

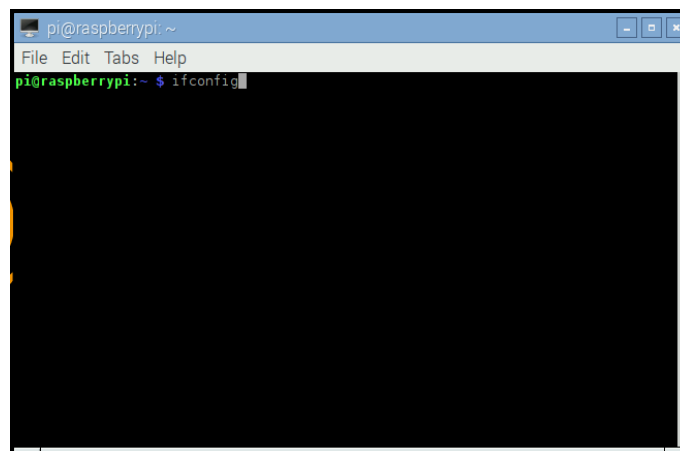
Tasklist Application – Configuration

1. Application network configuration

- a. Setting up Static IP for Raspberry Pi in new router connection
- Open up Terminal



- Type ***ifconfig*** (it reveals all router information)



- From **eth0** note down:
 - o **Inet addr** (current IP Address)
 - o **Bcast** (broadcast IP Range)
 - o **Mask** (Subnet Mask Address)

```

pi@raspberrypi:~
File Edit Tabs Help
pi@raspberrypi:~ $ ifconfig
eth0      Link encap:Ethernet  HWaddr b8:27:eb:b1:39:eb
          inet6 addr: fe80::3f89:f138:6e47:e612/64 Scope:Link
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:524 errors:0 dropped:0 overruns:0 frame:0
          TX packets:524 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1
          RX bytes:42348 (41.3 KiB)  TX bytes:42348 (41.3 KiB)

pi@raspberrypi:~ $

```

- Type **netstat -nr** (it reveals the gateway and destination)
- Note down:
 - o **Gateway**
 - o **Destination**
- Type **sudo nano /etc/network/interfaces**

```

pi@raspberrypi:~
File Edit Tabs Help
GNU nano 2.2.6 File: /etc/network/interfaces
GNU nano 2.2.6 File: /etc/network/interfaces $
# interfaces(5) file used by ifup(8) and ifdown(8)

# Please note that this file is written to be used with dhcpcd
# For static IP, consult /etc/dhcpcd.conf and 'man dhcpcd.conf'

# Include files from /etc/network/interfaces.d:
source-directory /etc/network/interfaces.d

auto lo
iface lo inet loopback

iface eth0 inet static
address 192.168.168.2
netmask 255.255.255.0
network 192.168.168.1
broadcast 192.168.168.255
gateway 192.168.168.1

iface usb0 inet dhcp

allow-hotplug wlan0
iface wlan0 inet manual
wpa-conf /etc/wpa_supplicant/wpa_supplicant.conf

allow-hotplug wlan1
iface wlan1 inet manual
wpa-conf /etc/wpa_supplicant/wpa_supplicant.conf

allow-hotplug usb0
iface usb0 inet dhcp

```

- If there is a line **iface eth0 inet static** , leave it that way, else (it might be **iface eth0 inet dhcp** / **iface eth0 inet manual**) change **dhcp** / **manual** to **static**
- Type down right below the previous line next lines:

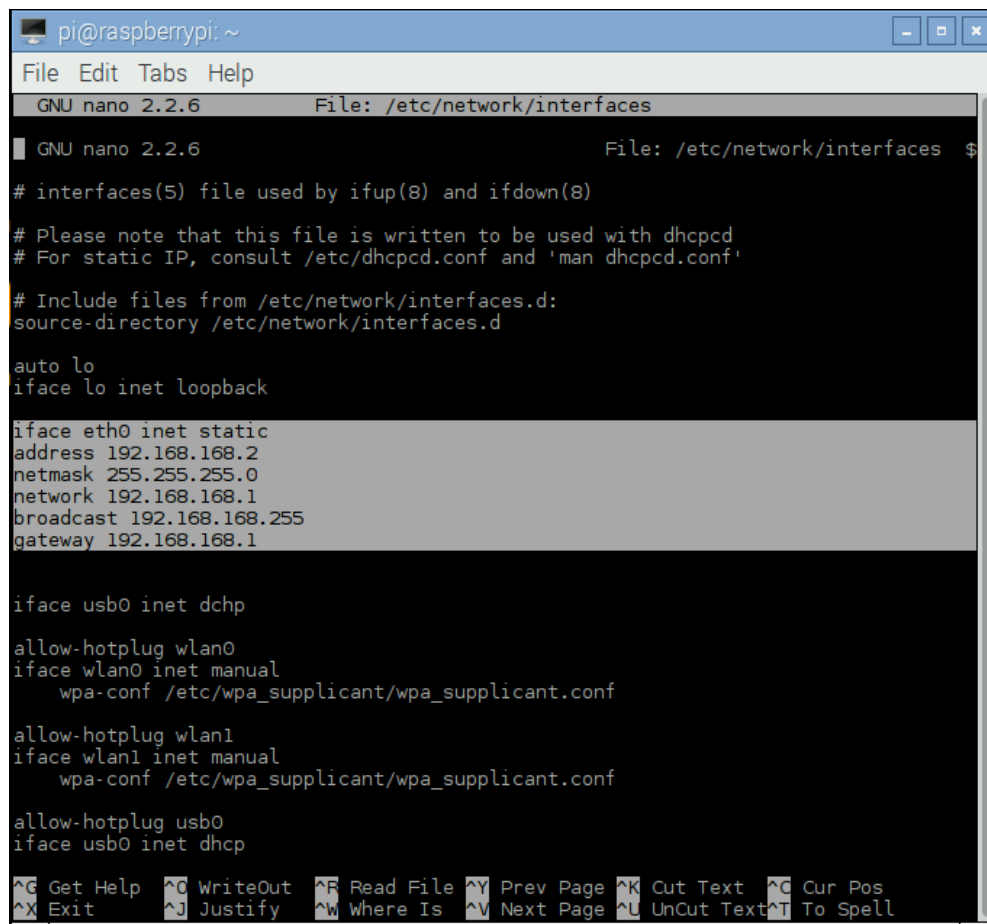
address 192.168.1.12 (<- this is an example, write the inet address noted before)

netmask 255.255.255.0 (<- this is an example, write the mask noted before)

network 192.168.168.1 (<- this is an example, write the destination address noted before)

broadcast 192.168.0.255 (<- this is an example, write the broadcast IP range noted before)

gateway 192.168.1.254 (<- this is an example, write the gateway address noted before)



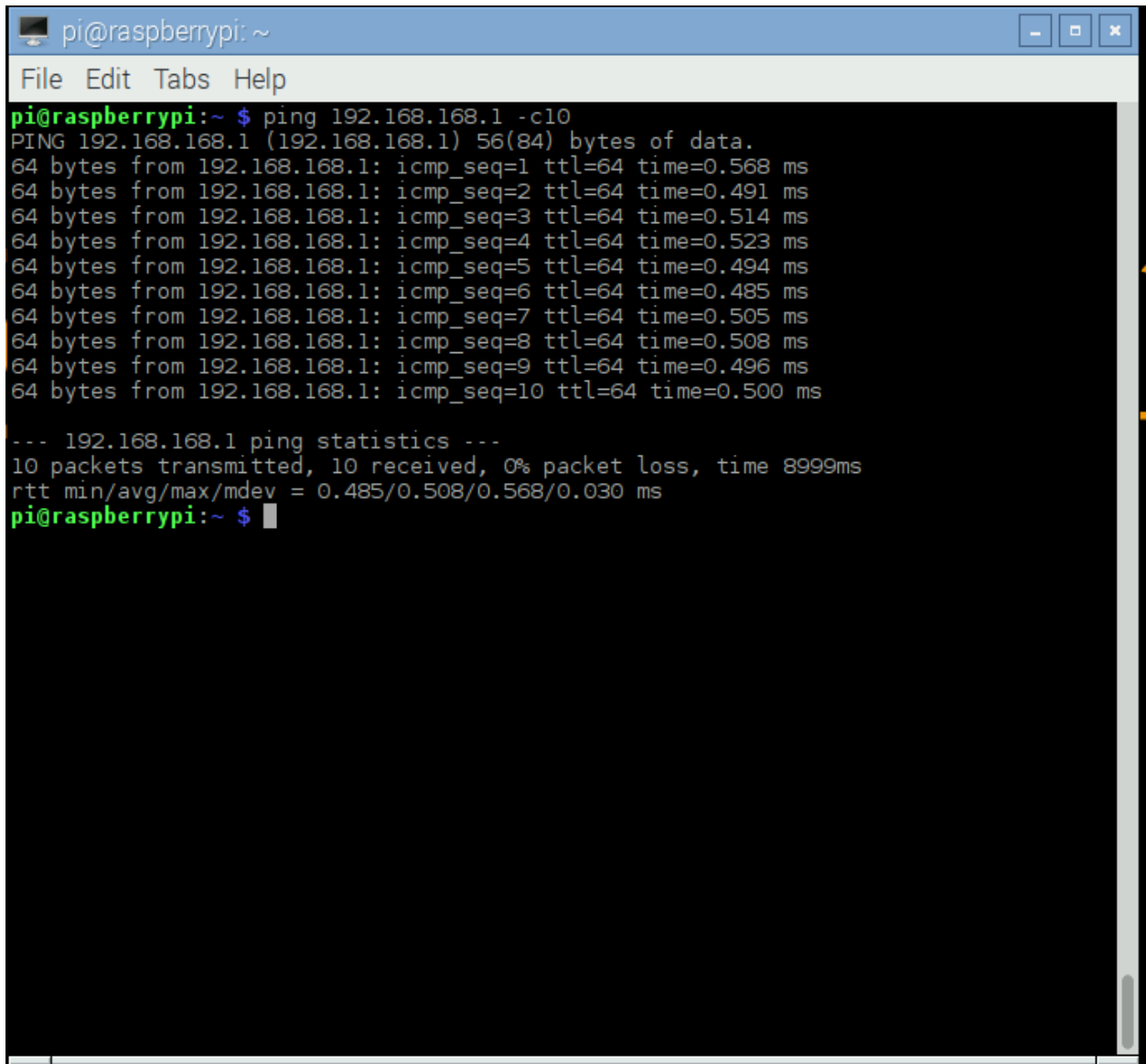
```

pi@raspberrypi: ~
File Edit Tabs Help
GNU nano 2.2.6 File: /etc/network/interfaces
GNU nano 2.2.6 File: /etc/network/interfaces $
# interfaces(5) file used by ifup(8) and ifdown(8)
# Please note that this file is written to be used with dhcpcd
# For static IP, consult /etc/dhcpcd.conf and 'man dhcpcd.conf'
# Include files from /etc/network/interfaces.d:
source-directory /etc/network/interfaces.d
auto lo
iface lo inet loopback
iface eth0 inet static
address 192.168.168.2
netmask 255.255.255.0
network 192.168.168.1
broadcast 192.168.168.255
gateway 192.168.168.1
iface usb0 inet dhcp
allow-hotplug wlan0
iface wlan0 inet manual
wpa-conf /etc/wpa_supplicant/wpa_supplicant.conf
allow-hotplug wlan1
iface wlan1 inet manual
wpa-conf /etc/wpa_supplicant/wpa_supplicant.conf
allow-hotplug usb0
iface usb0 inet dhcp
^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^T To Spell

```

- Press **CTRL + O** (save changes)
- Press **CTRL + X** (exit)
- Type down **sudo rm /var/lib/dhcp/*** (to remove any existing leases)
- Type down **sudo reboot**

- To test the connection type down **ping <gate address noted before> -c 10**



```
pi@raspberrypi: ~  
File Edit Tabs Help  
pi@raspberrypi:~ $ ping 192.168.168.1 -c10  
PING 192.168.168.1 (192.168.168.1) 56(84) bytes of data.  
64 bytes from 192.168.168.1: icmp_seq=1 ttl=64 time=0.568 ms  
64 bytes from 192.168.168.1: icmp_seq=2 ttl=64 time=0.491 ms  
64 bytes from 192.168.168.1: icmp_seq=3 ttl=64 time=0.514 ms  
64 bytes from 192.168.168.1: icmp_seq=4 ttl=64 time=0.523 ms  
64 bytes from 192.168.168.1: icmp_seq=5 ttl=64 time=0.494 ms  
64 bytes from 192.168.168.1: icmp_seq=6 ttl=64 time=0.485 ms  
64 bytes from 192.168.168.1: icmp_seq=7 ttl=64 time=0.505 ms  
64 bytes from 192.168.168.1: icmp_seq=8 ttl=64 time=0.508 ms  
64 bytes from 192.168.168.1: icmp_seq=9 ttl=64 time=0.496 ms  
64 bytes from 192.168.168.1: icmp_seq=10 ttl=64 time=0.500 ms  
  
--- 192.168.168.1 ping statistics ---  
10 packets transmitted, 10 received, 0% packet loss, time 8999ms  
rtt min/avg/max/mdev = 0.485/0.508/0.568/0.030 ms  
pi@raspberrypi:~ $
```

b. **Setting up the C# application for the new Raspberry Pi**

- Open the TaskList App project in Visual Studio
- In Form2.cs go to the *fileTrans()* method

```
private void fileTrans()
{
    try
    {
        SessionOptions sessionOptions = new SessionOptions
        {
            Protocol = Protocol.Sftp,
            HostName = "192.168.168.2",
            UserName = "pi",
            Password = "raspberrypi",
            SshHostKeyFingerprint = "ssh-ed25519 256 87:dc:16:c5:84:23:87:8d:7a:d6:44:42:cb:4e:94:0f",
        };

        using (Session session = new Session())
        {
            session.Open(sessionOptions);
            TransferOptions objTrans = new TransferOptions();
            objTrans.TransferMode = TransferMode.Binary;

            session.PutFiles(@"D:\C#-aplicatie\TaskList\resource\TaskListWeb.html", "/home/pi/app/", false, objTrans).Check();
        }
    }
    catch (Exception e)
    {
    }
}
```

- If the **inet addr** noted before is different from the **HostName** in the method, modify it

```
private void fileTrans()
{
    try
    {
        SessionOptions sessionOptions = new SessionOptions
        {
            Protocol = Protocol.Sftp,
            HostName = "192.168.168.2",
            UserName = "pi",
            Password = "raspberrypi",
            SshHostKeyFingerprint = "ssh-ed25519 256 87:dc:16:c5:84:23:87:8d:7a:d6:44:42:cb:4e:94:0f",
        };

        using (Session session = new Session())
        {
            session.Open(sessionOptions);
            TransferOptions objTrans = new TransferOptions();
            objTrans.TransferMode = TransferMode.Binary;

            session.PutFiles(@"D:\C#-aplicatie\TaskList\resource\TaskListWeb.html", "/home/pi/app/", false, objTrans).Check();
        }
    }
    catch (Exception e)
    {
    }
}
```

- In the **session** instance change the location of the source file when calling the **PutFiles()** method, first parameter, and the destination of the file in Raspberry Pi's system, second parameter (**IF NEEDED**)
- Save the project
- In the Raspberry Upload app change the **HostName** parameter to the **inet addr** noted before parameter (**IF NEEDED**)

2. **Python browser launching script**

- Go to **File Manager** on the Raspberry Pi
- Go to **/home/pi/app**
- Open the **TaskListWeb.py** file with Python 2 (IDLE)
- If needed change the current string in **url** variable with the location of the file you want to be opened at startup (**WORKS WITH HTML FILES ONLY**)

