

# Installing Monocle

*Hector Roux de Bézieux*

*02 May , 2019*

## First Try

No module loaded. Just open **R** and do *BiocManager::install("monocle")*.

This fails for packages **densityClust** and **DDRTree**.

## Second try

First do *module load gcc* then try again. This works for **densityClust** but not **DDRTree**.

## Third try

I realized that this gives the same error as when trying to install *clusterExperiment*.

```
* installing *source* package 'DDRTree' ...
** package 'DDRTree' successfully unpacked and MD5 sums checked
** libs
icpc -std=gnu++11 -I"/opt/packages/R/3.5.1-mkl/lib64/R/include"
-DNDEBUG -I"/pylon5/ib5phhp/diyadas/rpack/3.5/Rcpp/include"
-I"/pylon5/ib5phhp/hectorrb/rpack/RcppEigen/include"
-I"/pylon5/ib5phhp/diyadas/rpack/3.5/BH/include" -I/usr/local/include -fpic -O3
-ipo -openmp -xHost -c DDRTree.cpp -o DDRTree.o
icpc: command line error: option '-openmp' is not supported.
Please use the replacement option '-qopenmp'
make: *** [DDRTree.o] Error 1
ERROR: compilation failed for package 'DDRTree'
* removing '/pylon5/ib5phhp/hectorrb/rpack/DDRTree'
```

```
git clone https://github.com/cole-trapnell-lab/DDRTree.git
cp clusterExperiment/src/Makevars DDRTree/src/
R CMD INSTALL DDRTree/
```

That failed. Note that running the block above without line 2 resulted in the same issue.

## Installing all Rcpp dependencies

The issue seems to come from the Rcpp instances in Diya's scratch. So i did

```
[hectorrb@login006 ~]$ module list
Currently Loaded Modulefiles:
  1) psc_path/1.1      2) slurm/default      3) intel/19.3         4) xdusage/2.1-1      5) R/3.5.3-mkl
```

```
> install.packages("Rcpp")
> install.packages("RcppEigen")
> install.packages("BH")
> install.packages("DDRTree")
```

This worked!!!

I can then run

```
BiocManager::install("monocle")
```

This fails because of some packages (FNN, densityClust, tidyverse, igraph,...) that Diya installed. Reinstalling those packages worked for all but the “Rtsne” package.

I can also install future dependencies

```
devtools::install_github("cole-trapnell-lab/DDRTree", ref="simple-ppt-like")
devtools::install_github("cole-trapnell-lab/L1-graph")
```

This worked fine.

And

```
pip install --user virtualenv
```

```
install.packages("reticulate")
library(reticulate)
py_install('umap-learn')
```

Installing Louvain fails.

## Using a virtual environment with anaconda

Following the instructions from the help, I did

```
module unload intel
module load anaconda3
conda create -n monocle_env
source activate monocle_env
conda install -c bioconda bioconductor-monocle
conda install -c r r-devtools
conda install -c conda-forge python-louvain
conda install -c conda-forge umap-learn
# source deactivate
```

This works up until installing reticulate. The version of R that is being used is 3.3 but the conda version of reticulate needs 3.4.

## Installing reticulate

We install from R, with no dependencies

```
install.packages("reticulate", dependencies=FALSE)
```

This fails with some compiler error.

We thus build a skeleton from scratch.

## Installing github R packages

We try to install all dependencies first. Anything from conda-forge fails (it is based on a more advanced version of R).

We then try to do it with a skeleton.

```
conda skeleton cran lpSolveAPI --recursive
conda-build r-lpsolveapi
```

This fails as well with some compiler error (the infamous “unrecognized command line option ‘-qopenmp’; did you mean ‘-fopenmp’?”).