

catmaid 5d在Ubuntu14.04上的安装手册

郝海波 2016/10/20

1. 下载catmaid 5d代码

```
Installing CATMAID for data visualization and cell-lineage editing
Download the latest version of the CATMAID branch for cell lineaging at
https://github.com/catmaid/CATMAID/tree/5d_cell_tracking or clone it with
the following Git command:
git clone -b 5Dvisualization --single-branch
https://fernandoamat@bitbucket.org/fernandoamat/
catmaid_5d_visualization_annotation.git
```

上面两个地址的代码是相同的，我选择第二个地址git下载下来

2. 代码结构：项目代码都在django目录下，sphinx-doc里有个文件installation.rst在安装的时候有用

```
hbb@ubuntu:~/work/catmaid_5d_visualization_annotation$ tree -L 1
.
├── django
├── docs
├── httpdocs
├── LICENSE
├── README
├── README.md
├── scripts
├── sphinx-doc
└── tools

6 directories, 3 files
hbb@ubuntu:~/work/catmaid_5d_visualization_annotation$
```

3. 开始配置安装

参考内容：catmaid5dvisualization_annotation/django/INSTALL 文件和 <https://catmaid.readthedocs.io/en/stable/installation.html>

执行：

```
sudo apt-get install python-virtualenv libpq-dev python-dev \
libxml2-dev libxslt1-dev

sudo apt-get build-dep python-numpy python-h5py \
libimage-exiftool-perl python-pgmagick

virtualenv --no-site-packages env

source env/bin/activate
```

安装PostgreSQL和PostGIS: 1) 添加PostgreSQL源:

```
PG_URL="http://apt.postgresql.org/pub/repos/apt/"
APT_LINE="deb ${PG_URL} ${lsb_release -cs}-pgdg main"
echo "${APT_LINE}" | sudo tee "/etc/apt/sources.list.d/pgdg.list"
sudo apt-get install wget ca-certificates
PG_KEY_URL="https://www.postgresql.org/media/keys/ACCC4CF8.asc"
wget --quiet -O - ${PG_KEY_URL} | sudo apt-key add -
sudo apt-get update
```

2)安装PostgreSQL和PostGIS:

```
sudo apt-get install postgresql-9.5 postgresql-9.5-postgis-2.2
```

安装python包 `pip install -r pip-frozen` 这个命令会批量安装pip-frozen文件的python包，会存在有包安装不上，所以在这里安装pip-frozen文件的内容，在命令行单个安装，可以确保每个包都能正确安装 依次执行：

```
pip install 包名称
```

下面是包名称列表和一些注释说明

```
1 Django==1.4
2 distribute==0.6.25
3 django-devserver==0.3.1
4 numpy
5 h5py==2.2.1
6 psycpg2==2.4.1
7 sqlparse==0.1.3
8 wsgiref==0.1.2
9 networkx==1.7
10
11 # do: sudo apt-get install graphicsmagick
12 # first
13 pgmagick==0.5.5
14 #
16 celery==2.4.6
17 django-celery==2.4.2
18 kombu==2.0.0
19 django-kombu==0.9.4
20 PyYAML==3.10
21 python-dateutil==2.1
22 django-guardian==1.0.4
23 django-taggit==0.9.3
24 django-adminplus==0.1.7
25
26 # You need to install a development/header package. In Ubuntu, this package is called uuid-dev.
27 python-libuuid==0.9.0
28 #
32 # do : sudo ln -s /usr/include/freetype2 /usr/local/include/freetype
33 # first
34 pillow==1.7.8
35 #
37 south==0.7.6
```

配置PostgreSQL 在/etc/postgresql/9.5/main/pg_hba.conf文件中，添加

```
local catmaid catmaid_user md5
```

然后，重启PostgreSQL

```
sudo service postgresql restart
```

创建数据库catmaid 和 数据库用户名 catmaid_user:

进入catmaid5dvisualization_annotation目录执行

```
scripts/createuser.sh catmaid catmaid_user p4ssw0rd | sudo -u postgres psql
```

其中p4ssw0rd就是密码，可以改成你想输的密码

修改createuser.sh，在末尾添加

```
CREATE EXTENSION postgis;
```

其中

```
\connect $CATMAID_DATABASE
\c $CATMAID_DATABASE
```

意思一样，都是连接到数据库

接下来用用户名catmaid_user登录的数据库catmaid：结果显示如下

```
psql -U catmaid_user catmaid
Password:
psql (9.5.3)
Type "help" for help.

catmaid=> \d
List of relations
Schema | Name | Type | Owner
-----+-----+-----+-----
public | geography_columns | view | postgres
public | geometry_columns | view | postgres
public | raster_columns | view | postgres
public | raster_overviews | view | postgres
public | spatial_ref_sys | table | postgres
```

创建Django配置文件

切换到catmaid5dvisualization_annotation/django目录，执行 `cp configuration.py.example configuration.py` 修改configuration.py文件 修改后的configuration.py为：

```
# Absolute path to the root folder of your CATMAID fork without trailing slash
# e.g. /home/alice/dev/CATMAID

abs_catmaid_path = '/home/hhb/work/catmaid_5d_visualization_annotation'

# Absolute path to the site-packages folder of your virtual Python environment without trailing slash
# e.g. /home/alice/dev/CATMAID/django/env/lib/PYTHON_VERSION/site-packages

abs_virtualenv_python_library_path = '/home/hhb/work/catmaid_5d_visualization_annotation/django/env/lib/python2.7/site-packages'

# CATMAID database configuration
catmaid_database_name = 'catmaid'
catmaid_database_username = 'catmaid_user'
catmaid_database_password = '123'

# Writable folder to store automatically generated files that are publicly
# visible, e.g. used by the NeuroHDF export script and the cropping tool.

catmaid_writable_path = ''

# The HDF5 and the cropping tools write files into a subdirectory of
# the writable path above. Make sure these folders exist there (or
# adjust them to existing folders you like):

catmaid_hdf5_subdir = 'hdf5'
catmaid_crop_subdir = 'cropping'

# Local time zone for this installation. Choices can be found here:
# http://en.wikipedia.org/wiki/List_of_tz_zones_by_name
# although not all choices may be available on all operating systems.
# If running in a Windows environment this must be set to the same as your
# system time zone.
# e.g.: Europe/Zurich
```

```
catmaid_timezone = 'Europe/Zurich'

# The domain name (server name) which hosts the CATMAID installation
# without http:// and without a trailing slash, e.g.: localhost

catmaid_servername = 'localhost'

# The name of the catmaid subdirectory as seen from the outside
# e.g. for http://localhost/catmaid/ the variable catmaid_subdirectory
# would be 'catmaid'. It should not have a leading or trailing slash.

catmaid_subdirectory = ''
```

进入 catmaid5dvisualization_annotation/django/projects/mysite

进行数据库迁移

```
./manage.py migrate
```

准备static文件

```
./manage.py collectstatic -l
```

创建管理员

```
./manage.py createsuperuser
```

启动Django development server

```
./manage.py runserver
```

其中执行migrate和runserver可能会报错 解决方法: 我写在了博客 <http://blog.csdn.net/haohaibo031113/article/details/52832882>