Training offered by Scientific Computing Group at IT-department, UiB

In fall 2020, SC@ITA will resume training activities for scientists using HPC, Cloud and data services offered locally (UiB) and nationally (Sigma2/Metacentre). Depending on the needs of users we distinguish three different kinds of trainings for users based on their experience: basic, intermediate and advanced.

In addition, we will provide information about what resources and services are accessible for users and how to choose the best-fitting of these resources and services.

Below is an overview of the contents for courses. We kindly ask you to let us know what trainings are mostly requested by your colleagues. As we want to begin with basic courses this fall, we are specifically interested in whether a basic course should include a pre-course (1-2 weeks in advance of the actual course) to introduce the use of UNIX and which basic topics are mostly useful.

Information about resources and services

We will provide an overview of the resources and services that exist locally and nationally, what they are typically used for, how to decide which is the best to use, what is required to get access, what kind of support can be provided to users. Max 30 min presentation + Q&A.

Basic
Aiming at scientists with no or little experience in using HPC, Cloud and data services. Emphasis is on teaching a minimal set of basic tools and techniques to use various resources. Taught tools and techniques may not be the most powerful or performant but should be easy to understand and least error prone.

- UNIX introduction (6-8h / 2 half days), tentative dates: October 15/16
  - Learn how to login into a remote system (ssh, Putty)
  - Understand how to navigate around in a directory tree, to start a program, to copy files, to create directories, to determine arguments to programs, to show contents of a file, to edit a file
  - Basics of shell scripts
  - Course should be held sufficiently in advance of the main course to allow participants to practise

- Main part of basic training (total time about 3 half days), tentative dates: October 27-29
- Login into a remote/HPC machine (1h)
  - One tool for each different client-side operating system (Linux, Mac, Windows)
- Using installed software (1h)
  - Find software, load modules, show information about modules, list loaded modules, best practises, find documentation about software
- Data transfer, quota (2h)
  - Transferring data in and out (scp)

- Understanding quota, and managing it (or avoiding the need to manage it)
- Jobs (2h)
    - What are jobs used for?
    - Layout of a job script
    - How to submit a job?
    - Job results
    - Jobs' resources requirements
    - Interactive jobs
- NIRD toolkit (2h)
    - What is it used for?
    - How to get access?
    - How to use a tool?
- Support requests (1h)
    - How to solve problems?
    - Types of support (standard / advanced)
    - How are requests handled? (How to help support staff to provide effective and quick help?)
- Miscellaneous (1h)
    - How to get started?
    - Useful reading/information
    - Overview resources/services & other trainings

Intermediate

Aiming at scientists who are already using HPC, Cloud and data services and wish to improve specific aspects of their daily work on the IT resources. Taught tools and techniques will require basic understanding and experiences and will introduce alternatives to allow more efficient and more large-scale use of resources. The exact contents/topics will be defined later based on feedback from users.

Advanced

Aiming at scientists with very demanding needs. We anticipate that such needs may not fully covered by staff at SC@UiB alone and require collaboration with partners at the Metacentre or even invited speakers who are specialists in specific topics.