Jupyterhub at NHR@FAU

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Access

- You can find the Hub at: [https://hub.hpc.fau.de/jupyter/hub](https://hub.hpc.fau.de/jupyter/hub)
  - legacy HPC account (with a password set through [idm.fau.de](http://idm.fau.de))
    - VPN / university network only
  - new HPC account use the Jupyterhub button provided at [portal.hpc.fau.de](http://portal.hpc.fau.de)
Starting a Server

wait quite long (some or even many hours) for your job to start. There is also no way to request specific node types.

Local on jupyterhub (systemd) - 2 cores, 4 GB, unlimited
Local on jupyterhub (systemd) with data science notebook r-4.2.3 Singularity container - 2 cores, 4 GB, unlimited
1x GTX1080Ti, 4 hours
2x GTX1080Ti, 3 hours
4x GTX1080Ti, 2 hours
1x GTX1080Ti, 4 hours, Singularity container gpu-jupyter-v1.5_cuda-11.6Ubuntu-20.04

TinyFAT - 1 Core (2 SMT threads) + 8 GB, 4 hours
TinyFAT - 2 Core (4 SMT threads) + 16 GB, 4 hours
TinyFAT - 4 Core (8 SMT threads) + 32 GB, 4 hours
TinyFAT - 1 Core (2 SMT threads) + 8 GB, 4 hours, Singularity container Jupyter/DataScience-Notebook with R-4.2.3
TinyFAT - 1 Core (2 SMT threads) + 8 GB, 4 hours, Singularity container xfce

The Slurm job profiles usually do not need any of the advanced options. Thus, use with care!

- Modules to preload
  - magic pre-set: ONLY if you got one

Specific Slurm settings are usually not required. Wrong input will result in job-start failures!

- reservation: ONLY if you got one
- account: usually NOT required
- chord: $HOME by default

e.g. for a lecture

Start
Kill your Server

- Closing your browser tab will not end Slurm jobs in the background
  - Therefore kill your server

- Please be patient when pressing "Stop my server" as it will take some time to shutdown your Jupyter instance.
- Stopping is successfully started once the blue "My server" button no longer accepts clicks. Stopping is finished once the red "Stop my server" button shows.
- Servers which are waiting for the Slurm job to start, cannot be stopped; deleting the pending Slurm job on the cluster frontend manually may wait. After the timeout you can press "Stop my server" (again).
- New instances only can be started once the old one is fully stopped.

Resources are only freed if you press "Stop my server". Otherwise resources remain blocked even if you log out or close the browser tab!
Adding a Kernel

- We use nb_conda_kernels
  - Load conda module on cluster

    conda install -n <my-py> ipykernel  # python
    conda install -n <my-R> r-irkernel   # R

Many more kernel possible:
https://github.com/jupyter/jupyter/wiki/Jupyter-kernels
(not every kernel was tested with our setup)
Further Documentation

- NHR-FAQ
- Cluster Overview
- Jupyter and Python
Thank you