

Jupyter Notebook

Remote Jupyter notebook

- Only First Time

- Generate the Jupyter notebook config file

- `$ srun jupyter notebook --generate-config`

```
user@414server:~$ srun jupyter notebook --generate-config
Writing default config to: /home/user/.jupyter/jupyter_notebook_config.py
user@414server:~$
```

- Create password for your notebook password (should not be easy to guess)

- `$ srun jupyter notebook password`

```
user@414server:~$ srun jupyter notebook password
/usr/lib/python3.8/getpass.py:91: GetPassWarning: Can not control echo on the terminal.
  passwd = fallback_getpass(prompt, stream)
Warning: Password input may be echoed.
123456
Enter password:
Warning: Password input may be echoed.
123456
Verify password:
[NotebookPasswordApp] Wrote hashed password to /home/user/.jupyter/jupyter_notebook_config.json
user@414server:~$
```

- Edit `~/.bashrc`

- `$ echo 'export XDG_RUNTIME_DIR=""' >> ~/.bashrc`
`$ source ~/.bashrc`

Remote jupyter notebook(method 1)

- Enter command to start your NotebookApp

```
$ srun --gres=gpu:1 -uv jupyter notebook --ip=0.0.0.0 --no-browser
```

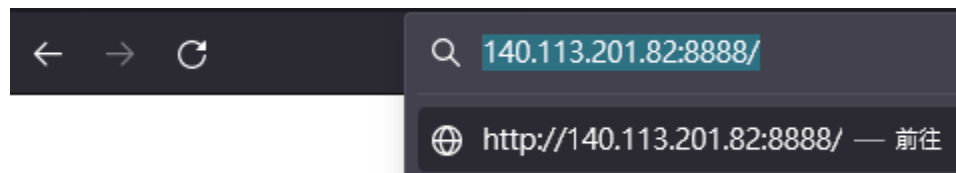
Remember the postfix number (pc414-xx), 82 here

```
user@414server:~$ srun --gres=gpu:1 -uv jupyter notebook --ip=0.0.0.0 --no-browser
srun: defined options
srun: -----
srun: gres                : gpu:1
srun: unbuffered          : set
srun: verbose             : 1
srun: -----
srun: end of defined options
srun: jobid 25: nodes(1) 'pc414-82', cpu counts: 2(x1)
srun: CpuBindType=(null type)
srun: launching 25.0 on host pc414-82, 1 tasks: 0
srun: route default plugin loaded
srun: Node pc414-82, 1 tasks started
[I 12:40:38.139 NotebookApp] Serving notebooks from local directory: /home/user
[I 12:40:38.139 NotebookApp] Jupyter Notebook 6.4.12 is running at:
[I 12:40:38.139 NotebookApp] http://pc414-82:8888/
[I 12:40:38.139 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
```

Remote jupyter notebook(method 1)

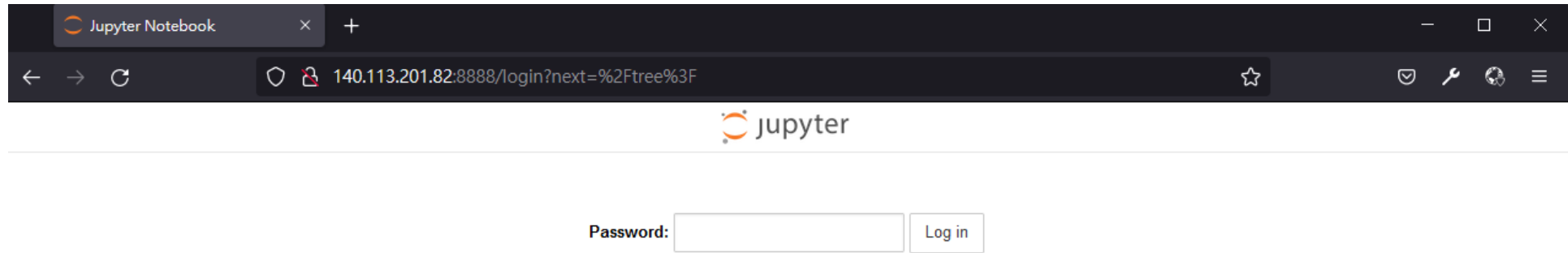


- Enter the IP: 140.113.201.xx:8888 on your explorer.
 - xx is the postfix you just remembered



Remote jupyter notebook(method 1)

- Enter the notebook password you created



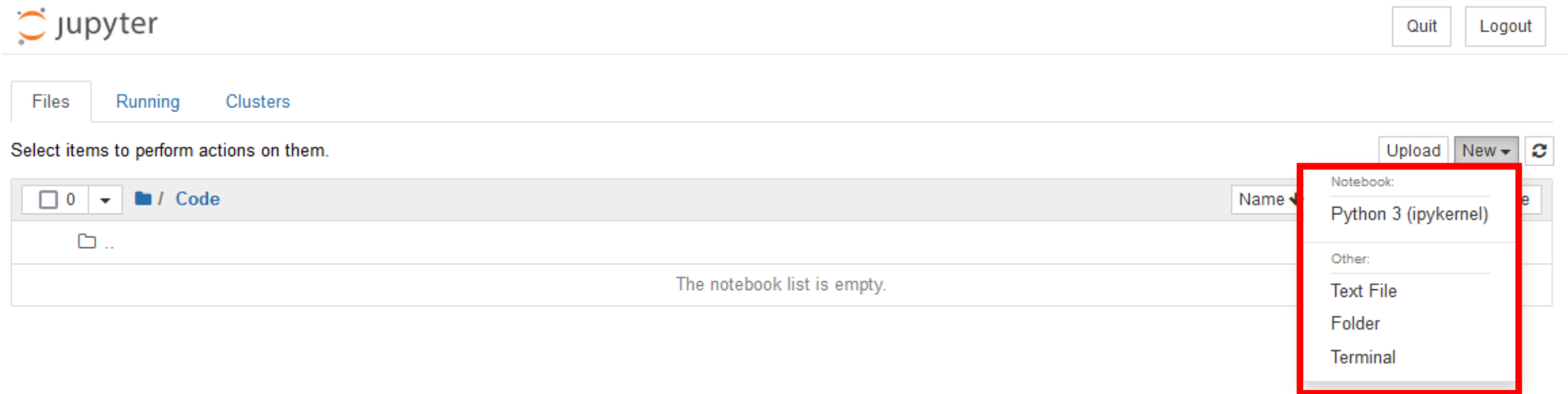
- Refresh website if stuck at white screen

Outline

- Environment setup
- **How to Run Your Code**
- Detail of Submitting your file

Jupyter notebook

- This is what Jupyter notebook looks like.

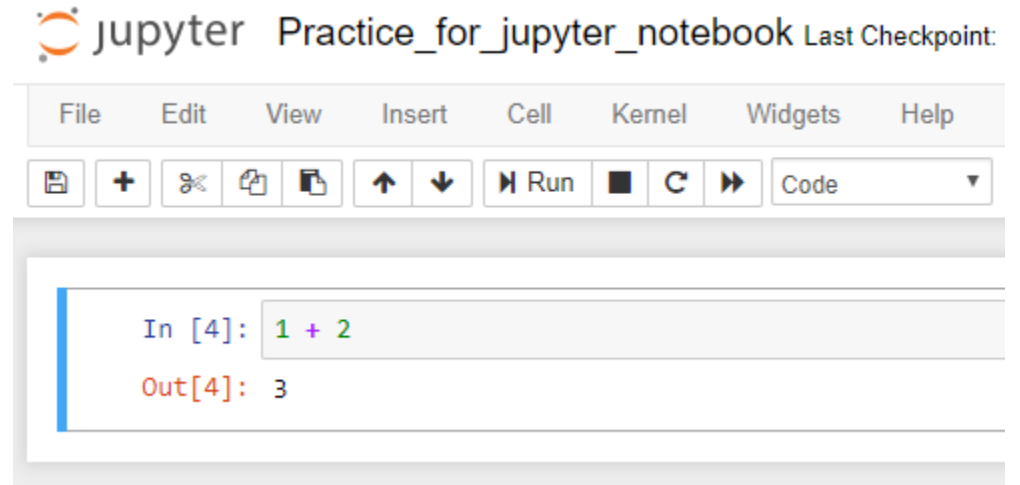


- You can create **notebook**/File/Folder on your own
- You can also open a **terminal** within browser

Jupyter notebook

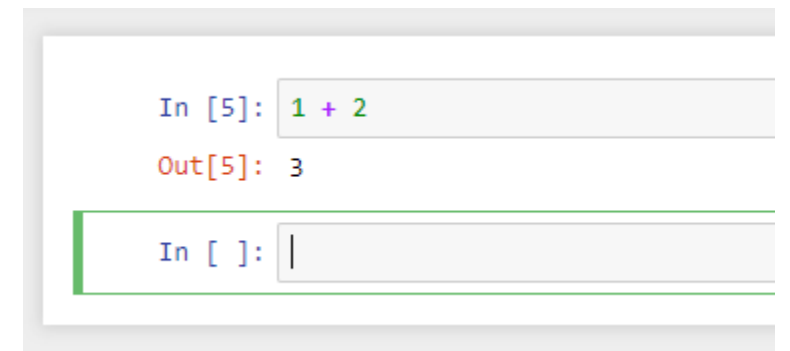
- How to run code cell?

- Ctrl + Enter
 - Just run selected cell



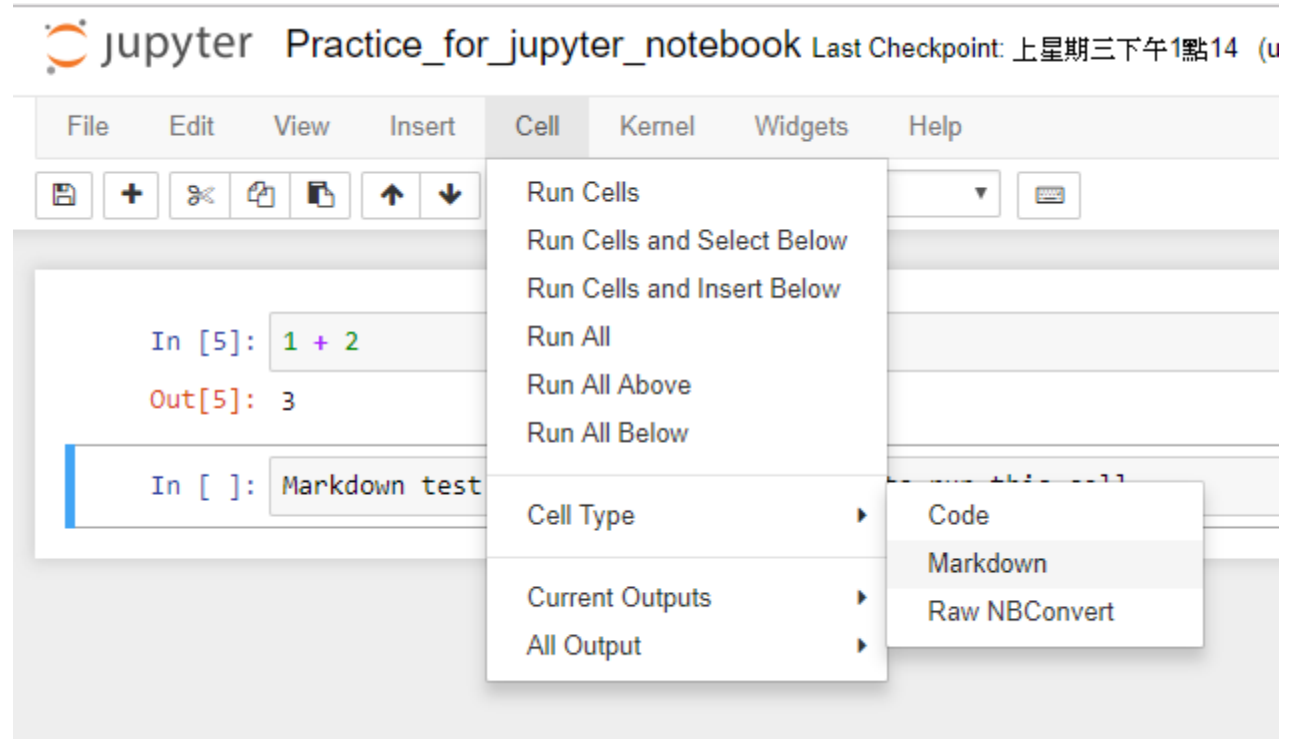
- Shift + Enter

- After run selected cell, it moves to the next cell



Jupyter notebook

- How to add markdown?
 - Change the cell type.
 - And run it



Markdown test and you have to remember to run this cell.

Markdown

```
# Markdown test and you have to remember to run this cell.
```

using #.

```
## Header level2
```

```
### Header level3
```

```
#### Header level4
```

Markdown test and you have to remember to run this cell.

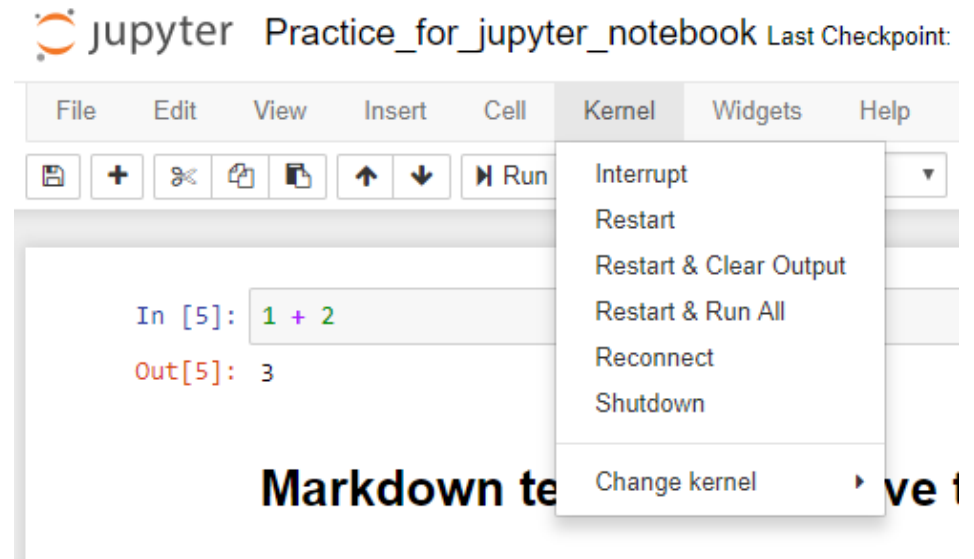
Header level2

Header level3

Header level4

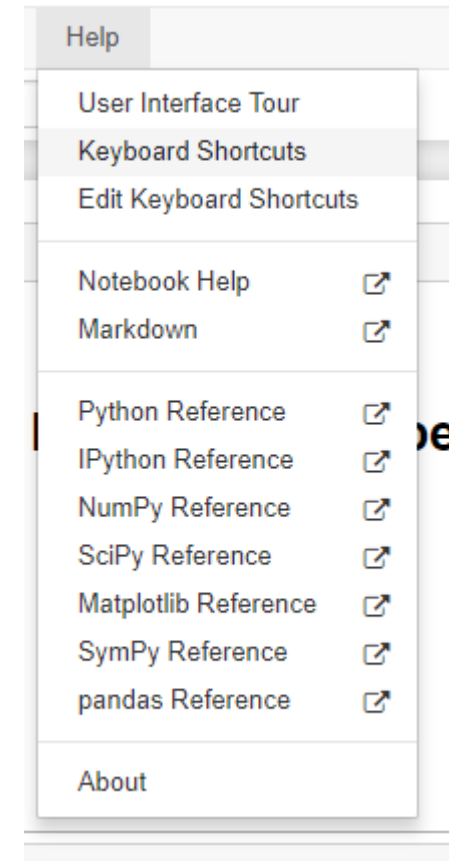
Jupyter notebook

- Interrupt
 - When we are running code, and we want to stop it. We can use it.
 - Or press the shortcut “ii”
- Restart
 - Clear all the variables, release resources, and restart again.
- Shutdown
 - Clear all the variables, release resources.



Shortcuts

- There are many shortcuts you can use or edit.
- Recommend to remember some of shortcuts.
 - “a”
 - “b”
 - “j”
 - Ctrl+Enter, Shift+Enter
 - “m”
 - “y”
 - “dd”
 - “z”



Notice!!!!

- After you finish running your code and will not use it for a short time.
 - You should terminate NotebookApp server (**Ctrl+C twice**).
 - If you are back to 414server terminal, you have successfully released the resource

```
[I 12:49:53.806 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
^Csrn: interrupt (one more within 1 sec to abort)
srn: step:27.0 task 0: running
^Csrn: sending Ctrl-C to job 27.0
[I 12:49:56.544 NotebookApp] Interrupted ...
[I 12:49:56.545 NotebookApp] Shutting down 0 kernels
[I 12:49:56.545 NotebookApp] Shutting down 0 terminals
srn: Job step aborted: Waiting up to 32 seconds for job step to finish.
srn: Complete job step 27.0 received
slurmstepd-pc414-82: error: *** STEP 27.0 ON pc414-82 CANCELLED AT 2022-09-01T12:49:56 ***
srn: Received task exit notification for 1 task of step 27.0 (status=0x0009).
srn: pc414-82: task 0: Killed
user@414server:~$
```