

Instructions for the JASMIN workspace for the ACPC Houston Deep Convection Case model intercomparison

To store and distribute the simulation results from the different modelling groups participating in the ACPC Houston deep convection case study model intercomparison, we have created a workspace (shared storage) on JASMIN, a UK national computing facility. To be able to use this, we ask that at least one person from each modelling group create an account on the JASMIN system and apply for the necessary permissions, so that each group can upload their simulation data and access other data. This document gives an overview of the individual steps for creating the JASMIN account and getting access to the necessary services on the JASMIN system. While whole process will take a couple of steps and seem a bit tedious, it will leave us with the data stored on a system where we can all directly access and also perform analyses (<http://www.jasmin.ac.uk/services/jasmin-analysis-platform/>)

In case you run into any problems in this process, feel free to contact Max Heikenfeld (max.heikenfeld@physics.ox.ac.uk) or Peter Marinescu (peter.marinescu@colostate.edu).

We will explain the following 5 steps:

- 1. Create a JASMIN account**
- 2. Set up the ssh key**
- 3. Get access to the ACPC group workspace**
- 4. Get access to the high-performance data transfer service**
- 5. How to access and transfer data to/from the ACPC group workspace**

1. Create a JASMIN account

Go to <https://accounts.jasmin.ac.uk/application/new/> to start the application for a JASMIN account.

The process of creating a new JASMIN account is explained in detail under the following link

<http://help.ceda.ac.uk/article/4435-get-a-jasmin-account>

This includes a detailed video tutorial:

<https://www.youtube.com/watch?v=UMrUB7UKNcc&index=2&list=PLyBwrm7gQcuV311zrl8Rop2WqEP6vPXJL>

You will be asked for your institution. Check if your institution is already available via the dropdown menu, which will likely be the case for some of you. If your institution is not available use the “plus” button to ask to have it added to the JASMIN whitelist. Please be aware that access to the JASMIN system is restricted to internet connections from your home institution that you choose in this step, either physically or e.g. via a VPN connection.

In the “What will you be using JASMIN for?” field, please enter:

“I am working on the Aerosol, Cloud, Precipitation, Cloud (ACPC) project with Philip Stier at the University of Oxford. I will be using JASMIN and the ACPC group workspace for the ACPC deep convection case study”

2. Set up the ssh key:

Once you have gotten confirmation of the creation of your JASMIN account, you will have to set up an ssh key and share it with the JASMIN service.

In case you do not already have an ssh key set up or unfamiliar with the process of generating the ssh key, it is explained here: <http://help.ceda.ac.uk/article/185-generate-ssh-key-pair>

Once you have your ssh key ready on your system go to <https://accounts.jasmin.ac.uk/account/profile/> and enter the public part of the ssh key you created under "SSH Public Key".

You can now test if you can access the JASMIN system by trying to log-in to JASMIN from a terminal via:

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ssh -A username@jasmin-login1.ceda.ac.uk
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Please remember access to the JASMIN system is restricted to internet connections from your home institution that you chose in the application process, either physically or e.g. via a vpn connection.

3. Request access to the ACPC workspace:

To ask for access to the ACPC group workspace where the simulation data will be stored, go to https://accounts.jasmin.ac.uk/services/group_workspaces/

Find "acpc" in the list of group workspaces (should be one of the top ones on the first page due to the alphabetically beneficial choice of acronym) and click "Apply for access".

You'll be asked to provide supporting information, so just insert the same information about your participation in the ACPC activities you entered for your account creation.

"I am working on the Aerosol, Cloud, Precipitation, Cloud (ACPC) project with Philip Stier at the University of Oxford. I will be using the ACPC group workspace for the ACPC deep convection case study"

You should be receiving a confirmation Email as soon as your request has been accepted by the group workspace owner (Philip Stier). You can already request access to the data transfer service (next step) while waiting for the approval for the group workspace.

4. Request access to the high performance data transfer service

Since we will all transfer relatively large datasets to the workspace and the standard transfer speed of JASMIN is relatively slow, especially for connections from outside of the UK, we would ask you to apply for access to the high performance data transfer service. The process is similar to the one of applying for access to the workspace.

Go to https://accounts.jasmin.ac.uk/services/additional_services/, find "hpxfer" and click "apply for access".

To use the high performance data transfer service, you will have to restrict your connections to one single machine and provide the machine's ip address to have it added to a whitelist.

You'll be prompted to add supporting information again:

"I am working on the Aerosol, Cloud, Precipitation, Cloud (ACPC) project with Philip Stier at the University of Oxford. I will be using the ACPC group workspace for the ACPC deep convection case study. This will include the transfer of large simulation result JASMIN and I am thus requesting access to the high performance data transfer service"

Approval might again take a few workdays.

5. Access to the group workspace and data transfer

To access the group workspace first log in to the jasmin login nodes via ssh:

ssh -A username@jasmin-login1.ceda.ac.uk

From there, please login to one of the analysis servers (***jasmin-sci1, jasmin-sci2, jasmin-sci3***):

ssh username@jasmin-sci1.ceda.ac.uk

Now the ACPC group workspace should be accessible at

cd /group_workspaces/jasmin/acpc

The simulation data should be stored in a separate Folder

/group_workspaces/jasmin/acpc/houston_deep_convection_case/June2013

We will create a subfolder for each modelling group containing folders for the individual simulations. So you would transfer the simulation results to

***/group_workspaces/jasmin/acpc/houston_deep_convection_case/June2013/
Model_Group/simulation***

so e.g.

***/group_workspaces/jasmin/acpc/houston_deep_convection_case/June2013/RAMS_
CSU/CLN***

for the clean simulation performed by the group at Colorado State University using the RAMS model.

Furthermore, there will be a folder ***Documentation*** in each ***Model_Group*** folder where we would ask you to provide the necessary information about the simulation output.

Data transfer to the group workspace:

If you have been granted access to the "hpxfer" high performance data transfer service, use the following two servers for data transfer:

If you are located in the UK or the rest of Europe, please use the server ***jasmin-xfer2.ceda.ac.uk***.

If you are located outside of Europe (e.g. North America, Australia), please use the server ***jasmin-xfer3.ceda.ac.uk*** that has been tuned for long distance transfers

The basic data transfer server ***jasmin-xfer1.ceda.ac.uk***, is accessible without signing up for the “hpxfer” service, but only allows for relatively slow transfer rates.

All servers allow for data transfer via ssh or sftp. Examples of the data transfer terminal commands can be found here: <http://help.ceda.ac.uk/article/3810-data-transfer-tools-rsync-scp-sftp> .