



# Guidelines/requirements for the creation of the notebooks

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MOi manage a scientific environment for the attendees to allow them an access through a simple web link. No virtual machine will be needed, just a web browser.

MOi will put in place a space to upload the notebooks produced by the Lot 1 partner or order to others entities. The directory of this space will be given at least 2 months before the session. ***Thanks to start the upload at least 4 weeks before the training workshop (even notebooks are not finished).***

## Requirements

1. Notebooks must tell a story that addresses a local issue (about the seas surrounding the country where the training is delivered) with the help of copernicus products.
2. Notebooks must be written to be runned in Jupyter Ecosystem.
3. Notebooks must be written in Python3 and be proof-read to be compliant with [PEP-8](#).
4. Training content must not exceed 30-45 minutes by notebook (split notebook if superior). The collection of notebooks can cover up to a 3 hours session.
5. As both Python and R kernels will be available in the environment set up by MOi, notebooks written in Python3 (see REQ 3) may have their equivalent written in R and should be runnable in either RStudio or Python Notebook written in Python3 (using either "reticulate" or "rpy2").
6. Notebooks must call cutting-edge version of Python3 libraries/packages and avoid being imported with shortcut namespace when not necessary (example: "import xarray, import pandas" vs "import matplotlib.pyplot as plt").
7. Notebooks must be self-explanatory by using markdown cells/images/media to explain each code cell.
8. Notebooks may be completed by instructions given in a separate PDF and/or PPTX documents to introduce the session (better to do it)
9. Notebooks must give priority to the use of Python 3 libraries that hide to EndUsers the complexity of API sub-layers (= using the simplest lines of code as possible = avoiding direct call to netCDF4 library for example)
10. Notebooks may be inspired by the following old notebook examples (=> <https://atlas.mercator-ocean.fr/s/RyBG2W8iWyFktoE>) but must NOT be the sole source of inspiration/insight to fulfill requirement 1 (= tell a story).
11. Use <https://tiny.cc/> if you have to generate shorter URLs

## 12. Notebooks must apply the following tree directory:

```
<training>
|__ data/
|__ img/
|__ _solved/
|__ docs/
|           |__ QualityInformationDocument
|           |__ ProductUserManual
|           |__ TrainingGuidelines
|           |__ Posters
|           |__ References
|__ <XX>-01-ipynotebook.ipynb
|__ <XX>-02-ipynotebook.ipynb
|__ <XX>-<YY>-ipynotebook.ipynb
```

Where:

"<training>" is the root folder defined by the person who sent you the link to upload all your training material (see below)

"data/" is a directory which must hold netCDF files covered by notebooks.

- These files must be in file format NetCDF4 (to be converted by trainer in beforehand if required).
- These files must be downloadable by HTTP(s) protocols (when offered thanks to MOTU, WMS, OPENDAP etc) from the CMEMS database.
- These files must have been downloaded by FTP protocol ONLY IF FileTransferProtocol is the ONLY download protocol offered by CMEMS database (example: at the moment, some IN SITU netCDF files).

"img/" is a directory which must hold any images used in notebook to illustrate "something"

"\_solved/" is a directory which must hold .py files answering questions raised in notebook

Production Center	XX
GLOBAL-MFC	01
ARCTIC-MFC	02
BALTIC-MFC	03
NWS-MFC	04
IBI-MFC	05
MED-MFC	06
BLK-MFC	07
SEALEVEL-TAC	08
OCEANCOLOUR-TAC	09
SST-TAC	10
SEAICE-TAC	11
WIND-TAC	12
INSITU-TAC	13
WAVE-TAC	14
MULTIOBS-TAC	15

"docs/" is a directory which must hold any useful media, helping EndUsers to answer questions or to go deeper into subject not covered by the notebook at 100%

"<XX>-<YY>-ipynotebook.ipynb" is a python notebook file:

- There must be as many notebook files as necessary to cover the variety of Copernicus products offered on the <training> where the training is held.
- <XX> must refer to the two digits used to reference the Production Center covered by the notebook (example: ARCTIC-MFC = 02, GLOBAL-MFC = 01, BLK-MFC = 07, INSITU-TAC = 13 etc...). A mix is possible. (See the table on the left)
- <YY> must refer to the two digits to increment assignments, lessons. It must reflect the order and number of notebooks.

Any question, please [servicedesk.cmems@mercator-ocean.eu](mailto:servicedesk.cmems@mercator-ocean.eu)