

# Tutorial: How can I work with Jupyter at home?

There is two ways to work with Jupyter at home:

- Either you install Python, Jupyter and all other dependencies on your device so you can run Jupyter locally.
- Or you connect with the Tardis work stations you already use during the class!

**There is dozens of tutorials on how to run Jupyter locally, let us therefore focus on the second solution!**

# The D-ITET Tardis computer network

The D-ITET has around 100 freely accessible computers to use for

- Student's personal computing/work
- Computer Classes or Student Labs
- Distributed Computing, when not in use

The computers in this network are called tardis and are enumerated with two-digit numbers and the letters: [b,c,d]. Each computer has a domain hostname and a (public) static IP address:

tardis-c13.ee.ethz.ch / 129.132.3.140

More info: <https://computing.ee.ethz.ch/Workstations/ComputerRooms>

# Use Secure Shell to connect to a Tardis computer

First of all, make sure you are on the ETH Zurich network:

Use eth|eduroam WiFi or connect to the ETH virtual private network.  
(Almost all ETH servers are only available inside their network!)

Open a Terminal on your client and enter this command to open a SSH connection:

```
$ ssh <username>@tardis-c<XX>.ee.ethz.ch
```

Now as you are connected to a Tardis computer go to your python-class folder and start jupyter:

```
$ cd path_to_class/folder
```

```
$ jupyter-notebook
```

**Make note of the link that is given to you by Jupyter!**

# A practical approach to use SSH-Tunneling

SSH-Tunneling: Take a port of a remote machine and connect it to a local port of your machine

(This can also be used to connect securely to a Desktop Environment using the VNC protocol)

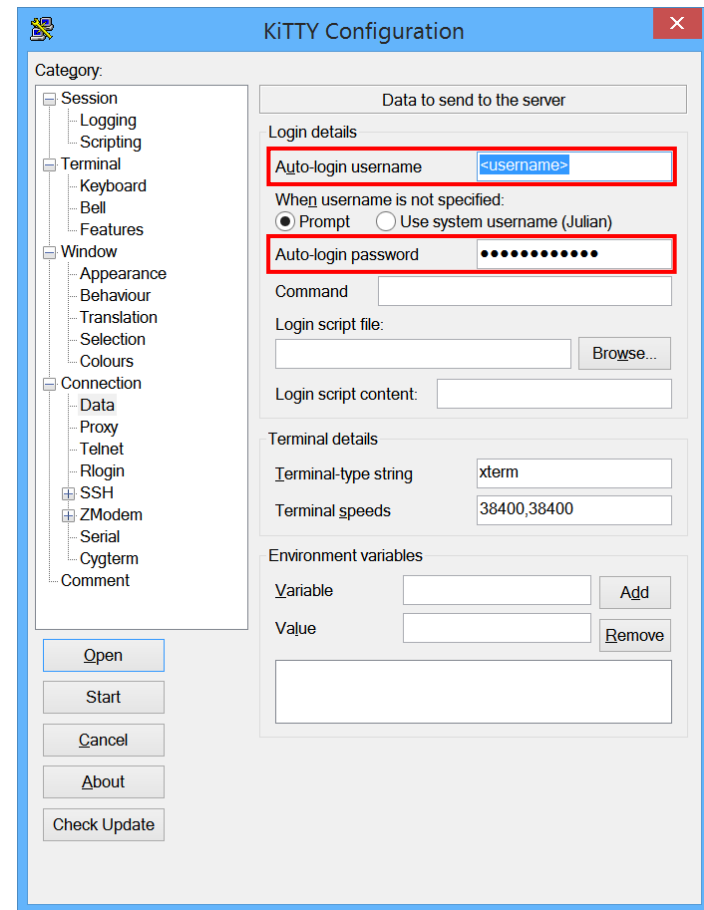
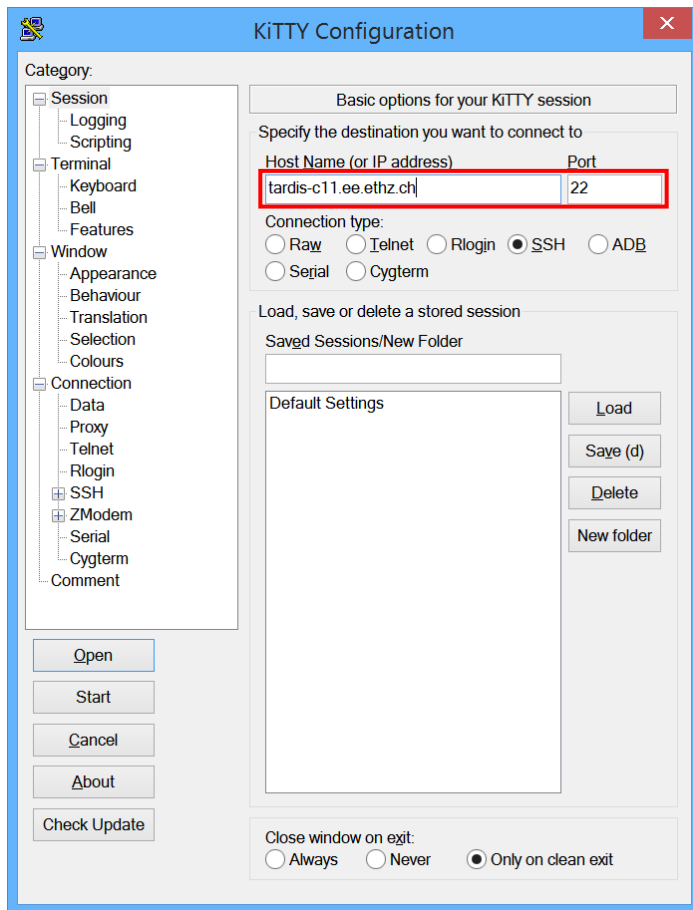
To forward the port your Jupyter-Notebook is using, enter this command in **another** local terminal (replace the missing keywords)

```
$ ssh -M -S jupyter-socket -NT -L 8888:localhost:8888 \  
  <username>@tardis-c<XX>.ee.ethz.ch &
```

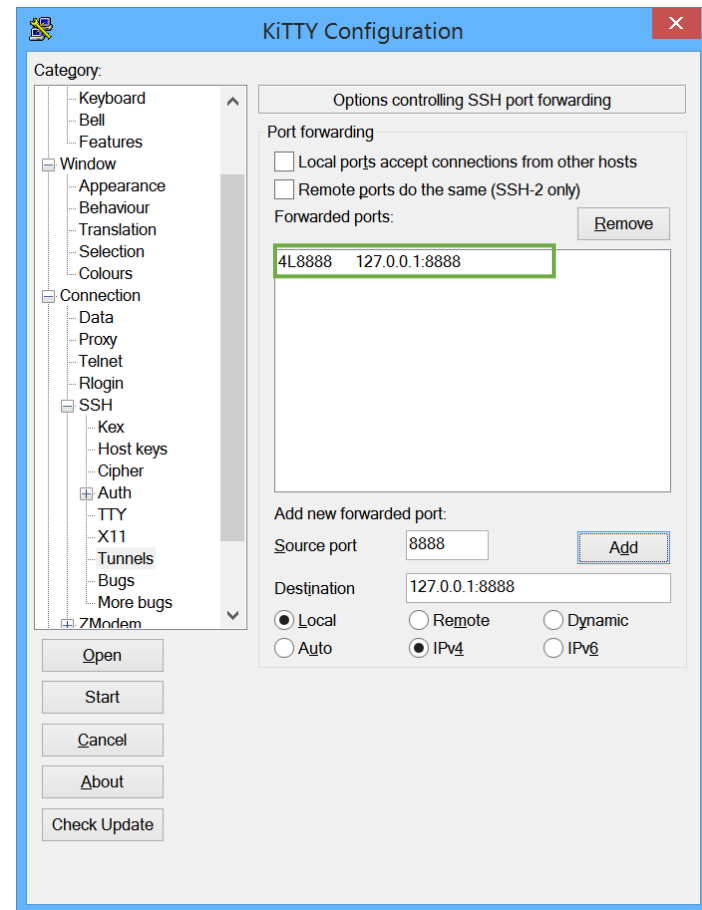
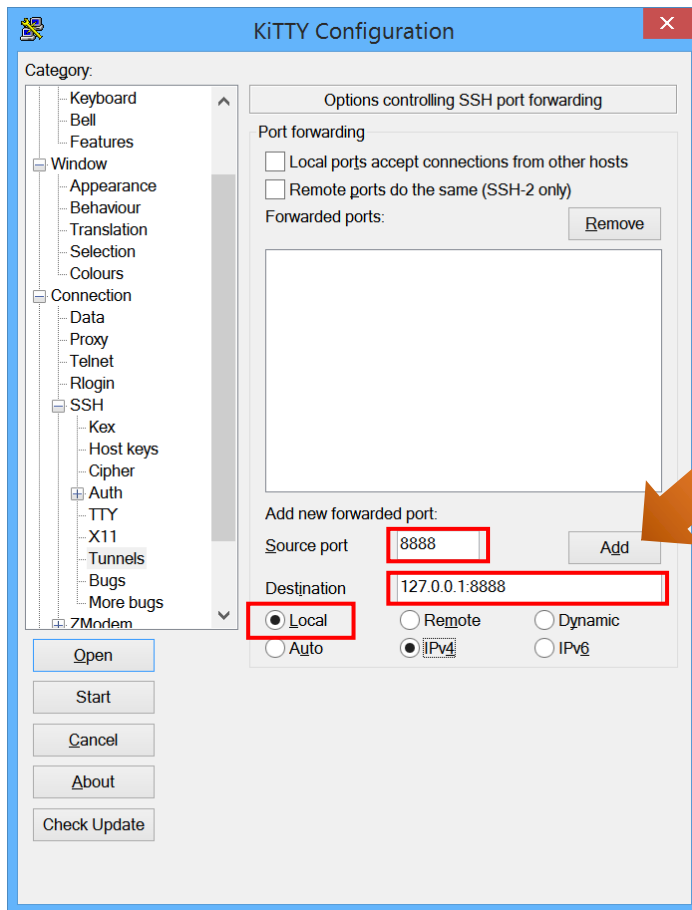
Now you can paste the link from the slide before in your local browser and start working!

The link can look like: <http://127.0.0.1:8888/tree?token=c88dc46125c8c4a2c50848fc2e0756439b2a8edf4ad154b2>

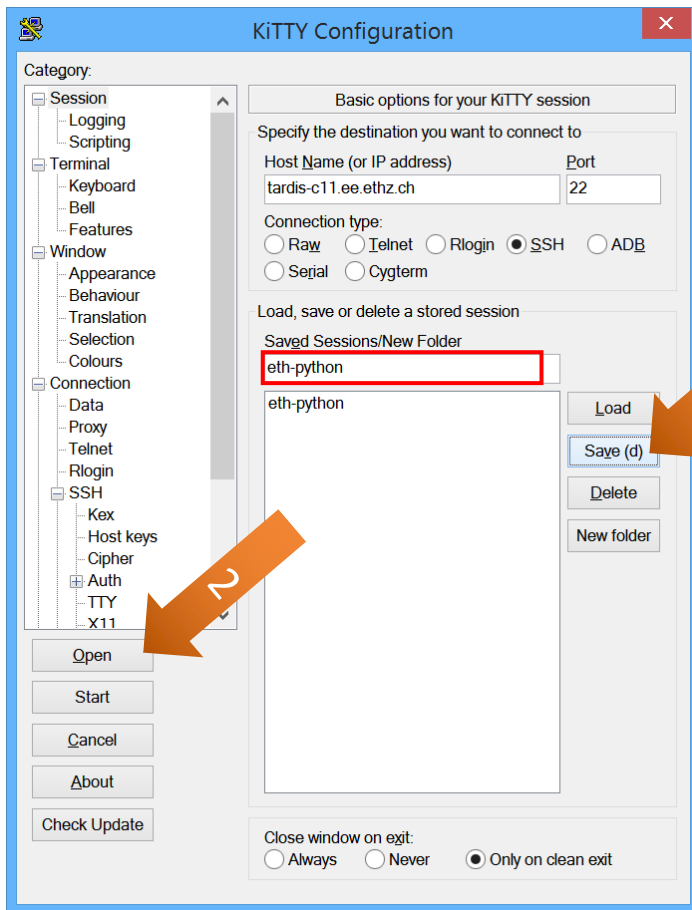
# On Windows: using PuTTY/KiTTY



# On Windows: using PuTTY/KiTTY

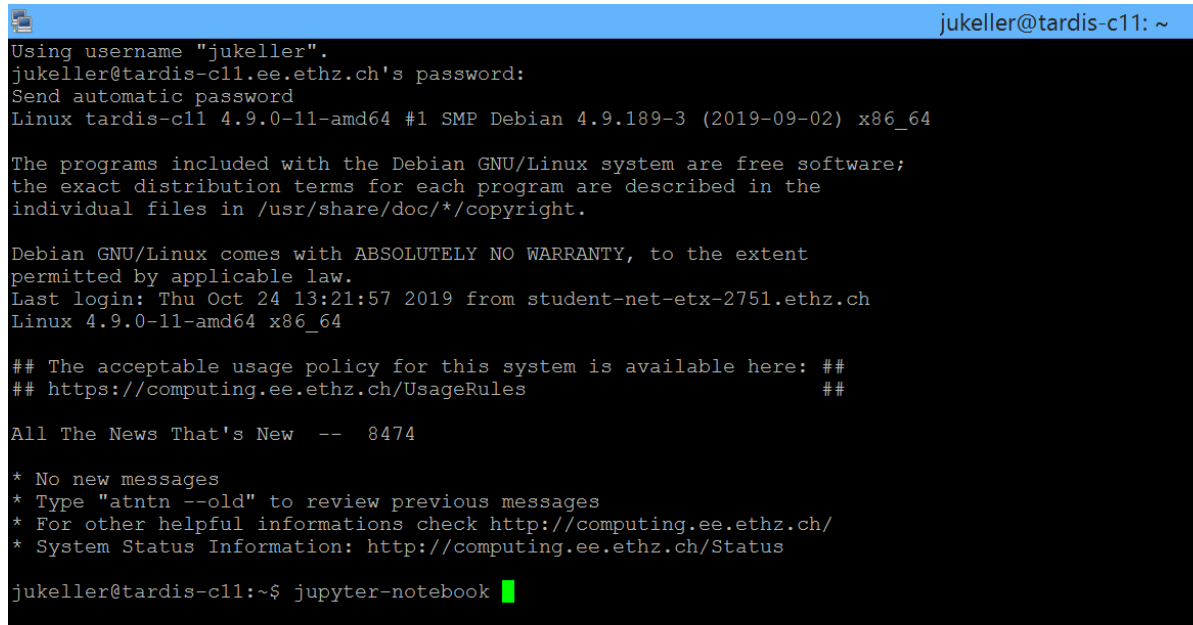


# On Windows: using PuTTY/KiTTY



# On Windows: using PuTTY/KiTTY

## Shell Prompt



```
jukeller@tardis-c11: ~  
Using username "jukeller".  
jukeller@tardis-c11.ee.ethz.ch's password:  
Send automatic password  
Linux tardis-c11 4.9.0-11-amd64 #1 SMP Debian 4.9.189-3 (2019-09-02) x86_64  
  
The programs included with the Debian GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.  
Last login: Thu Oct 24 13:21:57 2019 from student-net-etx-2751.ethz.ch  
Linux 4.9.0-11-amd64 x86_64  
  
## The acceptable usage policy for this system is available here: ##  
## https://computing.ee.ethz.ch/UsageRules ##  
  
All The News That's New -- 8474  
  
* No new messages  
* Type "atn tn --old" to review previous messages  
* For other helpful informations check http://computing.ee.ethz.ch/  
* System Status Information: http://computing.ee.ethz.ch/Status  
  
jukeller@tardis-c11:~$ jupyter-notebook
```