## Python 3.9.9 (miniforge3, 2022/1/17)

# Usage

Files are installed in /local/apl/lx/rccs-forge3-20220117.
Two conda environments, base and gpuenv, are available. Base environment contains basic python packages for research. Gpuenv contains some GPU-enabled packages such as tensorflow/pytorch in addition to basic packages.

## Load configuration

You can use conda environment by loading initialization script.

bash, zsh case:

```
% . /local/apl/lx/rccs-forge3-20220117/conda_init.sh
```

csh (tcsh) case:

```
% source /local/apl/lx/rccs-forge3-20220117/conda_init.csh
```

Default environment (base) will be activated. The conda environment name will be shown in left.

```
(base) %
```

You can switch environment with "conda activate" command.

```
(base) % conda activate gpuenv
(gpuenv) %
```

You can quit from environment by "conda deactivate" command.

```
(gpuenv) % conda deactivate
(base) %
```

```
(base) % conda deactivate
%
```

## Notes

This initialization operation which will access a large number of files would often be very time consuming. This is unavoidable due to the nature of the distributed file system used in RCCS. Therefore, we recommend to read the anaconda environment only when it is necessary. On the other hand, once loaded, you can read fast for the time being (because it is cached).

# Installation

## Webpage

https://github.com/conda-forge/miniforge (Miniforge)
https://conda-forge.org/ (conda-forge)

Citing information (including bibtex entry) is available at top page of conda-forge website.

## Build dtae

2022/1/17-18

## File Required

- Miniforge3-Linux-x86_64.sh

## Procedure (simplified)

(output part is basicallyomitted)

### base environment

```
# sh Miniforge3-Linux-x86_64.sh
...
[/root/miniforge3] >>> /local/apl/lx/rccs-forge3-20220117
...
# /local/apl/lx/rccs-forge3-20220117/bin/conda shell.bash hook > /local/apl/lx/rccs-forge3-20220117/conda_init.sh
# /local/apl/lx/rccs-forge3-20220117/bin/conda shell.csh hook > /local/apl/lx/rccs-forge3-20220117/conda_init.csh
# . /local/apl/lx/rccs-forge3-20220117/conda_init.sh
(base) # conda update conda
(base) # conda update --all
(base) # conda install pandas numpy scipy six pip matplotlib notebook jupyter
(base) # conda install sphinx
(base) # conda install opencv tensorflow keras
(base) # conda install pytorch=1.9.1=py3.9_cpu_0 torchvision cpuonly -c pytorch
(base) # conda install curl cython fribidi glib glob2
(base) # conda install isort keyring pango path pathlib2 pathtools
(base) # conda install future
(base) # conda install pep8 pkginfo pytest scikit-image scikit-learn
(base) # conda install sip watchdog fftw
(base) # conda list
...
conda                   4.11.0          py39hf3d152e_0    conda-forge
...
python                  3.9.9           h62f1059_0_cpython    conda-forge
...
pytorch                 1.9.1             py3.9_cpu_0  [cpuonly]  pytorch
...
tensorflow              2.4.1           py39hf3d152e_0    conda-forge
...
```

## gpuenv environment

```
(base) # conda create -n gpuenv python=3.9.9
(base) # conda activate gpuenv
(gpuenv) # conda install cudatoolkit=11.1.1 cudnn opencv
(gpuenv) # conda install tensorflow-gpu keras
(gpuenv) # conda install pytorch torchvision -c pytorch
(gpuenv) # conda install pandas numpy scipy six pip matplotlib jupyter
(gpuenv) # conda install sphinx future
(gpuenv) # conda install curl cython fribidi glib glob2
(gpuenv) # conda install isort keyring pango path pathlib2 pathtools
(gpuenv) # conda install pep8 pkginfo pytest scikit-image scikit-learn
(gpuenv) # conda install sip watchdog fftw pdbfixer
(gpuenv) # conda list
...
python                  3.9.9           h62f1059_0_cpython    conda-forge
...
pytorch                 1.10.1          py3.9_cuda11.1_cudnn8.0.5_0    pytorch
...
tensorflow              2.6.0           cuda111py39h383fce0_2    conda-forge
...
```