

GIGA mass storage

GIGA Doctorate School

- ❖ Baseline information
- ❖ Space available for user
- ❖ Backup/Archive



Baseline information

Wiki about GIGA mass storage:

<https://gitlab.uliege.be/giga-bioinfo/user-guides-wiki/wikis/home>

The screenshot shows a web browser window displaying the GitLab Wiki page for 'GIGA mass storage'. The browser's address bar shows the URL <https://gitlab.uliege.be/giga-bioinfo/user-guides-wiki/wikis/home>. The GitLab navigation bar is visible at the top, with the 'Wiki' menu item highlighted in the left sidebar. The main content area shows the 'Home' page of the wiki, which was last edited by 'Bouquiaux Marie-Catherine' 9 months ago. The page contains the following text:

Home

In the context of their activities, GIGA and university members generate data and perform analysis. It's very important that these data and analysis results are stored and backed up properly. The university and the GIGA provide their members with storage solutions adapted to the size of the data. These solutions are described in the "Data Storage" section below.

The GIGA also provides its members with a solution for the analysis of large datasets, such as for example sequencing data. These analysis can be computer intensive and requires resources that a standard computer can not provide. In this case, GIGA members can use the GIGA High Performance Computing (HPC) cluster, as described below.

The university also provides its member with an access to a Gitlab server for storing scripts. Gitlab is a very powerful tool to organise scripts and keep record of the different modifications that have been done to them overtime. More information about Gitlab can be found [here](#) and about git [here](#).

Data Storage

High-Performance Computing Cluster

FAQ

Contacts

Link between old and new path on the mass storage

The right sidebar contains a 'Clone repository' button and a 'GIGA Wiki home' section with links to 'Data storage', 'Mass storage', 'Dox', 'Cluster', 'FAQ', and 'Contacts'.



Baseline information

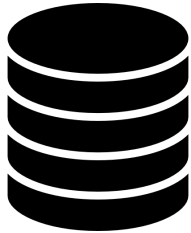
Professional infrastructure for data storage



Baseline information

Professional infrastructure for data storage

Huge
Capacity

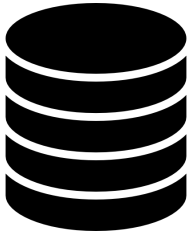




Baseline information

Professional infrastructure for data storage

Huge
Capacity



Secure

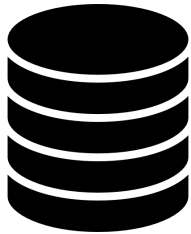




Baseline information

Professional infrastructure for data storage

Huge
Capacity



Secure



Reliable

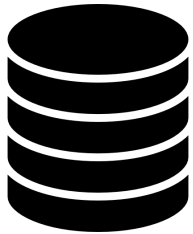




Baseline information

Professional infrastructure for data storage

Huge
Capacity



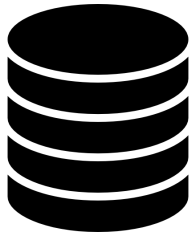
2.2 PetaBytes



Baseline information

Professional infrastructure for data storage

Huge
Capacity



2.2 PetaBytes

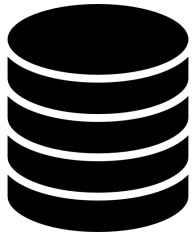
Size	Songs
5MB	1
500GB	100,000
2.2PB	440,000,000



Baseline information

Professional infrastructure for data storage

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2.2 PetaBytes

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5MB	1
500GB	100,000
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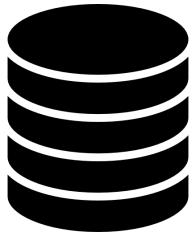
≥2511years



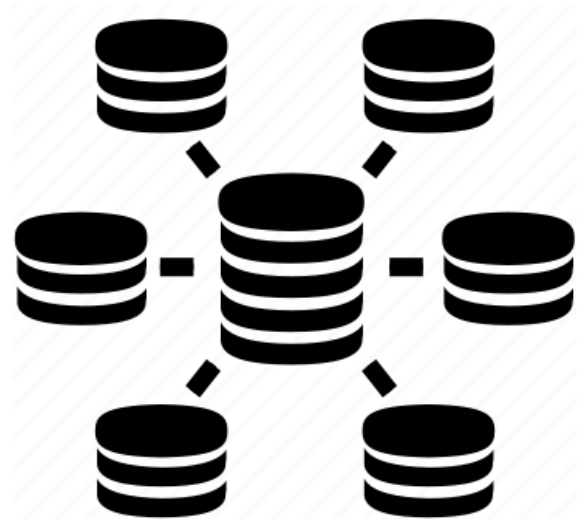
Baseline information

Professional infrastructure for data storage

Huge
Capacity



2.2 PetaBytes

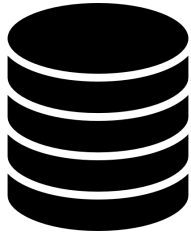




Baseline information

Professional infrastructure for data storage

Huge
Capacity



Secure



Protected and
restricted access



Baseline information

Protected and restricted access

Protected

- Inside university network
- Firewall

Restricted

- Need both password AND authorisation
- Each folder can have restricted access



Baseline information

Limited and protected access

- Secure: Rules to store human/personal data
 - ✓ GDPR compliance

More information on the General Data Protection Regulation (GDPR) on Monday the 24th October

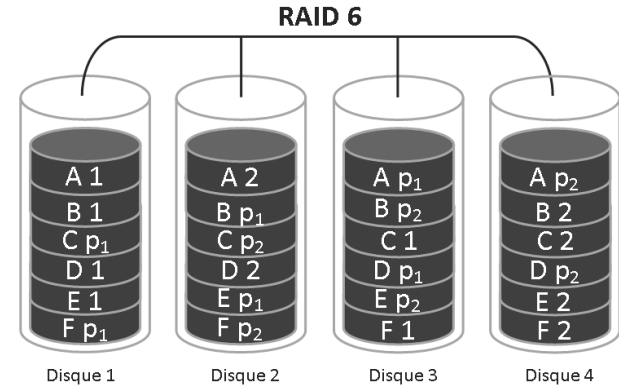


Baseline information



Reliable

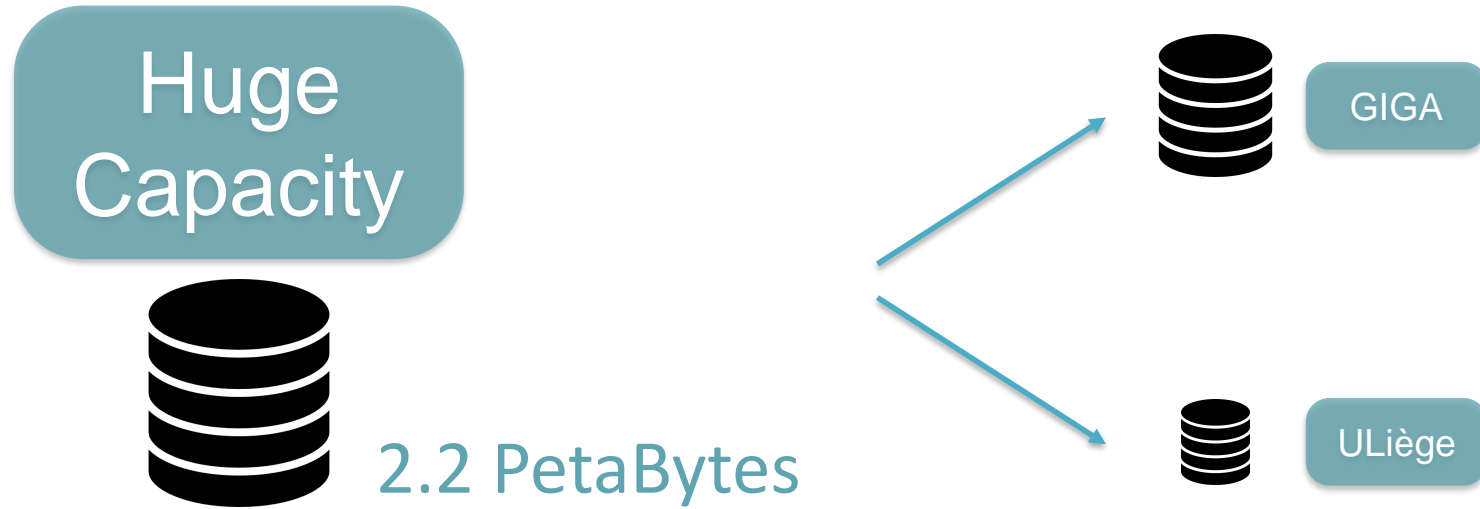
- Professional disk (material and writing/RAID)
- Backed up on a regular basis





Baseline information

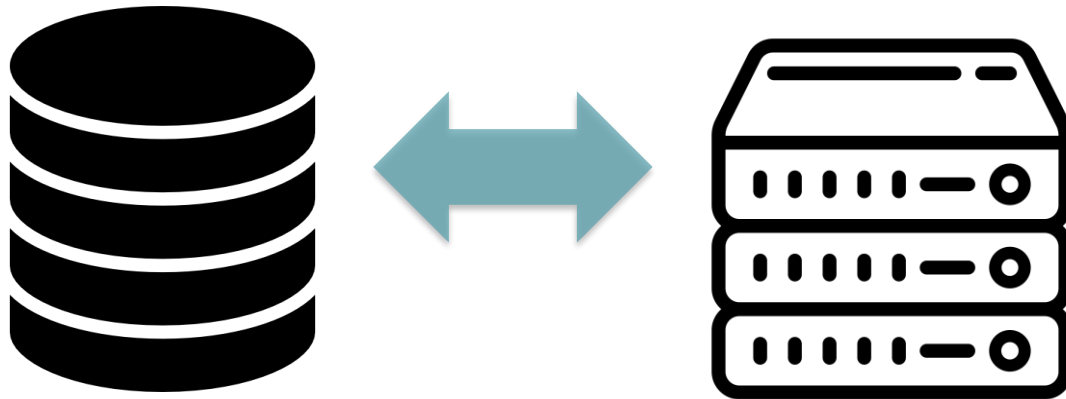
Professional infrastructure for data storage





Baseline information

- ❖ Available to all GIGA members
- ❖ Linked to the GIGA cluster



(More information on
Monday 17th October)



Space available

❖ 3 space locations available:

- HOME
- Laboratory shared space
- Resources



Space available

- ❖ 3 space locations available:

- HOME

- Entry point of the mass storage





Space available

❖ 3 space locations available:

➤ HOME

Entry point of the mass storage

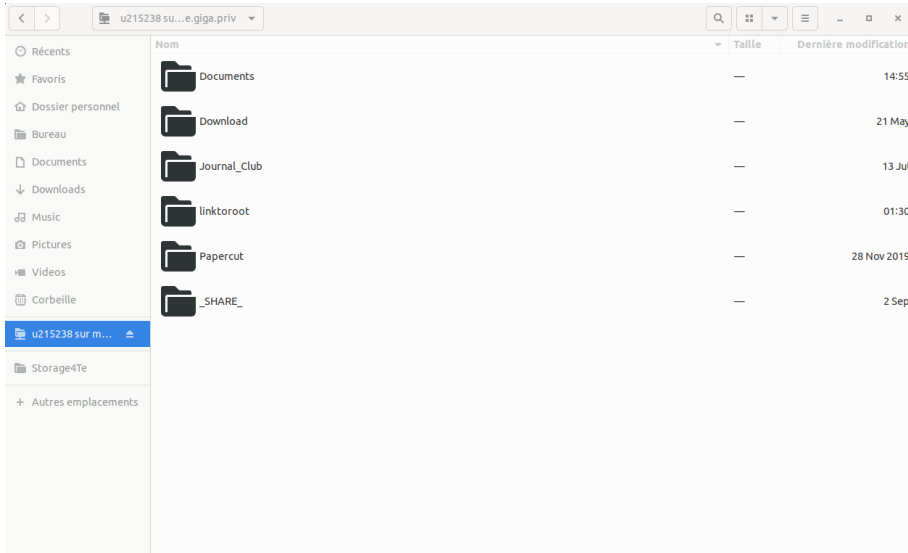
2 methods:

- SAMBA (file browser)
- SSH (terminal)





❖ 2 methods:



SAMBA

```
u215238@nasgw2:~$ ssh u215238@massstorage.giga.priv
u215238@massstorage.giga.priv's password:
Last login: Tue Sep 28 14:44:39 2021 from med81244.user.uliege.priv
Welcome to

  _____
 /  _  _  _  \
|  _ \| | | | | | |
| |_) | | | | |
|  _ \| | | | |
|_| \_|_|_|_|_|

You are logged in on NASGW2
In case of problem, contact the Helpdesk
Ticket   : https://sam.segi.uliege.be/
Phone    : 04/366.49.99
E-mail   : helpdesk@segi.ulg.ac.be

--> For more information about the GIGA cluster and mass storage:
https://gitlab.uliege.be/giga-bioinfo/user-guides-wiki/-/wikis/cluster/cluster-home
/usr/bin/id: impossible de trouver le nom pour le GID 258696
-bash: module : commande introuvable
-bash: module : commande introuvable
[u215238@nasgw2 ~]$ ll
total 4.0K
drwxrws--- 6 u215238 258696 4.1K Sep 30 11:35 Documents
drwxrws--- 2 u215238 258696  0 May 21 08:39 Download
drwxrws--- 5 u215238 258696  0 Jul 13 16:54 Journal_Club
lrwxrwxrwx 1 u215238 258696  1 Jul 12 11:02 linktoroot -> /
drwxrws--- 3 u215238 258696  0 Nov 28 2019 Papercut
drwxrws--- 2 u215238 258696  0 Sep  2 17:16 _SHARE_
```

SSH



Space available

- ❖ 3 available space locations:



HOME

Entry point of the mass storage

Limited to 100Gb

Only access to you





Space available

❖ 3 available space locations:



HOME



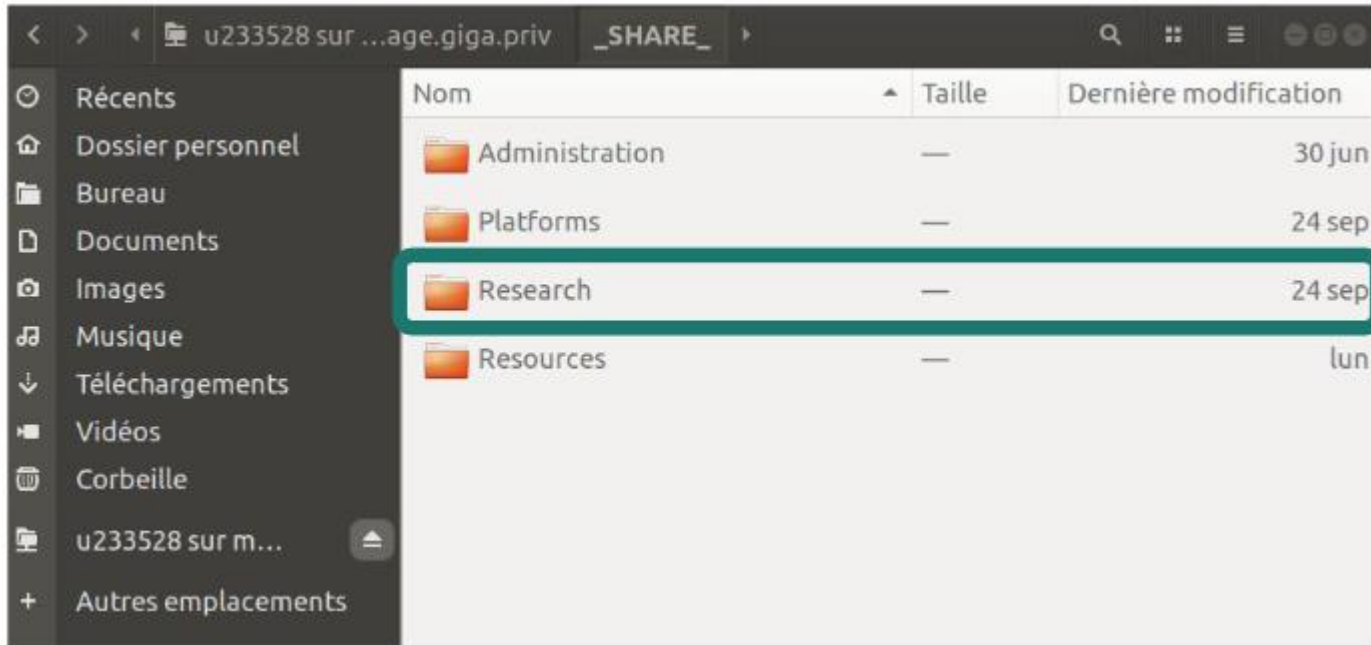
Laboratory shared space

Specific laboratory members access





Laboratory shared space





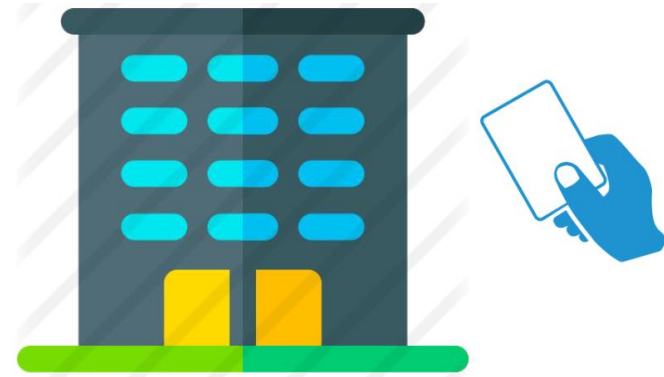
Space available

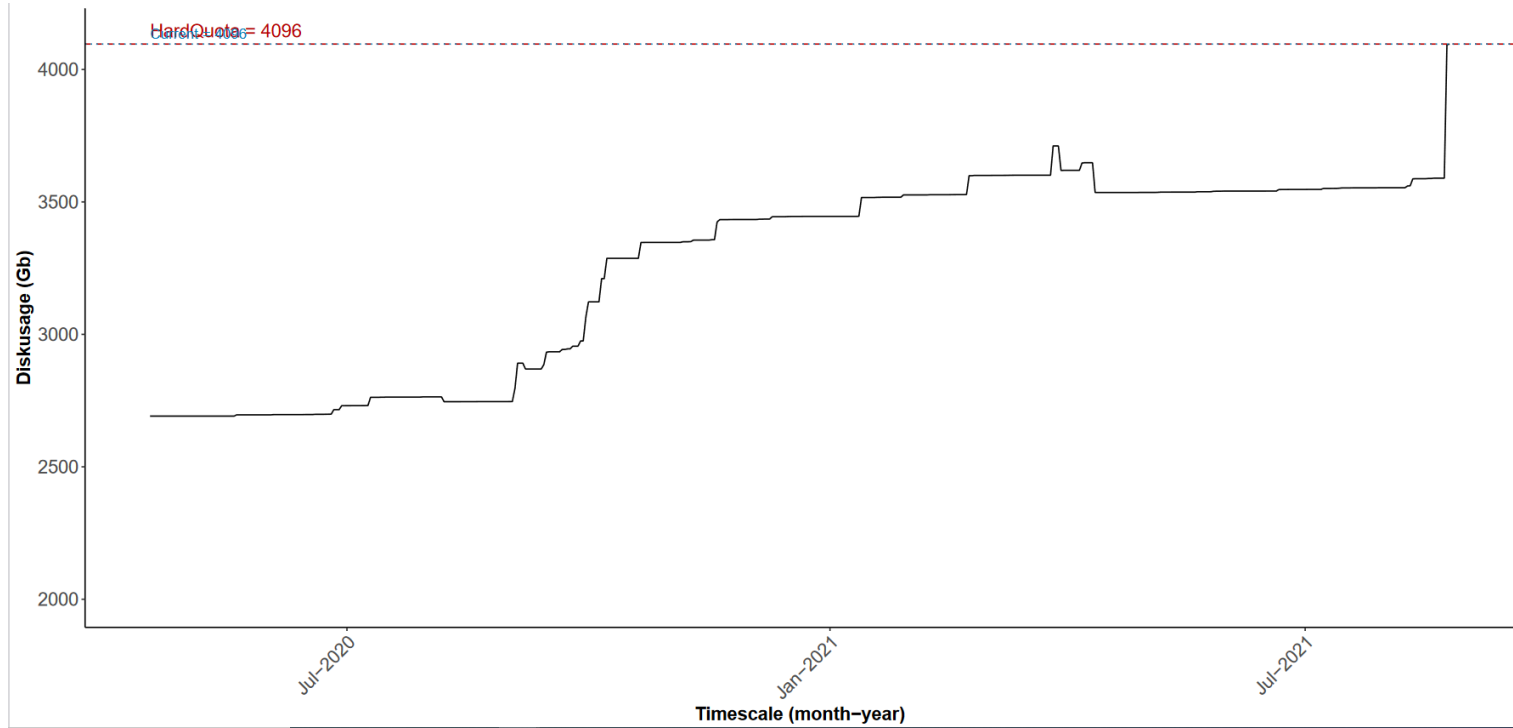
❖ 3 available space locations:

- HOME
- Laboratory shared space

Specific laboratory members access

Limited space depending on project/analysis







Space available

❖ 3 space locations available:

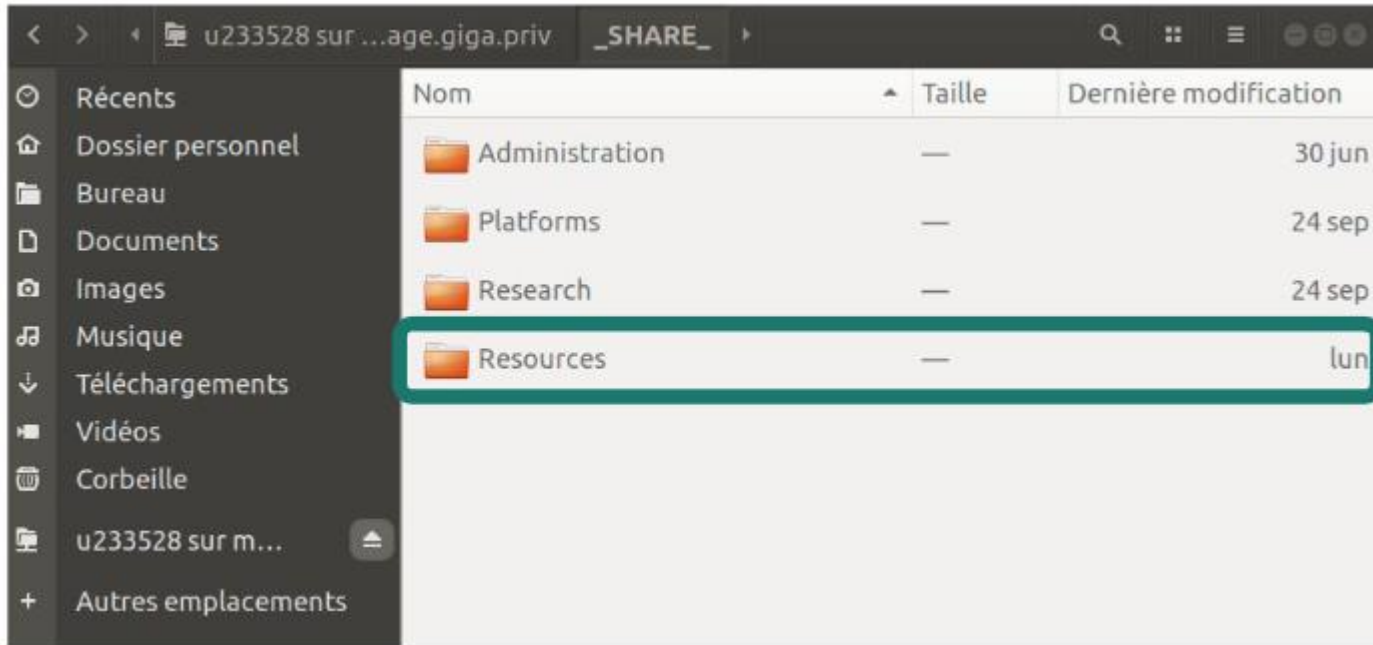
- HOME
- Laboratory shared space
- Resources

Contains reference tools such as sequence of the human genome





Resources





For the rest of Uliège community

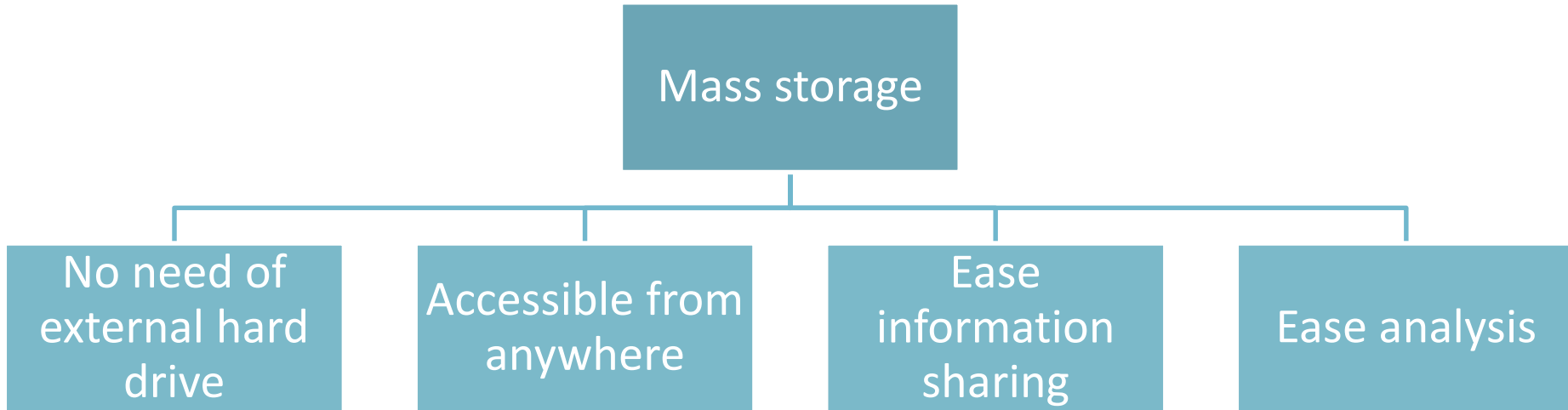
- ▶ Still possible to have a laboratory shared space but no personal HOME.
 - Contact your UDI.
- ▶ Not link to GIGA cluster
- ▶ Permissions management on a case-by-case basis



Why this type of structure?



Why this type of structure?





Backup/Archiving

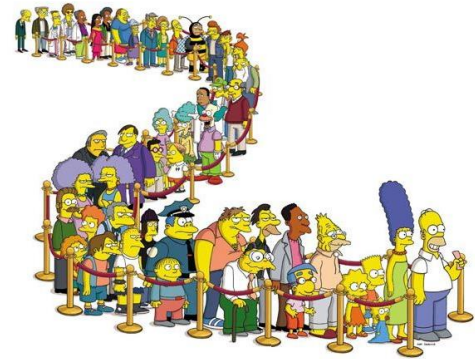
❖ Backup:

- Copies of current data/files
 - After 2 hours of inactivity



Backup/Archiving

- ❖ Backup:
 - Copies of current data/files
 - After 2 hours of inactivity



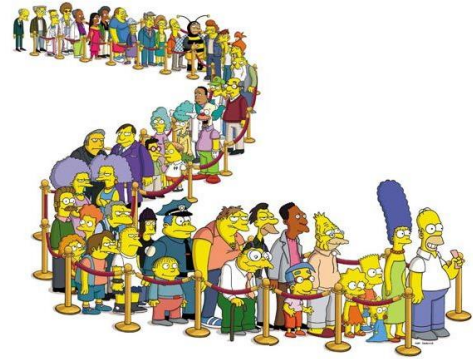


Backup/Archiving

❖ Backup:

- Copies of current data/files
 - After 2 hours of inactivity

➔ Allow retrieval of folder version (max 25) if lost or corrupted data





Backup/Archiving

❖ Backup:

- Copies of current data/files
- 3 copies on different sites

➔ Location disaster protected





Backup/Archiving

❖ Backup:

- Copies of current data/files
- 3 copies on different sites

➔ Location disaster protected





Backup/Archiving

- ❖ Backup:
- ❖ Archiving:



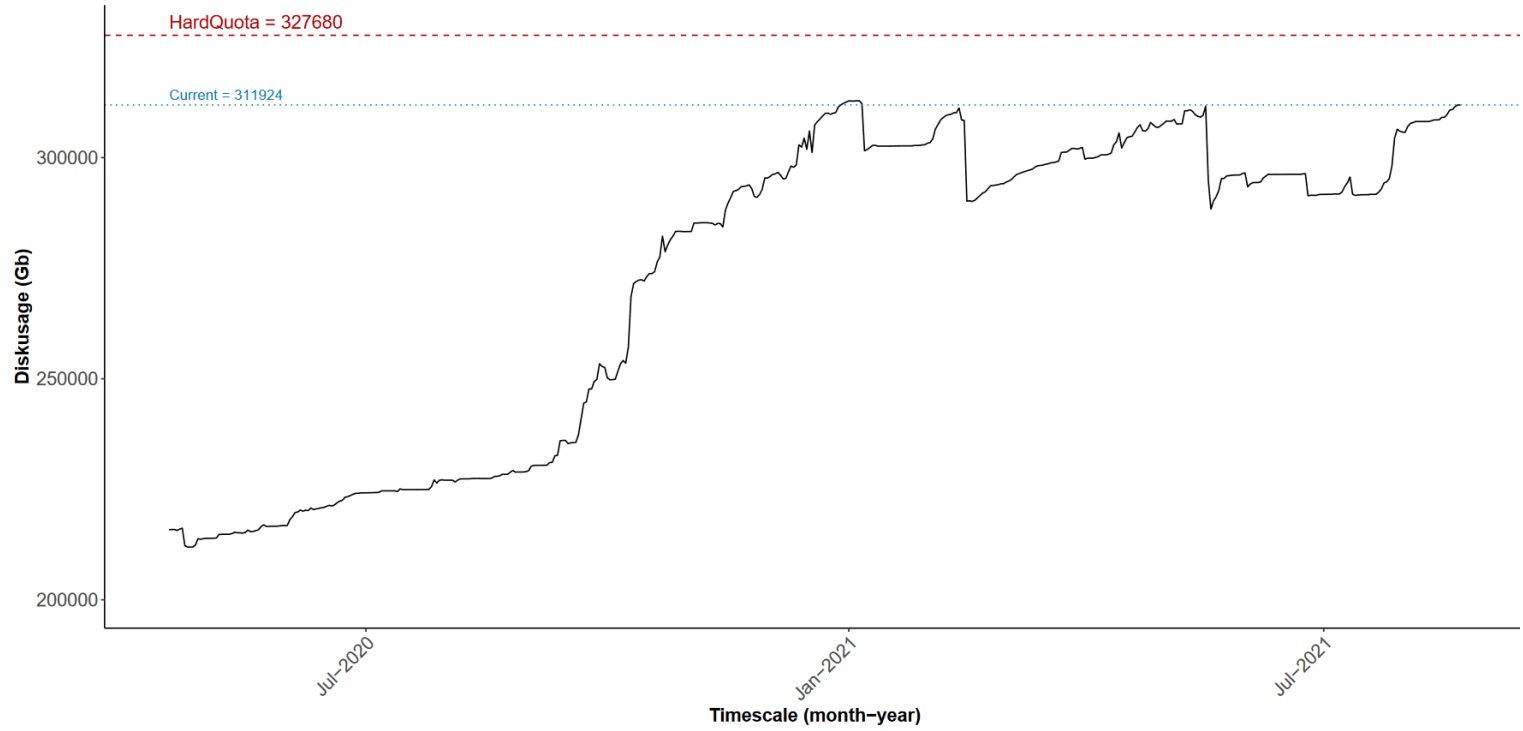
Backup/Archiving

- ❖ Backup:

- ❖ Archiving:

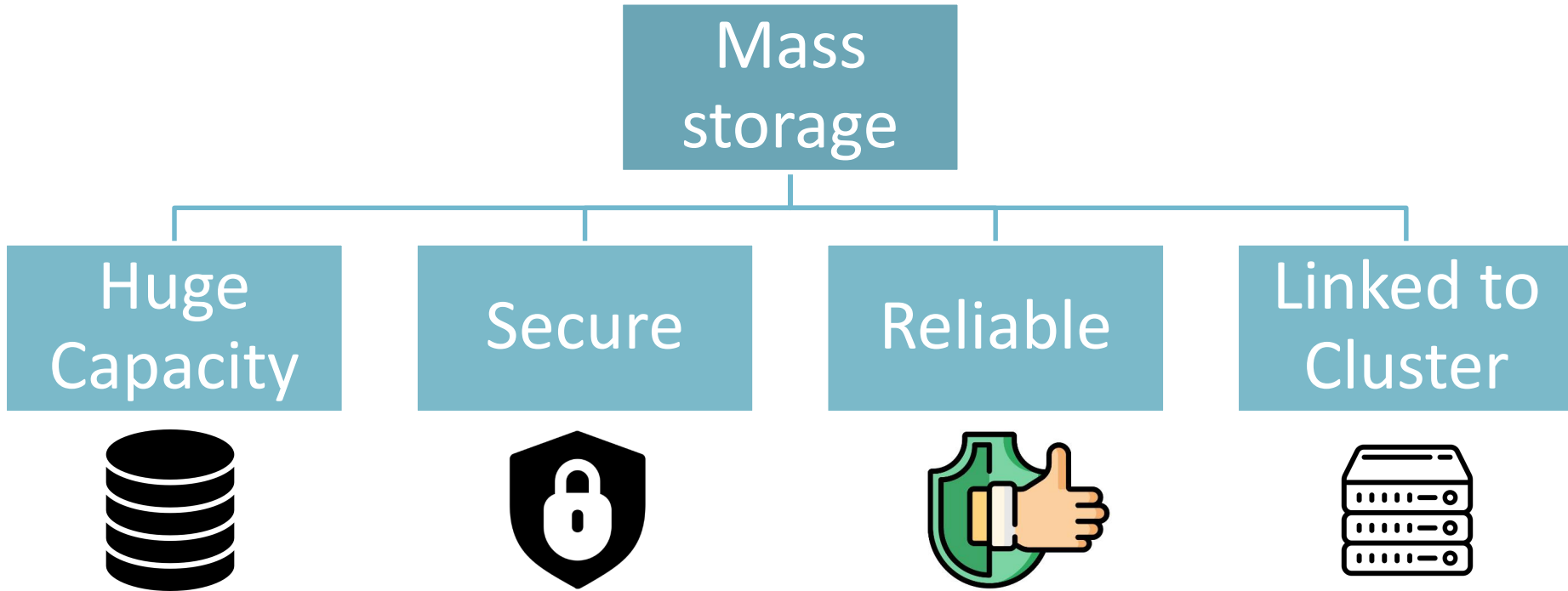
 - Data/files storage secured in time

 - ➔ Allows space maintenance on disk





Take home message





More information

Wiki about GIGA mass storage:

<https://gitlab.uliege.be/giga-bioinfo/user-guides-wiki/wikis/home>

Platform website:

https://www.gigabioinformatics.uliege.be/cms/c_8464757/en/gigabioinformatics

Contact

Bioinformatics Team

bioinfo.giga@uliege.be