Max Planck Institute for Polymer Research



# **Connecting to the MPI-P with MobaXterm**

Robert Klein\*

February 24, 2025

1	SSH Session to your Linux Office PC	1
2	Establishing a tunnel to your Linux Office PC	5
3	Copying files	7
4	Using Jupyter Notebook running on your office PC	7
Wi pa	ndows 10 Build 1803 and above contain the OpenSSH client. You can change your SSH k ssword as described at "Changing the SSH key's password".	eys

Do not use MobaXterm version 22.0 !!! This version has issues.

## 1 SSH Session to your Linux Office PC

• After starting MobaXterm press the "Session" button in the upper left of the MobaXterm window.

😽 Mob	aXterm										
Terminal	Sessions	View	X server	Tools Gan	nes Settir	ngs Ma	cros Help	o			
-	*		~ 📀	*			Ý	<b>* *</b>	4	<b>*</b>	?
Session	Servers	Tools	Games	Sessions	View	Split	MultiExec	Tunneling	Packages	Settings	Help
Quick	connect				t d	1					
// 🔝	User session	ns									

- In the window popping up, press the "SSH" button in the upper left.
- In the sesssion settings enter:
  - As "Remote host" your PC at the MPIP. If you do not have a Linux PC of your own, please use pclinux1.poly.mpip-mainz.mpg.de.

<sup>\*</sup>kleinrob@mpip-mainz.mpg.de

Ses	sion sett	ings	e Reb	Xdmen		VNC	<b>S</b>	<b>SETD</b>	Serial	<b>Q</b>	Shell	Browser	Mosh	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	Son Basi	ic SSH se	ttings	Xumop		VIIO		01 H			onen	Diowsci	WIGSH	Aw3 00	
	Remo	ote host *	pclinux1	.poly.mpip	-mainz.r		✓ Speci	fy usernan	ne kleinr	ob		~ 2,	1	Port 22	÷
	📉 Adva	anced SS	H setting	js 📓 Te	erminal se	ettings	🔅 Netw	ork setting	s 🔶 E	ookmark	settings				

Figure 1: Choosing "SSH" and setting the PC you want to connect to

- Check "Specify Username" and enter your user name at the MPIP (that's the part of your email address *before* the @ character.
- Optional: using an SSH key.

sion sett	tings														
SSH	No. 10 Telnet	<mark>∛</mark> Rsh	Xdmcp	TTP RDP	VNC	🜏 FTP	<pre> SFTP </pre>	💉 Serial	<b>Q</b> File	Shell	Image: Stress of the second se	Mosh	🚏 Aws S3	III WSL	
Bas	ic SSH se	ttings													
Remo	ote host *	pclinux1	.poly.mpip	-mainz.r		Specif	y usernar	ne kleinr	ob		~ 2	•	Port 22	¢	
S Adv	anced SS	Heatting	is 💌 To	rminal c	ottings	** Notwo	ork cotting	10 🔶 E	Pookmarl	cottings					
	anced 55	i setting		inninai Si	stungs	Netwo	nk setting	js <u> </u>	SUOKIIIAII	v settings	·				
	<b>√</b> X11	-Forwar	rding	С	ompressi	ion Re	emote en	/ironment	: Intera	ctive shel	- ×				
	Execute	e comma	and:					Do not	exit after	comman	d ends				
	SSH-br	owser ty	ype: SFT	⊃ protoc	bl		~	Follow S	SSH path	ı (experin	nental)				
	🗹 Use	private	key C:\U	sers\rokl	ein\Down	loads\id_e	• <b>•</b>	🙎 Ex	pert SSH	l settings	i		_		
		Exe	ecute macr	o at ses	sion start	t: <none></none>		,	<b>~</b>						
						OK		8 Car	ncel						

Figure 2: Using a private key to authenticate at your PC

If you have added your public SSH key to the .ssh/authorized\_keys file on your MPIP Linux PC, you can use the SSH key – instead of your password – to authorize yourself to your PC.

To use the SSH key you got per mail together with the password for the login server, click the "Advanced SSH-settings" tab below, check "Use private key" and enter the path to your private key on your local computer.

Note: If you haven't added your SSH key you'll get an error message "Server refused key" and will later be asked to enter "USER@127.0.0.1's password" (where 127.0.0.1 is really your Office PC and the password your MPIP password).

- Add the gateway host.
  - Click the "Network Settings" tab.
  - check "Connect through SSH gateway (jump host)
  - MobaXTerm v22.1 and above:
    - \* press the large "SSH Gateway (jump host) button":

Sasic SSH settings					
Remote host * kr232.mpi	p-mainz.mpg.de	Specify username	kleinrob	~ 🙎	Port 22
Advanced SSH settings	Terminal settings	🔆 Network settings	🛧 Bookmark settings		
	$\textcircled{} \rightarrow \textcircled{} \rightarrow$	SSH gateway (j	ump host)		
Proxy settings (ex	(perimental)				• •
Proxy type: Nor	ne ~ Host:	Login:	Port: 1080 🌲		

Figure 3: Choosing the "SSH Gateway option"

- \* Entering the Gateway information:
  - · Enter "login2.mpip-mainz.mpg.de" as "Gateway host"
  - · Enter your MPI-P username in the "Username" field
  - · Check "Use SSH key"
  - Enter the path to your private key on your local computer.
  - · Click "OK"
- Optional: Check "Use private key" and enter the path to your private key on your local computer.
- Click "Ok".
- At first connection MobaXTerm asks you to accept the server identity. Click "Accept", here.
- When you start a session now, you'll first be asked to enter your SSH keys password. Then you get asked to enter your password on "login2.mpip-mainz.mpg.de". This is the password you get from the authenticator app on your phone. Please don't save the password, it'll be invalid in thirty seconds.

зH	Mobaxtern Jump nosts configuration	×
	Define one or several SSH jump hosts	
Ba	(Jump through one or several SSH servers in order to reach your end-server)	
₹er		
Ad	Gateway host     Username     Port     Use SSH key       login2.mpip-mainz.mpg.de     kleinrob     22     C:\Users\roklein\Downloads\id_	•
	Add another jump host	
-	© OK	

Figure 4: SSH Gateway dialog

settings		
t * 1.pc	n2.mpip-mainz.mpg.de (port 22)	× Port 22
SSH se	It seems to be the first time you connect to this server: the remote server identity is not yet known by MobaXterm. Press "Accept" if you trust this identity and want to carry on connecting. Press "Cancel" if you want to abandon this connection.	
	Accept Cancel More info	3
y settir 🔲 Do not show	this message again	
xy type: None v	Host: Login: Port: 1080 🗘	

Figure 5: Accrpting srever identity at first connection

MobaXterm		×
Pleas	e enter your password for kleinrob on login2.	mpip-mainz.mpg.de
	Show password	
	S OK S Ca	ncel

Figure 6: Entering the 6-digit password from the authenticator app.

#### 2 Establishing a tunnel to your Linux Office PC

*Why?* you might ask. Perhaps you want to run Jupyter Notebook using the power and disk space available to your Office PC and use the Web interface on your local computer.

*Note:* Please append the contents of the file *id\_ed25519.pub* to the file ~/.*ssh/authorized\_keys* on your office PC. The MobaXTerm tunnel feature apparently can't ask for a password, so you need to use SSH key authentication.

• After starting MobaXterm press the "Tunneling" button in the upper left of the MobaXterm window.

😽 Moba	aXterm											
Terminal	Sessions	View	X server	Tools (	Games	Settings	Macros	Help	)			
-	*	1	× 4	*				Ŷ	<b>* *</b>	4	<b>*</b> *	?
Session	Servers	Tools	Games	Session	ns V	iew Sj	plit Mul	tiExec	Tunneling	Packages	Settings	Help
Quick	connect					÷						
"	User session	ns										

• Press "New SSH tunnel in the new window:

				_
1 🥂	New	SSH	tunnel	-

- In the setup window enter:
  - as "Forwarded port" the value "2222" this is the listening port number of the tunnel on your local computer.
  - as "SSH Server" the value "login2.mpip-mainz.mpg.de"

MAX PLANCK INSTITUTE FOR POLYMER RESEARCH

- as "SSH login" Your MPIP user name
- leave "SSH port" empty
- as "Remote server" your computer at the MPIP, e.g. "pclinux1.poly.mpip-mainz.mpg.de"
- as "Remote Port" the value "22"
- Then click the "Save" Button.

Local port forwarding	◯ Remote port for	warding	$\bigcirc$ Dynamic (	port forward	ling (SOCKS proxy)
Local clients	Connection from local	applications t	pclinux1.poly.m 22	pip-me ↓	Remote server
		innel	login2.mpip-ma kleinrob <ssh port=""></ssh>	ainz.mp → ¢	←→
My computer with MobaXterm	Fir	ewall			SSH server
→ Local clients ca	n access the remote	server by co	nnecting to <	mycompute	r>:2222
	Save 🖉	•	Cancel		

• In the tunnel overview give your tunnel a name, e.g. "MPIP tunnel":

MobaSSHTunn	el									-			×
				Welcome to MobaSSHTunnel	- Graphical port forwarding tool								
Name	Туре	Start/stop	Forward port	Destination server	SSH server			Se	ettings	8			
MPIP tunnel	Local	۵	2222	pclinux1.poly.mpip-mainz.mp.de:22	kleinrob@login2.mpip-mainz.mpg.de:22	Ì	٩	<u> </u>	o <sup>o</sup> (	8	x	<del>5</del>	
• Nov 00114		O 01-11-114											-
📈 New SSH tu	nnei	<ul> <li>Start all 1</li> </ul>	unneis	Stop all tunnels									E

- If you want to use public key authentication, click the key symbol under "Settings" and choose your private key file.
- To Start or Stop the tunnel click on the symbols in the Start/stop column.

**Note:** You'll have to start a SSH session as described under "SSH Session to your Linux Office PC" *first.* 

### 3 Copying files

When you have a SSH session open in MobaXterm you'll see your files on the MPIP Office PC to the left of the terminal window. You can drag and drop from there to your local computers explorer and vice versa.

#### 4 Using Jupyter Notebook running on your office PC

Note: If your'e using an office PC not your own, please use another port number for Jupyter Notebook, so you don't block your colleague's work – Use for example the last four digits of your numerical Account ID at the MPIP; see the output of "id -u" and add, for example 9000. A simple command to get an ID is "echo (9000 + (id -u) - 100000))". Should the number already be in use, please add another 1000 or 2000. Thank you very much.

• First start your Jupyter notebook on your office desktop in an SSH session, my port is 9000:

jupyter notebook --port 9000 --no-browser

*Note:* it is important for this SSH session to already exist, so the tunnels piggyback on this session and you don't get asked the one-time password again.

- Set up a tunnel as described in "Establishing a tunnel to your Linux Office PC" above and start it.
- Set up a second tunnel using the following values:
  - "Forwarded port": your Jupyter Notebook port, e.g. 9000
  - "SSH-Server": localhost
  - "SSH login": your MPIP user name
  - "SSH Port": 2222
  - "Remote Server": 127.0.0.1
  - "Remote Port": your Jupyter Notebook port, e.g. 9000
  - press save give it a meaningful name, e.g. Jupyter@pclinux1
- Start this tunnel, too.
- Now copy your jupyter notebook URL into your local browser and start doing your Jupyter stuff.