

RHRK Information

High Performance Computing with the Cluster „Elwetritsch“

Fokus: Remote Access

Course instructor: Dr. Josef Schüle



Access rights

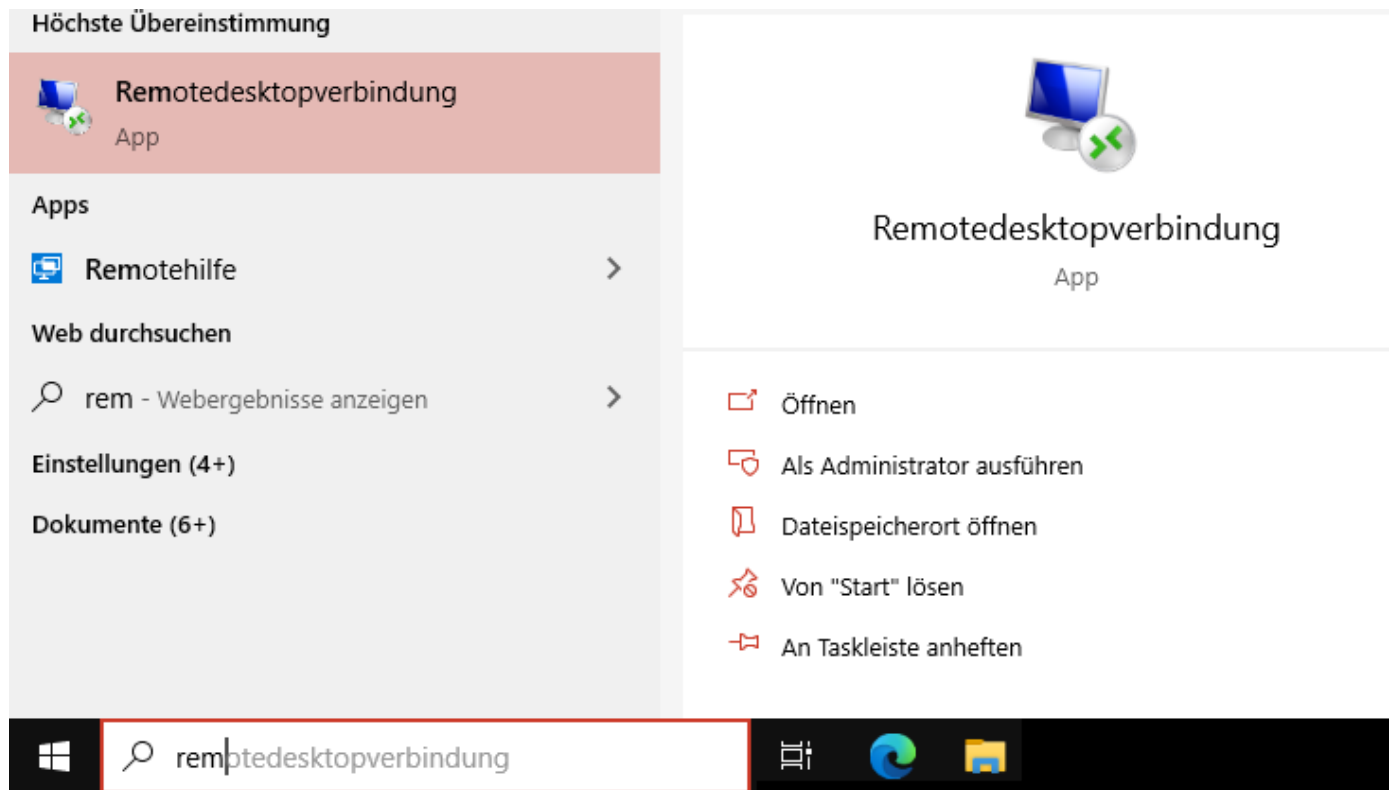
- **Employees** (TU Kaiserslautern) do have access to the HPC system
- **Students** (TU Kaiserslautern) require a access request by their supervisor. (see [Service Portal](#))
- **Members** of [AHRP](#) can register via [RARP service portal](#). In case their organization is not listed, please sent an email to hotline@rhrk.uni-kl.de with subject "Accessing Elwetritsch".

Access Methods

- Most common access methods are described on our page at elwe.rhrk.uni-kl.de for members of **TUK**.
- For members of **AHRP** the only difference are the nodes to be used, namely `elwe1.rarp-kl.de` and `elwe2.rarp-kl.de`.

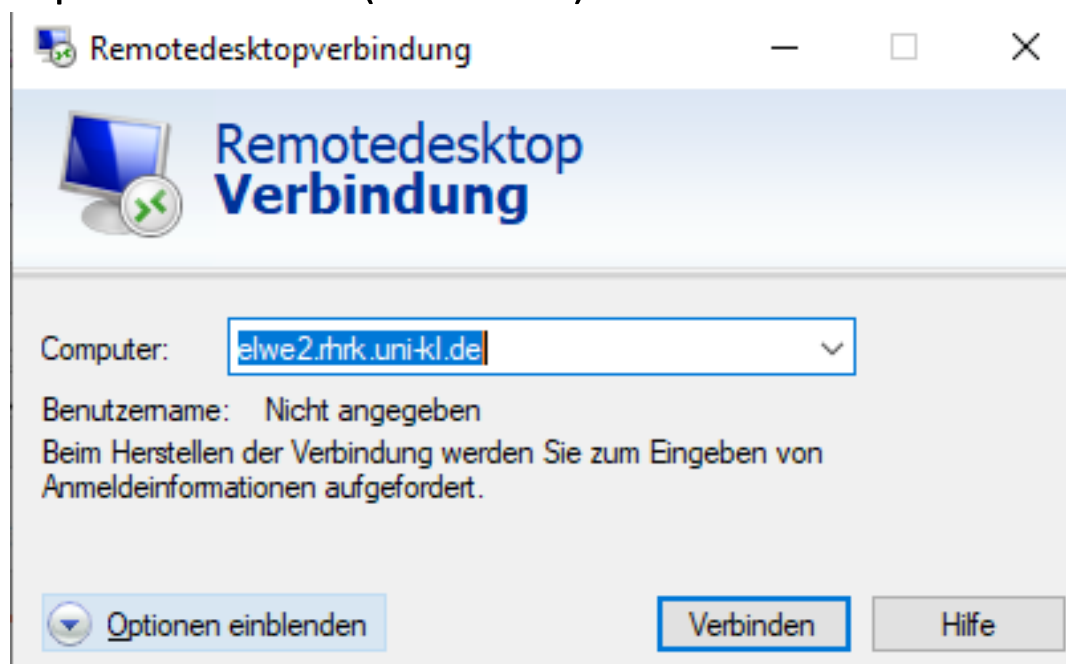
Windows User

Simplest way to access is to use the RemoteDesktop App on hand:



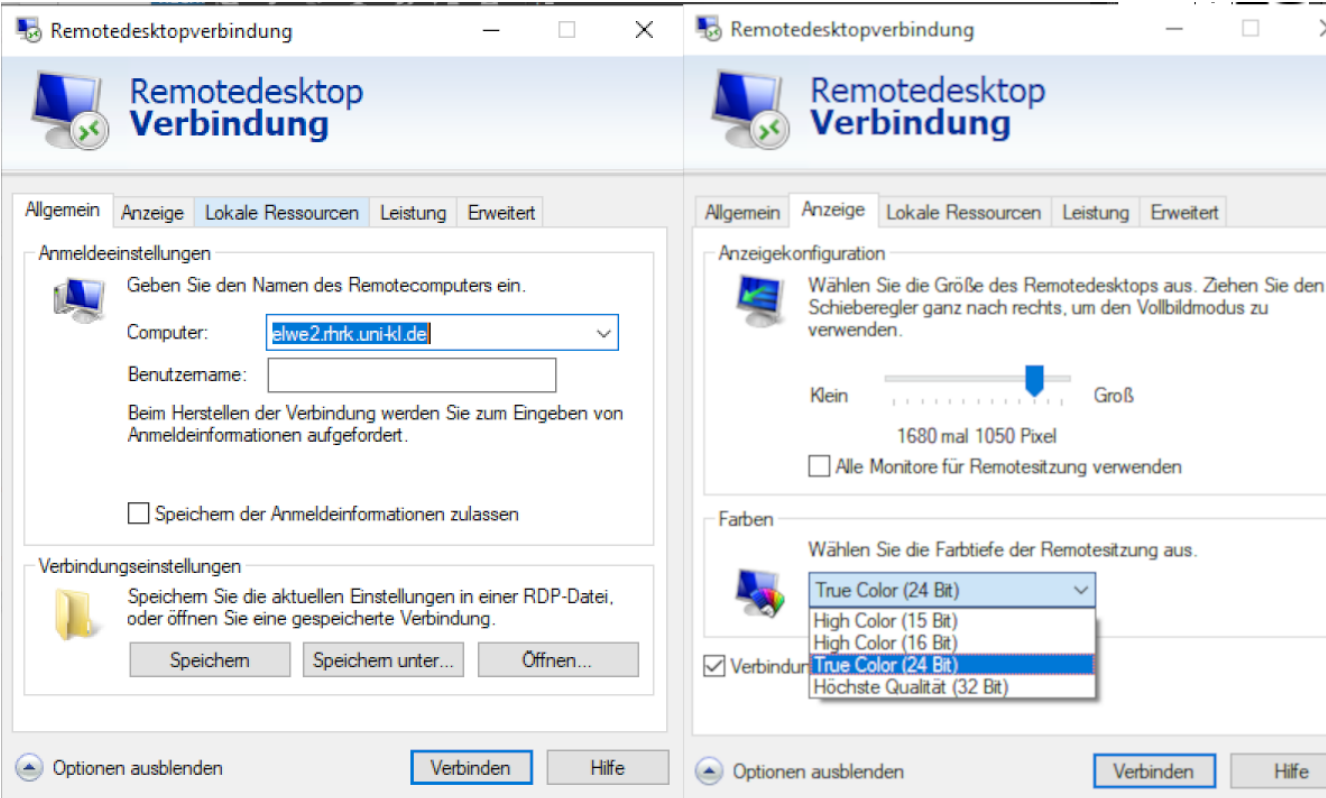
Remote Desktop

In the RemoteDesktop App you type one of elwe<x>.rhrk.uni-kl.de there <x> =1,...,4 and we recommend to forward to the options as well (first time):



Remote Desktop

The 2nd tab opens the display setting and choosing 24 bits color depth is recommended. Save this on the 1st tab - and you are ready to connect.

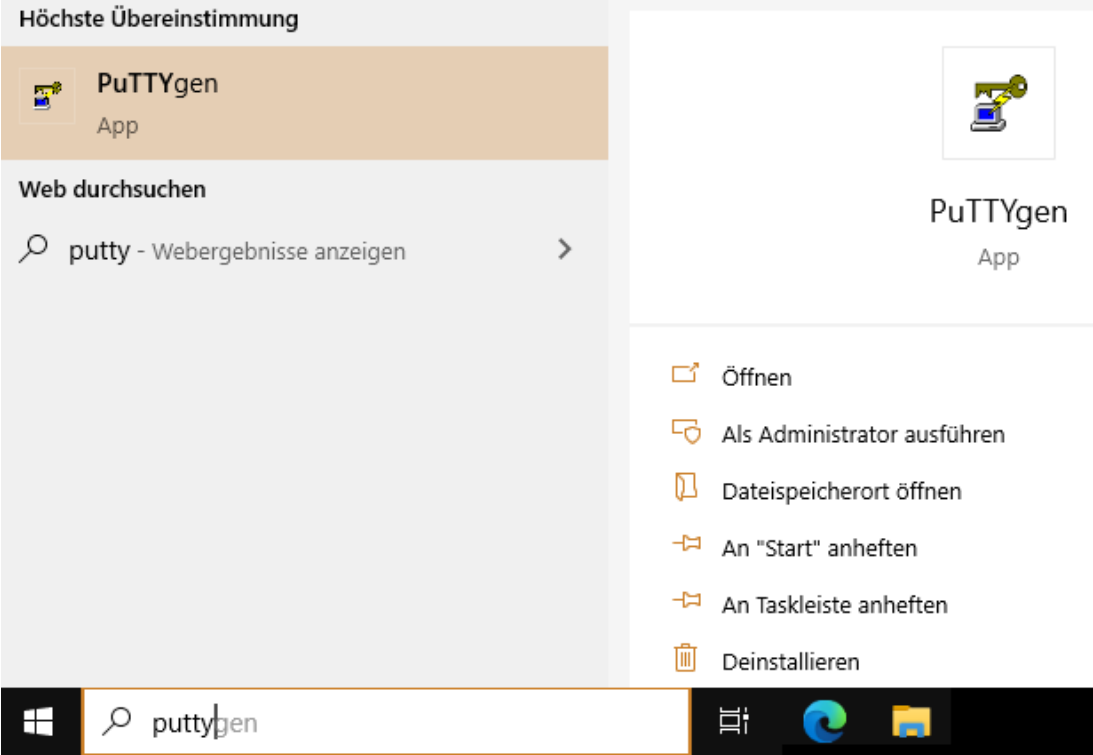


File Transfer and SSH

If you want to transfer files and to work (fast and stable) in a command window - the following slides are for you.

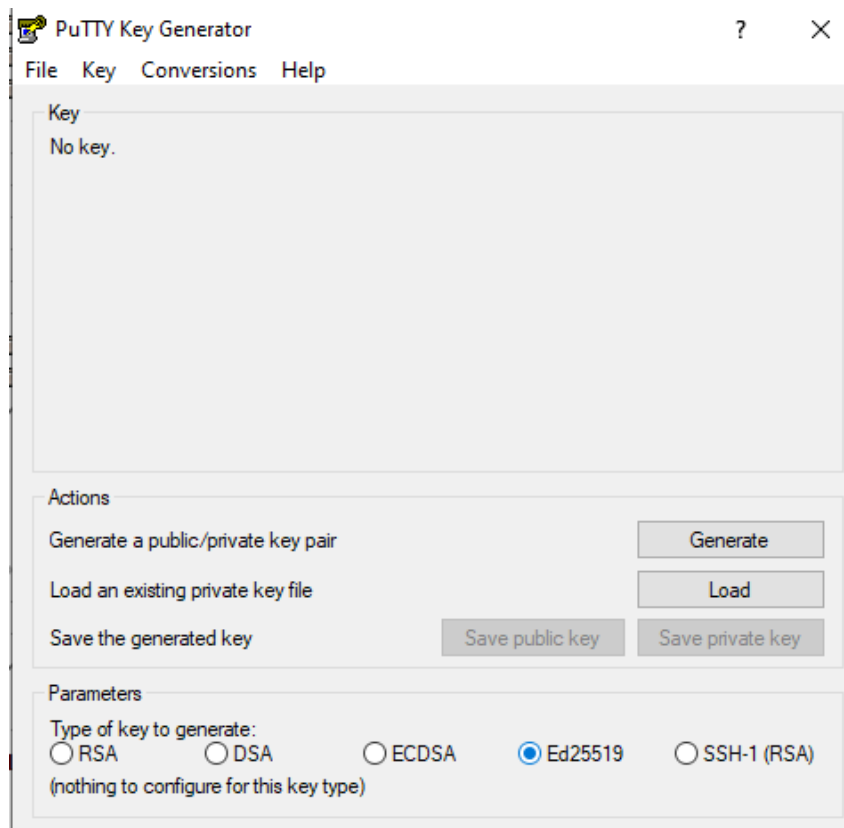
First have a look at [SSH](#) recommendations.

To generate a ssh key for Windows - simplest is puttygen (has to be installed):



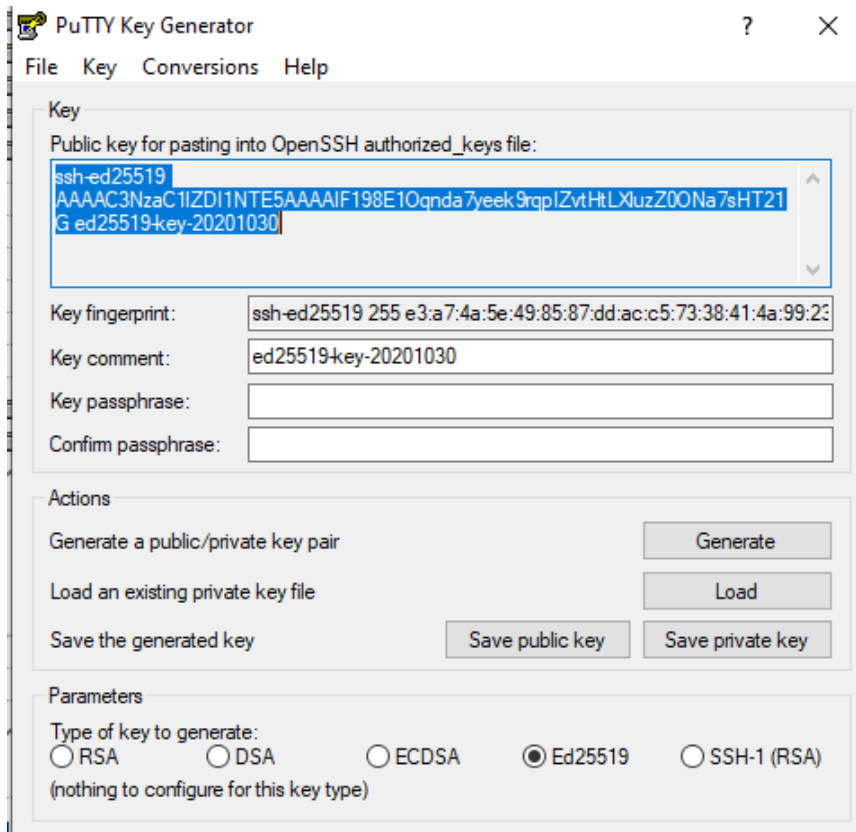
Puttygen

With Puttygen you may generate a private SSH key (use ed25519):



Puttygen

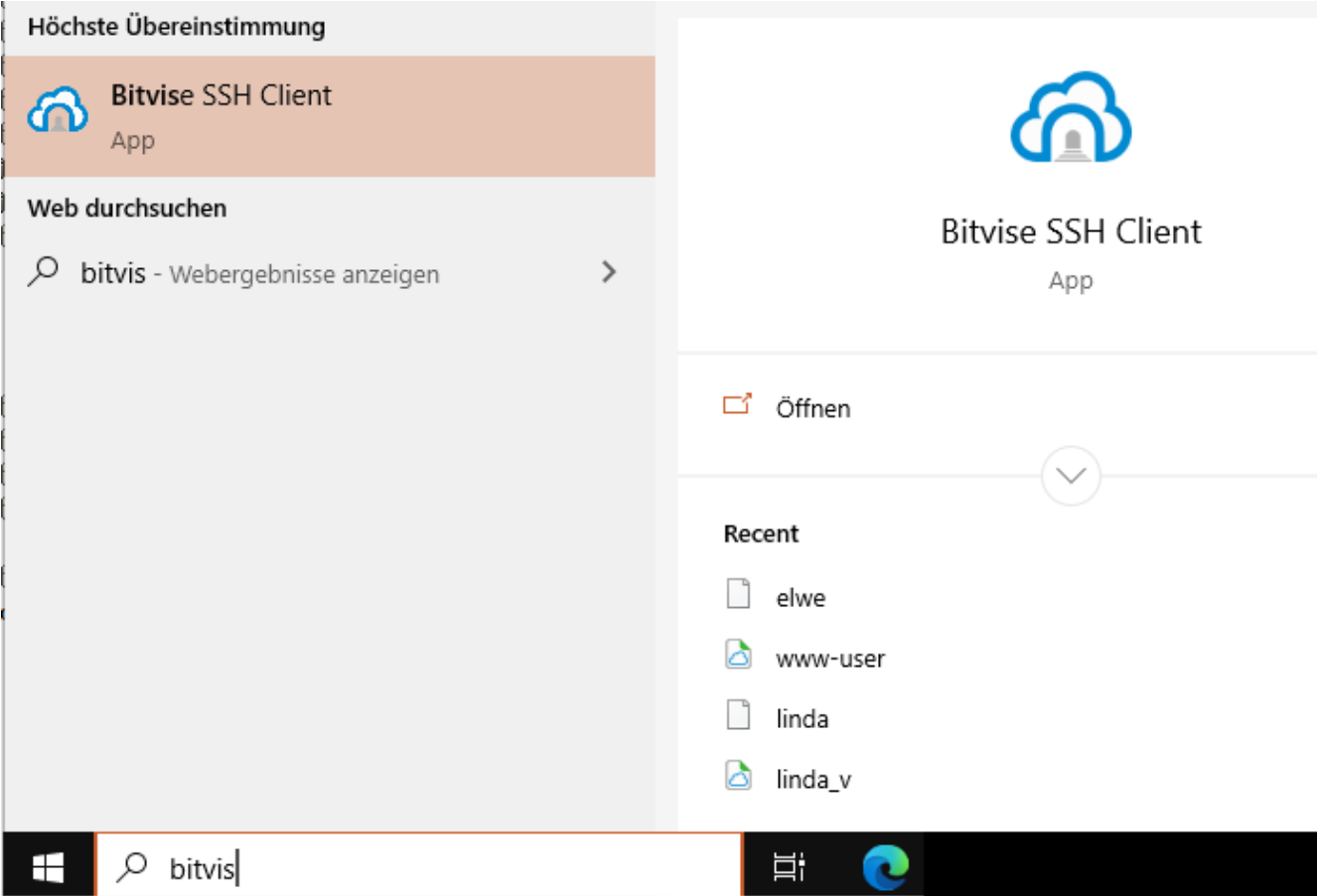
This will generate a public and a private key. You may copy the Public key for OpenSSH with help of your mouse (blue):



Different to this example - use a STRONG key passphrase to protect the key.

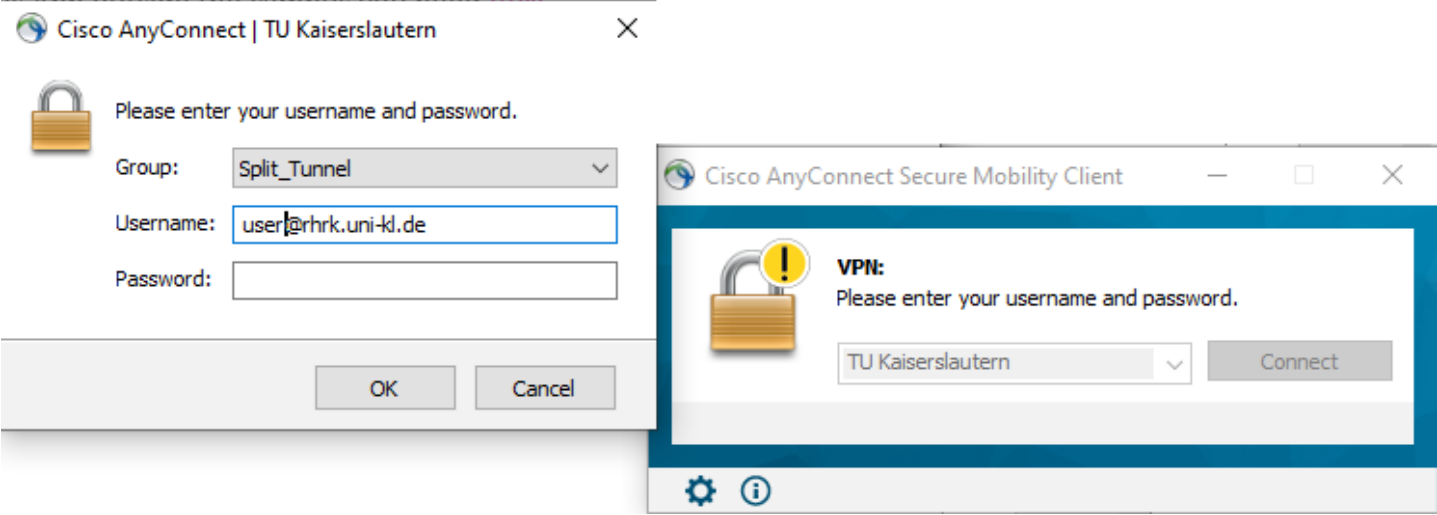
File Transfer and SSH

I recommend the Bitwise APP which is easy to install:



Remote Desktop

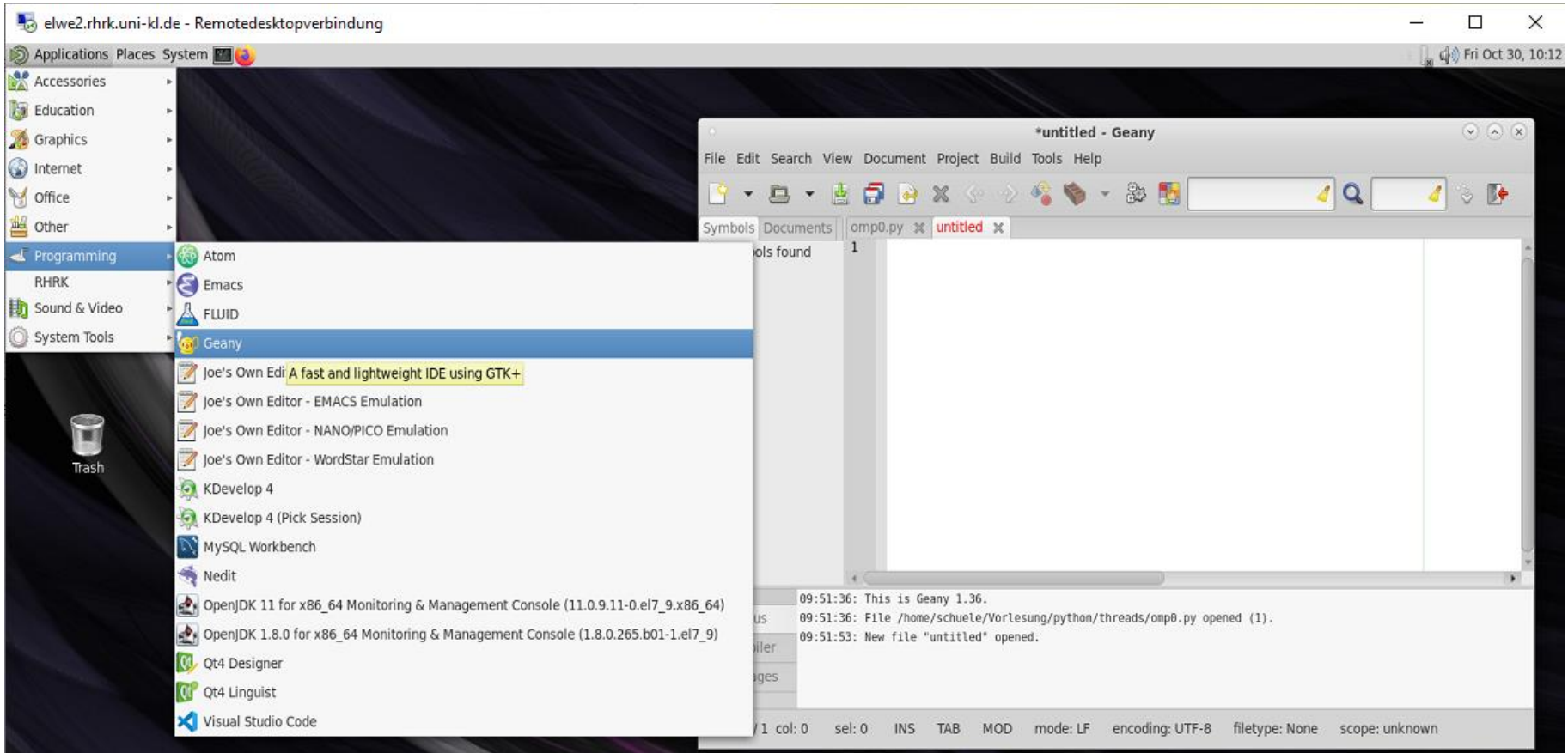
To use this App (as all others for SSH) outside the campus you need [VPN](#)



SSH Key

Now comes the tricky part:

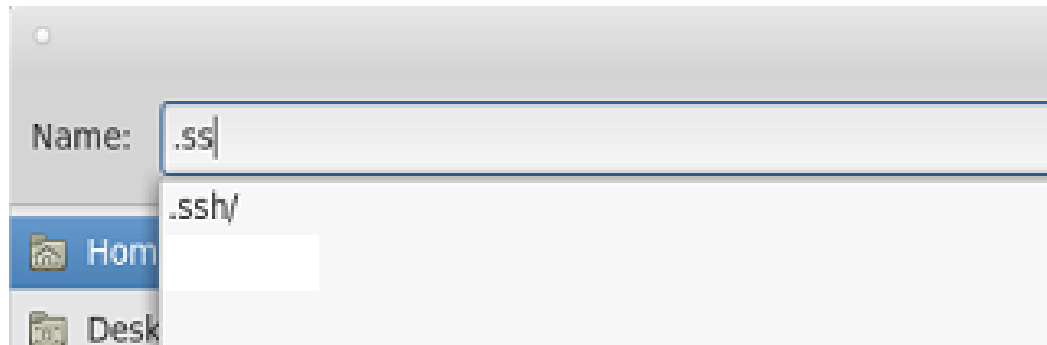
- **Login to Elwetritsch via Remote Desktop.**
- **Open an Editor like for Ex. geany (next slide)**



Now you may paste the key into the editor window and -> File -> Save As

SSH Key

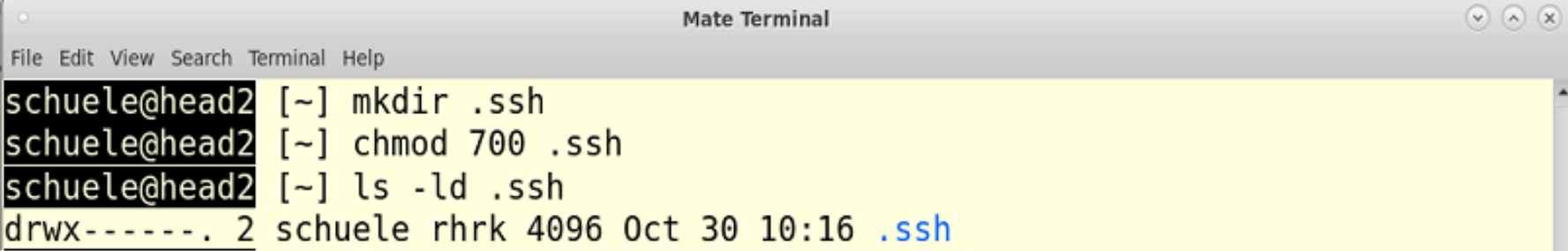
Type in the Name field `.ssh`:



If you see that - you can skip the following slide.

SSH Key

You do not have a `.ssh` directory.
Open a terminal (top, black box). And



```
Mate Terminal
File Edit View Search Terminal Help
schuele@head2 [~] mkdir .ssh
schuele@head2 [~] chmod 700 .ssh
schuele@head2 [~] ls -ld .ssh
drwx----- . 2 schuele rhrk 4096 Oct 30 10:16 .ssh
```

All steps are required. Now you have made the `.ssh` directory with correct access rights (`drwx---` in the beginning).

SSH Key

Now you type into Name in the SAVE AS window:

authorized_keys

If already there, step back

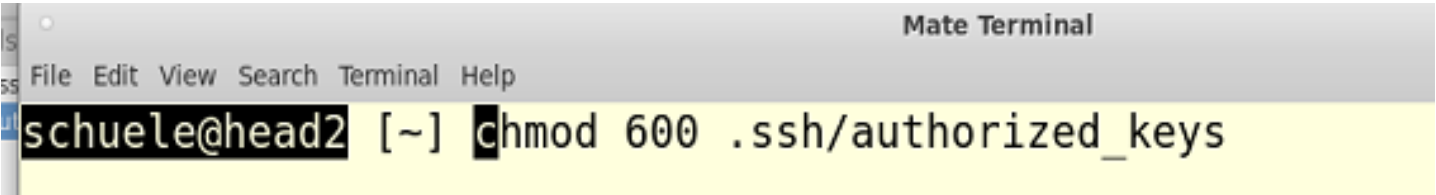
**-> Open and start to type .ss, then it will appear
Open it, and paste your key at the end. Now you
may skip the next slide.**

**If not there, the file authorized_keys will be
generated.**

SSH Key

If you generated a new `authorized_keys` file, you have to correct the access rights to it.

Open again a terminal (black box at the top)



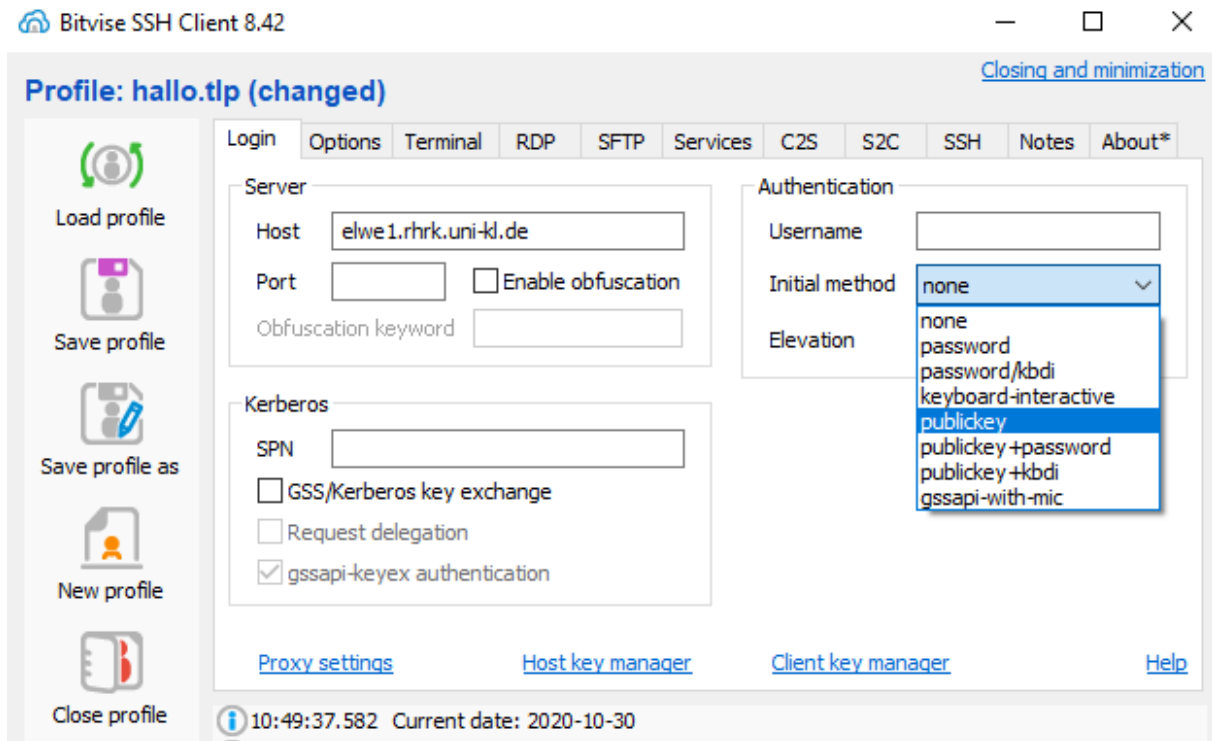
```
Mate Terminal  
File Edit View Search Terminal Help  
schuele@head2 [~] chmod 600 .ssh/authorized_keys
```

SSH Key

- **Done - Hurra.**

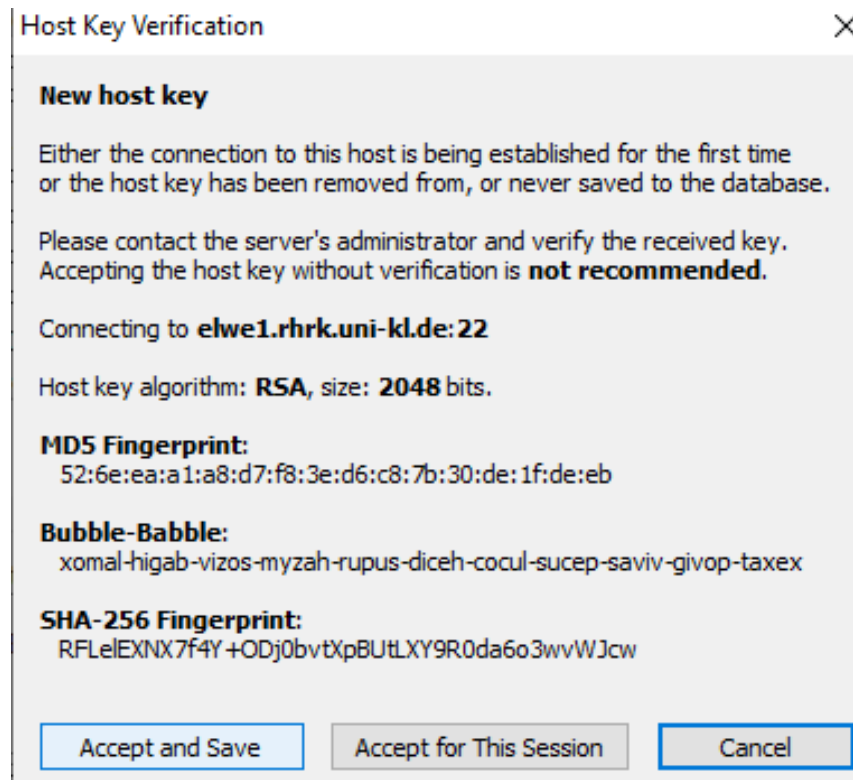
File Transfer and SSH

Back to Bitvise:
Open it, type one of elwe<x>.rhrk.uni-kl.de and select publickey as initial method



File Transfer and SSH

■ Accept the host key



File Transfer and SSH

Among the options you may choose whether a terminal or a window for file transfer (SFTP) or both will open.

That's it.

The rest should be self explaining.



- **High Performance Computing on Elwetritsch**
- **Remote Access**

Vielen Dank
Thank You