

# User Software :: pyBDSM

## External dependencies

The following packages are required in order to build pyBDSM:

- Python
- NumPy
- WCSLIB
- CFITSIO
- port3 – this is part of pyBDSM now
- minpack – this is part of pyBDSM now

The following packages are required in order to run pyBDSM:

- SciPy
- [pyfits](#)
- **fortran stuff (to make faster)**
- f2py

## Installation procedure

1. Check out source code from the LUS repository

```
svn co http://lus.lofar.org/svn/code/trunk lofarsoft
```

The components of the source code are organized as follows:

```
lofarsoft
|-- src
    |-- BDSM
        |-- doc                .. Documentation directory
        |-- implement          .. Source code compiled into library and
executables
        |   |-- bdsm          .. Original Fortran BDSM
        |   |-- minpack
        |   |-- port3
        |   |-- pybdsm        .. C-based Boost.Python wrappers
    |-- scripts                .. Python scripts
```

- fortran and c stuff to be compiled into libraries are in `implement/pybdsm`
- anaamika is in `implement/bdsm`
- port3 etc are in `implement`

2. Run the bootstrap script in the build directory:

```
cd build
./bootstrap
```

3. Build *pyBDSM*:

**make bdsm**

This will also go through the list of required external packages and check whether they are installed; if this is not the case, the dependencies will be resolved before continuing with pyBDSM itself.

The following components (libraries and application programs) will be build:

- `_py2fbdsm` - Write pyBDSM output to fBDSM format
- `_pytesselate` - Fortran implementation of Tessellation
- `_cbdsm` - Main python module to be imported

#### 4. Installation of pyBDSM

Upon completion of the build, the generated components will be installed into the following locations:

```
.
|-- release                .. $LOFARSOFT
|   |-- bin                .. $PATH
|   |-- include
|   |-- lib
|       |-- python        .. $PYTHONPATH
|           |-- _cbdsm.so
|           |-- bdsm      .. Installation location of Python
scripts
|           |-- image.py
|
```

- executables are in *release/bin* and other stuff are in *release/lib*, *release/includes* and *release/lib/python* (pythonpath)
- doc is in *doc*

## Troubleshooting

```
>>> import bdsm
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
  File "/home/lars/usg/code/trunk/release/lib/python/bdsm/__init__.py", line
9, in <module>
    from preprocess import Op_preprocess
  File "/home/lars/usg/code/trunk/release/lib/python/bdsm/preprocess.py",
line 8, in <module>
    import _cbdsm
ImportError: dynamic module does not define init function (init_cbds)
```

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