Jura

Jura is a cluster for the analysis of sensitive data and is primarily used by the CHUV.

The Jura cluster is replaced by Urblauna

Computing ressources

- 10 compute nodes
  - cpt01: CPUs=40 Boards=1 SocketsPerBoard=4 CoresPerSocket=10 ThreadsPerCore=1 RealMemory=515712
  - cpt02: CPUs=32 Boards=1 SocketsPerBoard=4 CoresPerSocket=8 ThreadsPerCore=1 RealMemory=257754
  - cpt[03-04]: CPUs=48 Boards=1 SocketsPerBoard=2 CoresPerSocket=12 ThreadsPerCore=2 RealMemory=257680
  - cpt[05-06]: CPUs=48 Boards=1 SocketsPerBoard=2 CoresPerSocket=12 ThreadsPerCore=2 RealMemory=64156
  - cpt[07-08]: CPUs=160 Boards=1 SocketsPerBoard=4 CoresPerSocket=20 ThreadsPerCore=2 RealMemory=1031536
  - cpt09: NodeName=cpt09 CPUs=160 Boards=1 SocketsPerBoard=4 CoresPerSocket=20 ThreadsPerCore=2 RealMemory=3095999
  - cpt10: NodeName=cpt10 CPUs=160 Boards=1 SocketsPerBoard=4 CoresPerSocket=20 ThreadsPerCore=2 RealMemory=999282

- 4 nodes with Xeon PHI accelerators
  - cpt[03-04]: 82:00.0 Co-processor: Intel Corporation Xeon Phi coprocessor 31S1 (rev 11)
  - cpt[05-06]: 82:00.0 Co-processor: Intel Corporation Xeon Phi coprocessor 5100 series (rev 11)

- Login node
  - frt: CPUs=48 Boards=1 SocketsPerBoard=2 CoresPerSocket=12 ThreadsPerCore=2 RealMemory=65697804
  - 15 TB local disk space

Storage ressources

- Fast scratch based on SSD
  - /scratch/beegfs 112 TB
  - Not purged

- Data directory
  - /data 160 TB
  - For static datasets (including reference ones (TCGA, ADNI et al)
  - Not purged

ATTENTION /data directory is NOT BACKED UP

- Archive with encrypted tapes
  - /archive
  - 600 TB available
  - Data are copied transparently on two tape libraries located in two different datacenters for disaster recovery

Getting ressources on Jura

- For sensitive data only
- Organized by PI
- Use DCRS request form and specify Sensitive or Personal data
- https://conference.unil.ch/research-resource-requests/

Accessing the infrastructure from UNIL

- Any user is expected to take a short training to get familiar with the environment, the do’s and dont’s
- Once the demand is approved, you will receive a mail with a QR-Code like

- You need an app like Google Authenticator or FreeOTP on your smartphone to scan it
- Google Authenticator:

  https://play.google.com/store/apps/details?id=com.google.android.apps.authenticator2&hl=en

  https://apps.apple.com/us/app/google-authenticator/id388497605

  FreeOTP:

  https://play.google.com/store/apps/details?id=org.fedorahosted.freeotp&hl=en

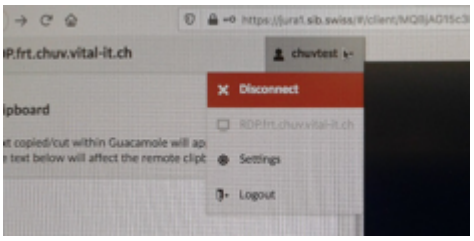
  https://apps.apple.com/us/app/freeotp-authenticator/id872559395
- Go to https://jura.dcsr.unil.ch web site and log in with your **UNIL credentials**
- 

- Enter the code displayed by the application
- 

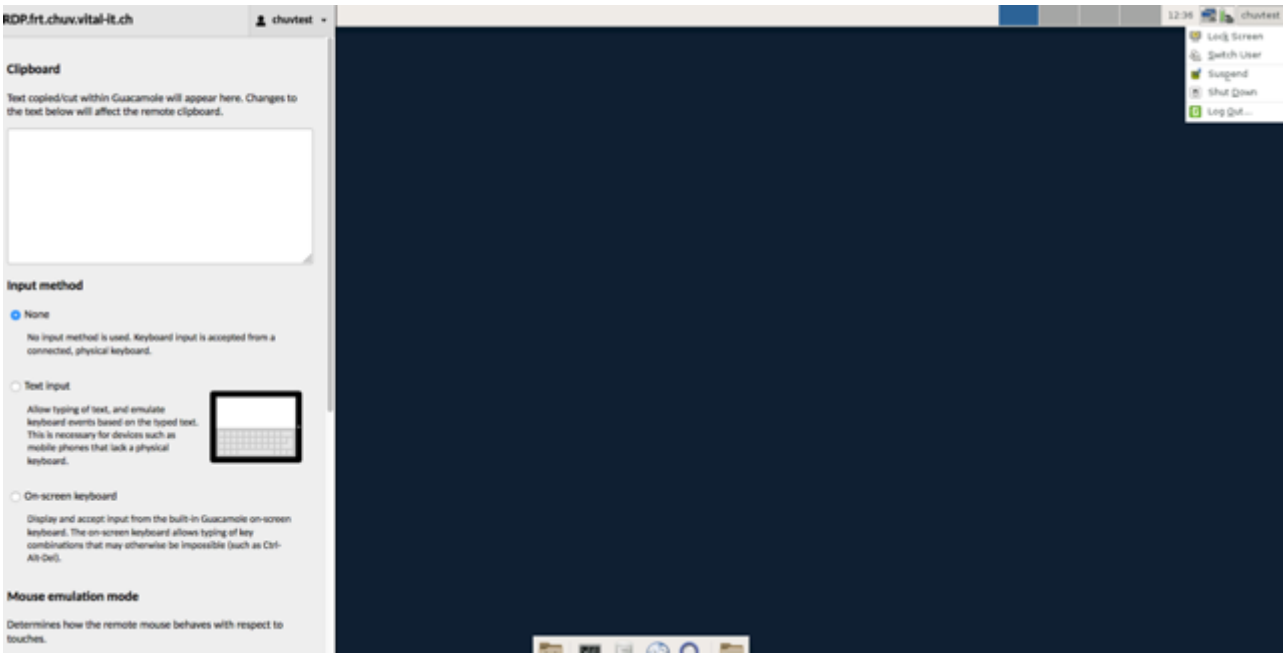
- Congratulations! you are now logged in

ATTENTION PROPER LOG OUT

- CTRL+ALT+SHIFT to display guacamole menu



- Or session logout



Transferring data in

- Transfer your data to the Jump Host

```
sib-1-24:~ someuser$ sftp someuser@jura.dcsr.unil.ch
Password:
Verification code:
Connected to someuser@jura.dcsr.unil.ch.
sftp> dir
data
sftp> cd data
sftp> dir
sftp> put AVeryImportantFile.tgz
Uploading AVeryImportantFile.tgz to /data/AVeryImportantFile.tgz
AVeryImportantFile.tgz
```

- The verification code of the Google Authenticator or FreeOTP is required
- Transfer your data from the Jump Host

```
[someuser@frt ~]$ sftp jura.dcsr.unil.ch
Password:
Verification code:
Connected to jura.dcsr.unil.ch.
sftp> cd data
```

`sftp> dir`
`AVeryImportantFile.tgz`
`sftp> get AVeryImportantFile.tgz`
`Fetching /data/AVeryImportantFile.tgz to AVeryImportantFile.tgz`
`/data/AVeryImportantFile.tgz`

- To repeatedly transfer large files from reputable external sources a direct access can be granted.
- The verification code of the Google Authenticator or FreeOTP is required but if you have many files to transfer we can set up an automated system

Transferring code in/out

There is a DCSR managed Git service accessible from Jura. More information can be found at

https://wiki.unil.ch/ci/books/service-de-calcul-haute-performance-%28hpc%29/page/why-is-there-a-dcsr-gitlab-service-and-what-is-it

Accessing the infrastructure from CHUV

`ssh<unil-username>@stockage-horus.chuv.ch`

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