Conda - Package Management and Environment Isolation

basic and easy guide

Conda serves the purpose of isolating the execution context of the code, thus making it

- safe
- portable

Conda is the actual package manager, Anaconda is a distribution (see the second resource link for further explanation).

How to use it

Create and activate a conda environment

- go to the directory (can already contain code)
- `conda create -n environment_name list_of_packages_separated_by_spaces`
  (more packages can be installed later on)

```
conda create -n pycon2019 -c conda-forge --yes python=3.7
    pip cookiecutter=1.6 'notebook=5.7' pandas=0.24 nodejs
    =9.11 jupyterlab bqplot ipyvolume pythreejs aiohttp
    line_profiler matplotlib rpy2 simplegeneric trio cython
     pillow
```

- `conda activate environment_name`
- install the selected (version of the) package in the current environment:
  `conda install --name package_name [=version.number] [-y]`
  (`-y` avoids being asked for confirmation)
- create an environment from a supplied `.yaml` file:
  `conda env create -f path/environment.yml`

Share

- export a conda environment:
  `conda environment_name export > file_name.yaml`
  (the first command prints the packages)
- when sharing code it's **good practice** to:
  - make an environment file and include it in the repo → easier for others to install dependencies for the code
  - `pip freeze` → produces a `requirements.txt` for those that don't use conda

Deal with environment packages

- update packages: `conda update --all`
- list all packages in the current environment: `conda list`
- retrieves a list of available packages in conda related to the searched terms (include * and '): `conda search '*search_term*'`

Other commands

- exit a conda environment `conda deactivate`
- remove a conda environment (not the data!): `conda env remove --name pycon2019 --yes`
- list environments: `conda env list`
- start Jupyter Lab `jupyter lab`
- update:
  `conda upgrade conda`
  `conda upgrade --all`
- from Windows, enter commands in *Anaconda Prompt*, not the usual command line

Resources

Info on conda packages.
Nice resource on common misconceptions about conda