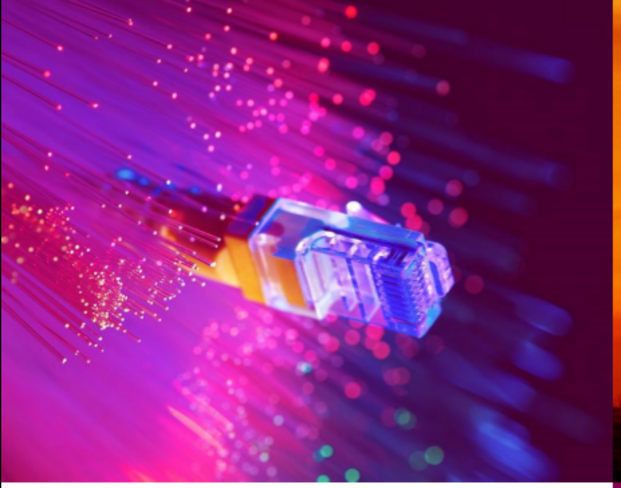


Processing a corpus with Jupyter on a supercomputer

Sam Hardwick

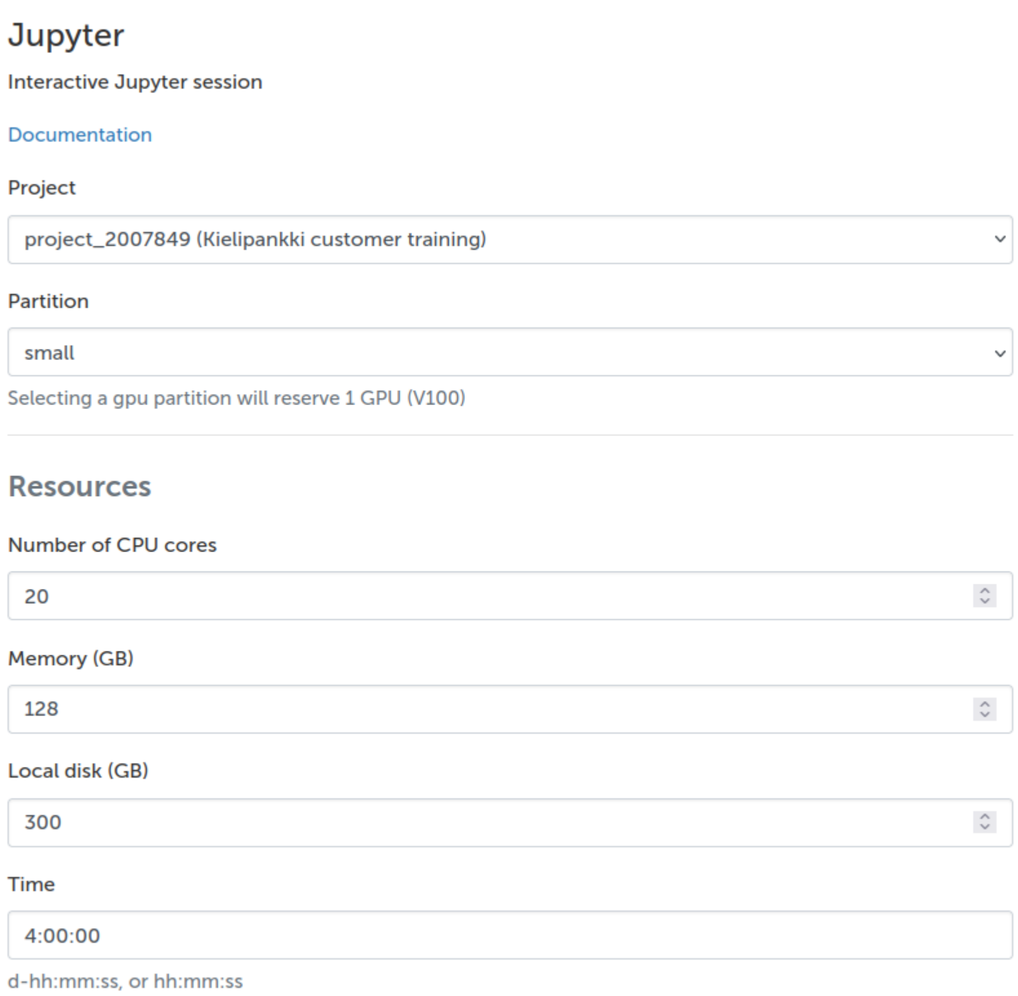

CSC – Finnish expertise in ICT for research, education and public administration

Jupyter

- Edit code in your web browser, have it run on a remote machine, and display the results in a nice way in a “Notebook”
- Also launch terminals, upload / download files, edit text, and even run clusters, so it can be a full interface
- Mainly used with **Ju**lia, **Pyt**hon (which we’ll use) and **R**

Jupyter on Puhti

- We'll be running Jupyter on Puhti
- You tell a web interface what resources you want, and they appear at your fingertips
- You may have to wait for the resources to become available, especially if you asked for a lot
- The full Puhti environment, with file system and software modules available



Supercomputer use

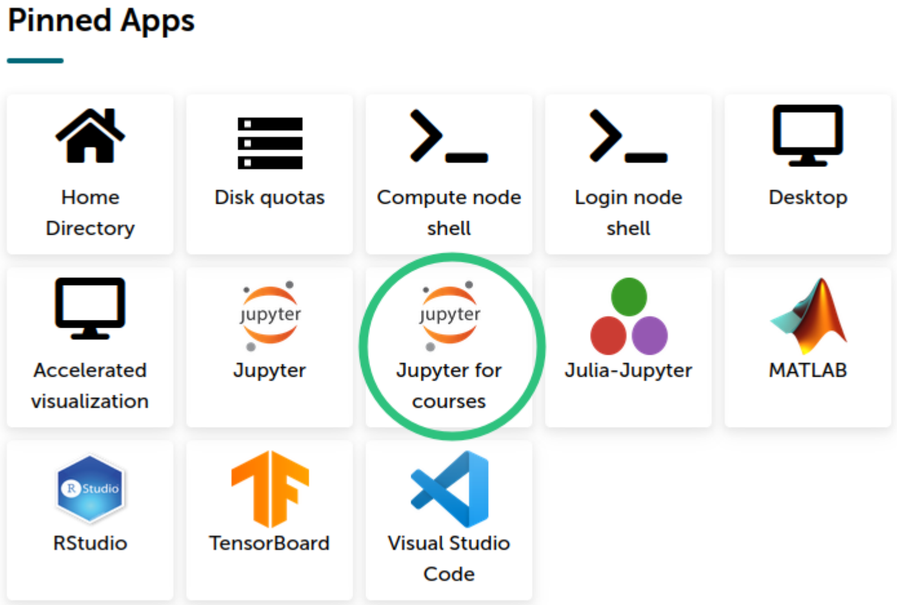
- It’s a supercomputer, so the code will run super fast, right?
- Well…
- No
- In this case, where we’ll be running a single process interactively, no faster than your laptop, except that your laptop would probably run out of RAM

So what’s the point?

- Supercomputers have fast processors, but so does your laptop
- But the supercomputer has thousands of processors, petabytes of storage, a fast network connection, tons of RAM, and a pile of GPUs
- If you can leverage these resources, you will be able to do things you can’t do without them
- But even if not, you get a stable, shared, always-on environment

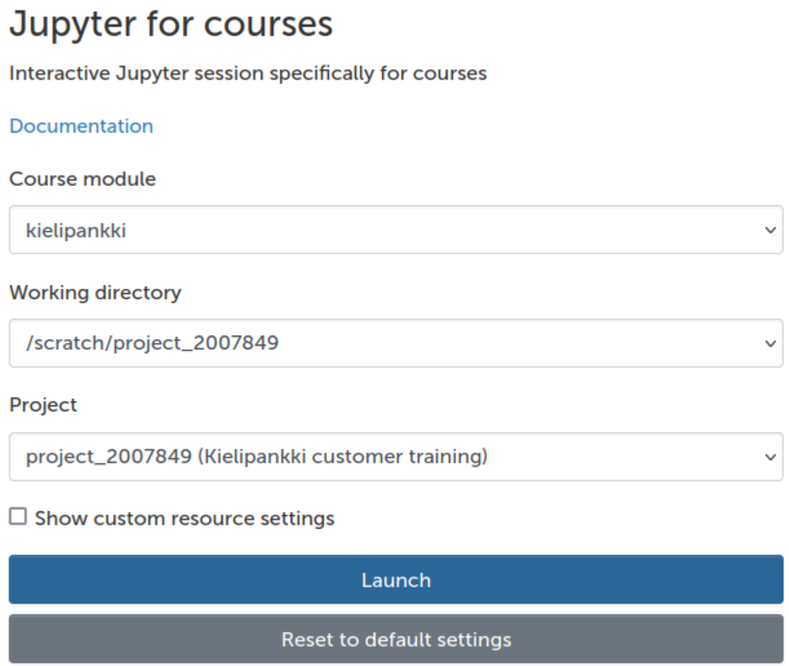
Jupyter for courses

- This is a special Jupyter environment where we've set everything up for you
- Access it through puhti.csc.fi by clicking on "Jupyter for courses"



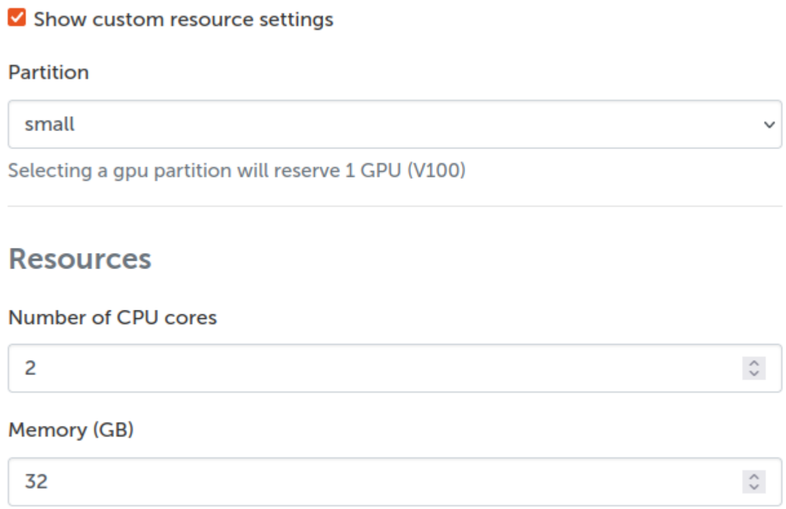
Jupyter for courses - launching

- Choose “kielipankki” as the course module, and set the project and working directory for this course’s project.
- After clicking “Launch”, your session will be queued, meaning that if the system is fully booked, you have to wait. Eventually a button will appear offering to “Connect to Jupyter”.



Jupyter for courses - troubleshooting

- If your session is queued for a long time, you can try switching partitions
- `Show custom resource settings` lets you change the resource settings, in particular the `Partition`. Sometimes the default `interactive` partition is fully occupied, and it makes sense to delete your session and start a new one in the `small` partition.



- But for troubleshooting, write in the chat, in the HedgeDoc, or otherwise ask for help.