I am a new user - Quick Start

Please note: If you have absolutely no time at all, at least read this one page. Please make sure, the following points are met.

- Did you receive an email, confirming your addition to the Cluster-News mailing list? Important announcements, for example maintenance periods, are announced on this list.
- Did you change your password? You can change your password using the command `passwd`.
- Consider the cluster system as a tool to facilitate your research. Mastering any tool takes time. Consider attending an introductory talk and reading this Cluster Handbook.

About the cluster system

In order to meet the University's demand for computing resources with a lot of CPUs and memory, LUIS is operating a cluster system as part of the service . All scientists of Leibniz University can use the cluster system for their research free of charge.
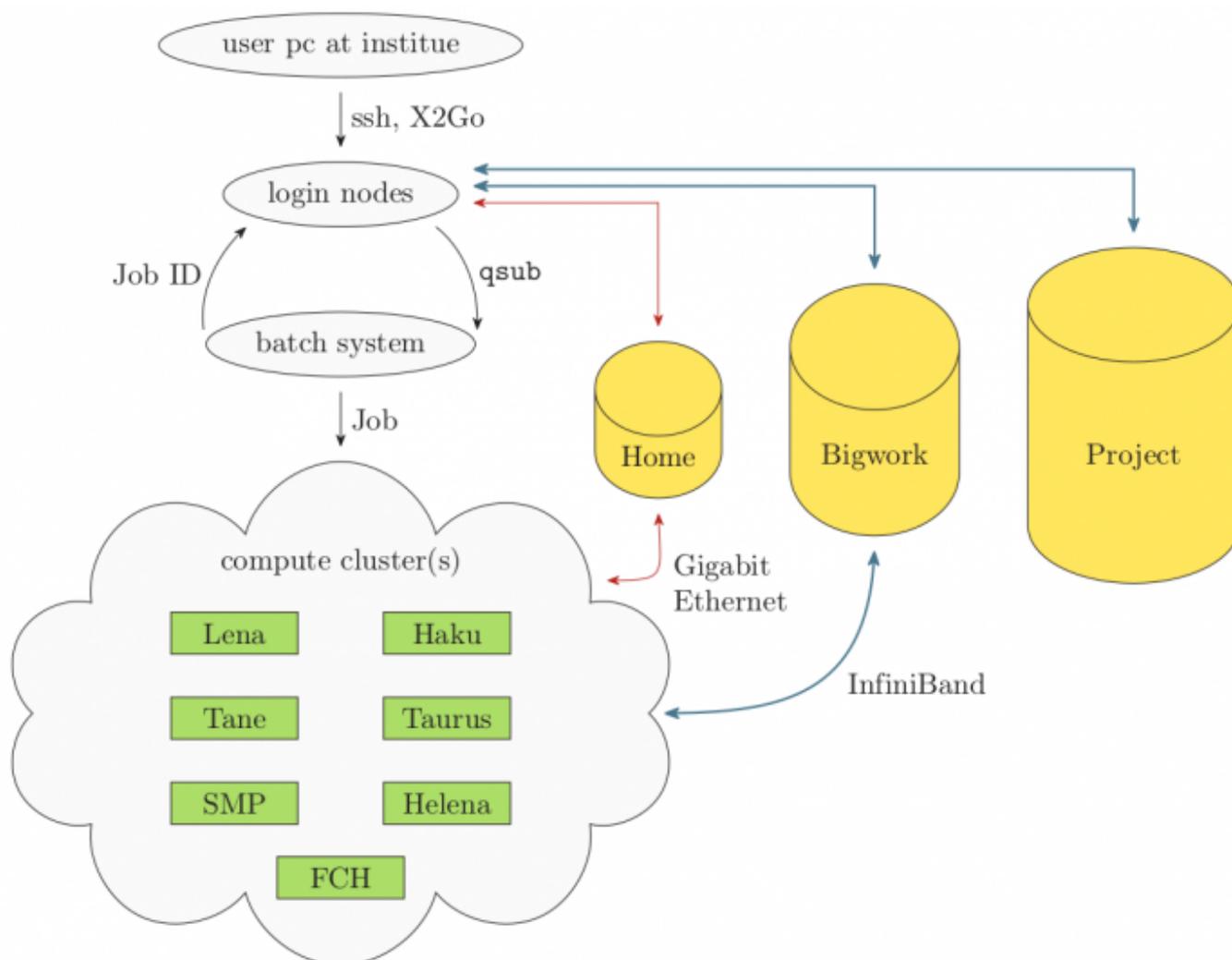

Fig. 1: Sketch of the cluster system with it's individual components

Resources of the cluster system are largely a DFG major instrumentation. Therefore rules[1] for DFG major instrumentation apply when using the cluster system. Project leaders of your EDV-Project bear responsibility to comply with the DFG rules.

Getting Access

- in order to use the cluster system, you need an account ("username")
- accounts are managed via a project
- quite frequently, the institute you are probably working for will already have a project and you will get your account from the institute's project management

In case no project exists: a project is the frame in which you will carry out your work on the cluster. To apply for a project, use the form ORG.BEN 4. In this form, you will need to specify the purpose of the computations you want to carry out on the cluster system as well as the type of work, e.g. a bachelor's or master's thesis or any other project of an institute. By signing the form, you agree to be bound by the terms of use that accompany the application and to be responsible for the accounts you create.

In order to apply for a project, you need to have the formal authority to sign. Students can only get an account while working at an institute.

Once the project has been approved, the project manager can log in to the BIAS website and create accounts (usernames). Usernames should reflect the real name of the user, if possible.

Note that user accounting on BIAS is not part of the service *Scientific Computing* and thus not part of the cluster system.

What the cluster system may be used for

Parts of the cluster system are DFG major instrumentation, thus rules for DFG major instrumentation apply when using the cluster system. Furthermore software licenses are valid for research and teaching only. Accordingly the cluster system must only be used for research and teaching activities.

Computing power

The cluster system contains the following compute resources: Computing Hardware. Additionally, institutes can ask to integrate their own hardware for use within the cluster system in a service called Forschungscluster-Housing (FCH). Hardware in that service is reserved for the respective institute, usually during work days between eight o'clock in the morning and eight o'clock in the evening. During night-time and on weekends, all cluster users have access to the resources, which means that jobs that ask for less than 12 hours of wall time have a high chance of running on an FCH node during the night (jobs with less than 60 hours can run on such a node during the weekend). So if you get directed to a machine that does not fit the name scheme of our main clusters during off-hours, that is most likely an FCH node. For information about placing your institute's hardware into FCH, please get in touch with us.

IMPORTANT: If you just log in to the cluster and run your programs directly on the login nodes (login.cluster.uni-hannover.de) you will use not only a very small fraction of the power that's available, you'll also experience all kinds of problems depending on what other users do on the same node. Instead, you should either submit your work in a batch job via SLURM (see the corresponding chapter of this documentation) or use our OpenOnDemand web portal https://login.cluster.uni-hannover.de. Running jobs on the login nodes is *absolutely not* the way you should do your work. That would similar to abusing a large airliner to plow a small field. One *can* do that, but it is very, very inefficient, and your programs will get killed automatically as soon as they try to use more than 1800 cpu seconds there. The power of the cluster lies in the computing capabilities *behind* the login nodes. So please learn how to use it. It is, of course, okay to just check out something small on a login node, but never try to run a real computation there - you will just seriously get on the other users' nerves.

[1)]

www.dfg.de