
superpyrate Documentation

Release

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This is the documentation of **superpyrate**.

Note: This is the main page of your project's [Sphinx](#) documentation. It is formatted in [reStructuredText](#). Add additional pages by creating `.rst`-files in `docs` and adding them to the [toctree](#) below. Use then [references](#) in order to link them from this page, e.g. [authors](#) and [Changelog](#). It is also possible to refer to the documentation of other Python packages with the [Python domain syntax](#). By default you can reference the documentation of [Sphinx](#), [Python](#), [matplotlib](#), [NumPy](#), [Scikit-Learn](#), [Pandas](#), [SciPy](#). You can add more by extending the `intersphinx_mapping` in your Sphinx's `conf.py`.

Contents

1.1 Setup

Requirements

First, install postgres:

```
cd $HOME
wget https://ftp.postgresql.org/pub/source/v9.5.2/postgresql-9.5.2.tar.gz
gunzip postgresql-9.5.2.tar.gz
tar xf postgresql-9.5.2.tar
cd postgresql-9.5.2
# Install a local version of postgres in the user directory on the login node
./configure --prefix=$HOME/pgsql
./make -s
./make install
./make clean
# Setup path
echo 'PATH=$HOME/pgsql/bin:$PATH' >> ~/.bash_profile
```

Installing postgis, is painful:

```
# Obtain, compile and install postgis and its requirements (GEOS, PROJ4, GDAL)
cd $HOME
svn checkout http://svn.osgeo.org/geos/trunk geos-svn
cd geos-svn
./autogen.sh
./configure --prefix=$HOME/geos
./make -s
./make install
echo 'PATH=$HOME/geos/bin:$PATH' >> ~/.bash_profile
echo 'export LD_LIBRARY_PATH=$HOME/geos/lib:$LD_LIBRARY_PATH' >> ~/.bash_profile

cd $HOME
wget http://download.osgeo.org/proj/proj-4.9.1.tar.gz
tar xf proj-4.9.1.tar.gz
cd proj-4.9.1
./configure --prefix=$HOME/proj4
./make
./make install
echo 'PATH=$HOME/proj4/bin:$PATH' >> ~/.bash_profile
echo 'export LD_LIBRARY_PATH=$HOME/proj4/lib:$LD_LIBRARY_PATH' >> ~/.bash_profile
```

```
cd $HOME
wget http://download.osgeo.org/gdal/2.1.0/gdal-2.1.0.tar.gz
tar xf gdal-2.1.0.tar.gz
cd gdal-2.1.0
./configure --prefix=$HOME/gdal
./make
./make install
echo 'export PATH=$HOME/gdal/bin:$PATH' >> ~/.bash_profile
echo 'export LD_LIBRARY_PATH=$HOME/gdal/lib:$LD_LIBRARY_PATH' >> ~/.bash_profile
echo 'export GDAL_DATA=$HOME/gdal/share/gdal' >> ~/.bash_profile
echo 'export PATH' >> ~/.bash_profile
# Test
#% gdalinfo --version
# See below for installation of Python bindings

wget http://download.osgeo.org/postgis/source/postgis-2.2.2.tar.gz
tar xf postgis-2.2.2.tar.gz
cd postgis-2.2.2
./configure --prefix=$HOME/postgis
./make
./make install
```

Setting up the database:

```
# Initialise the database server using Scratch for the data
initdb -D $HOME/Scratch/data
# Spin up the database server
pg_ctl -D $HOME/Scratch/data -l logfile start

# Create the test database
createdb test_aisdb
# Use the following command to access the database schema and tables
#psql --host=localhost --port=5432 --username=test_ais --dbname=test_aisdb

psql -U postgres -c "create extension postgis"
psql -c "create database test_aisdb;" -U postgres
psql -U postgres -c "CREATE USER test_ais WITH PASSWORD 'test_ais' SUPERUSER;"
psql -U postgres -c "GRANT ALL PRIVILEGES ON DATABASE test_aisdb to test_ais;"
```

Setup virtual python environment using conda:

```
wget http://repo.continuum.io/miniconda/Miniconda-latest-Linux-x86_64.sh \
-O miniconda.sh
chmod +x miniconda.sh && ./miniconda.sh -b -p $HOME/miniconda
export PATH=$HOME/miniconda/bin:$PATH
conda update --yes conda

# Configure the conda environment and put it in the path using the
# provided versions
conda create -n testenv --yes python=$PYTHON_VERSION pip scipy pandas numpy psycopg2_
↪ sphinx pylint
source activate testenv
```

Before installing superpyrate, you'll need to setup your git account. Enter the following commands:


```
git config --global user.name "YOUR NAME" git config --global user.email "YOUR EMAIL ADDRESS"
```

To access git from Legion, you'll need to setup a certificate and ssh access to git. You can follow the instructions here <https://help.github.com/articles/set-up-git/#platform-linux>

```
cd $HOME git clone https://github.com/UCL-ShippingGroup/superpyrate.git cd superpyrate pip install -r requirements.txt python setup.py develop
```

Add a configuration file for luigi

```
[Pipeline_Valid_Messages] source_path=/path/to/source/ais/files
```

```
[core] default-scheduler-host=123.456.78.90 default-scheduler-port=1234
```

1.2 License

The MIT License (MIT)

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1.3 Developers

- Will Usher <w.usher@ucl.ac.uk>

1.4 Changelog

1.4.1 Version 0.1

- Feature A added
- FIX: nasty bug #1729 fixed
- add your changes here!

1.5 superpyrate

1.5.1 superpyrate package

Submodules

superpyrate.db_setup module

superpyrate.pipeline module

superpyrate.tasks module

Module contents

Indices and tables

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- `modindex`
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