DIVA on VirtualBox

Quick installation guide

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1. Installation of VirtualBox

1.0 If you have already installed VirtualBox (version 4.3.12 or later), go directly to point 2.
1.1 Otherwise, go to https://www.virtualbox.org/wiki/Downloads and download the VirtualBox binaries corresponding to your particular operating system host.
1.2 Execute the downloaded file and follow the instructions.

2. Donwloading the virtual machine "DIVA_clone"

2.1 Go to http://modb.oce.ulg.ac.be/mediawiki/index.php/DIVA#How_to_get_the_code.3F and donwload "DIVA_Clone-4.6.8.tgz".
2.2 Extract the files from the archive. On Linux/Mac : tar -xvzf DIVA_Clone-4.6.8.tgz. On Windows : use a software such as 7-Zip. Pay attention to your disk space left, DIVA_Clone is huge (about 7 Go). Note that decompressing the file might take a few minutes and put some stress on your machine. Please make sure that the decompressed file is not empty.

3. Configuring VirtualBox for "DIVA_clone"

3.1 Open VirtualBox, click on "New".
3.2 A dialog box opens, choose a name for your new virtual machine (ex : DIVA). Choose "Linux" for the type and "Ubuntu (32 bits)" for the version. Click on "Next".
3.3 Choose the amount of RAM you want to allocate to your virtual machine (2500 MB is enough).
3.4 Click on "use an existing hard drive file" and browse your file system by clicking on the small folder (bottom right corner). Search for "DIVA_Clone.vdi" and click on it. Then, click on "create".

4. Running the basic tests

4.1 Click on your new virtual machine in VirtualBox. Then, click on "start". Ubuntu will start in a few minutes.
4.2 Open the session "divauser" with the password "ertyerty" (qwerty/azerty compatible).
4.3 Click on the 7th application on the left launcher panel to open a terminal.
4.4 Go to the directory "~/DIVA/diva-4.6.8/DIVA3D/divastripped"
4.5 Run the basic tests (divatest, divatest0, divabigtest) to be sure all is ok. Please refer to the DIVA user guide to run these tests (the guide is availaible here : http://modb.oce.ulg.ac.be/mediawiki/index.php/Diva_documents#Latest_version)

5. Running a 4D test

5.1 Go to "~/DIVA/diva-4.6.5/Example4D" and copy its content to "~/DIVA/diva-4.6.5/JRA4/Climatology". Then, run "divadoall" in this directory and chek the results in "output/3Danalysis". For more details, please refer to the afore-mentioned user guide.
5.2 The test should last 45 sec to 10 min. See section 7.A to increase the performance of your virtual machine.

Tip : *ncview* and *ncBrowse* are already installed on the clone to help you visualizing the netcdf output files.

6. Enjoy

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7. Optional settings

A) Increase the performance

A.1 In order to increase the performance of your virtual machine, you can try the following approaches : increase the RAM, allocate more CPUs, enable the 3D videa acceleration,... You will find helpful advices on this page : http://www.howtogeek.com/124796/the-htg-guide-to-speeding-up-your-virtual-machines/. Please note that the clone you installed already contains the "VirtualBox Guest Additions".

B) Add a shared folder

B.1 A shared folder called "Divaexchange_guest" is automatically mounted when you start the virtual machine. It is located in your home directory. Before starting the virtual machine, you have to create another shared folder on your host system, called "Divaexchange_host", and also located in your home directory.

C) Update to the latest version of DIVA

C.1 The latest version of Diva is always available on this webpage : http://modb.oce.ulg.ac.be/mediawiki/index.php/DIVA#How_to_get_the_code.3F (diva-x.x.x.tgz). You can download it directly on your virtual box, and then just follow the diva user guide (http://modb.oce.ulg.ac.be/mediawiki/index.php/Diva_documents#Latest_version) to untar and compile it. Do not forget to adapt the PATH variable in your /home/sylvain/.bashrc file to your new version (i.e. replacing "4.6.8" by "x.x.x"). Then, restart a new terminal to activate these changes.