

Installing Software

Miniconda

Many tools don't require root privileges and can be installed in user space. This enables users to customize Python packages to their needs, without conflicting with any system-level Python installations, or Python installations other users have performed.

A Miniconda Python installation is a common prerequisite for Python-based applications in machine learning and other fields.

Miniconda is a free software package that includes the conda package and environment manager. <https://docs.conda.io/en/latest/miniconda.html>

1. Download the Miniconda installer

```
wget https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh
```

2. Run the installer

```
$chmod 755 Miniconda3-latest-Linux-x86_64.sh
```

```
./Miniconda3-latest-Linux-x86_64.sh
```

3. Configuring Conda

```
./conda update conda
```

```
./condaconfig --add channels bioconda
```

Miniconda installers contain the conda

package manager and Python

```
$ condainstall numpy
```

Creating environments with Conda

```
$ condainstall bwa
```

Or a new environment can be created:

```
$ condacreate -n aligners bwa bowtie hisatstar
```

Containers

Many HPC groups are using containers for their software. Some tools come as singularity or docker images.

(1) If there is no docker container available for your package you can build one in your local machine with the OS of your choice and install your package.

(2) Push the container to a cloud container repo. ie. <https://hub.docker.com>

(3) Pull the docker container as a singularity image in junos, doing `singularity pull docker://<your-image>`

(4) Run your package by doing `singularity run <your-image> <your-package-command>`

Module avail will show you the available packages and versions.

```
You can use module to load singularity as:  
module load singularity/3.7.1
```

Please read more about how to use containers.

docker

<https://docker-curriculum.com/>

singularity

<https://sylabs.io/guides/3.5/user-guide/introduction.html>

<https://singularity.lbl.gov/quickstart>

<http://mskccchpc.org/display/CLUS/Singularity+Usage>

If you would like to request help installing the software, please use this form here: <http://hpc.mskcc.org/software-installation-request/>