High-Perfomance Data Analytics Demo with PyOphidia

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esiwace
CENTRE OF EXCELLENCE IN SIMULATION OF WEATHER
AND CLIMATE IN EUROPE

**ESiWACE2 Training on High Performance
Data Analytics and Visualisation**
Session 4
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Environment setup

<u>Requirements</u>: *Docker, git CLI* and a *web browser*

For the tutorial we are using the *Ophidia all-in-one training container* from DockerHub*:*

```
docker pull ophidiabigdata/ophidia-training:latest
```

Further information at: *https://hub.docker.com/r/ophidiabigdata/ophidia-training*

Retrieve the tutorial/demo material from *GitHub:*

```
git clone https://github.com/ESiWACE/hpda-vis-training.git
```

If you already have it, check for the latest version. To get updates:

```
cd hpda-vis-training
git pull
```

Start the environment

Download the data required for the training:

```
cd hpda-vis-training/Training2021/Session4
./get_data.sh
```

You should now see 7 CMIP5 NetCDF files under the git repository folder.

From the same folder start the container, binding the tutorial material repo path ($PWD):

```
docker run --rm -it -v $PWD:/home/ophidia/notebooks -p 8888:8888
ophidiabigdata/ophidia-training:latest
```

This container includes the full Ophidia software stack, a Jupyter Notebook server and a set of scientific Python modules.

Access the environment

If started correctly, you should get something like the following messages in the terminal:
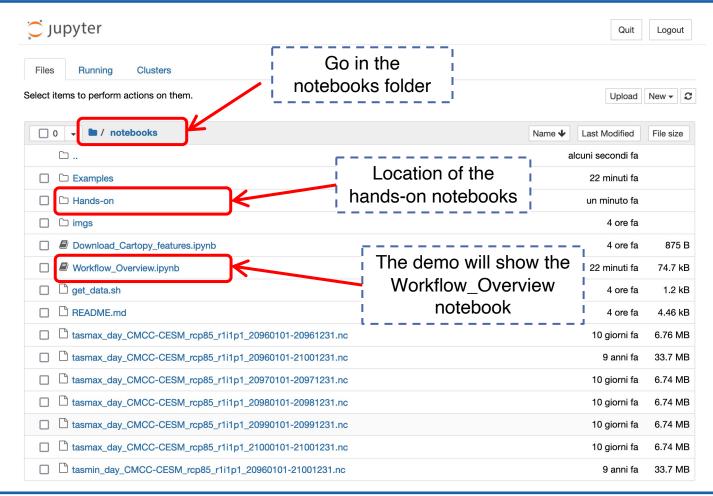
```
[I 20:43:36.116 NotebookApp] Writing notebook server cookie secret to
/usr/local/ophidia/.local/share/jupyter/runtime/notebook_cookie_secret
[I 20:43:36.539 NotebookApp] Serving notebooks from local directory: /home/ophidia
[I 20:43:36.539 NotebookApp] Jupyter Notebook 6.4.0 is running at:
[I 20:43:36.540 NotebookApp] http://172.17.0.2:8888/
[I 20:43:36.540 NotebookApp] Use Control-C to stop this server and shut down all kernels
(twice to skip confirmation).
```

Now copy the URL showed by the message (e.g., http://172.17.0.2:8888/) in your browser to open the Jupyter Notebook UI and type 'ophidia' as password.

Jupyter

Password: •••••••   Log in

Run the demo/hands-on notebooks

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Questions?

More about Ophidia?

Ophidia website: *http://ophidia.cmcc.it*

Contact: *ophidia-info [at] cmcc.it*

Social media: *https://twitter.com/OphidiaBigData*