

ARCHER Training Courses

General Overview



EPSRC



NERC SCIENCE OF THE ENVIRONMENT



archer



CRAY
THE SUPERCOMPUTER COMPANY



epcc



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- UK National Supercomputer Service, managed by EPSRC
 - housed, operated and supported by EPCC
 - hardware Supplied by Cray
- Training provided by the ARCHER Computational Science and Engineering (CSE) support team
 - 72 days per year at various locations round the UK
 - free to all academics



What is EPCC?

- UK national supercomputer centre
 - founded in 1990 (originally Edinburgh Parallel Computing Centre)
 - a self-funding Institute at The University of Edinburgh
 - running national parallel systems since Cray T3D in 1994
 - around 65 full-time staff
 - a range of academic research and commercial projects
 - one-year postgraduate masters in HPC www.epcc.ed.ac.uk/msc/
- Get in contact if you want to collaborate
 - many staff are named RAs on research grants
 - joint research proposals
 - European project consortia
 - ...



Key ARCHER Resources

- Upcoming courses
 - <http://www.archer.ac.uk/training/>
- Material from past courses
 - http://www.archer.ac.uk/training/past_courses.php
- Virtual tutorials (online)
 - <http://www.archer.ac.uk/training/virtual/>
- Technical forum (online)
 - <http://www.archer.ac.uk/community/techform/>
- Documentation
 - <http://www.archer.ac.uk/documentation/>



Who am I?

David Henty d.henty@epcc.ed.ac.uk

- In charge of training at EPCC
 - MSc
 - PRACE Advanced Training Centre
 - ARCHER training programme
 - commercial training
 - ...
- Also do HPC research
 - new parallel programming models, accelerators, performance, ...



Who am I?

Adam Carter a.carter@epcc.ed.ac.uk

- Organiser of this course
- MSc Organisation Team
- Course Organiser for Practical Introduction to Data Science
- ...welcoming you on behalf of David Henty who is in charge of training here at EPCC



Other Resources

- Please fill in the feedback form!
 - <http://www.archer.ac.uk/training/feedback/>
- General enquiries about ARCHER go to the helpdesk
 - support@archer.ac.uk
- EPCC runs one-year taught postgraduate masters courses
 - **MSc in HPC** and **MSc in HPC with Data Science**
 - awarded by the University of Edinburgh since 2001
 - scholarships available
 - <http://www.epcc.ed.ac.uk/msc/>



MSc in HPC / HPC with Data Science



- taught by EPCC staff (plus options in Informatics, Maths, Physics, ...)
- 12 taught courses (8 months); research dissertation (4 months)



Access to ARCHER

- Guest accounts for duration of course
 - can be used in the evenings while the course is running
- Accounts will be closed immediately after the course
 - all files etc will be deleted
- Take copies of all your work before course ends!
- Course materials (slides, exercises etc) available from course web page
 - archived on ARCHER web pages for future reference





PARTNERSHIP FOR ADVANCED COMPUTING IN EUROPE

EPCC's PRACE Advanced Training Centre



PARTNERSHIP
FOR ADVANCED COMPUTING
IN EUROPE



Six PRACE Advanced Training Centres (PATCs)

Hubs for world-class HPC training for researchers in Europe

www.training.prace-ri.eu

- Barcelona Supercomputing Center (Spain)
- CINECA - Consorzio Interuniversitario (Italy)
- CSC - IT Center for Science Ltd (Finland)
- EPCC at the University of Edinburgh (UK)
- Gauss Centre for Supercomputing (Germany)
- Maison de la Simulation (France)

PRACE support

- PRACE also funds catering and other expenses for PATC courses
- Upcoming courses (at EPCC and throughout Europe)
 - www.archer.ac.uk/training/
 - www.training.prace-ri.eu
- Please fill in the course feedback form!
 - see www.archer.ac.uk/training/feedback/
 - opens on last day of course

Data Management: IO, Transfer and Storage Today

09:00 : Registration

09:20 : Welcome & Introduction

09:30 : File systems on ARCHER and the RDF. Moving Data between file systems, and on and off ARCHER and the RDF.

11:00 : Coffee

11:15 : Walkthrough: Moving data. Demonstrations of using GridFTP and related data transfer techniques.

12:30 : Lunch

13:30 : I/O libraries & formats: NetCDF

14:30 : I/O libraries & formats: HDF5

15:30 : Coffee

15:45 : Practical (HDF5)

16:45 : Close



Data Management: IO, Transfer and Storage

Tomorrow

09:30 : Data Infrastructure Hardware: Filesystems, Hierarchical Storage, data-intensive computing

10:30 : Coffee

10:45 : Intro to Relational Databases

11:30 : Practical: SQL

12:30 : Lunch

13:30 : Intro to NoSQL databases

14:30 : Practical: MongoDB

15:30 : Coffee

15:45 : XML & JSON

16:45 : Close

