# Building XRootD with cmake and installing the source project

## System info:

- Developer tools:

```
Version:  11.4.1 (11E503a)
Location: /Applications/Xcode.app
Applications:
Xcode:    11.4.1 (16137)
Instruments:  11.4.1 (64535.74)
```

- Hardware overview

```
Model Name:   MacBook Pro
Model Identifier: MacBookPro16,1
Processor Name:   8-Core Intel Core i9
Processor Speed:  2,4 GHz
Number of Processors: 1
Total Number of Cores:    8
L2 Cache (per Core):  256 KB
L3 Cache: 16 MB
Hyper-Threading Technology:   Enabled
Memory:   32 GB
Boot ROM Version: 1037.80.53.0.0 (iBridge: 17.16.13050.0.0,0)
Serial Number (system):   -
Hardware UUID:    -
Activation Lock Status:   Enabled
```

- Software

```
System Version:   macOS 10.15.3 (19D76)
Kernel Version:   Darwin 19.3.0
Boot Volume:  Macintosh HD
Boot Mode:    Normal
Computer Name:    Robert's MacBook Pro
Username: Robert Poenaru (basavyr)
Secure Virtual Memory:    Enabled
System Integrity Protection:  Enabled
Time since boot:  4 days 1:12
```

## Building the project

1. build with cmake, according to this script. (gitlab nightly build).
    1. use appropriate paths for `ZLIB`, `OPENSSL` (the include dir, the crypto library and the ssl library)
    2. build without `VOM` modules for macOS (use command: `-DVOMSXRD_SUBMODULE=OFF`)

**Missing `XrdVersion` header in `XrdSysPlugin.cc+XrdSysPlugin.hh`**

In case of building errors with regards to missing the version info header:

```
/Users/basavyr/Library/Mobile Documents/com~apple~CloudDocs/Work/Pipeline/DFCTI/CERN_project
      member access into incomplete type 'XrdVersionInfo'
                                    myInfo->vStr, urInfo.vStr, mmv, majv, minv);
                                           ^
/Users/basavyr/Library/Mobile Documents/com~apple~CloudDocs/Work/Pipeline/DFCTI/CERN_project
      forward declaration of 'XrdVersionInfo'
struct XrdVersionInfo;
```

> The header file should be created by the `genversion.sh` script at compile time. If that isn't the case, then just run the script from the command line separately:

```
cd xrootd/
./genversion.sh
```

See the header file here

## Installing the source files

Once the building process with cmake completely finished, use `make install` for the installation process.

1. Installing the `Xrd` client sources:

   ```
   cd src/XrdCl/
   make -j4
   make install
   ```

2. Installing the entire project, including **python bindings**.
   From the build directory, just:

```
ls -a
make install -jNCORES
```