

# FAIR\_bioinfo for bioinformaticians

## Introduction to the tools of reproducibility in bioinformatics

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**à compléter**

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# Conda

# Extrait du programme IFB

Pourquoi un gestionnaire d'environnements et de packages ?

Installation de packages avec Conda

Utilisation d'environnement Conda

TP: Création d'un script d'installation avec conda :  
installer snakemake avec conda

# CONDA: an environment manager

## Why using an environment manager?

- avoid compilation and dependencies problems: an environment manager will take care of everything!
- have several environments in parallel each with their own set of tools
- useful when cross-tools dependencies are incompatible with each other

## Conda concepts, objets

- Environment: a set of packages in a directory (added to your PATH)
- Conda: an open source package + a general-purpose environment management system (installation, execution, upgrade). For any programming language, multi-platform (Windows, MacOS, Linux).
- Conda package: a compressed tarball



## Conda distribution

- Anaconda: a data science platform that comes with a lot of packages
- Miniconda: come without installed packages

## Anconda cloud, the conda hub

- [Anaconda cloud](#) (private company) strength is that it relies on the community of developers and concerns many domains (Machine Learning, Data Visualization, Dashboarding-web, Image Processing, Natural Language Processing)
- Anaconda cloud: made up of channels/owners. Each channels contains one or more conda packages (be careful when downloading any packages from an untrusted source)

## Some channels

- defaults
- bioconda: bioinformaticians contributions
- conda-forge: many popular python packages (analogous to PyPI but with a unified, automated build infrastructure and more peer review of recipes)
- r: for packages in R language

## Channels list order

- Different channels can have the same package  $\Rightarrow$  collisions
- Conda resolves collisions following the priority level given by the order of you channels list  $\Rightarrow$  put supplemental channels at the bottom of your channel list

## simple command

```
1 conda install tool
```

interactive

configuration file



# Conda Exercise