

Building psana release

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psana1

Assemble all packages source code in tar.gz file

```
pslogin
ssh psbuild-rhel7-01 -l psreldev
```

Set environment:

```
source /cds/sw/ds/ana/conda1/inst/etc/profile.d/conda.sh

conda activate conda_build
```

```
cd /cds/sw/ds/ana/conda1/manage
```

look at subdirectory scratch/ to see what is the latest release, e.g. psana-conda-4.0.55, then create next:

```
bin/ana-rel-admin --force --cmd psana-conda-src --name 4.0.56 --basedir `pwd` --tagsfile psana-conda-svn-pkgs[-test]
```

Algorithm of ana-rel-admin

Command bin/ana-rel-admin ... assembles all the source code from github and svn archives with the latest tags into a .tar.gz file

--basedir `pwd` is converted to /cds/sw/ds/ana/conda1/manage/

input: < config/psana-conda-svn-pkgs # contains the list of packages with source code

output:

```
> scratch/psana-conda-4.0.56/<packages> # clones of all packages form git or svn
```

```
> git clone git@github.com:lcls-psana/data_test.git /tmp/data_test
> scratch/psana-conda-4.0.56/psana-conda-tag # tags extended with version like 'tag': 'V02-00-76'
> scratch/psana-conda-4.0.56/psana-conda-4.0.56/.sit_release # contains psana-conda-4.0.56
> downloads/anarel/psana-conda-4.0.56.tar.gz # archived content of scratch/psana-conda-4.0.56

> dumps at the end sha256sum .../psana-conda-4.0.56.tar.gz > 443440bf7a7fdbcdf89314b68c07f97f5a89dff38d6da98685e74f0671fac37d
```

Command bin/ana-rel-admin creates file accessible through url:
<file:///cds/sw/ds/ana/conda1/manage/downloads/anarel/psana-conda-4.0.56.tar.gz>

```
sha256sum /cds/sw/ds/ana/conda1/manage/downloads/anarel/psana-conda-4.0.56.tar.gz

> 443440bf7a7fdbcdf89314b68c07f97f5a89dff38d6da98685e74f0671fac37d
```

Conda build

ssh pslogin (not as psreldev yet...)

ssh psbuild-rhel7-01 -l psreldev

cd git/psana1-feedstock/

Update in ~psreldev/git/psana1-feedstock/recipe/meta.yaml fields for set version and sha256:

edit psana1-feedstock/recipe/meta.yaml

```
{% set version = '4.0.56' %}
...
sha256: 443440bf7a7fdbcdf89314b68c07f97f5a89dff38d6da98685e74f0671fac37d
...
```

Set environment:

```
source /cds/sw/ds/ana/conda1/inst/etc/profile.d/conda.sh # OR conda deactivate after previous conda_build

conda activate conda_build_py3
```

Execute command:

```
conda build -c lcls-i -c conda-forge recipe

> /cds/home/p/psreldev/conda-bld/linux-64/psana-4.0.56-py39hb869b97_1.tar.bz2
```

conda build - the tail of output

```
xorg-xf86vidmodeproto: 2.3.1-h7f98852_1002 conda-forge
xorg-xproto: 7.0.31-h7f98852_1007 conda-forge
xz: 5.2.6-h166bdaf_0 conda-forge
zeromq: 4.3.5-h59595ed_0 conda-forge
zipp: 3.17.0-pyhd8ed1ab_0 conda-forge
zlib: 1.2.13-hd590300_5 conda-forge
zstd: 1.5.5-hfc55251_0 conda-forge
```

```
Preparing transaction: ...working... done
Verifying transaction: ...working... done
Executing transaction: ...working... done
export PREFIX=/cds/home/p/psreldev/conda-bld/psana_1700187012881
/_test_env_placehold_placehold_placehold_placehold_placehold_placehold_placehold_placehold_placehold_p
lacehold_placehold_placehold_placehold_placehold_placehold_placehold_placehold_placehold_pl
export SRC_DIR=/cds/home/p/psreldev/conda-bld/psana_1700187012881/test_tmp
+ psana -h
```

Usage: psana [options] [dataset ...]

```
Available options:
{-h|-?|--help}      print help message
{-v|--verbose}      (incr) verbose output, multiple allowed (initial: 0)
{-q|--quiet}        (incr) quieter output, multiple allowed (initial: 2)
{-b|--calib-dir}    path calibration directory name, may include {exp} and {instr}, if left empty then do
not do calibrations (default: "")
```

```

    {-c|--config      } path      configuration file, by default use psana.cfg if it exists (default: "")
    {-e|--experiment } string     experiment name, format: XPP:xpp12311 or xpp12311, by default guess it from data
(default: "")
    {-j|--job-name    } string     job name, default is to generate from input file names (default: "")
    {-m|--module      } name       module name, more than one possible
    {-n|--num-events  } number     maximum number of events to process, 0 means all (default: 0)
    {-s|--skip-events } number     number of events to skip (default: 0)
    {-p|--num-cpu     } number     number greater than 0 enables multi-processing (default: 0)
    {-o|--option      } string     configuration options, format: module.option[=value]

Positional parameters:
    dataset - input dataset specification (list of file names or exp=cx112345:run=123:...)

+ exit 0

Resource usage statistics from testing psana:
    Process count: 1
    CPU time: Sys=0:00:00.1, User=-
    Memory: 1.4M
    Disk usage: 12B
    Time elapsed: 0:00:02.4

TEST END: /cds/home/p/psreldev/conda-bld/linux-64/psana-4.0.56-py39hb869b97_1.tar.bz2
Renaming work directory '/cds/home/p/psreldev/conda-bld/psana_1700187012881/work' to '/cds/home/p/psreldev
/conda-bld/psana_1700187012881/work_moved_psana-4.0.56-py39hb869b97_1_linux-64_main_build_loop'
INFO:conda_build.utils:Renaming work directory '/cds/home/p/psreldev/conda-bld/psana_1700187012881/work' to '
/cds/home/p/psreldev/conda-bld/psana_1700187012881/work_moved_psana-4.0.56-py39hb869b97_1_linux-
64_main_build_loop'
INFO conda_build.utils:shutil.move_more_retrying(2075): Renaming work directory '/cds/home/p/psreldev/conda-bld
/psana_1700187012881/work' to '/cds/home/p/psreldev/conda-bld/psana_1700187012881/work_moved_psana-4.0.56-
py39hb869b97_1_linux-64_main_build_loop'
shutil.move(work)=/cds/home/p/psreldev/conda-bld/psana_1700187012881/work, dest=/cds/home/p/psreldev/conda-bld
/psana_1700187012881/work_moved_psana-4.0.56-py39hb869b97_1_linux-64_main_build_loop)
INFO:conda_build.utils:shutil.move(work)=/cds/home/p/psreldev/conda-bld/psana_1700187012881/work, dest=/cds/home
/p/psreldev/conda-bld/psana_1700187012881/work_moved_psana-4.0.56-py39hb869b97_1_linux-64_main_build_loop)
INFO conda_build.utils:shutil.move_more_retrying(2082): shutil.move(work)=/cds/home/p/psreldev/conda-bld
/psana_1700187012881/work, dest=/cds/home/p/psreldev/conda-bld/psana_1700187012881/work_moved_psana-4.0.56-
py39hb869b97_1_linux-64_main_build_loop)
# Automatic uploading is disabled
# If you want to upload package(s) to anaconda.org later, type:

anaconda upload /cds/home/p/psreldev/conda-bld/linux-64/psana-4.0.56-py39hb869b97_1.tar.bz2

# To have conda build upload to anaconda.org automatically, use
# $ conda config --set anaconda_upload yes
anaconda_upload is not set. Not uploading wheels: []
#####
Resource usage summary:

Total time: 1:22:33.6
CPU usage: sys=0:03:04.5, user=0:27:14.5
Maximum memory usage observed: 1.6G
Total disk usage observed (not including envs): 285.6M

#####
Source and build intermediates have been left in /cds/home/p/psreldev/conda-bld.
There are currently 1 accumulated.
To remove them, you can run the ``conda build purge`` command
(conda_build) [psreldev@psbuild-rhel17-01 psanal-feedstock]$

```

Upload the file to anaconda lcls-i channel

```
anaconda upload -u lcls-i /sdf/group/lcls/ds/ana/sw/conda1/inst/envs/conda_build2/conda-bld/linux-64/psana-4.0.57-py39hed0727e_1.tar.bz2
```

anaconda upload messages

```
(conda_build2) [psreldev@sdfiana001 psanal-feedstock]$ pwd
/sdf/home/p/psreldev/git/psanal-feedstock
(conda_build2) [psreldev@sdfiana001 psanal-feedstock]$ anaconda upload -u lcls-i /sdf/group/lcls/ds/ana/sw
/condal/inst/envs/conda_build2/conda-bld/linux-64/psana-4.0.57-py39hed0727e_1.tar.bz2
Using Anaconda API: https://api.anaconda.org
Using "lcls-i" as upload username
Processing "/sdf/group/lcls/ds/ana/sw/condal/inst/envs/conda_build2/conda-bld/linux-64/psana-4.0.57-
py39hed0727e_1.tar.bz2"
Detecting file type...
File type is "Conda"
Extracting conda attributes for upload
Creating package "psana"
Creating release "4.0.57"
The action you are performing requires authentication, please sign in:
Using Anaconda API: https://api.anaconda.org
Username: dubrovin
dubrovin's Password:
login successful
Using Anaconda API: https://api.anaconda.org
Using "lcls-i" as upload username
Processing "/sdf/group/lcls/ds/ana/sw/condal/inst/envs/conda_build2/conda-bld/linux-64/psana-4.0.57-
py39hed0727e_1.tar.bz2"
Detecting file type...
File type is "Conda"
Extracting conda attributes for upload
Creating package "psana"
Creating release "4.0.57"
Uploading file "lcls-i/psana/4.0.57/linux-64/psana-4.0.57-py39hed0727e_1.tar.bz2"
15.4MB [00:01, 12.6MB
/s]

Upload complete

conda located at:
  https://anaconda.org/lcls-i/psana

(conda_build2) [psreldev@sdfiana001 psanal-feedstock]$
```

Create new environment

goal: create a real 4.0.57

conda create --name psana-conda-4.0.57 --clone psana-conda-4.0.56

log of conda create

```
(conda_build2) [psreldev@sdfiana001 psanal-feedstock]$ conda create --name ana-4.0.57-py3 --clone ana-4.0.55-py3
Source:      /sdf/group/lcls/ds/ana/sw/condal/inst/envs/ana-4.0.55-py3
Destination: /sdf/group/lcls/ds/ana/sw/condal/inst/envs/ana-4.0.57-py3
Packages: 488
Files: 11

Downloading and Extracting Packages:
font-ttf-dejavu-sans |
#####
##### | 100%
^

Downloading and Extracting
Packages:
```

Preparing transaction:
done

Verifying transaction:
done

Executing transaction:
|

For Linux 64, Open MPI is built with CUDA awareness but this support is disabled by default.

To enable it, please set the environment variable `OMPI_MCA_opal_cuda_support=true` before

launching your MPI processes. Equivalently, you can set the MCA parameter in the command line:

```
mpiexec --mca opal_cuda_support 1  
...
```

In addition, the UCX support is also built but disabled by default.

To enable it, first install UCX (`conda install -c conda-forge ucx`). Then, set the environment

variables `OMPI_MCA_pml="ucx"` `OMPI_MCA_osc="ucx"` before launching your MPI processes.

Equivalently, you can set the MCA parameters in the command line:

```
mpiexec --mca pml ucx --mca osc ucx  
...
```

Note that you might also need to set `UCX_MEMTYPE_CACHE=n` for CUDA awareness via UCX.

Please consult UCX's documentation for detail.

done

#

To activate this environment,
use

#

```
# $ conda activate ana-4.0.57-  
py3
```

#

To deactivate an active environment,
use

#

```
# $ conda  
deactivate
```

```
(conda_build2) [psreldev@sdfiana001 psana1-feedstock]$
```

```
conda deactivate
conda activate psana-conda-4.0.57
conda install -c lcls-i -c conda-forge psana=4.0.57 # Chris? --experimental-solver=libmamba

have to do this on both old-psana and new-s3df as psreldev
```

Extra operations

See details in `~/.bash_history` or `~/.k5login`

```
cd /cds/sw/ds/ana/conda1/
```

if `./manage` is not available

```
git clone git@github.com:slaclab/anarel-manage.git manage
```

```
cd manage
```

update it if necessary

```
git pull --rebase
```

```
conda create -n conda_build_py3 python=3.9 anaconda
```

```
conda env remove --name conda_build_py3
```

```
see /cds/sw/ds/ana/conda1/inst/envs/ OR conda info --envs
```

```
ssh psbuild-rhel7-01 -l psreldev
```

```
cd git/psana1-feedstock/
```

```
sha256sum /cds/sw/ds/ana/conda1/manage/downloads/anarel/psana-conda-4.0.56.tar.gz
```

```
> 443440bf7a7fdbcdf89314b68c07f97f5a89dff38d6da98685e74f0671fac37d
```

```
~psreldev/git/psana1-feedstock/recipe/meta.yaml
```

```
cd git
```

```
rm -rf psana1-feedstock/
```

```
git clone https://github.com/slac-lcls/psana1-feedstock
```

Set environment (chris):

```
source /cds/sw/ds/ana/conda2/manage/bin/psconda.sh. # Chris: conda2 because it needs py3, but conda1 also works with py3...
conda deactivate
conda activate conda_build
```

OR:

```
source /cds/sw/ds/ana/conda2/manage/bin/psconda.sh

conda create -n conda_build_py3 python conda-build anaconda-client

conda activate conda_build_py3
```

```
ssh psbuild-rhel7-01 -l psreldev
```

```
cd git
```

```
rm -rf psana1-feedstock/
```

```
git clone https://github.com/slac-lcls/psana1-feedstock
```

```
cp /cds/sw/ds/ana/conda1/manage/downloads/anarel/psana-conda-4.0.56.tar.gz /reg/g/psdm/web/swdoc/tutorials/
```

- copy here because **psreldev does not have permission !!!!!**
- because later it is used in `psana1-feedstock/recipe/meta.yaml` as url: [https://pswww.slac.stanford.edu/swdoc/tutorials/{{ name }}-conda-{{ version }}](https://pswww.slac.stanford.edu/swdoc/tutorials/{{ name }}-conda-{{ version }}.tar.gz).tar.gz

Issue: `PermissionError: [Errno 13] Permission denied: '/cds/sw/ds/ana/conda2/inst/envs/conda_build/pkgs/libselinux-cos6-x86_64-2.0.94-h9b0a68f_1105'`

Chris: `cp ~/cpo/.condarc ~/. # if ~/.condarc is not available`

Valerio: `conda create -n local_conda_build python conda-build conda-validate anaconda-client`

scons test-Detector

- git repository `data_test_access` cloned with all other psana packages
- location for `data_test` can be controlled in `config/psana-conda-svn-pkgs`:
 - `subdir=tmp` - clones this package as `/tmp/data_test`
- `data_test_access` is included but `data_test` is ignored in `tar cfvz /cds/sw/ds/ana/condal/manage/downloads/anarel/psana-conda-4.0.56.tar.gz psana-conda-4.0.56`

Build on s3df

Initialization for build on s3df

IT IS ALREADY DONE ONCE

clone anarel-manage

```
cd ../con-build OR cd /sdf/group/lcls/ds/ana/sw/conda1/  
./sdf/group/lcls/ds/ana/sw/conda1/manage/bin/psconda.sh
```

```
git clone git@github.com:slaclab/anarel-manage.git
```

make github seen from psana nodes

```
ema ~/.gitconfig
```

```
\[http] - remove
```

Run bin/ana-rel-admin on s3df

login as myself

```
> s3dfnx ends up as dubrovin@sdflogin002
```

```
> psana ... because /afs/slac/g/pcds/svn/pdsdata is seen from psana nodes only... (Wilko)
```

```
cd <path-to>/anarel-manage
```

login as psreldev

```
> s3dfnx ends up as dubrovin@sdflogin002
```

```
ssh psana -l psreldev
```

```
cd /sdf/group/lcls/ds/ana/sw/conda1/manage
```

conda activate and run ana-rel-admin

```
source /sdf/group/lcls/ds/ana/sw/conda1/manage/bin/psconda.sh
```

```
conda deactivate
```

```
conda activate conda_build
```

```
bin/ana-rel-admin --force --cmd psana-conda-src --name 4.0.56 --basedir `pwd`
```

Command `bin/ana-rel-admin` creates file

```
/sdf/group/lcls/ds/ana/sw/conda1/manage/downloads/anarel/psana-conda-4.0.56.tar.gz
```

accessible in `~psreldev/git/psana1-feedstock/recipe/meta.yaml` through url:

<file:///sdf/group/lcls/ds/ana/sw/conda1/manage/downloads/anarel/psana-conda-4.0.56.tar.gz>

conda1-v3

Valerio generated new conda1-v3

```
source /sdf/group/lcls/ds/ana/sw/conda1-v3/manage/bin/psconda.sh
conda deactivate
conda activate conda_build
```

```
(conda_build2) [psreldev@sdfiana002 manage]$ conda --version
conda 23.10.0
```

```
source /sdf/group/lcls/ds/ana/sw/conda1-v3/manage/bin/psconda.sh
```

content changes for conda1-v3

```
- eval "$(/sdf/group/lcls/ds/ana/sw/conda1/inst/bin/conda shell.bash hook)"
+ eval "$(/sdf/group/lcls/ds/ana/sw/conda1-v3/inst/bin/conda shell.bash hook)"
```

...

```
- eval "$(/cds/sw/ds/ana/conda1-v2/inst/bin/conda shell.bash hook)"
+ eval "$(/cds/sw/ds/ana/conda1-v3/inst/bin/conda shell.bash hook)"
```

```
~psreldev/git/psana1-feedstock/recipe/meta.yaml
```

accessible in ~psreldev/git/psana1-feedstock/recipe/meta.yaml (ADD -v3 !!!):

<file:///sdf/group/lcls/ds/ana/sw/conda1-v3/manage/downloads/anarel/psana-conda-4.0.56.tar.gz>

Conda build

Everything works on s3df psana node under login psreldev because it needs some disk space... Other than that it can be built under any. other user.

Clone psana1-feedstock

IT IS ALREADY DONE ONCE for psreldev

```
> s3dflogin
```

```
ssh psana -l psreldev
```

```
cd git
rm -rf psana1-feedstock/
git clone https://github.com/slac-lcls/psana1-feedstock
```

Installing conda-build in the conda base

```
source /sdf/group/lcls/ds/ana/sw/conda1/manage/bin/psconda.sh
```

```
conda deactivate # > base
```

```
conda activate base
```

```
conda install conda-build
conda install conda-verify # also works in the base
```

Set environment

```
source /sdf/group/lcls/ds/ana/sw/conda1/manage/bin/psconda.sh
```

```
conda deactivate
```

```
conda activate conda_build
```

Run conda build

```
cd ~/git/psana1-feedstock/
```

Update in ~psreldev/git/psana1-feedstock/recipe/meta.yaml fields for set version and sha256

```
conda build -c lcls-i -c conda-forge recipe
```


Deprecated

pdsdata and psalg migrated from svn to github

```
svn co file:///afs/slac/g/pcds/svn/pdsdata/tags/V09-04-00 extpkgs/pdsdata
svn co file:///afs/slac/g/pcds/svn/psalg/tags/V01-00-12 extpkgs/psalg
```

created repositories on [git@github.com](https://github.com):lcls-psana/

```
git clone git@github.com:lcls-psana/pdsdata.git
git clone git@github.com:lcls-psana/psalg.git
```

create conda_build_svn environment

s3dfnx - nx - server on s3df connects to dubrovin@sdflogin002

```
./sdf/group/lcls/ds/ana/sw/conda1/manage/bin/psconda.sh
```

```
conda create -n conda_build_svn svn anaconda-client
```

conda activate and run ana-rel-admin

```
source /sdf/group/lcls/ds/ana/sw/conda1/manage/bin/psconda.sh
```

```
conda deactivate
```

```
conda activate conda_build_svn
```

Remove tag from local git and github

```
git tag -d V10-00-01 # removes tag on local git
```

```
git push --delete origin V10-00-01 # removes tag on github
```

List of commands to build psana1 release on s3df

Login and set environment

```
> s3dflogin
```

```
ssh psana -l psreldev
```

```
source /sdf/group/lcls/ds/ana/sw/conda1-v3/manage/bin/psconda.sh # conda1-v3 is a latest version of conda 23.10.0
conda deactivate
conda activate conda_build
```

Generate .tar.gz file with source code

```
cd /sdf/group/lcls/ds/ana/sw/conda1-v3/manage/ # if needed git clone git@github.com:slac-lcls/anarel-manage.git manage
```

```
bin/ana-rel-admin --force --cmd psana-conda-src --name 4.0.58 --basedir `pwd`
```

Build release

```
cd ~psreldev/git/psana1-feedstock/ # if needed git clone git@github.com:slac-lcls/psana1-feedstock.git
```

Update in recipe/meta.yaml fields for set version and sha256

```
conda build -c lcls-i -c conda-forge recipe
```

Debugging

In case of problem with tests look at log file like

```
/sdf/group/lcls/ds/ana/sw/conda1/inst/envs/conda_build2/conda-bld/psana_<13-digit-build number>/test_tmp/work/<log-file-name>
```

Upload .tar.gz file with release to anaconda lcls-i channel

```
anaconda upload -u lcls-i /sdf/group/lcls/ds/ana/sw/conda1/inst/envs/conda_build2/conda-bld/linux-64/psana-4.0.57-py39hed0727e_1.tar.bz2
```

response on anaconda upload

```
(conda_build2) [psreldev@sdfiana001 psanal-feedstock]$ pwd
/sdf/home/p/psreldev/git/psanal-feedstock
(conda_build2) [psreldev@sdfiana001 psanal-feedstock]$ anaconda upload -u lcls-i /sdf/group/lcls/ds/ana/sw
/condal/inst/envs/conda_build2/conda-bld/linux-64/psana-4.0.57-py39hed0727e_1.tar.bz2
Using Anaconda API: https://api.anaconda.org
Using "lcls-i" as upload username
Processing "/sdf/group/lcls/ds/ana/sw/condal/inst/envs/conda_build2/conda-bld/linux-64/psana-4.0.57-
py39hed0727e_1.tar.bz2"
Detecting file type...
File type is "Conda"
Extracting conda attributes for upload
Creating package "psana"
Creating release "4.0.57"
The action you are performing requires authentication, please sign in:
Using Anaconda API: https://api.anaconda.org
Username: dubrovin
dubrovin's Password:
login successful
Using Anaconda API: https://api.anaconda.org
Using "lcls-i" as upload username
Processing "/sdf/group/lcls/ds/ana/sw/condal/inst/envs/conda_build2/conda-bld/linux-64/psana-4.0.57-
py39hed0727e_1.tar.bz2"
Detecting file type...
File type is "Conda"
Extracting conda attributes for upload
Creating package "psana"
Creating release "4.0.57"
Uploading file "lcls-i/psana/4.0.57/linux-64/psana-4.0.57-py39hed0727e_1.tar.bz2"
15.4MB [00:01, 12.6MB
/s]

Upload complete

conda located at:
  https://anaconda.org/lcls-i/psana

(conda_build2) [psreldev@sdfiana001 psanal-feedstock]$
```

Create new environment

```
conda create --name ana-4.0.58-py3 --clone ana-4.0.57-py3
```

response on conda create

```
(base) [psreldev@sdfiana002 psanal-feedstock]$ conda create --name ana-4.0.58-py3 --clone ana-4.0.57-py3
Retrieving notices: ...working... done
Source:      /sdf/group/lcls/ds/ana/sw/conda1/inst/envs/ana-4.0.57-py3
Destination: /sdf/group/lcls/ds/ana/sw/conda1/inst/envs/ana-4.0.58-py3
Packages: 488
Files: 11

Downloading and Extracting Packages:

Downloading and Extracting Packages:

Preparing transaction: done
Verifying transaction: done
Executing transaction: /
For Linux 64, Open MPI is built with CUDA awareness but this support is disabled by default.
To enable it, please set the environment variable OMPI_MCA_opal_cuda_support=true before
launching your MPI processes. Equivalently, you can set the MCA parameter in the command line:
mpirun --mca opal_cuda_support 1 ...

In addition, the UCX support is also built but disabled by default.
To enable it, first install UCX (conda install -c conda-forge ucx). Then, set the environment
variables OMPI_MCA_pml="ucx" OMPI_MCA_osc="ucx" before launching your MPI processes.
Equivalently, you can set the MCA parameters in the command line:
mpirun --mca pml ucx --mca osc ucx ...
Note that you might also need to set UCX_MEMTYPE_CACHE=n for CUDA awareness via UCX.
Please consult UCX's documentation for detail.

done
#
# To activate this environment, use
#
#     $ conda activate ana-4.0.58-py3
#
# To deactivate an active environment, use
#
#     $ conda deactivate

(base) [psreldev@sdfiana002 psanal-feedstock]$
```

```
conda deactivate
conda activate ana-4.0.58-py3
conda install -c lcls-i -c conda-forge psana=4.0.58
```

response on conda install

```
(ana-4.0.58-py3) [psreldev@sdfiana002 psanal-feedstock]$ conda install -c lcls-i -c conda-forge psana=4.0.58
Channels:
- lcls-i
- conda-forge
- defaults
- lcls-ii
- cogsci
Platform: linux-64
Collecting package metadata (repodata.json): done
Solving environment: done

## Package Plan ##

environment location: /sdf/group/lcls/ds/ana/sw/conda1/inst/envs/ana-4.0.58-py3

added / updated specs:
- psana=4.0.58

The following packages will be downloaded:

package | build
-----|-----
psana-4.0.58 | py39hed0727e_1 15.4 MB lcls-i
-----|-----
Total: 15.4 MB

The following packages will be UPDATED:

psana 4.0.57-py39hed0727e_1 --> 4.0.58-py39hed0727e_1

Proceed ([y]/n)? y

Downloading and Extracting Packages:

Preparing transaction: done
Verifying transaction: done
Executing transaction: done
(ana-4.0.58-py3) [psreldev@sdfiana002 psanal-feedstock]$
```

Create the same release on pcds

Info from Valerio

activate ana-4.0.58-py3 on S3DF,

```
>s3dflogin
```

```
ssh psana -l psreldev
```

```
source /sdf/group/lcls/ds/ana/sw/conda1/manage/bin/psconda.sh
```

```
conda deactivate
```

```
conda env list
```

```
conda activate ana-4.0.58-py3
```

then:

```
conda list --explicit > ana-4.0.58-py3.txt
```

copy ana-4.0.58-py3.txt to psreldev on PCDS - do this trick due to permissions:

```
>s3dflogin
```

```
cp ~/psreldev/ana-4.0.61-py3.txt .
```

```
> pslogin
```

```
ssh psbuild-rhel7-01 -l psreldev
```

```
scp dubrovin@s3dflogin.slac.stanford.edu:ana-4.0.61-py3.txt . # complete copy of ana-4.0.61-py3.txt
```

```
source /cds/sw/ds/ana/conda1/manage/bin/psconda.sh
```

```
conda create -n ana-4.0.58-py3 --file ana-4.0.58-py3.txt
```

response on conda create

```
(ana-4.0.54-py3) [psreldev@psbuild-rhel7-01 ~]$ conda create -n ana-4.0.58-py3 --file ana-4.0.58-py3.txt
```

Downloading and Extracting Packages

```
plotly-5.13.1 |
```

```
#####  
##### | 100%
```

```
gdk-pixbuf-2.42.10 |
```

```
#####  
##### | 100%
```

```
graphviz-7.1.0 |
```

```
#####  
##### | 100%
```

```
ipykernel-6.20.2 |
```

```
#####  
##### | 100%
```

```
psana-4.0.58 |
```

```
#####  
##### | 100%
```

Preparing transaction: done

Verifying transaction: done

Executing transaction: -

For Linux 64, Open MPI is built with CUDA awareness but this support is disabled by default.
To enable it, please set the environment variable OMPI_MCA_opal_cuda_support=true before
launching your MPI processes. Equivalently, you can set the MCA parameter in the command line:
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In addition, the UCX support is also built but disabled by default.
To enable it, first install UCX (conda install -c conda-forge ucx). Then, set the environment
variables OMPI_MCA_pml="ucx" OMPI_MCA_osc="ucx" before launching your MPI processes.
Equivalently, you can set the MCA parameters in the command line:
mpirun --mca pml ucx --mca osc ucx ...
Note that you might also need to set UCX_MEMTYPE_CACHE=n for CUDA awareness via UCX.
Please consult UCX's documentation for detail.

done

```
(ana-4.0.54-py3) [psreldev@psbuild-rhel7-01 ~]$
```

edit and change release name in

```
pcds: /cds/sw/ds/ana/conda1/manage/bin/psconda.sh
```

```
s3df: /sdf/group/lcls/ds/ana/sw/conda1/manage/bin/psconda.sh > conda1-v3
```

Update release for Jupyter Notebook

Info from Chris:

```
ssh to pcds node > pslogin
```

```
ssh psbuild-rhel7-01 -l psreldev
```

Update version in TWO lines:

```
/cds/group/psdm/sw/conda/jhub_config/prod-rhel7/kernels/ana1-current-py3/kernel.json
```

References

- [Building Conda Packages And Releases](#)
- [conda-cheatsheet.pdf](#)
- <https://conda.io/projects/conda/en/latest/user-guide/tasks/manage-environments.html#cloning-an-environment>
- `/reg/g/psdm/etc/psconda.sh -> /cds/sw/ds/ana/conda1/manage/bin/psconda.sh`
- [Running at S3DF](#)
- [Convert svn repository to git](#)
- [s3df-dynamic-sites-and-web-applications](#)