

# Connecting to the Main Computer in the CPM Lab

The main computer is not (or will not be, in future) connected to a monitor. It can be accessed via SSH:

```
ssh cpm-user@192.168.1.249 -L 9901:localhost:5902
```

You can use it for a remote access to the Main PC. This is necessary if you want to run your experiment in reality, as only the main PC is connected to the IPS (refer to [overview](#)) and therefore it is the only PC in the Lab which can read the positions of the real vehicles. So to run your experiments your script has to run on the main PC. Furthermore you can access the main PC via remote if you wish to have a UI when the monitor is disabled.

## VNC implementation

You can use e.g. TigerVNC as an implementation of VNC (<https://wiki.archlinux.org/index.php/TigerVNC>). Install with

```
sudo apt install tigervnc-standalone-server
```

or respectively

```
sudo apt install tigervnc-viewer
```

One can establish a VNC server on the host via the SSH interface:

```
vncserver -geometry 1440x900 -alwaysshared -dpi 96 -localhost :2
```

Leave the SSH connection open when accessing the host with a VNC viewer. In the client, access the VNC connection using a VNC viewer:

```
vncviewer localhost:9901
```

**IMPORTANT:** When you are done, kill the server on the host with

```
vncserver -kill :2
```

Disconnect with CTRL+d

## Troubleshooting

Your connection might be refused with this error message: *channel 3: open failed: connect failed: Connection refused*. This means that the VNC server does not listen on the set port, 5902, probably because that server is already in use. You can set another port by changing the last number in the creation of the VNC server (:2 5902, :3 5903 and so on), but the server you've created before already should have changed its port and told you which port it uses instead (e.g. *New 'cpm-MS-7A94:2 (cpm)' desktop at :2 on machine cpm-MS-7A94*). So, reconnect using SSH and create a tunnel to the new port :x (-L 9901:localhost:590x). This time, the vncviewer should be able to successfully connect to the host.

Preferably connect via LAN instead of WLAN.