

# UG2.3: Access to the Systems

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There are several ways to access our HPC Systems.

## Access via Secure Shell (SSH)

The Secure Shell protocol allows data to be exchanged over a secure channel between two computers. SSH is typically used for logging into a remote machine and executing commands (remote console), but it can also be used to run programs and transfer files. The **ssh client** is usually pre-loaded on Linux and Mac systems, while on Windows systems, you have to download and install an SSH client. For example, [Powershell](#), [openSSH](#), [Putty](#) or [Tectia](#).

The access is done via one of the following commands:

```
ssh <username>@login.marconi.cineca.it
ssh <username>@login.g100.cineca.it
ssh <username>@login.leonardo.cineca.it
```

depending on which cluster you have the account. You can use option -X to enable X11 display forwarding.

All the systems share the same username/password.

You will login to our systems with one of the two shells: **bash** or **tcsh**. Contact the HPC support ([superc@cineca.it](mailto:superc@cineca.it)) if you want to change your default login shell.

**Notice:** login is prevented on systems in which you don't have budget accounts.

**Notice:** we have identified a potential issue for local PC with openssh 8.6 (check with the command "ssh -V"). The solution can be found here in our [FAQ](#) page.

## Access via Desktop Based Tool

It is possible to access a "desktop" based way (particularly useful if you are using visualization tools) by using our Remote Connection Manager (RCM).

RCM is a client/server application to connect to HPC machines using graphical mode.

This [specific document](#) has a detailed description of how to install and use it.

## Access to download or upload data

You can use several protocols or utilities to access our systems to upload or retrieve your data:

- via **SCP** (Secure Copy) or **SFTP** (SSH File Transfer Protocol) functions;
- using **RSYNC** (remote sync) utility. You can find a [dedicated page](#) on how to use efficiently rsync on our systems.
- using **GridFTP**: a protocol that allows very efficient data transfers among different HPC platforms. A detailed description is reported in a specific document [Globus Online](#).

Additional details can be found on [Data transfer](#) dedicated page.

## Policy for password definition

If you change the password on the portal [sso.hpc.cineca.it](http://sso.hpc.cineca.it), it will be automatically changed on all the clusters (the propagation can take up to one hour).

We set **new policies** for the definition of the password.

They are the following:

- The new password has to be at least 10 characters long and contains at least 1 capital letter, 1 number, and 1 special character ( ! " # \$ % & ' ( ) \* + , - . / : ; < = > ? @ [ \ ] ^ \_ ` { | } ~ )
  - The password has a validity of 3 months. You will receive a reminder 10 days before the expiration when you login.
  - The new password has to be different from the previous 5 ones.
  - Any password change will be notified to the user by email.
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