Running a notebook on a compute node: ssh tunneling

ssh tunneling: Step 1

1. Make a normal (ssh) login:

```
[local]$ ssh x_abcde@tetralith.nsc.liu.se
```

2. cd to the workspace you want to work in, e.g.

```
[tetralith]$ cd /proj/nsc/users/struthers/SeSE/2020/ipynb
```

3. Load a python module (or activate your own Python environment)

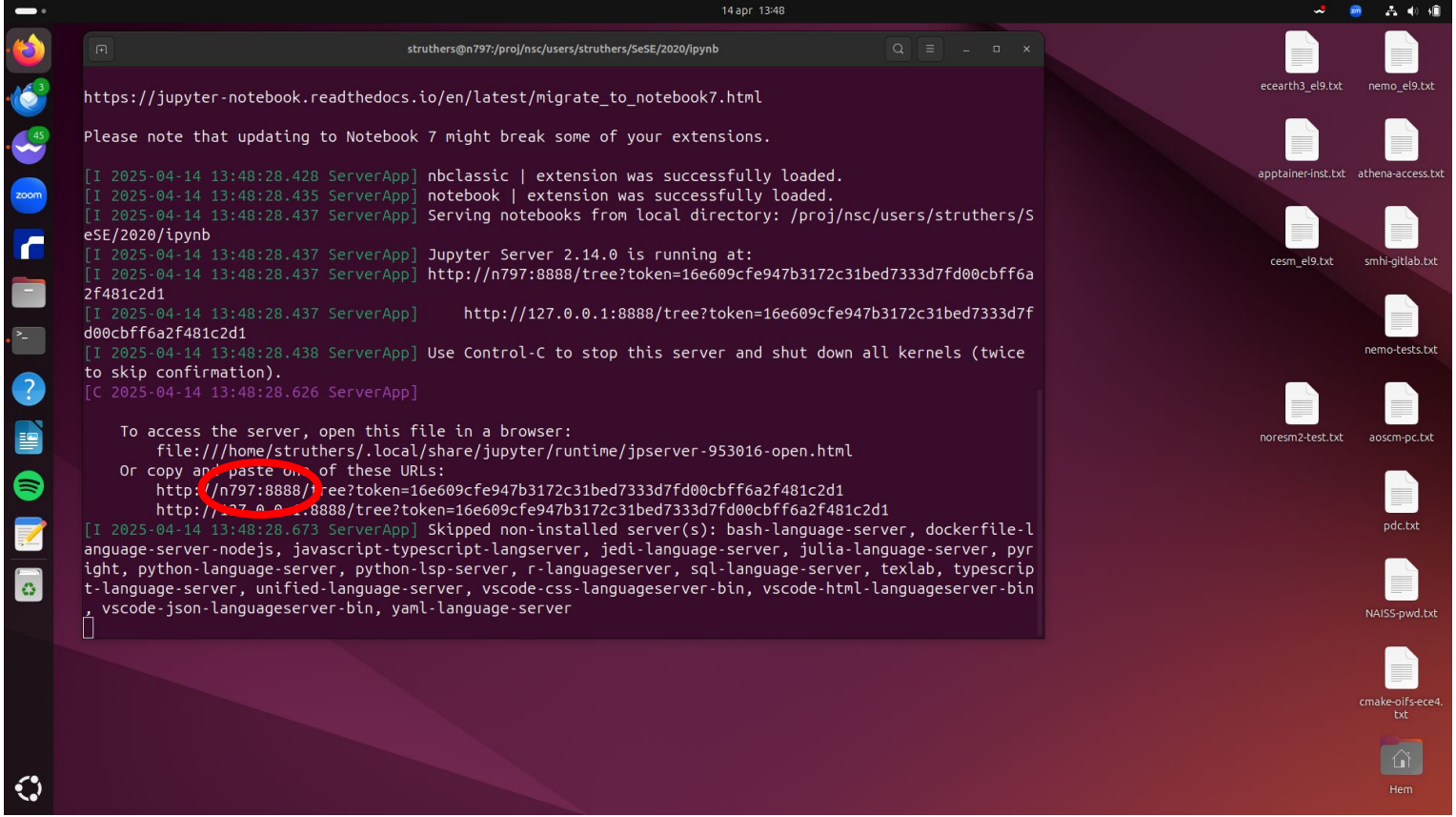
```
[tetralith]$ module load Python/3.11.5-env-hpc1-gcc-2023b-eb
```

4. Start an interactive session

```
[tetralith]$ interactive -n 1 -A nsc -t 01:00:00
```

5. Start a notebook with the no-browser flag

```
[n797]$ jupyter-notebook --no-browser --ip=n797
```



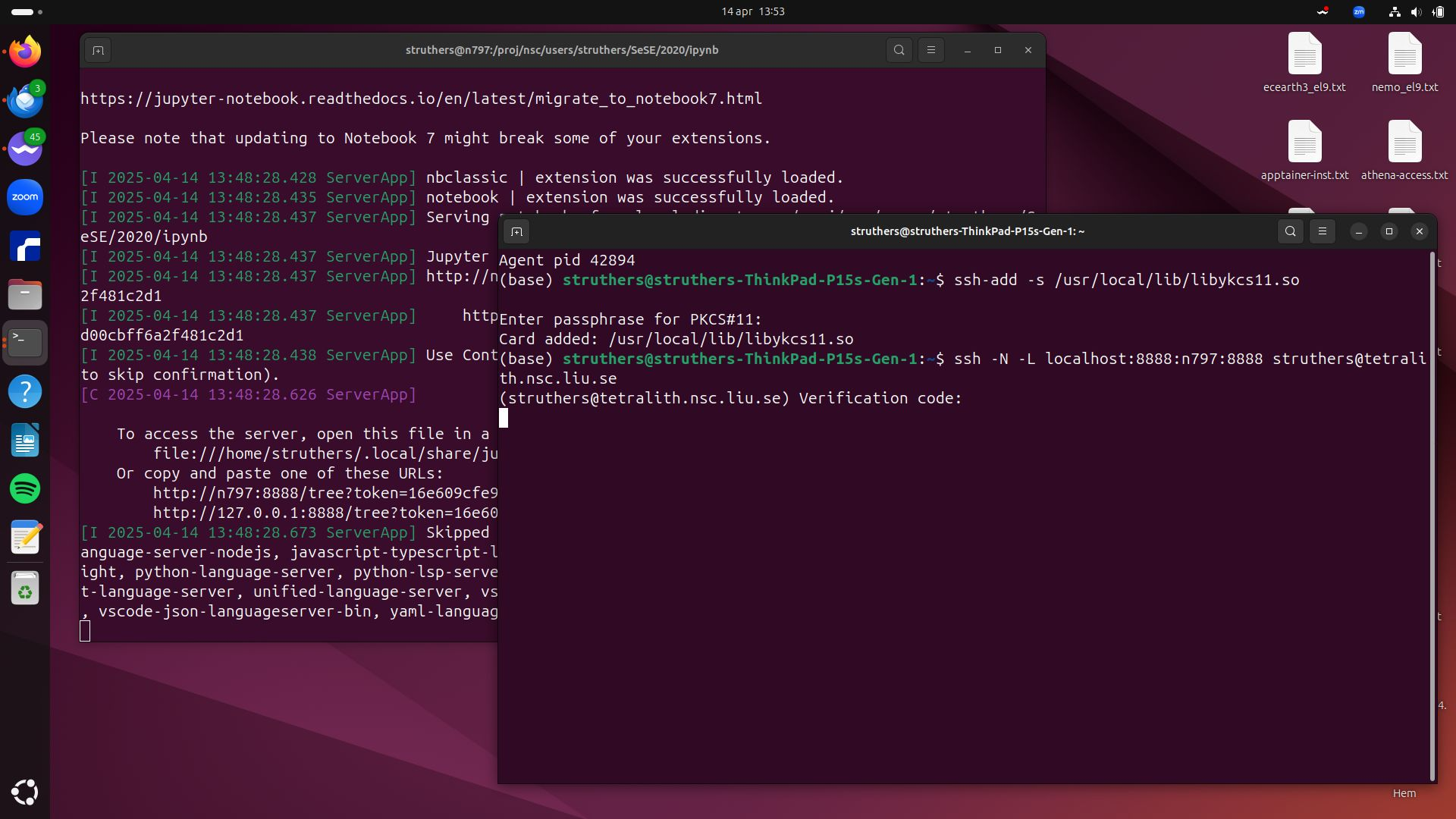
Note: The Port (8888 in this example) and node (n797 in this example) will be required in the next step.

ssh tunneling: Step 2

1. On your local PC, open a new terminal.
2. In the second terminal, make a ssh tunnel:

```
    [local]$ ssh -N -L localhost:8888:n797:8888
x_abcde@tetralith.nsc.liu.se
```

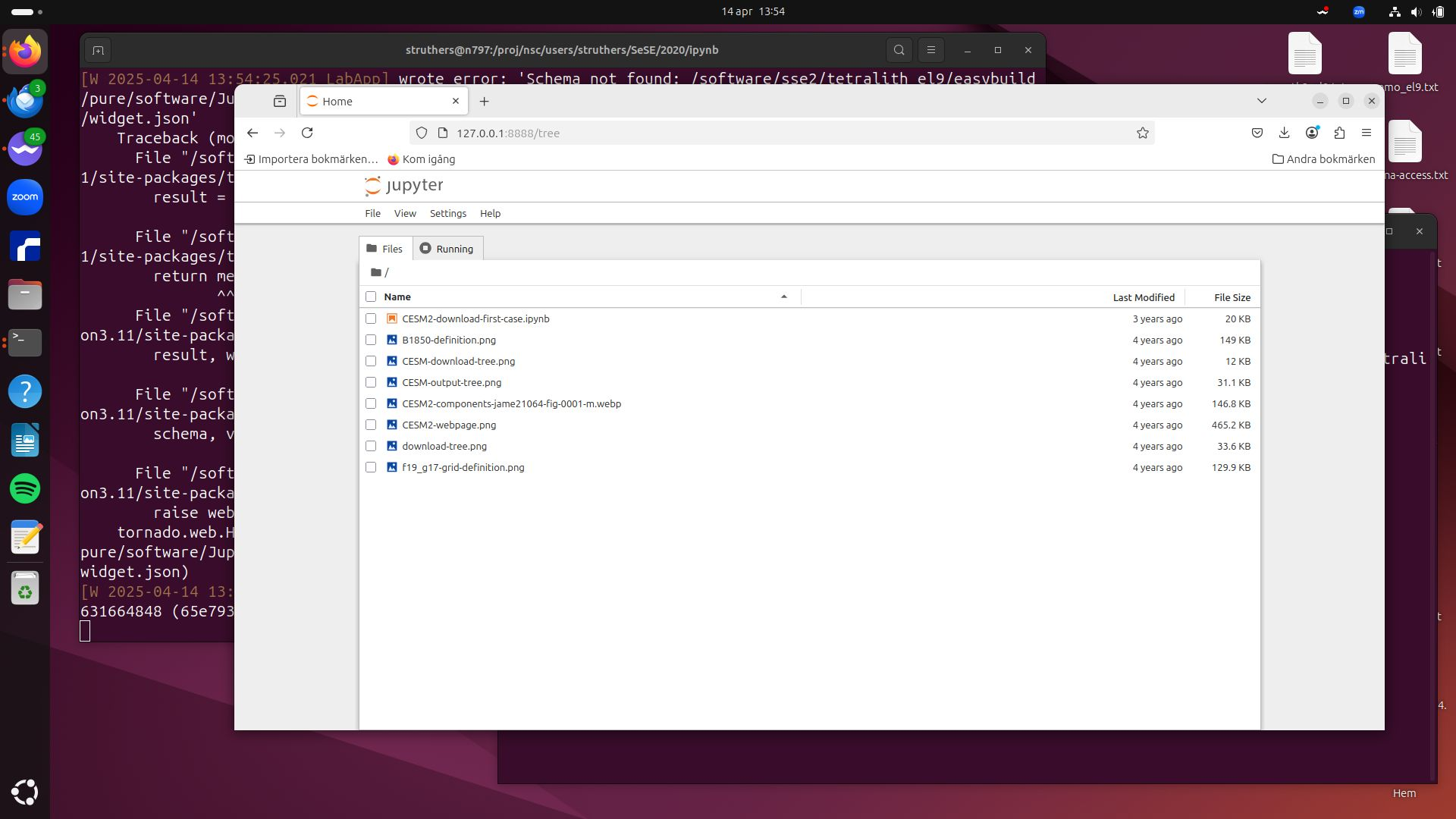
3. Notes:
   a. The port and node (...lhost:XXXX:nYYY:XXXX) should match the port/node assigned in the previous slide
   b. If you are using username/password for Tetralith, you be asked for your password at this step
   c. You will also have to enter your TOTP two factor authentication.


14 apr 13:53
struthers@n797:/proj/nsc/users/struthers/SeSE/2020/ipynb
https://jupyter-notebook.readthedocs.io/en/latest/migrate_to_notebook7.html
Please note that updating to Notebook 7 might break some of your extensions.
[I 2025-04-14 13:48:28.428 ServerApp] nbclassic | extension was successfully loaded.
[I 2025-04-14 13:48:28.435 ServerApp] notebook | extension was successfully loaded.
[I 2025-04-14 13:48:28.437 ServerApp] Serving
eSE/2020/ipynb
[I 2025-04-14 13:48:28.437 ServerApp] Jupyter
[I 2025-04-14 13:48:28.437 ServerApp] http://n
2f481c2d1
[I 2025-04-14 13:48:28.437 ServerApp] http
d00cbff6a2f481c2d1
[I 2025-04-14 13:48:28.438 ServerApp] Use Cont
to skip confirmation).
[C 2025-04-14 13:48:28.626 ServerApp]
To access the server, open this file in a
file:///home/struthers/.local/share/ju
Or copy and paste one of these URLs:
http://n797:8888/tree?token=16e609cfe9
http://127.0.0.1:8888/tree?token=16e60
[I 2025-04-14 13:48:28.673 ServerApp] Skipped
anguage-server-nodejs, javascript-typescript-l
ight, python-language-server, python-lsp-serve
t-language-server, unified-language-server, vs
, vscode-json-languageserver-bin, yaml-languag
struthers@struthers-ThinkPad-P15s-Gen-1: ~
Agent pid 42894
(base) struthers@struthers-ThinkPad-P15s-Gen-1:~$ ssh-add -s /usr/local/lib/libykcs11.so
Enter passphrase for PKCS#11:
Card added: /usr/local/lib/libykcs11.so
(base) struthers@struthers-ThinkPad-P15s-Gen-1:~$ ssh -N -L localhost:8888:n797:8888 struthers@tetrali
th.nsc.liu.se
(struthers@tetralith.nsc.liu.se) Verification code:
ecearth3_el9.txt
nemo_el9.txt
apptainer-inst.txt
athena-access.txt
Hem

ssh tunneling: Step 3

1. Again on your local PC, start your favorite browser and paste the URL given by the jupyter-notebook (see slide ‘ssh tunneling: Step 1) into your browser address:

   ```
   http://n797:8888/tree?token=16e609cfe947b3172c31bed7333d7fd00cbff6a2f481c2d1
   ```


14 apr 13:54
struthers@n797:/proj/nsc/users/struthers/SeSE/2020/ipynb
[W 2025-04-14 13:54:25.021 LabApp] wrote error: 'Schema not found: /software/sse2/tetralith_el9/easybuild
/pure/software/Ju
/widget.json'
Traceback (mo
File "/soft
1/site-packages/t
result =
File "/soft
1/site-packages/t
return me
^^
File "/soft
on3.11/site-packa
result, w
File "/soft
on3.11/site-packa
schema, v
File "/soft
on3.11/site-packa
raise web
tornado.web.H
pure/software/Jup
widget.json)
[W 2025-04-14 13:
631664848 (65e793
Home
127.0.0.1:8888/tree
Importera bokmärken...
Kom igång
Andra bokmärken
jupyter
File View Settings Help
Files
Running
/
Name
Last Modified
File Size
CESM2-download-first-case.ipynb 3 years ago 20 KB
B1850-definition.png 4 years ago 149 KB
CESM-download-tree.png 4 years ago 12 KB
CESM-output-tree.png 4 years ago 31.1 KB
CESM2-components-jame21064-fig-0001-m.webp 4 years ago 146.8 KB
CESM2-webpage.png 4 years ago 465.2 KB
download-tree.png 4 years ago 33.6 KB
f19_g17-grid-definition.png 4 years ago 129.9 KB
mo_el9.txt
na-access.txt
Hem