

intake-esm

Prepared for the MPI-M LunchBytes online seminar on March 26 by Aaron Spring.

×For now on, please use the official catalogs folder:

```
/work/ik1017/Catalogs
```

Installing intake-esm on Mistral

The easiest way to install `intake-esm` on Mistral is using Anaconda. It makes sense to move the environments to a different location than the home directory because each environment may use more than 1GB.

First, load the `anaconda` module:

```
module load anaconda3/bleeding_edge
```

×If there is a problem loading the `anaconda` module, try before:

```
module unload netcdf_c
```

To change the default environment directory, edit the `~/ .condarc` file:

```
envs_dirs:  
- /work/your_project/m123456/conda-envs
```

To create a new environment and install `intake-esm`, clone the tutorial repository from `gitlab.dkrz.de` to your `$HOME` directory:

```
git clone https://gitlab.dkrz.de/m300524/lunchbytes_intake-esm.git  
cd lunchbytes_intake-esm  
conda env create -f intake-esm.yaml
```

Confirm the list of packages that will be installed and wait...

Some useful commands for working with Anaconda can be found in the [conda cheat sheet](#).

Run Jupyter

We will access the conda environment `intake-esm` interactively via `jupyter`. We use the script `start-jupyter` from [DKRZ](#).

Clone the tutorial repository also locally:

```
git clone https://gitlab.dkrz.de/m300524/lunchbytes_intake-esm.git
cd lunchbytes_intake-esm
```

Before starting jupyter from your local machine, ensure that no other jupyter instance is running locally and remotely.

Start jupyter on mistral with the DKRZ script from your local laptop:

```
./utils/start-jupyter -u mXXXXXX -i lunchbytes_intake-  
esm/utils/jupyter_preload -c lab -A your_project -p compute
```

In case you need to wait too long to get access or you get memory issues during using, try specifying a different "node type", such as `-p compute(2)`. You can also try `-p shared`, but then I got too little memory for dask to work fast.

If you get asked for username and password each time, [consider setting up your ssh key](#).

Tutorial

Open the notebook inside jupyter in the repository `lunchbytes_intake-esm` and play.

I thought everyone has access to my home directory. If not, please clone `intake-esm-data-store`:

```
git clone https://gitlab.dkrz.de/m300524/intake-esm-datastore
```

And change the paths in your notebook.

Note: We can only access the CMIP6 files already downloaded to `/work/ik1017/CMIP6/data/CMIP6` at the time the `intake-esm` catalog was built last time. This might be less output than what you find on [ESGF](#).

If you ultimately fail to get anything working, a very similar notebook in the [cloud](#). Note that no changes are saved if you log off. Click on the notebook file to save the `.ipynb` to your local computer.

Tasks

work on the notebook [tasks.ipynb](#).

Additional ressources

- search github
- ask your peer
- google

- [intake-esm](#)
- local CMIP6 download: /work/ik1017/CMIP6/data/CMIP6
- CMIP6 data availability: https://pcmdi.llnl.gov/CMIP6/ArchiveStatistics/esgf_data_holdings/
- [intake-xarray](#)
- [intake on mistral wiki post](#)

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