Mines GP Workshop

14 December 2023

Windows - How to get on waveform

- Instead of installing Madagascar (M8R) on your Windows machine, we have preinstalled s/w on the CWP *waveform* server:

- To do this you will need a few pieces of software:

  - An X Server for Windows: https://sourceforge.net/projects/xming/
    - You will need to have Xming running

  - An SSH client with X11 forwarding: https://www.putty.org/
    - You need to have the X11 forwarding button ticked

  - Login to waveform.mines.edu using your Putty client (save profile for easy use later on)

  - Navigate to the workshop directory:
    - cd /data2/training/M8R/2023Workshop

  - Test waveform X11 graphics connection by typing: *xclock*

Mac O/S - How to get on waveform

- Instead of attempting to install Madagascar (M8R) on your Mac, we have preinstalled s/w on the CWP *waveform* server:

- To do this you will need a few pieces of software

  - XQuartz - https://www.xquartz.org/

  - You should be able to directly connect with your **xterm** program
    - ssh –Y username@waveform.mines.edu

  - Test Mio X11 graphics connection by typing: *xclock*

  - Navigate to the workshop folder to access materials:
    - cd /data2/training/M8R/2023Workshop

Note: You may need to edit your sshd_config file (typically found at /etc/sshd_config or /etc/ssh/sshd_config) if you have trouble using X forwarding. If sshd_config includes #X11Forwarding no (or just X11Forwarding no), uncomment out the line (remove the leading #), and change it to X11Forwarding yes.

Linux - How to get on waveform

- Instead of attempting to install Madagascar (M8R) on your Mac, we have preinstalled s/w on the CWP *waveform* server:
  - You should be able to directly connect with your **xterm** program
    - ssh –Y username@waveform.mines.edu
  - Test Mio X11 graphics connection by typing: *xclock*
  - Navigate to the workshop folder to access materials:
    - cd /data2/training/M8R/2023Workshop

Note: You may need to edit your sshd_config file (typically found at /etc/sshd_config or /etc/ssh/sshd_config) if you have trouble using X forwarding. If sshd_config includes #X11Forwarding no (or just X11Forwarding no), uncomment out the line (remove the leading #), and change it to X11Forwarding yes.

Linux – Setup (first time login)

- Your setup (e.g., .bashrc file) should in your home directory:
  - ~username/.bashrc
- You can find a generic .bashrc file at
  - /data2/training/M8R/2023Workshop/bashrc_example
- If you have a ~/.bashrc file, then make a backup before copying below
- Copy this file locally by
  - cp /data2/training/M8R/2023Workshop/bashrc_example ~/.bashrc
- To ensure that setup is correct, log out and then login again and type
  - echo $RSFSRC
  - It should return the following:
    - /home/software/RSF/RSF3.0/RSFSRC

- We have preinstalled M8R version located at:
  - /home/software/RSF/RSF3.0/RSFSRC
- Workshop materials are located at:
  - /data2/training/M8R/2023Workshop/Materials
- You will have an individual work directory in
  - /data2/training/M8R/2023Workshop/username

Linux – Setup (current user)

- You can look at the generic .bashrc file at
  - /data2/training/M8R/2023Workshop/bashrc_example

- You can extract RSF-specific information and add them to your existing ~/.bashrc (or ~/.bash_profile) file

```
export RSF=/home/software/RSF/RSF3.0/
source $RSF/RSFSRC/env.sh
export PYTHONPATH=${RSFSRC}/book/Recipes/:$PYTHONPATH
```

M8R Workshop Materials

- You can clone into the 2023 CSM GEOP Madagascar workshop materials from Github using the following command:

  - **git clone https://github.com/jshragge/CSM_GEOP_M8R_2023.git**

- Your local machine may not have git installed (Windows), but you should be able to do navigate to

https://github.com/jshragge/CSM_GEOP_M8R_2023

and then download a .zip file under the CODE tab

Today's Workshop – Rough Schedule

- From 8.30am – Coffee and Madagascar Package Introduction

- 9.00-9.15am – Introduction (Shragge)
- 9.15-10.15am – Using Madagascar on the Command Line (Girard)

- 10.15-10.30am – Break (informal)

- 10.30-11.30am – Introduction to Python and SConstruct (Shragge)
- 11.30-12.30pm – Madagascar+SConstruct (Girard) – Exercise I

- 12.30-1.30pm – Lunch

- 1.30-2.30pm – Seismic Modelling (Girard) – Exercise II
- 2.30-3.30pm – Adding your own programs (Shragge) – Exercise III

- 3.30pm onward – Wrap up / Sundowner (by donation)