How to use a GPU machine and iPython Notebook
@IMT Atlantique

List of GPU machines

fl-tp-br-XXX.imta.fr with XXX in 542-557
sl-tp-br-XXX.imta.fr with XXX in 021-025

LOCAL CONNECTION

Open a terminal :

- Activate Deep Learning environment:
  `source /opt/campux/virtualenv/deeplearning-u22/bin/activate`

- Run Python Notebook :
  `jupyter notebook`

REMOTE CONNECTION

Goal: running ipython notebook remotely on the following GPU machine : fl-tp-br-542.imta.fr

Open a terminal :

- Connect to the GPU machine using ssh:
  `ssh fl-tp-br-542.imta.fr`

- Activate Deep Learning environment:
  `source /opt/campux/virtualenv/deeplearning-u22/bin/activate`

- Run Python Notebook :
  `jupyter notebook --no-browser --port=8888`

Open **another** terminal and create a SSH tunnel:

`ssh -N -L localhost:1234:localhost:8888 fl-tp-br-542.imta.fr`

Open a browser using the following url address:

`http://localhost:1234`

Todo at the end of the session:

Kill the SSH tunnel (using CTRL+C for instance)
Stop the python notebook

If you need to install an extra python package (for instance my_wonderful_package) :

```
pip3 install --user my_wonderful_package
source /opt/campux/virtualenv/deeplearning-u22/bin/activate
PYTHONPATH=$HOME/.local/lib/python3.10/site-packages jupyter notebook
```

Do not run 2 notebooks at the same time. It can raise error due to GPU memory allocation.
To check GPU usage in a terminal :
`watch nvidia-smi`
or any process :
`top`