Software Networking Manual

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Fondation Mérieux

Foreword

This manual shows you how to network the LabBook software, i.e., how to link the LabBook machine with other machine(s).

It is important to know that LabBook does not require an Internet connection to operate, and you can work with the software without a network connection (single-user architecture). Here we will look at using LabBook on an intranet.

The necessary tools and materials

When we want to network a LabBook machine, we talk about the Client/Server architecture. It is therefore necessary to have a server machine and one or more client machines.

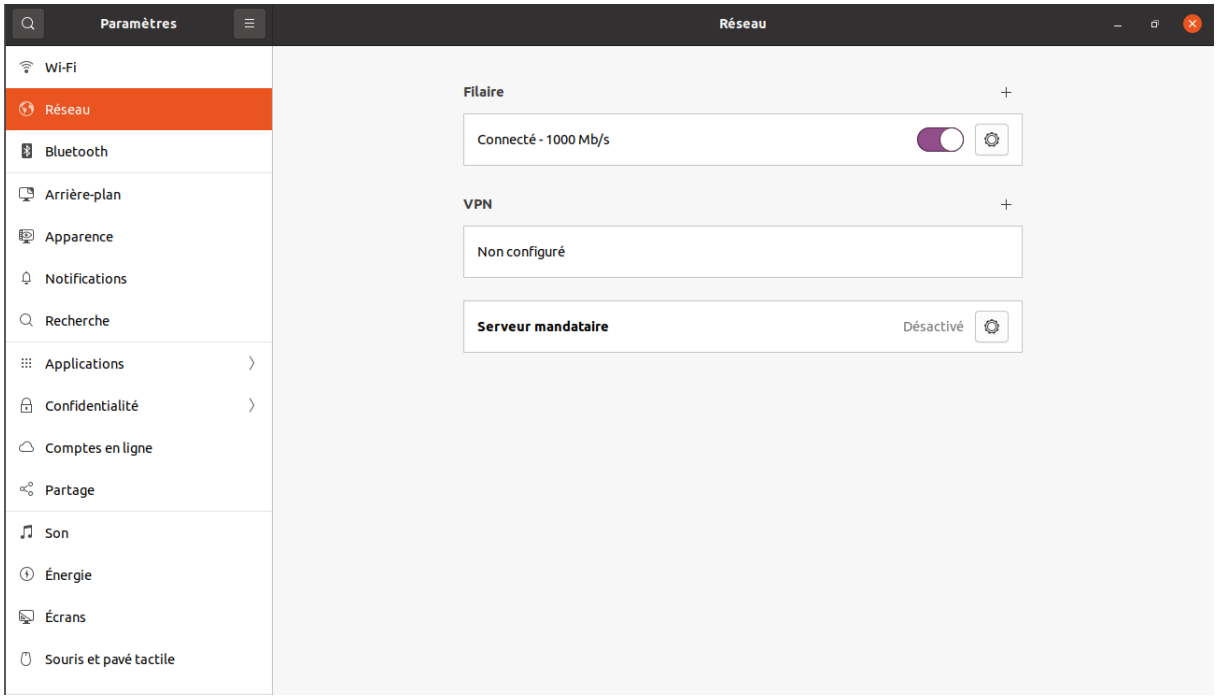
As a reminder: LabBook is installed on a Linux system (Ubuntu), a system known for its strong security, and the client machines can be Windows or other systems.

Once LabBook is installed on the server, you will need to identify the IP address of the machine. Here are two ways to do this:

- **Method 1: Graphic mode**

Click on "Activities"  (top left menu); and on the search bar type "settings

Click on the "Settings" icon. And click on the section on the left " Network ".



Go to this interface, in the right part and in Wire :

Click on this button to see the connection settings (on the far right)

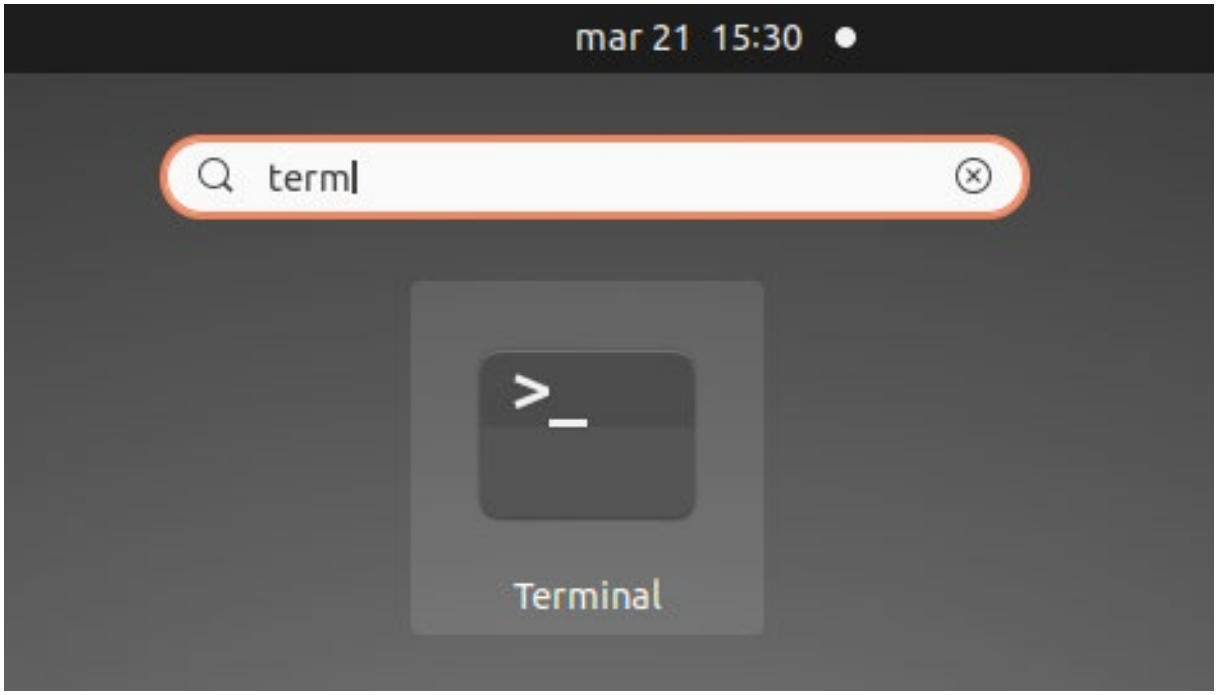
And you arrive at this interface:

Here you have the IPv4 address of your network

- **Method 2: Console mode**

You can also get the IP address of your network from the command line.

Open a terminal:



Then type the command: ***ifconfig***

```
user_labbook@sigl-TravelMate-P253:~$ ifconfig
cni-podman0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.88.0.1  netmask 255.255.0.0  broadcast 10.88.255.255
        inet6 fe80::5022:c5ff:fe2b:43c7  prefixlen 64  scopeid 0x20<link>
        ether 52:22:c5:2b:43:c7  txqueuelen 1000  (Ethernet)
        RX packets 2348  bytes 3007193 (3.0 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 2925  bytes 589964 (589.9 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

enp2s0f0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.88.2  netmask 255.255.255.0  broadcast 192.168.88.255
        inet6 fe80::1712:41d:193:546d  prefixlen 64  scopeid 0x20<link>
        ether 20:89:84:7c:c2:88  txqueuelen 1000  (Ethernet)
        RX packets 576  bytes 58061 (58.0 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 645  bytes 77307 (77.3 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
        device interrupt 16
```

Here you have the details of your network interface and with the IP address.

IP address configuration

In this manual we use a dynamic IP address (DHCP), i.e. an address that changes automatically (every time the router or server is rebooted or the network port is changed). With this dynamic option, if

after some time you are not able to access the server's IP address, you should check the new IP address by one of the two methods mentioned above.

Set the server IP :

You can also set the IP address of the server and to do so you will need to contact the system administrator.

With the version of Ubuntu 20.04 LTS on which LabBook is currently installed, we use the new network manager "netplan" and the official configuration steps are described here: https://doc.ubuntu-fr.org/netplan . Once you have finished setting the server IP, you can return to the address verification step to validate the change and now your address will not change automatically.

Description of a Client/Server architecture

A Client/Server architecture looks like the following image:

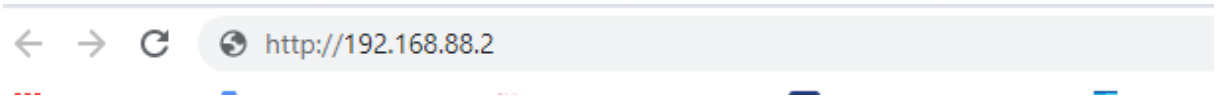
The materials needed are:

- A server machine: this is where LabBook is installed
- One or more client machines: on the picture, we have as example 2 machines
- A router or a switch: depending on your needs. Here for example we have a wifi router
- RJ45 Ethernet cable to connect computers through the router or switch

Client machine configuration

Then, on your client machine, you will need a web browser like Google Chrome or Mozilla Firefox.

On the address bar, type: http://l'ip_address_of_LabBook_server' (change the 'ip_address_of_LabBook_server' to the IP of your LabBook server. For example http://192.168.88.2)


http://192.168.88.2