University of Aberdeen HPC Cluster and Basic Unix Skills Online Course

A Beginners Self-Study Guide to HPC and Unix for Genomics

Date: as needed

Format: Unsupported online tutorial with instructional videos and computer-based exercises.

Description: Analysis of next generation sequencing data typically requires high performance computing and use of bioinformatics programs on the Unix command line interface for optimal and fast processing of big data. Here we introduce the University of Aberdeen Computing Cluster and teach you basic Unix skills enabling you to make the most of this valuable resource for analysis of NGS data.

Topics:

- What is Unix?
- Unix file structure and hierarchy
- Simple Unix commands and programs
- Joining programs with pipelines
- Shell scripting
- What is a HPC?
- Connecting to the University of Aberdeen's HPC
- Using the HPC to submit and monitor jobs

Who should take the course: This course is mainly for those 1) who missed attending the supported Unix/HPC workshop offered in the autumn academic term, 2) who wish to take other CGEBM workshops that require basic Unix/HPC knowledge and 3) who are happy to learn unsupported. The material is aimed at researchers, staff and PhD students interested in using the University of Aberdeen's high performance compute cluster to analyse next generation sequencing (NGS) data and those who wish to attend other CGEBM bioinformatics workshops. The workshop covers the basics of using the system from a command line perspective but not topic specific analysis. Topic specific analyses such as genome assembly, RNA-sequencing and alignment/variant-calling are covered in other CGEBM workshops.

Computer accounts: An account on the teaching HPC, Macleod, will be provided. If you would like to use the research HPC, Maxwell, after the workshop you will need to obtain an account (email: digitalresearch@abdn.ac.uk). For more details see http://www.abdn.ac.uk/staffnet/working-here/hpc.php. Macleod and Maxwell have the same file structure, operating system and scheduler. What you learn on the course is applicable to both University of Aberdeen HPC clusters.

As mentioned above, this online workshop can be used as a pre-requisite for other workshops being run by the CGEBM and that require Unix/HPC knowledge. If you have existing expertise in using Unix and HPC, please email Antonio Ribeiro (antonio.ribeiro@abdn.ac.uk) and discuss with him to ensure you have the necessary skill level required to benefit optimally from the application specific workshops.

Cost: For University of Aberdeen staff and PhD students the workshop is £120. Payments must be made before registration. Please enter your order details on the registration form. Details on how to raise an internal order for the course fees are provided on the registration form.

Registrations: To register for this course, please complete the registration form here, or scan the QR code

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