

# Instruction on how to use SSH (revised)

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## 1 Introduction

The practical classes require the use of Unix environment for some numerical simulations and analysis. Don't worry, you don't have to be very skillful at it. We would like you to complete the in-class practical exercise on the workstations prepared by the CIP-Pool of the physics faculty, so a connection to the workstation assigned to each of you has to be set up beforehand. You are thus going to need a computer account (contact the CIP-Pool Administrator office of the physics faculty if you do not have one) and an SSH client.

## 2 How to use X2Go Client

*X2Go Client turns out to be much more stable. You are advised to replace the previously suggested SSH clients, like MobaXterm, by X2Go Client.*

1. Install X2Go Client from <https://wiki.x2go.org/doku.php/doc:installation:x2goclient>.
2. Open X2Go Client and create a new session (Session → New session).
3. Edit the setting as shown in figure 1 accordingly and press OK:
  - Session name: CIP-Pool
  - Host: your computer ID<sup>1</sup>
  - Login: your CIP-Pool account
  - SSH port: 22
  - Enable “Use Proxy server for SSH connection”
  - Proxy server host: login.physik.uni-goettingen.de
  - Port: 22
  - Enable “Same login as on X2Go Server” and “Same password as on X2Go Server”
  - Session type: Choose “XFCE”
4. Launch the session “CIP-Pool” and enter your password.
5. You should see something like figure 2. Open ”Terminal Emulator” and proceed to the next step.

## 3 Getting fun with Unix shell

Let's make a new directory called **practical1** and put the necessary files for the first practical into it:

```
mkdir practical1
```

Change the current directory to the newly created directory: **practical1**.

```
cd practical1
```

Download and unzip the material:

```
wget https://www3.mpibpc.mpg.de/groups/de_groot/compbio2/p15/markov.tar.gz
tar xvzf markov.tar.gz
```

<sup>1</sup>Please use the computer ID uniquely assigned to you (e.g. *c215*, check the separate list in case you do not know)

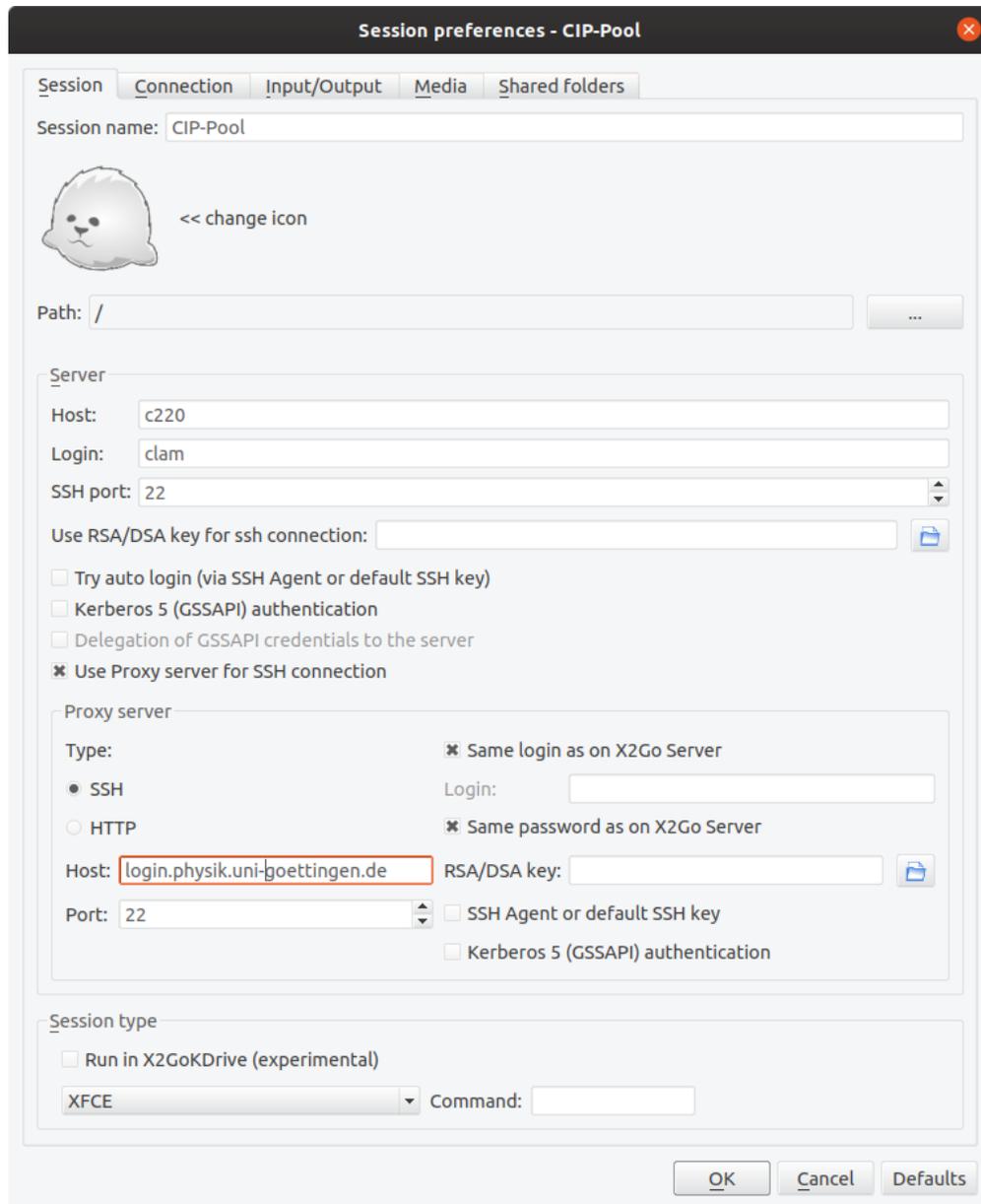


Figure 1: X2Go Client session setting

Take a look at what files are extracted:

```
ls -l
```

You can also test the stability of the connection when having a graphical interface remotely:

```
xmgrace
```

If you can see the above messages, congratulation! It means that you completed the instruction successfully. You are also encouraged to try out the first practical: [https://www3.mpibpc.mpg.de/groups/de\\_groot/compbio2/p15/index.html](https://www3.mpibpc.mpg.de/groups/de_groot/compbio2/p15/index.html). Remember to log out by clicking your name at the top right corner and selecting “Log Out”. Please make sure you can reproduce every step successfully and don’t hesitate to ask if anything is unclear to you! My email is **chun-kei.lam@mpibpc.mpg.de**

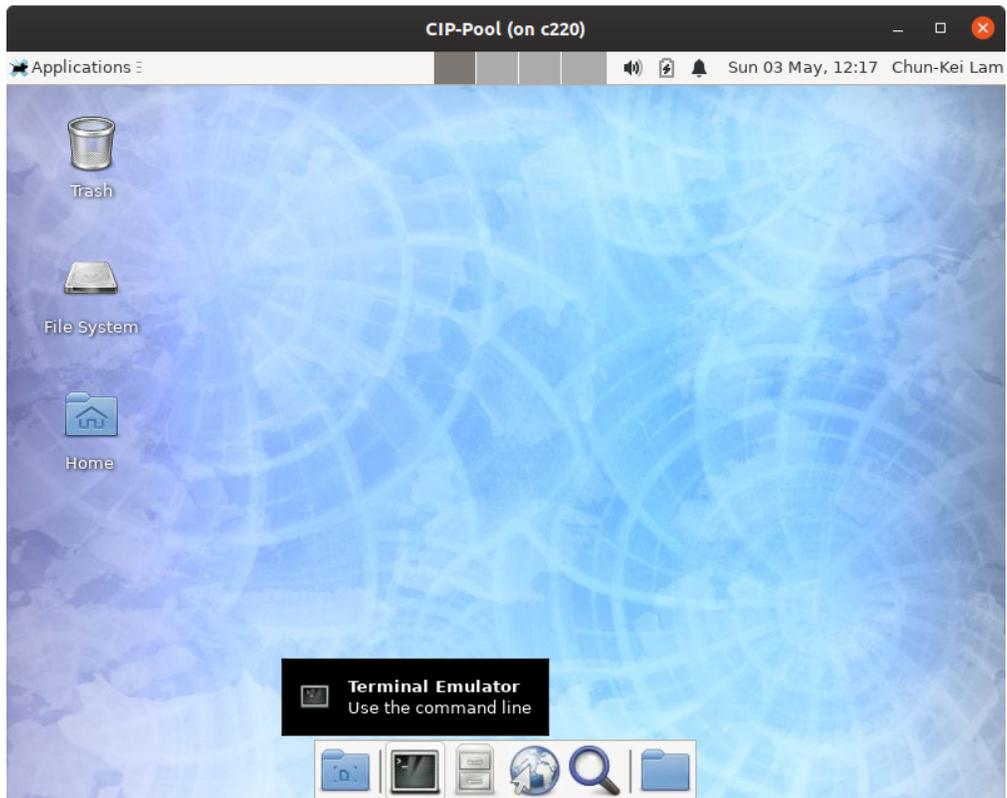


Figure 2: Workstation's desktop

```
clam@c220:~/practical1
[clam@c220 ~]$ mkdir practical1
[clam@c220 ~]$ cd practical1
[clam@c220 practical1]$ wget https://www3.mpibpc.mpg.de/groups/de_groot/compbio2/p15/markov.tar.gz
--2020-04-15 11:59:52-- https://www3.mpibpc.mpg.de/groups/de_groot/compbio2/p15/markov.tar.gz
Resolving www3.mpibpc.mpg.de (www3.mpibpc.mpg.de)... 134.76.24.122
Connecting to www3.mpibpc.mpg.de (www3.mpibpc.mpg.de)|134.76.24.122|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 773934 (756K) [application/x-gzip]
Saving to: 'markov.tar.gz'

markov.tar.gz          100%[=====>] 755.79K  --.-KB/s   in 0.01s

2020-04-15 11:59:52 (51.8 MB/s) - 'markov.tar.gz' saved [773934/773934]

[clam@c220 practical1]$ tar xvzf markov.tar.gz
./clus1.csh
./clus2.csh
./clus3.csh
./cluster
./langevin
./langevin.inp
./ld.pse
./libgfortran.so.3
./markov
./trans
[clam@c220 practical1]$ ls -l
total 8172
-rwxr-xr-x 1 clam alien    391 Apr 22  2015 clus1.csh
-rwxr-xr-x 1 clam alien    331 Apr 22  2015 clus2.csh
-rwxr-xr-x 1 clam alien    439 Apr 22  2015 clus3.csh
-rwxr-xr-x 1 clam alien  27132 Apr 22  2015 cluster
-rwxr-xr-x 1 clam alien 895961 Apr 21  2015 langevin
-rw-r--r-- 1 clam alien    350 Apr 28  2015 langevin.inp
-rw-r--r-- 1 clam alien 5348258 Apr 24  2015 ld.pse
-rwxr-xr-x 1 clam alien 1214648 May  3  2018 libgfortran.so.3
-rwxr-xr-x 1 clam alien   17726 Apr 22  2015 markov
-rw-r--r-- 1 clam alien  773934 Apr 25  2019 markov.tar.gz
-rwxr-xr-x 1 clam alien   17558 Apr 22  2015 trans
[clam@c220 practical1]$
```

Figure 3: Some basic Unix/Linux operations