conda Package and env manager

CONCEPTS

Never install into base: give every project its own named environment.

Channels defaults, conda-forge
↓ search + solve
Package cache pkgs/
↓ link
Environment envs/<name>
↓ activate
Shell PATH set

Packages are hard-linked from a shared cache, so many environments cost little disk.

mamba is a faster drop-in for these commands; recent conda already uses the libmamba solver.

Use pip inside an environment only after conda installs; mixing the other way can break it.

ENVIRONMENTS

conda create -n *<env>* *<package>*...
Create a named environment

conda create -p *<path>* *<package>*...
Create at a path instead of by name

conda activate *<env>*
Activate an environment

conda deactivate
Deactivate the current one

conda env list
List all environments

conda env remove -n *<env>*
Delete an environment

conda create -n *<new>* **--clone** *<env>*
Copy an environment

conda info
Show conda setup and active env

conda init *<shell>*
Hook conda into a shell profile

conda run -n *<env>* *<command>*
Run a command without activating

PACKAGES

conda install *<package>*
Install into the active env

conda install *<package>*=*<version>*
Install a given version

conda install -n *<env>* *<package>*
Install into another env

conda install -c *<channel>* *<package>*
Install from a channel

conda update *<package>*
Update one package

conda update --all
Update everything

conda remove *<package>*
Uninstall a package

conda list
List installed packages

conda list *<regex>*
Filter the installed list

conda search *<package>*
Find available versions

conda install --dry-run *<package>*
Preview without changing

conda install --revision *<n>*
Roll back to a revision

conda list --revisions
Show environment history

CHANNELS AND CONFIG

conda config --add channels conda-forge
Add a channel (highest priority)

conda config --set channel_priority strict
Prefer higher channels strictly

conda config --show channels
Show configured channels

conda config --show-sources
Show config files in use

conda config --set *<key>* *<value>*
Set a setting

conda config --set auto_activate_base false
Do not activate base at startup

SHARING ENVIRONMENTS

conda env export > environment.yml
Export the active env

conda env export --from-history
Export only what you asked for

conda env export --no-builds
Drop build strings

conda env create -f environment.yml
Create from a file

conda env update -f environment.yml --prune
Sync env to the file

conda create -n *<env>* **--file spec-file.txt**
Rebuild from an explicit list

environment.yml

```
name: myenv
channels:
  - conda-forge
dependencies:
  - python=3.12
  - numpy
  - pip:
    - requests
```

CLEANUP AND DIAGNOSTICS

conda clean --all
Remove caches and unused packages

conda clean --packages
Remove unused packages

conda doctor
Check environment health

conda update -n base conda
Update conda itself

RECIPES

Reproducible project environment

```
conda create -n proj -c conda-forge python=3.12 numpy
conda activate proj
conda env export --from-history > environment.yml
git add environment.yml
```

Recreate an environment on another machine

```
conda env create -f environment.yml
conda activate proj
conda list
```