSpot servers management
ipsec -- IP security
kid-control -- Kid control settings
neighbor -- Neighbors
packing -- Packet packing settings
pool -- IP address pool
```

```
[admin@MikroTik] /ip address> print
Flags: X - disabled, I - invalid, D - dynamic
 #   ADDRESS            NETWORK         INTERFACE
 0   192.168.88.1/24    192.168.88.0    ether2
[admin@MikroTik] /ip address>
```

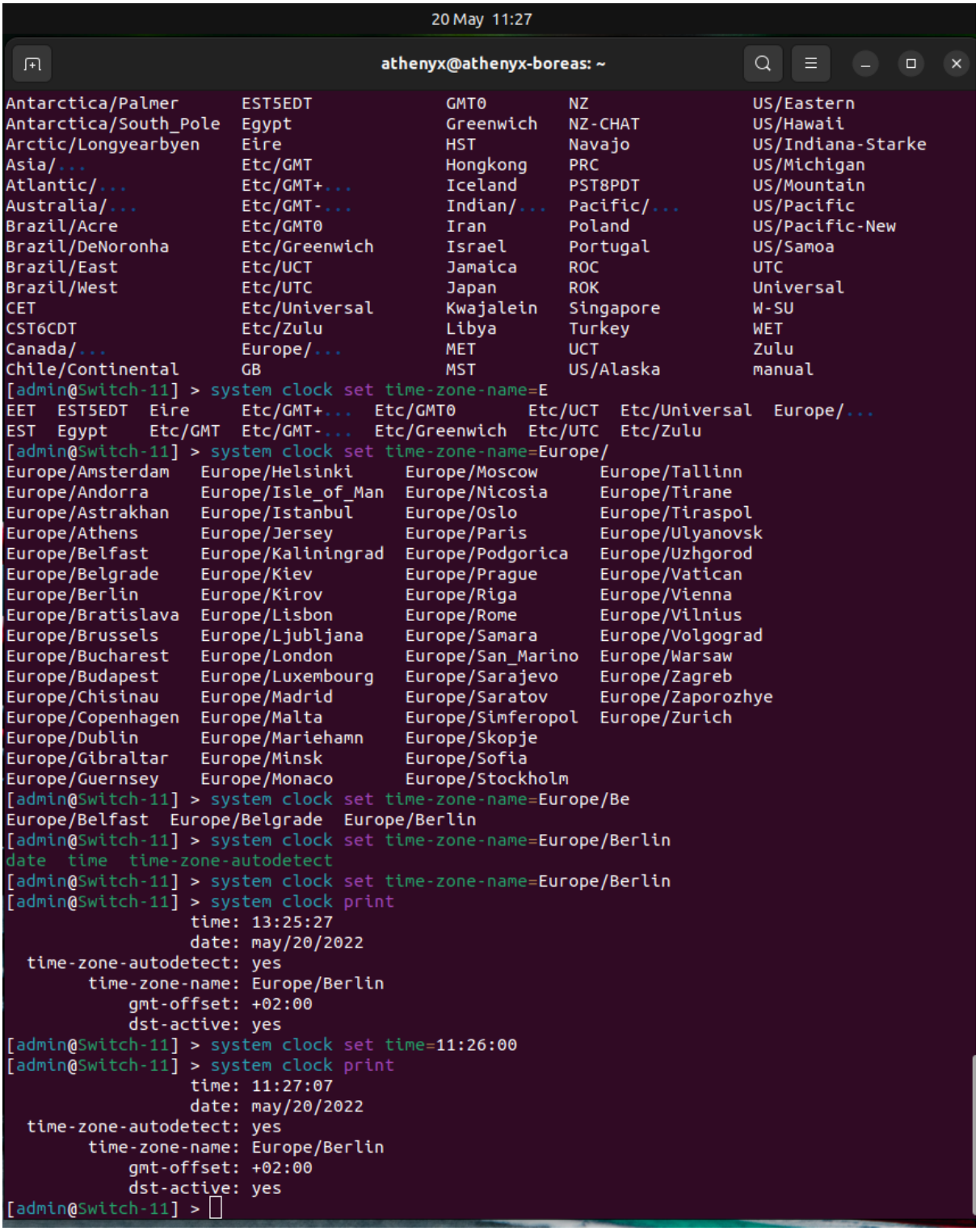
Once the connection to RouterOs is done, we select the option ? to check the available options, seeing that the names in purple color are command names and those in blue color refer to directories. Then, we check the IP address, which is the correct one, on the correct port (Port 2).

Bridge configuration

```
[admin@MikroTik] > system
backup                health    license  package      script              export
  shutdown
clock                 history   logging  resource     upgrade             reboot
  ssh
console               identity  note     routerboard  watchdog            reset-configuration
  sup-output
default-configuration leds      ntp      scheduler    check-installation  serial-terminal
  telnet
[admin@MikroTik] > system identity
edit  export  get  print  set
[admin@MikroTik] > system identity
..
[admin@MikroTik] > system identity print
  name: MikroTik
[admin@MikroTik] > system identity edit
value-name: Switch-11
Script Error: action cancelled
[admin@MikroTik] > system identity edit
value-name: Switch-11
Script Error: action cancelled
[admin@MikroTik] > system identity set name=Switch-11
[admin@Switch-11] >
```

Then, we checked the name of the MikroTik, and proceeded to change it, getting confused in the process trying to change it using the edit option, when we had to use the set function.
Then we proceeded to configure the time settings, setting the automatic detection of the time zone, CET-Europe/Berlin.

```
[admin@Switch-11] > system clock set date=may/20/2022
[admin@Switch-11] > system clock print
                  time: 00:52:48
                  date: may/20/2022
  time-zone-autodetect: yes
        time-zone-name: manual
            gmt-offset: +00:00
            dst-active: no
[admin@Switch-11] > system clock set
date  time  time-zone-autodetect  time-zone-name
[admin@Switch-11] > system clock set time=11:22:35
[admin@Switch-11] > system clock print
                  time: 11:22:45
                  date: may/20/2022
  time-zone-autodetect: yes
        time-zone-name: manual
            gmt-offset: +00:00
            dst-active: no
[admin@Switch-11] > system clock set time-zone-
time-zone-autodetect  time-zone-name
[admin@Switch-11] > system clock set time-zone-name=cest
```


20 May 11:27
athenyx@athenyx-boreas: ~
Antarctica/Palmer EST5EDT GMT0 NZ US/Eastern
Antarctica/South_Pole Egypt Greenwich NZ-CHAT US/Hawaii
Arctic/Longyearbyen Eire HST Navajo US/Indiana-Starke
Asia/... Etc/GMT Hongkong PRC US/Michigan
Atlantic/... Etc/GMT+... Iceland PST8PDT US/Mountain
Australia/... Etc/GMT-... Indian/... Pacific/... US/Pacific
Brazil/Acre Etc/GMT0 Iran Poland US/Pacific-New
Brazil/DeNoronha Etc/Greenwich Israel Portugal US/Samoa
Brazil/East Etc/UCT Jamaica ROC UTC
Brazil/West Etc/UTC Japan ROK Universal
CET Etc/Universal Kwajalein Singapore W-SU
CST6CDT Etc/Zulu Libya Turkey WET
Canada/... Europe/... MET UCT Zulu
Chile/Continental GB MST US/Alaska manual
[admin@Switch-11] > system clock set time-zone-name=E
EET EST5EDT Eire Etc/GMT+... Etc/GMT0 Etc/UCT Etc/Universal Europe/...
EST Egypt Etc/GMT Etc/GMT-... Etc/Greenwich Etc/UTC Etc/Zulu
[admin@Switch-11] > system clock set time-zone-name=Europe/
Europe/Amsterdam Europe/Helsinki Europe/Moscow Europe/Tallinn
Europe/Andorra Europe/Isle_of_Man Europe/Nicosia Europe/Tirane
Europe/Astrakhan Europe/Istanbul Europe/Oslo Europe/Tiraspol
Europe/Athens Europe/Jersey Europe/Paris Europe/Ulyanovsk
Europe/Belfast Europe/Kaliningrad Europe/Podgorica Europe/Uzhgorod
Europe/Belgrade Europe/Kiev Europe/Prague Europe/Vatican
Europe/Berlin Europe/Kirov Europe/Riga Europe/Vienna
Europe/Bratislava Europe/Lisbon Europe/Rome Europe/Vilnius
Europe/Brussels Europe/Ljubljana Europe/Samara Europe/Volgograd
Europe/Bucharest Europe/London Europe/San_Marino Europe/Warsaw
Europe/Budapest Europe/Luxembourg Europe/Sarajevo Europe/Zagreb
Europe/Chisinau Europe/Madrid Europe/Saratov Europe/Zaporozhye
Europe/Copenhagen Europe/Malta Europe/Simferopol Europe/Zurich
Europe/Dublin Europe/Mariehamn Europe/Skopje
Europe/Gibraltar Europe/Minsk Europe/Sofia
Europe/Guernsey Europe/Monaco Europe/Stockholm
[admin@Switch-11] > system clock set time-zone-name=Europe/Be
Europe/Belfast Europe/Belgrade Europe/Berlin
[admin@Switch-11] > system clock set time-zone-name=Europe/Berlin
date time time-zone-autodetect
[admin@Switch-11] > system clock set time-zone-name=Europe/Berlin
[admin@Switch-11] > system clock print
time: 13:25:27
date: may/20/2022
time-zone-autodetect: yes
time-zone-name: Europe/Berlin
gmt-offset: +02:00
dst-active: yes
[admin@Switch-11] > system clock set time=11:26:00
[admin@Switch-11] > system clock print
time: 11:27:07
date: may/20/2022
time-zone-autodetect: yes
time-zone-name: Europe/Berlin
gmt-offset: +02:00
dst-active: yes
[admin@Switch-11] >

Next, we set the password for access to the device.

```
[admin@Switch-11] > user set
admin  address  comment  disabled  group  name  password  numbers
[admin@Switch-11] > user set ad
admin  address
[admin@Switch-11] > user set admin
address  comment  disabled  group  name  password
[admin@Switch-11] > user set admin password="hwp"
[admin@Switch-11] >
```

And then we disconnect and try to access the device with the new configurations made.

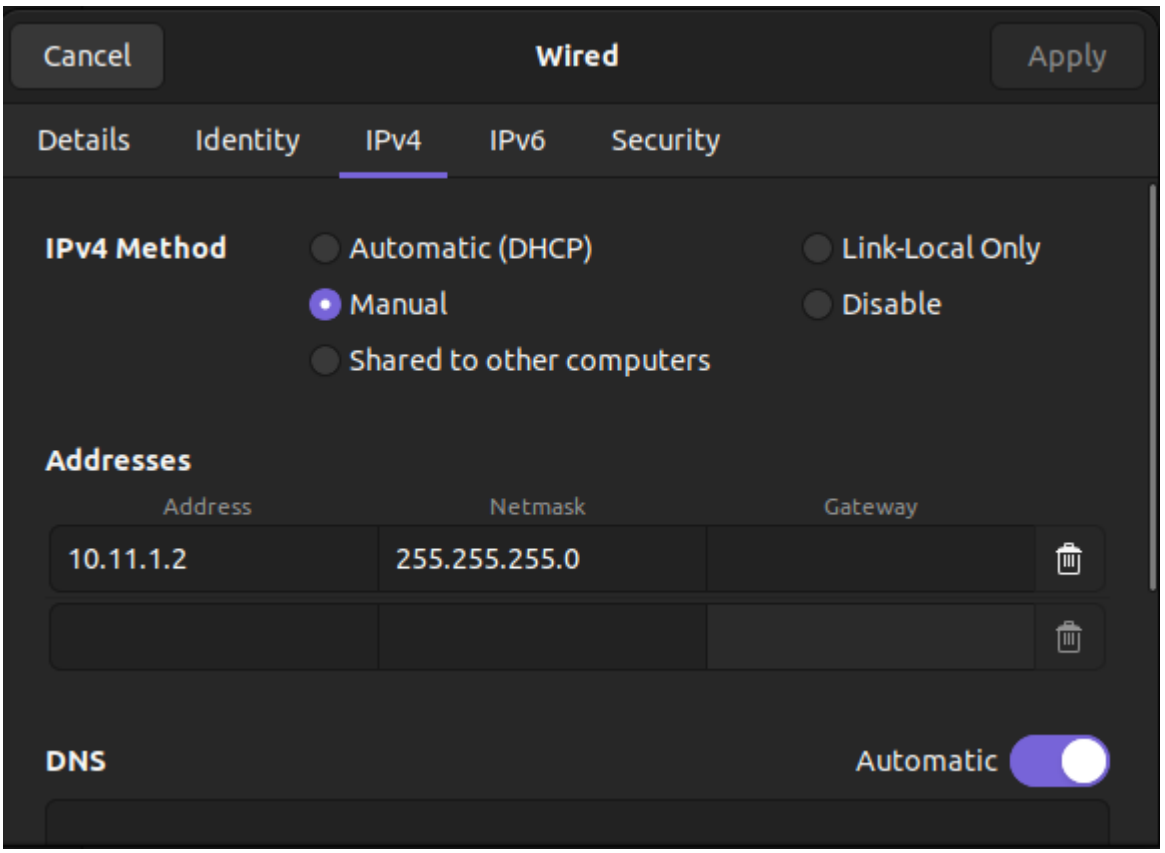
```
[admin@Switch-11] > quitConnection to 192.168.88.1 closed.
athenyx@athenyx-boreas:~$ ssh admin@192.168.88.1
admin@192.168.88.1's password:









  MMM       MMM       KKK                          TTTTTTTTTTT      KKK
  MMMM     MMMM       KKK                          TTTTTTTTTTT      KKK
  MMM MMMM MMM  III  KKK  KKK  RRRRRR     OOOOOO      TTT     III  KKK  KKK
  MMM  MM  MMM  III  KKKKK     RRR  RRR  OOO  OOO     TTT     III  KKKKK
  MMM      MMM  III  KKK KKK   RRRRRR    OOO  OOO     TTT     III  KKK KKK
  MMM      MMM  III  KKK  KKK  RRR  RRR   OOOOOO      TTT     III  KKK  KKK

  MikroTik RouterOS 6.44.3 (c) 1999-2019       http://www.mikrotik.com/

[?]             Gives the list of available commands
command [?]     Gives help on the command and list of arguments

[Tab]           Completes the command/word. If the input is ambiguous,
                a second [Tab] gives possible options

/               Move up to base level
..              Move up one level
/command        Use command at the base level

[admin@Switch-11] >
```

```
[admin@Switch-11] > interface bridge port add bridge=br1 interface=ether1
[admin@Switch-11] > interface bridge port add bridge=br1 interface=ether2
[admin@Switch-11] > interface bridge port add bridge=br1 interface=ether3
[admin@Switch-11] > interface bridge port add bridge=br1 interface=ether4
[admin@Switch-11] > interface bridge port add bridge=br1 interface=ether5
[admin@Switch-11] > interface bridge print
Flags: X - disabled, R - running
 0 R name="br1" mtu=auto actual-mtu=1500 l2mtu=1598 arp=enabled arp-timeout=auto
     mac-address=64:D1:54:9A:4A:70 protocol-mode=rstp fast-forward=yes igmp-snooping=no
     auto-mac=yes ageing-time=5m priority=0x8000 max-message-age=20s forward-delay=15s
     transmit-hold-count=6 vlan-filtering=no dhcp-snooping=no
[admin@Switch-11] > interface bridge port
mst-override  comment  edit    export  monitor  print   set
add           disable  enable  find    move     remove
[admin@Switch-11] > interface bridge port print
Flags: X - disabled, I - inactive, D - dynamic, H - hw-offload
 #     INTERFACE       BRIDGE      HW  PVID PRIORITY  PATH-COST INTERNAL-PATH-COST    HORIZON
 0 I H ether1          br1         yes    1     0x80         10                 10       none
 1   H ether2          br1         yes    1     0x80         10                 10       none
 2 I H ether3          br1         yes    1     0x80         10                 10       none
 3 I H ether4          br1         yes    1     0x80         10                 10       none
 4 I H ether5          br1         yes    1     0x80         10                 10       none
[admin@Switch-11] >
```

Next, we check the different ports of the Mikrotik device, then we create the br1 bridge. Finally, we proceeded to change the old IP address (192.168.88.1/24) to the address required by the exercise (10.11.1.3/24).

```
[admin@Switch-11] > interface print
Flags: D - dynamic, X - disabled, R - running, S - slave
 #     NAME                                TYPE       ACTUAL-MTU L2MTU  MAX-L2MTU
 0     ether1                              ether            1500  1598       2028
 1  R  ether2                              ether            1500  1598       2028
 2     ether3                              ether            1500  1598       2028
 3     ether4                              ether            1500  1598       2028
 4     ether5                              ether            1500  1598       2028
 5  R  br1                                 bridge           1500 65535
```

```
[admin@Switch-11] > ip address add address=10.11.1.3/24 interface=
br1  ether1  ether2  ether3  ether4  ether5
[admin@Switch-11] > ip address add address=10.11.1.3/24 interface=br1
[admin@Switch-11] > ip address print
Flags: X - disabled, I - invalid, D - dynamic
 #   ADDRESS             NETWORK         INTERFACE
 0   192.168.88.1/24     192.168.88.0    ether2
 1   10.11.1.3/24        10.11.1.0       br1
[admin@Switch-11] >
```



Then, with the new configuration of the device, we set out to make the relevant changes in our system, performing a ping (having again the same error that we had doing the ping before, solving it by changing the .ssh/config file) and we connected via ssh.

```
athenyx@athenyx-boreas:~$ sudo systemctl restart NetworkManager
[sudo] password for athenyx:
athenyx@athenyx-boreas:~$ ifconfig
enp7s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.11.1.2  netmask 255.255.255.0  broadcast 10.11.1.255
        inet6 fe80::7952:8d2b:7161:19c0  prefixlen 64  scopeid 0x20<link>
        ether 0c:9d:92:c7:4f:e5  txqueuelen 1000  (Ethernet)
        RX packets 1837  bytes 247698 (247.6 KB)
        RX errors 0  dropped 83  overruns 0  frame 0
        TX packets 2339  bytes 232337 (232.3 KB)
        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 9318  bytes 1027960 (1.0 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 9318  bytes 1027960 (1.0 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

wlp6s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.0.12  netmask 255.255.255.0  broadcast 192.168.0.255
        inet6 fd00:bc14:1b5:2152:e982:35c9:5aca:e177  prefixlen 64  scopeid 0x0<global>
        inet6 2a02:810d:813f:e84c:7240:2a27:5cd6:3932  prefixlen 64  scopeid 0x0<global>
        inet6 2a02:810d:813f:e84c:a1d4:578a:b08e:bcf  prefixlen 64  scopeid 0x0<global>
        inet6 fd00:bc14:1b5:2152:93ef:246e:3d39:487b  prefixlen 64  scopeid 0x0<global>
        inet6 fe80::7d5a:835a:aec7:2eb0  prefixlen 64  scopeid 0x20<link>
        ether 50:3e:aa:b4:1c:6e  txqueuelen 1000  (Ethernet)
        RX packets 132545  bytes 158256523 (158.2 MB)
        RX errors 0  dropped 0  overruns 0  frame 39384
        TX packets 82980  bytes 14548811 (14.5 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
        device interrupt 31

athenyx@athenyx-boreas:~$ ping 10.11.1.3
PING 10.11.1.3 (10.11.1.3) 56(84) bytes of data.
64 bytes from 10.11.1.3: icmp_seq=1 ttl=64 time=0.468 ms
64 bytes from 10.11.1.3: icmp_seq=2 ttl=64 time=0.193 ms
64 bytes from 10.11.1.3: icmp_seq=3 ttl=64 time=0.202 ms
64 bytes from 10.11.1.3: icmp_seq=4 ttl=64 time=0.188 ms
^C
--- 10.11.1.3 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3076ms
rtt min/avg/max/mdev = 0.188/0.262/0.468/0.118 ms
```

```
athenyx@athenyx-boreas: ~
athenyx@athenyx-boreas:~$ ping 10.11.1.1
PING 10.11.1.1 (10.11.1.1) 56(84) bytes of data.
64 bytes from 10.11.1.1: icmp_seq=1 ttl=64 time=0.185 ms
64 bytes from 10.11.1.1: icmp_seq=2 ttl=64 time=0.164 ms
64 bytes from 10.11.1.1: icmp_seq=3 ttl=64 time=0.159 ms
64 bytes from 10.11.1.1: icmp_seq=4 ttl=64 time=0.171 ms
^C
--- 10.11.1.1 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3068ms
rtt min/avg/max/mdev = 0.159/0.169/0.185/0.009 ms
athenyx@athenyx-boreas:~$
```

```
athenyx@athenyx-boreas:~$ ssh pi@10.11.1.1
pi@10.11.1.1's password:
Linux raspberrypi 5.10.17-v7l+ #1414 SMP Fri Apr 30 13:20:47 BST 2021 armv7l

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Mon May 16 16:23:04 2022
pi@raspberrypi:~ $
```

```
  MMM      MMM       KKK                          TTTTTTTTTTT      KKK
  MMMM    MMMM       KKK                          TTTTTTTTTTT      KKK
  MMM MMMM MMM  III  KKK  KKK  RRRRRR     OOOOOO      TTT     III  KKK  KKK
  MMM  MM  MMM  III  KKKKK     RRR  RRR  OOO  OOO     TTT     III  KKKKK
  MMM      MMM  III  KKK KKK   RRRRRR    OOO  OOO     TTT     III  KKK KKK
  MMM      MMM  III  KKK  KKK  RRR  RRR   OOOOOO      TTT     III  KKK  KKK

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/               Move up to base level
..              Move up one level
/command        Use command at the base level

[admin@Switch-11] > ip address
add  comment  disable  edit  enable  export  find  print  remove  set
[admin@Switch-11] > ip address print
Flags: X - disabled, I - invalid, D - dynamic
 #   ADDRESS            NETWORK         INTERFACE
 0   192.168.88.1/24    192.168.88.0    ether2
 1   10.11.1.3/24       10.11.1.0       br1
[admin@Switch-11] > ip address remove numbers=0
[admin@Switch-11] > ip address print
Flags: X - disabled, I - invalid, D - dynamic
 #   ADDRESS            NETWORK         INTERFACE
 0   10.11.1.3/24       10.11.1.0       br1
[admin@Switch-11] > interface b
bonding  bridge  blink
[admin@Switch-11] > interface bridge
calea   host  msti  port      vlan  comment  edit    export  monitor  remove
filter  mdb   nat   settings  add   disable  enable  find    print    set
[admin@Switch-11] > interface bridge host print
Flags: X - disabled, I - invalid, D - dynamic, L - local, E - external
 #       MAC-ADDRESS        VID ON-INTERFACE           BRIDGE          AGE
 0   D E 0C:9D:92:C7:4F:E5      ether2                 br1
 1   DL  64:D1:54:9A:4A:70      br1                    br1
 2   DL  64:D1:54:9A:4A:71      ether2                 br1
 3   DL  64:D1:54:9A:4A:72      ether3                 br1
 4   D E E4:5F:01:05:F9:E0      ether3                 br1
[admin@Switch-11] >
```
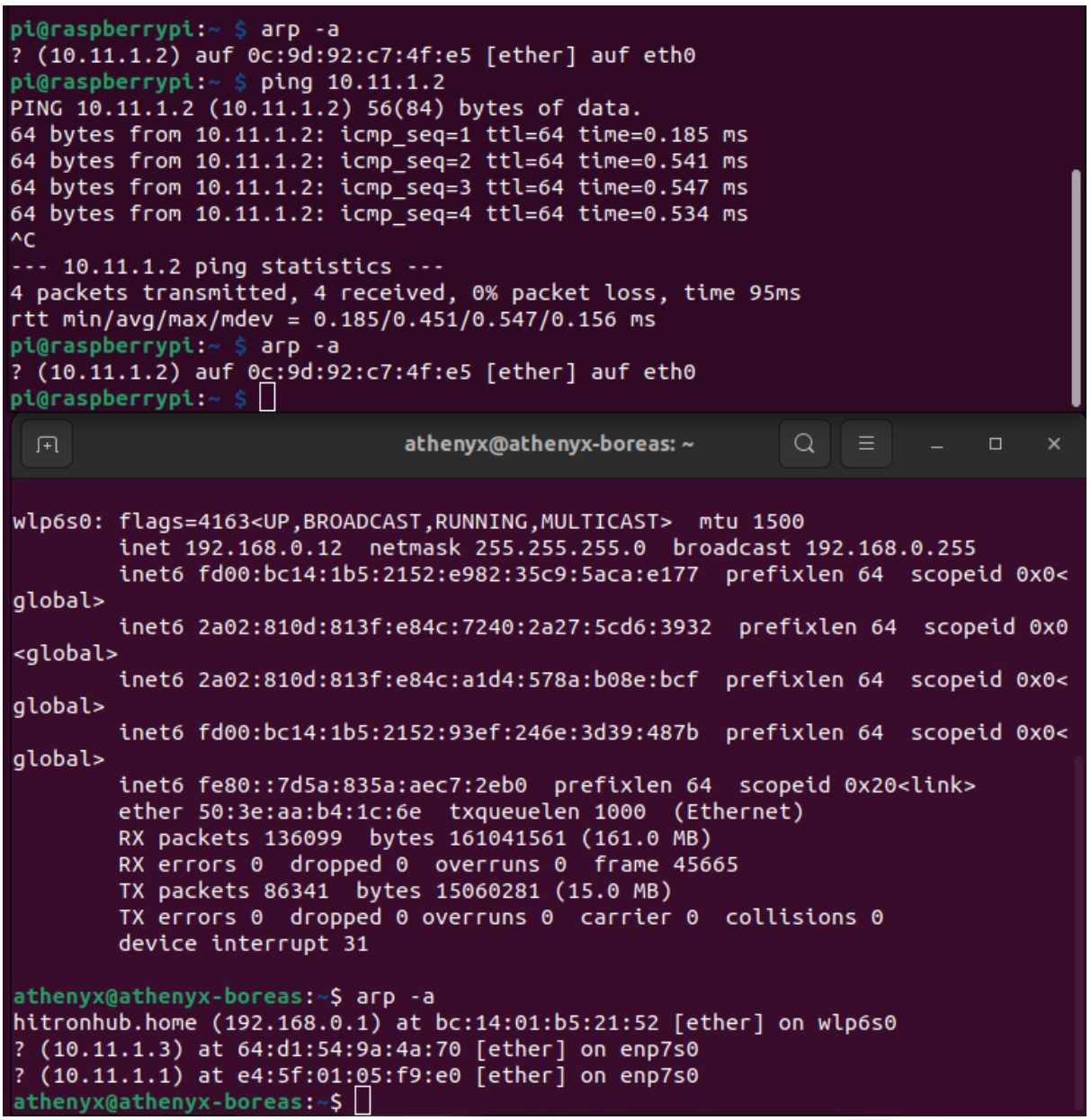

```
pi@raspberrypt:~ $ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.11.1.1  netmask 255.255.255.0  broadcast 10.11.1.255
        inet6 fe80::796:b6c6:92e3:dfd9  prefixlen 64  scopeid 0x20<link>
        ether e4:5f:01:05:f9:e0  txqueuelen 1000  (Ethernet)
        RX packets 58  bytes 8096 (7.9 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 186  bytes 18866 (18.4 KiB)
        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  (Lokale Schleife)
        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
```

athenyx@athenyx-boreas: ~

```
athenyx@athenyx-boreas:~$ ifconfig
enp7s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.11.1.2  netmask 255.255.255.0  broadcast 10.11.1.255
        inet6 fe80::7952:8d2b:7161:19c0  prefixlen 64  scopeid 0x20<link>
        ether 0c:9d:92:c7:4f:e5  txqueuelen 1000  (Ethernet)
        RX packets 2235  bytes 297206 (297.2 KB)
        RX errors 0  dropped 93  overruns 0  frame 0
        TX packets 2677  bytes 269373 (269.3 KB)
        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 9605  bytes 1056808 (1.0 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 9605  bytes 1056808 (1.0 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

wlp6s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.0.12  netmask 255.255.255.0  broadcast 192.168.0.255
        inet6 fd00:bc14:1b5:2152:e982:35c9:5aca:e177  prefixlen 64  scopeid 0x0<
global>
        inet6 2a02:810d:813f:e84c:7240:2a27:5cd6:3932  prefixlen 64  scopeid 0x0
```



Finally, we set out to make the connection of the raspberry and to verify that indeed the bridge between raspberry and PC was correctly made, pinging the PC to the raspberry.
In addition, we performed the visualization with the WireShark software that the packets were sent correctly, as well as the connection of an external address never before accessed by the device.

```
    72 68.886629303  ASUSTekC_c7:4f:e5  Broadcast           ARP        42 Who has 10.11.1.4? Tell 10.11.1.2
    73 69.667221442  10.11.1.1          10.42.0.1           DNS        81 Standard query 0x93bf A 0.debian.pool.ntp.org
    74 69.667222184  10.11.1.1          10.42.0.1           DNS        81 Standard query 0x9bbf AAAA 0.debian.pool.ntp.org
    75 69.913262911  ASUSTekC_c7:4f:e5  Broadcast           ARP        42 Who has 10.11.1.4? Tell 10.11.1.2
    76 70.080427794  Routerbo_9a:4a:71  Spanning-tree-(for-… STP        60 RST. Root = 32768/0/64:d1:54:9a:4a:70  Cost = 0  Port = 0x8002
    77 70.937248957  ASUSTekC_c7:4f:e5  Broadcast           ARP        42 Who has 10.11.1.4? Tell 10.11.1.2
    78 71.961390135  ASUSTekC_c7:4f:e5  Broadcast           ARP        42 Who has 10.11.1.4? Tell 10.11.1.2
    79 72.082805714  Routerbo_9a:4a:71  Spanning-tree-(for-… STP        60 RST. Root = 32768/0/64:d1:54:9a:4a:70  Cost = 0  Port = 0x8002
    80 72.985233606  ASUSTekC_c7:4f:e5  Broadcast           ARP        42 Who has 10.11.1.4? Tell 10.11.1.2
    81 74.009256023  ASUSTekC_c7:4f:e5  Broadcast           ARP        42 Who has 10.11.1.4? Tell 10.11.1.2
    82 74.084964948  Routerbo_9a:4a:71  Spanning-tree-(for-… STP        60 RST. Root = 32768/0/64:d1:54:9a:4a:70  Cost = 0  Port = 0x8002
    83 74.672132031  10.11.1.1          10.42.0.1           DNS        81 Standard query 0x93bf A 0.debian.pool.ntp.org
    84 74.672132733  10.11.1.1          10.42.0.1           DNS        81 Standard query 0x9bbf AAAA 0.debian.pool.ntp.org
    85 76.087084599  Routerbo_9a:4a:71  Spanning-tree-(for-… STP        60 RST. Root = 32768/0/64:d1:54:9a:4a:70  Cost = 0  Port = 0x8002
```

```
   145 115.554383271 10.11.1.2          10.11.1.1           TCP        66 41420 → 22 [ACK] Seq=269 Ack=385 Win=501 Len=0 TSval=417056977 TSec
   146 115.554419910 Raspberr_05:f9:e0  Broadcast           ARP        60 Who has 10.11.1.4? Tell 10.11.1.1
   147 116.132794027 Routerbo_9a:4a:71  Spanning-tree-(for-… STP        60 RST. Root = 32768/0/64:d1:54:9a:4a:70  Cost = 0  Port = 0x8002
   148 116.605039729 Raspberr_05:f9:e0  Broadcast           ARP        60 Who has 10.11.1.4? Tell 10.11.1.1
   149 117.645101974 Raspberr_05:f9:e0  Broadcast           ARP        60 Who has 10.11.1.4? Tell 10.11.1.1
   150 118.134798399 Routerbo_9a:4a:71  Spanning-tree-(for-… STP        60 RST. Root = 32768/0/64:d1:54:9a:4a:70  Cost = 0  Port = 0x8002
   151 118.685581182 Raspberr_05:f9:e0  Broadcast           ARP        60 Who has 10.11.1.4? Tell 10.11.1.1
   152 118.685581913 10.11.1.1          10.11.1.2           SSH       270 Server: Encrypted packet (len=204)
   153 118.685643820 10.11.1.2          10.11.1.1           TCP        66 41420 → 22 [ACK] Seq=269 Ack=589 Win=501 Len=0 TSval=417060108 TSec
   154 119.492594138 10.11.1.2          10.11.1.1           SSH       102 Client: Encrypted packet (len=36)
   155 119.494851849 10.11.1.1          10.11.1.2           SSH       230 Server: Encrypted packet (len=164)
   156 119.494869331 10.11.1.2          10.11.1.1           TCP        66 41420 → 22 [ACK] Seq=305 Ack=753 Win=501 Len=0 TSval=417060918 TSec
   157 119.495893254 10.11.1.1          10.11.1.2           SSH       174 Server: Encrypted packet (len=108)
   158 119.495904245 10.11.1.2          10.11.1.1           TCP        66 41420 → 22 [ACK] Seq=305 Ack=861 Win=501 Len=0 TSval=417060919 TSec
```

```
athenyx@athenyx-boreas:~$ ping athenyx.com
ping: athenyx.com: Temporary failure in name resolution
athenyx@athenyx-boreas:~$ ping athenyx.com
PING athenyx.com (185.199.110.153) 56(84) bytes of data.
64 bytes from cdn-185-199-110-153.github.com (185.199.110.153): icmp_seq=1 ttl=5
7 time=200 ms
64 bytes from cdn-185-199-110-153.github.com (185.199.110.153): icmp_seq=2 ttl=5
7 time=26.6 ms
64 bytes from cdn-185-199-110-153.github.com (185.199.110.153): icmp_seq=3 ttl=5
7 time=20.9 ms
^C
--- athenyx.com ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2002ms
rtt min/avg/max/mdev = 20.862/82.319/199.533/82.915 ms
athenyx@athenyx-boreas:~$
```