

## Python and Ruby environment

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### Python

System default python3 (/usr/bin/python3) is available. Also, [miniforge](#) environments installed in /apl/conda are also available. You can install your own python environments (using [pyenv](#), conda, uv, Rye) in your home directory.

#### install packages with pip3

When you need single or a few packages, installation with pip3 may be easier than conda or other tools. To install some packages in your home directory, please try to install with "pip3 install --user (package name(s))". In the following example, numpy 1.19.5 will be installed in your home directory. (Don't type leading \$.)

```
$ pip3 install --user numpy==1.19.5
```

The files will be installed to ~/.local/lib/python(version)/site-packages in the default configuration.

#### use /apl/conda

In /apl/conda/(date) directory, there are "conda\_init.sh" and "conda\_init.csh" files for initialization. Please load either one of setup file according to your login shell.

bash/zsh:

```
$ . /apl/conda/20230214/conda_init.sh
```

csh/tcsh:

```
$ source /apl/conda/20230214/conda_init.csh
```

Popular packages are installed in "base" environment. In the "gpuenv" environment, CUDA toolkit and GPU-enabled PyTorch and other libraries are installed additionally. You can create your own environment based on these environments.

#### pyenv

You can install pyenv yourself in your home directory. We also provide pyenv command under /apl/pyenv, which you can load with "module load pyenv" or write the configuration to your ~/.bash\_profile. Please refer to /apl/pyenv/README.rccs for details.

### Ruby

Ruby is not installed in the system. You can prepare the latest ruby environment using [rbenv](#) and [ruby-build](#) in your home directory.