

Setting up the host computer for Mea1k

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Setting up a host computer for the first time:

1. Apply for "sudo" rights
2. Make sure, that the module paths are correctly set. Use:

```
vim ${MODULESHOME}/init/.modulespath
```

Set subnet for second network interface card (NIC)

Make sure that the correct port on the ethernet interface is chosen (e.g. "p5p1" or "p5p2").

```
sudo /sbin/ifconfig -a (display information)

sudo /sbin/ifconfig p5p1 up (start it)

sudo /sbin/ifconfig p5p1 12.0.0.1 (set host IP address)
```

In order to load these setting while booting, create a file in

~~/etc/sysconfig/network-scripts~~

(old: ~~/etc/sysconfig/networking/devices~~)

with the name

~~ifcfg-p5p1 (or the port name)~~

containing the following settings:

```
DEVICE=p5p1
IPADDR=12.0.0.1
ONBOOT=yes
```

Boot FPGA, wait until only the LED furthest to the right is on. The booting time is approx. 30 seconds. If only the LED furthest on the right is on, there must be a problem and the previous steps should be repeated.

Disable firewall for second NIC

If you run "sudo systemctl disable iptables" it makes it permanent.

First, start firewalld (the new firewall daemon on RHEL7). Then, use firewall-config, to add eth1 to the trusted zone.

```
sudo /usr/sbin/firewalld
sudo firewall-config
```

In firewall-config, select the trusted zone in the panel on the left and navigate to the "interfaces" tab on the right. There click add and enter eth1.

enp3s0fq

1.

IPv4: Manual

Address	Netmask
12.0.0.1	255.0.0.0

Increase network receive buffer size

Edit the file: /etc/sysctl.conf

```
# Set large enough network rcv buffer
net.core.rmem_max = 20971520
```

Starting the software on the computer

1. load the correct Mea1k module (current, head)

```
module load mea1k/current
or:
module load mea1k/head

also:
module list
```

2. Make sure that the correct python path is loaded. Otherwise, python might load the wrong modules and libraries or none at all:

```
echo $PYTHONPATH

should return:

/usr/local/hierlemann/el6/mea1k/head/python/modules
:/usr/local/hierlemann/el6/mea1k/head/python/lib
```

3. Extend the maximum size of the kernel network buffer on the host. Make sure to execute this command before starting the server tool. Otherwise it has no effect.

2

```
sudo /sbin/sysctl -w net.core.rmem_max=20971520
```

4. Start Mea1kGui, run "init" and "board settings" scripts.
At the first start: copy those scripts into the GUI and regularly close and restart Mea1kGui in order to keep them there.
5. Start ServerGui.
6. Start ArrayTool.
7. Start Mea1kGui.
8. etc.