Building spack-stack on MacOS

setting up spack-stack

```
git clone https://github.com/NOAA-EMC/spack-stack.git
cd spack-stack
```

get the spack-stack fork from Lawrence Livermore National Laboratory `git submodule update --init --recursive` check if you have xcode installed on your system `xcode-select --install` have below packages, gt must me version 5:

```
brew install coreutils
brew install gcc
brew install python
brew install git
brew install git-lfs
brew install lmod
brew install wget
brew install bash
brew install curl
brew install cmake
brew install openssl
brew install qt@5
```

need to again if you're out of your terminal window

```
source /usr/local/opt/lmod/init/profile
module av
```

look for which python should be one in `/usr/local/bin/python3`

```
where pip3
python3 --version
where python3

source /usr/local/opt/lmod/init/profile
pip3 install poetry
```

check if the poetry is installed `python3 -c "import poetry"` have a look at the packages installed with brew `brew list`

```
==> Formulae
bash                curl                git-lfs                libidn2                lmod
openldap        postgresql        sqlite
brotli              gcc                 gmp                libmpc                lua                openssl@1.
1        python@3.9        wget
ca-certificates        gdbm                icu4c                libnghttp2        mpdecimal
openssl@3        qt@5                xz
cmake               gettext                isl                libssh2                mpfr
pcre                readline        zsh
coreutils        git                krb5                libunistring        ncurses
pcre2               rtmpdump        zstd
```

now start installing spack-stack, you should be in the project directory `spack-stack`

```
source setup.sh
./create.py -h
./create.py environment -h
./create.py environment --app jedi-ufs
```

it has created the env at, go to that location

```
cd ./envs/jedi-ufs.default/site

SPACK_SYSTEM_CONFIG_PATH=`pwd` spack external find --all --scope system
SPACK_SYSTEM_CONFIG_PATH=`pwd` spack compiler find --scope system\n
```

nice to have meld as a diff tool `brew install meld` run diff-tool check the yamls files in the `./envs/jedi-ufs.default/site compilers.yaml config.yaml modules.yaml packages.yaml meld ../../../configs/sites/macos-monterey-apple-clang-openmpi-reference/ ./` now activate the env

```
spack env activate envs/jedi-ufs.default
spack env status
spack env deactivate
spack env activate envs/jedi-ufs.default

spack concretize 2>&1 | tee log.concretizer
```

will take 2 hrs to install all the dependencies `spack install -v --fail-fast --reuse 2>&1 | tee log.install`