Blade Cluster

14 nodes	**DELL PowerEdge M600** **2 QuadCore CPU (12MB cache, 3 Ghz)** **16 GB RAM**
Scheduler	**Sun Grid Engine** ***Queue priority*** ***Projects***

qsub ***submit a batch job to Sun Grid Engine***

-cwd	**launches job from current dir (output/error file)**
-m b|e|a|s|n	**selects events for notification email**
	b (beginning)
	e (end)
	a (abort)
	s (suspend)
	n (never) ***#default***

qstat ***show the status of Sun Grid Engine jobs and queues***

-f	**shows full queue list**
-j [num]	**shows full details of job #num**

qhost *show the status of Sun Grid Engine hosts, queues, jobs*

<no params>	lists host list and their configuration
-q	lists available queues on hosts
-j	lists running jobs on hosts

qdel *delete Sun Grid Engine jobs from queues*

-u <myaccount>	deletes all my enqueued jobs
<job#list>	deletes all jobs in the list

Shared Disk Space

HDA dedicated volume

Course Root Dir	**/nfsd/hda**
Datasets Root Dir	**/nfsd/hda/DATASETS**
Personal Root Dir	**/nfsd/hda/<your_DEI_account>**

Your personal root dir could be organized with many subfolders:

/nfsd/hda/<your_DEI_account>/my_prj_1

/nfsd/hda/<your_DEI_account>/my_prj_2

/nfsd/hda/<your_DEI_account>/my_group_prj

Respectively containing files of your personal project 1 and 2 and of your HDA final project.

git + sophisticated and powerful versioning system
+ distributed
+ main repository

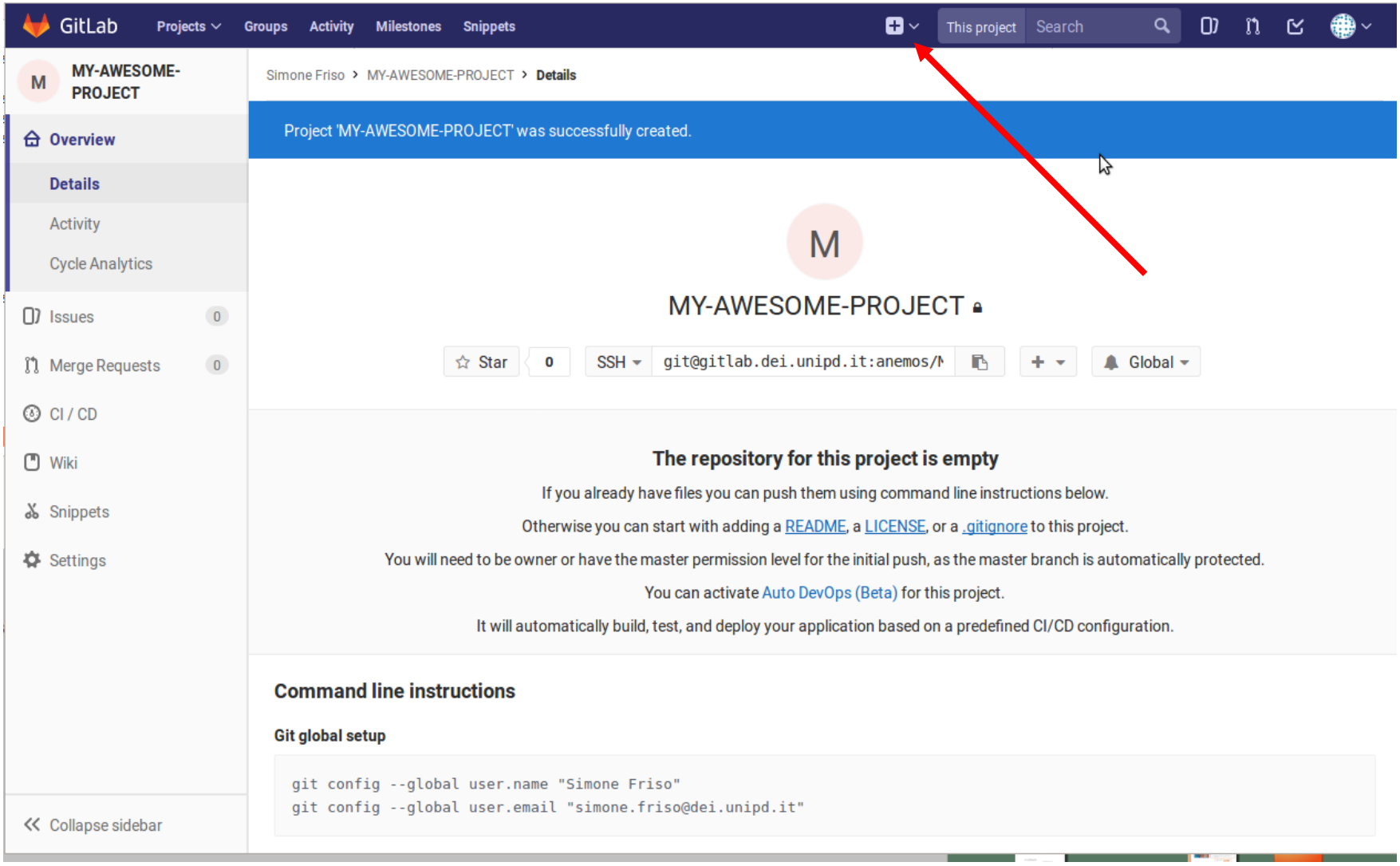
git [local process] clone / add / delete / commit
(your daily work – could be offline)

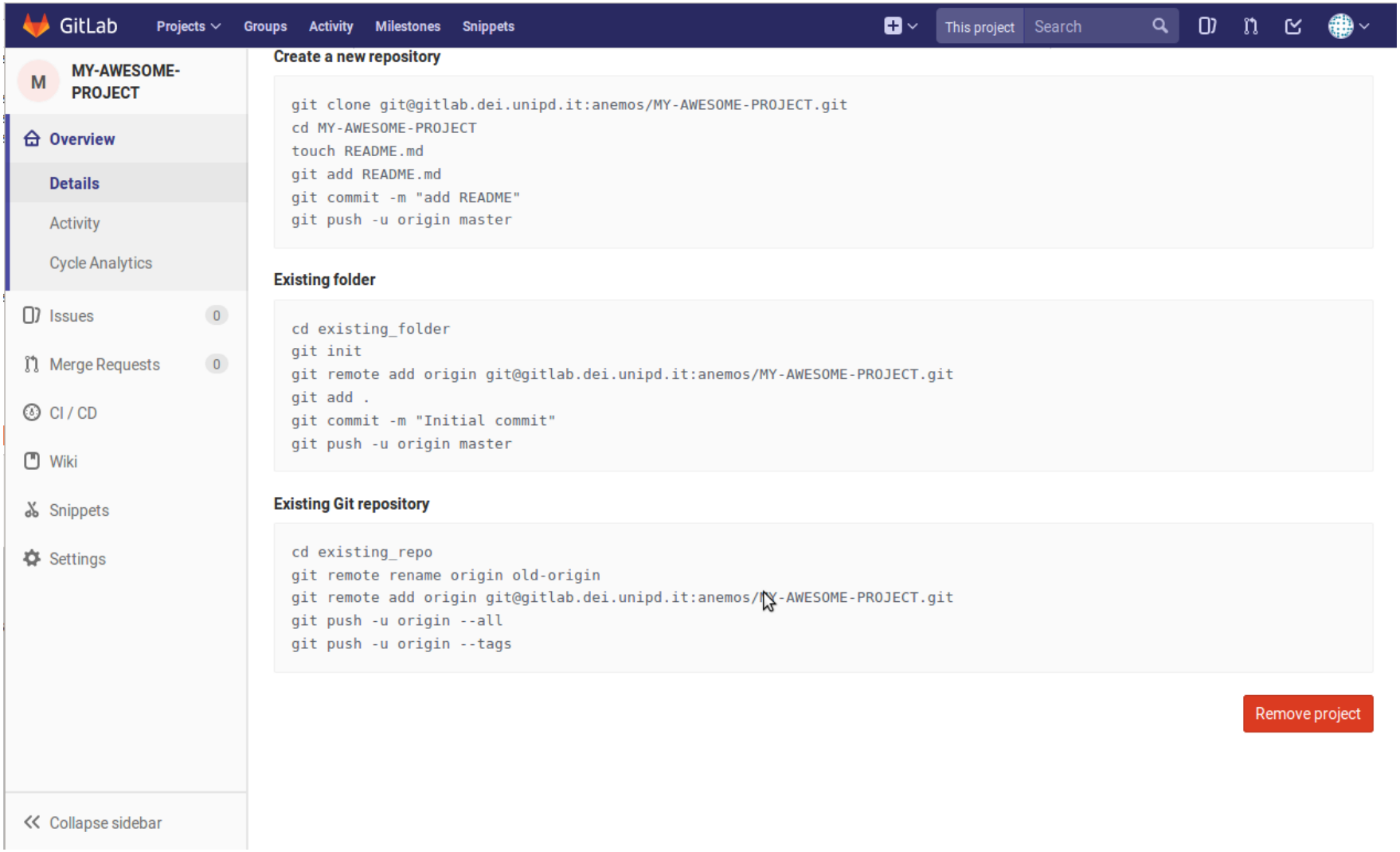
[remote process] push / pull
(toward the cloud, once you are online again)

collaborative work merge

Gitlab DEI git main repository

web based repo manager + issue tracker and wiki features




GitLab
Projects
Groups
Activity
Milestones
Snippets
This project
Search
MY-AWESOME-PROJECT
Overview
Details
Activity
Cycle Analytics
Issues 0
Merge Requests 0
CI / CD
Wiki
Snippets
Settings
Collapse sidebar
Create a new repository
git clone git@gitlab.dei.unipd.it:anemos/MY-AWESOME-PROJECT.git
cd MY-AWESOME-PROJECT
touch README.md
git add README.md
git commit -m "add README"
git push -u origin master
Existing folder
cd existing_folder
git init
git remote add origin git@gitlab.dei.unipd.it:anemos/MY-AWESOME-PROJECT.git
git add .
git commit -m "Initial commit"
git push -u origin master
Existing Git repository
cd existing_repo
git remote rename origin old-origin
git remote add origin git@gitlab.dei.unipd.it:anemos/MY-AWESOME-PROJECT.git
git push -u origin --all
git push -u origin --tags
Remove project

UNIVERSITÀ DEGLI STUDI DI PADOVA

Putting everything together

Login to Blade	**ssh <your_DEI_account>@login.dei.unipd.it**
Your Dataset Root Dir	**/nfsd/hda/DATASETS/<my_dataset>**
	(NB Your dataset is possibly shared – i.e. used read only by many groups - saving disk space)
Project Root Dir	**/nfsd/hda/<your_DEI_account>/my_group_prj**
	In your project root dir you must have: ***1) Main execution file of your code (.py) + dep*** ***2) Script to submit your job to scheduler (.job)*** ***3) git versioning (ignore for .job files)***

Example 1	***“Hello World!” from “dataset” file***
Example 2	***Tensorflow tutorial***

Putting everything together

Example 1 ***Printing "Hello World!" to standard output reading the string from a "dataset" file***

Input files ***first.py*** ***# main Python file***
firstsubmit .job ***# submission script***

qsub ***job* #1643278 *submitted***

Output files **firstsubmit.job.e1643278** **# error file (empty)**
firstsubmit.job.o1643278 **# output file (stdout dump)**

```
anemos@login:/nfsd/hda/anemos$ls -la
total 20
drwxr-sr-x.  2 anemos hda 4096 May 23 16:47 ./
drwxrwsr-x. 44 root   hda 4096 May 21 10:04 ../
-rw-r--r--.  1 anemos hda   96 May 18 14:15 first.py
-rw-r--r--.  1 anemos hda  490 May 18 14:17 firstsubmit.job
-rw-r--r--.  1 anemos hda    0 May 23 16:47 firstsubmit.job.e1643278
-rw-r--r--.  1 anemos hda   39 May 23 16:47 firstsubmit.job.o1643278
```