

NeCTAR National Research Cloud Workshop

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GENERAL INFORMATION

- Is this workshop half-day or full-day?
Full-day
- Who is the primary convener for the workshop?
National eResearch Collaboration Tools and Resources (NeCTAR) project together with University of Melbourne ITS research services and Australian National Data Service (ANDS).
- Does the workshop include a hands-on component?
Yes
- Are there any constraints on the number of attendees?
No
- Are there any technical requirements beyond AV and access to wireless network?
Attendees will require a wireless connection to access NeCTAR's research cloud plus power for their laptops. The presenters will require power, a data projector and a whiteboard / flipchart.

DESCRIPTION

This workshop will provide a practical and hands-on introduction to NeCTAR's National Research Cloud. It aims to give software developers and technical proficient researchers the skills to deploy software services and data tools on the National Research Cloud.

NeCTAR is partnering with Australian institutions and research organisations to create, for the first time, a national research cloud for Australian researchers. The National Research Cloud empowers researchers with new self-service abilities to publish research data, share knowledge and rapidly deploy and access software applications without the burden of operating their own computer servers. It allows researchers to easily put their great ideas, tools, research applications and data online.

Hands-on activities will include:

- starting a Virtual Machine via the cloud web interface,
- enabling desktop access,
- launching Virtual Machines via command line tools,
- accessing storage from the cloud, and
- deploying and using selected research tools in the cloud.

The workshop will also provide a brief introduction to the architecture of the cloud, and cover hints and tips for maintaining secure Virtual Machines and backing up your data.

OUTLINE

Please provide an outline of the workshop content using the following format.

1. **Introduction to the National Research Cloud**

30 minutes

Introduction and description of the research cloud architecture. What is the cloud? How does it work? How do you use it? Who can use it? Why would a researcher or technical developer use the cloud? What are the advantages?

2. **Hands-on session: first steps in accessing the cloud**

60 minutes

How do you access the cloud? Using the web dashboard. Setting up keypairs and security groups to manage access. What are images and snapshots? How to launch a virtual machine using the dashboard.

3. **Hands-on session: using command line tools to access and maintain your Virtual Machine**

60 minutes

How do you connect to a virtual machine? Using the “web2go” image to create an instant web presence. Using SSH to connect directly to your virtual machine. How to secure, maintain and backup your virtual machine.

4. **Hands-on session: creating graphical interfaces to your Virtual Machine**

30 minutes

X11 Forwarding and remote desktops.

5. **Hands-on session: deploying and using research tools in the cloud**

60 minutes

How to deploy and use common research tools in the cloud. How to access data storage from the cloud.

WHO SHOULD ATTEND

This workshop is aimed at technically savvy researchers and software developers interested in learning the basics of managing Virtual Machines and deploying research software on the NeCTAR cloud. Participants are not required to be computer experts, but should not be scared of using command-line tools or seeing the occasional piece of software code.

WHAT TO BRING

Attendees will need a lap top with wifi capability. For Windows users an SSH client such as PuTTY will also be required.

ABOUT THE PRESENTERS

Bernard Meade.

Bernard Meade is a collaboration and research analyst with experience in computer visualization technologies. He has supported research at The University of Melbourne, focussing on emerging technologies, video conferencing, computer animation and more recently, large scale tiled displays. Assisting the Research Cloud team with community engagement, Bernard started the University of Melbourne Research Cloud Forum and has produced video tutorials and supporting documentation.

Clint Walsh.

Clint Walsh has supported software development through design to deployment of trans-national scale online systems including banking, payment & telephony systems, Clint also worked with interactive voice response and computer aided design. Working with systems that are distributed and high availability whilst responding to user needs has provided Clint with insight into the special requirements supporting Research Cloud presents.

Tom Fifield.

Tom Fifield is a software engineer, based at The University of Melbourne in Australia. After gaining experience in grid computing working to support ATLAS at the Large Hadron Collider, Tom worked extensively with collaborators from numerous overseas locations to facilitate the Belle II experiment's distributed computing design, and investigated interoperability between grid and cloud based solutions. Tom is now in the role of Research Infrastructure Architect, and is designing, developing and building the Australia-wide NeCTAR (National eResearch Collaboration Tools and Resources) Research Cloud and its first node at Melbourne.