Django – Getting Started

Introduction

Sum Abiut delivered a Django presentation at the Hamilton Python Users Group meeting on Monday 11 February 2019. His presentation included the installation of Django and the creation of a simple web-site.

Based on Sum's presentation I have performed the installation and web-site creation. This document contains the command lines typed and the web-browser screen-shots.

The installations were performed on Debian 9.6 and Ubuntu 18.04 using the apt-get install python3-django installation method.

Ian Stewart – 12 Feb 2019.

Summary of commands used

```
$ apt-cache search django
$ sudo apt install python3-django
$ mkdir project
$ cd project
$ django-admin startproject test1
$ cd test1
$ python3 manage.py migrate
$ python3 manage.py startapp message
$ python3 manage.py createsuperuser
$ python3 manage.py runserver
```

Django – On Debian 9.6

$ apt-cache search django

After filtering the response there are Django versions for both python(2) and python3, plus installing the documentation may be useful...

```
python-django - High-level Python web development framework (Python 2 version)
python3-django - High-level Pythian@X200:~/project/test1$ python3 manage.py
python-django-doc - High-level Python web development framework (documentation)
```

$ sudo apt install python3-django

```
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  javascript-common libjs-jquery python-django-common python3-sqlparse
  python3-tz
Suggested packages:
  apache2 | lighttpd | httpd bpython3 geoip-database-contrib ipython3 libgdal1
  python-django-doc python3-bcrypt python3-flup python3-memcache
  python3-mysqldb python3-psycopg2 python3-sqlite python-sqlparse-doc
The following NEW packages will be installed:
  javascript-common libjs-jquery python-django-common python3-django
  python3-sqlparse python3-tz
0 upgraded, 6 newly installed, 0 to remove and 0 not upgraded.
Need to get 2,619 kB of archives.
```

```
After this operation, 26.8 MB of additional disk space will be used.
Do you want to continue? [Y/n]
Get:1 http://ftp.nz.debian.org/debian stretch/main amd64 javascript-common all 11
[6,120 B]
Get:2 http://ftp.nz.debian.org/debian stretch/main amd64 libjs-jquery all 3.1.1-2
[154 kB]
Get:3 http://security.debian.org/debian-security stretch/updates/main amd64 python-
django-common all 1:1.10.7-2+deb9u4 [1,514 kB]

...snip...

Setting up javascript-common (11) ...
Setting up python-django-common (1:1.10.7-2+deb9u4) ...
Setting up python3-tz (2016.7-0.3) ...
Setting up python3-django (1:1.10.7-2+deb9u4) ...
$
```

Note that currently from the Debian repository, the version of Django installed is 1.10.7-2.

From the Django web-site https://www.djangoproject.com/download/ version 1.10 is no longer supported and the latest release is currently 2.17. Also the last version to support Python 2.7 is Django 1.11 Long Term Support (LTS) for which support ends in April 2020.

The next 3 years LTS release, for python3 only, will be 2.2. This release is due in April 2019.

$ django-admin --help

```
Type 'django-admin help <subcommand>' for help on a specific subcommand.

Available subcommands:

[django]
    check
    compilemessages
    createcachetable
    dbshell
    diffsettings
    dumpdata
    flush
    inspectdb
    loaddata
    makemessages
    makemigrations
    migrate
    runserver
    sendtestemail
    shell
    showmigrations
    sqlflush
    sqlmigrate
    sqlsequencereset
    squashmigrations
    startapp
    startproject
    test
    testserver
Note that only Django core commands are listed as settings are not properly
configured (error: Requested setting INSTALLED_APPS, but settings are not
configured. You must either define the environment variable DJANGO_SETTINGS_MODULE
or call settings.configure() before accessing settings.).
$
```

Create a directory for a Django project and start project “test1”

```
ian@X200:~$ mkdir project
ian@X200:~$ cd project
ian@X200:~/project$ django-admin startproject test1
ian@X200:~/project$ tree
.
└── test1
    ├── manage.py
    └── test1
        ├── __init__.py
        ├── settings.py
        ├── urls.py
        └── wsgi.py

2 directories, 5 files
```

Change directory and migrate…

```
ian@X200:~/project$ cd test1
ian@X200:~/project/test1$ python3 manage.py migrate
Operations to perform:
  Apply all migrations: admin, auth, contenttypes, sessions
Running migrations:
  Applying contenttypes.0001_initial... OK
  Applying auth.0001_initial... OK
  Applying admin.0001_initial... OK
  Applying admin.0002_logentry_remove_auto_add... OK
  Applying contenttypes.0002_remove_content_type_name... OK
  Applying auth.0002_alter_permission_name_max_length... OK
  Applying auth.0003_alter_user_email_max_length... OK
  Applying auth.0004_alter_user_username_opts... OK
  Applying auth.0005_alter_user_last_login_null... OK
  Applying auth.0006_require_contenttypes_0002... OK
  Applying auth.0007_alter_validators_add_error_messages... OK
  Applying auth.0008_alter_user_username_max_length... OK
  Applying sessions.0001_initial... OK
```

Add an application called “message”…

```
ian@X200:~/project/test1$ python3 manage.py startapp message

ian@X200:~/project/test1$ tree
.
├── db.sqlite3
├── manage.py
├── message
│   ├── admin.py
│   ├── apps.py
│   ├── __init__.py
│   ├── migrations
│   │   └── __init__.py
│   ├── models.py
│   ├── tests.py
│   └── views.py
└── test1
    ├── __init__.py
    ├── __pycache__
    │   ├── __init__.cpython-35.pyc
    │   ├── settings.cpython-35.pyc
    │   └── urls.cpython-35.pyc
    ├── settings.py
    ├── urls.py
    └── wsgi.py

4 directories, 16 files
```

Create a super user called “ian”...

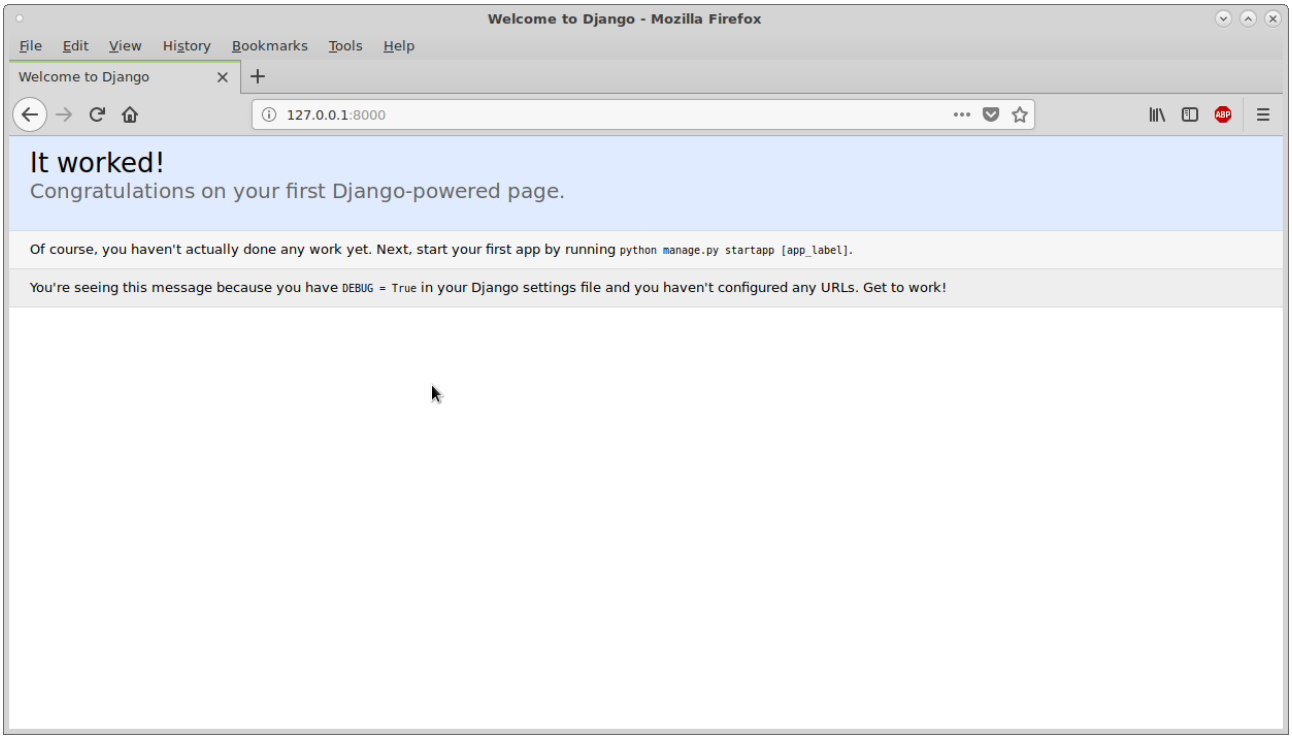
```
ian@X200:~/project/test1$ python3 manage.py createsuperuser
Username (leave blank to use 'ian'):
Email address: ianxxxxxxxxx@hotmail.com
Password:
Password (again):
This password is too short. It must contain at least 8 characters.
This password is too common.
Password:
Password (again):
Superuser created successfully.
```

Run the server to start the test1 web-site...

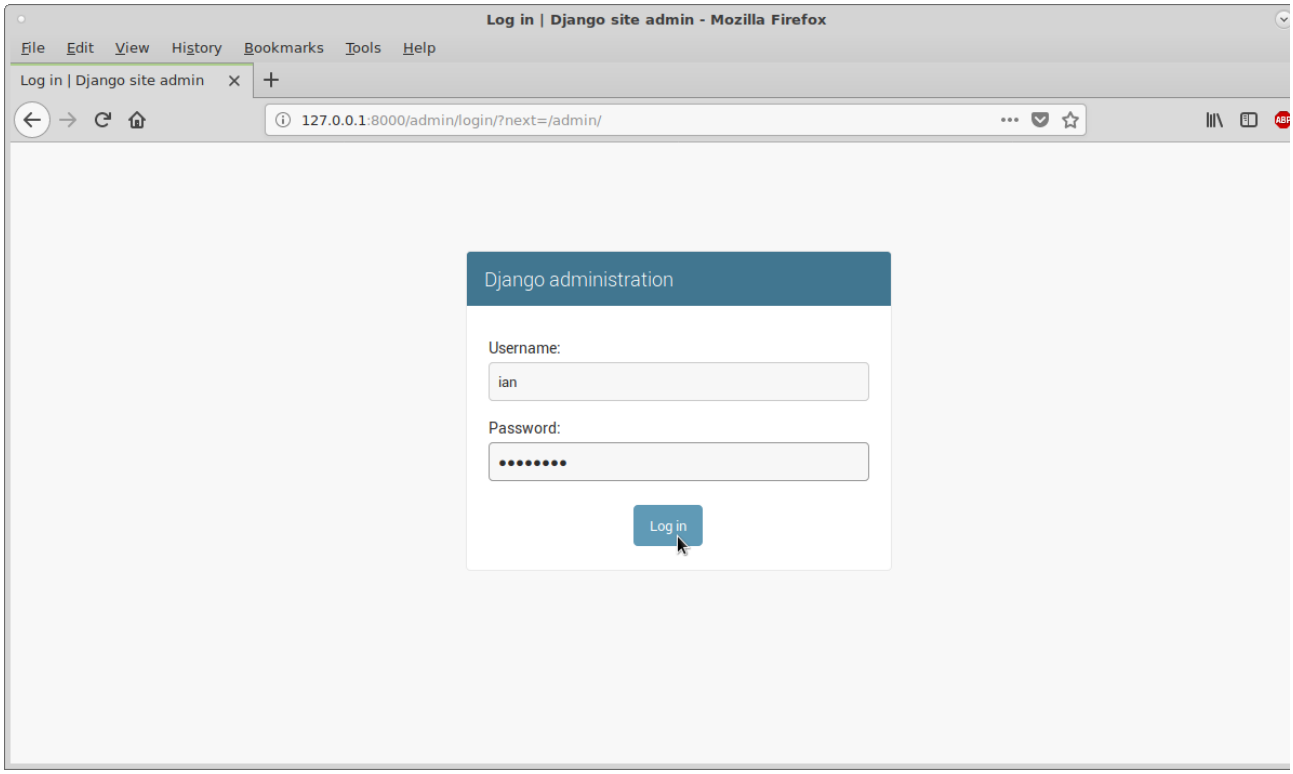
```
ian@X200:~/project/test1$ python3 manage.py runserver
Performing system checks...

System check identified no issues (0 silenced).
February 11, 2019 - 10:39:50
Django version 1.10.7, using settings 'test1.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.
```

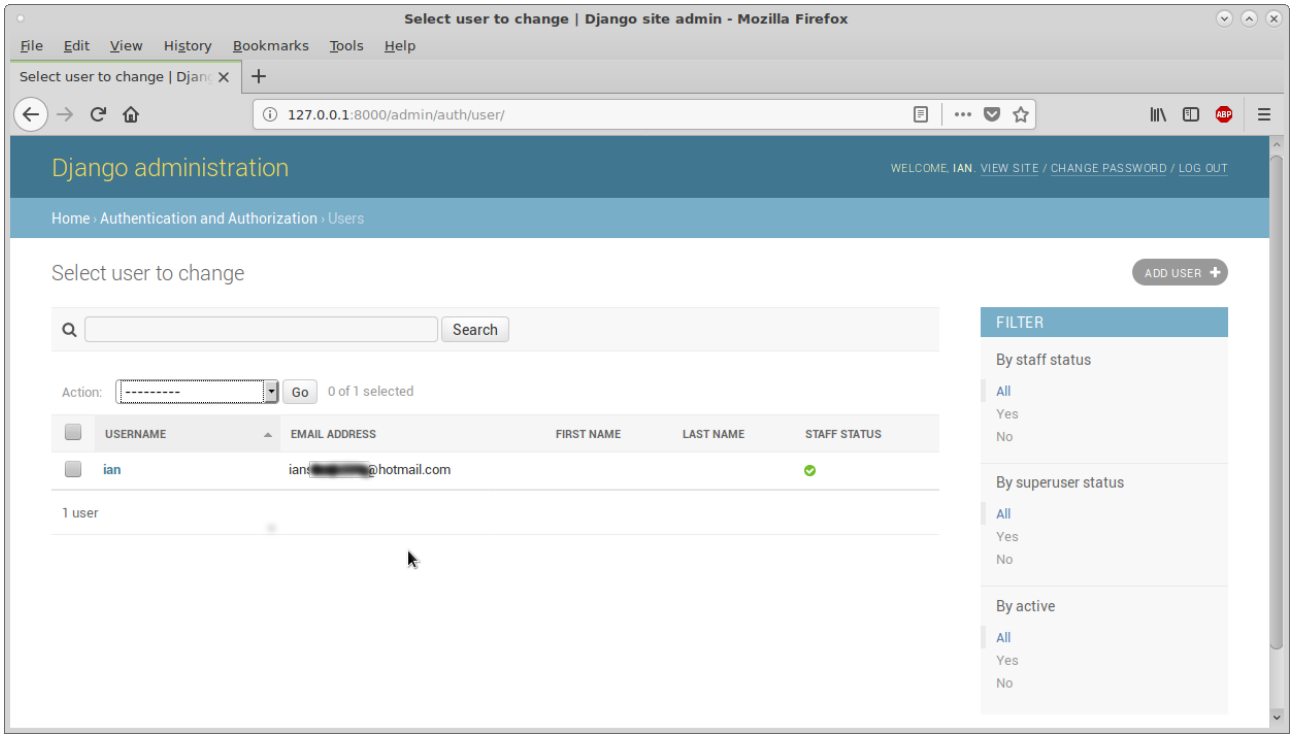
Launch browser and enter the address of the server http://127.0.0.1:8000/ Browser displays...



See if the administration login is available and if the super user can login with the browser address of http://127.0.0.1:8000/admin/



After logging in and clicking on "Users"...



Django – On Ubuntu/Mate 18.04.1

Install Django for python3 with apt. The Ubuntu repository currently has version 1.11. This is a LTS release from April 2017 to April 2020.

```
wlug@wlug:~$ sudo apt-get install python3-django
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  javascript-common libjs-jquery python-django-common python3-sqlparse
  python3-tz
Suggested packages:
  apache2 | lighttpd | httpd bpython3 geoip-database-contrib ipython3 libgdal1
  python-django-doc python3-bcrypt python3-flup python3-memcache
  python3-psycopg2 python3-pymysql python3-sqlite python-sqlparse-doc
The following NEW packages will be installed:
  javascript-common libjs-jquery python-django-common python3-django
  python3-sqlparse python3-tz
0 upgraded, 6 newly installed, 0 to remove and 254 not upgraded.
Need to get 2,631 kB of archives.
After this operation, 27.4 MB of additional disk space will be used.
Do you want to continue? [Y/n]
Get:1 http://nz.archive.ubuntu.com/ubuntu bionic-updates/main amd64 python-django-
common all 1:1.11.11-1ubuntu1.2 [1,521 kB]
Get:2 http://nz.archive.ubuntu.com/ubuntu bionic/main amd64 python3-tz all 2018.3-2
[25.1 kB]
Get:3 http://nz.archive.ubuntu.com/ubuntu bionic-updates/main amd64 python3-django
all 1:1.11.11-1ubuntu1.2 [899 kB]
Get:4 http://nz.archive.ubuntu.com/ubuntu bionic/main amd64 javascript-common all 11
[6,066 B]

...snip...

Setting up libjs-jquery (3.2.1-1) ...
Setting up python3-sqlparse (0.2.4-0.1) ...
Processing triggers for man-db (2.8.3-2) ...
Setting up javascript-common (11) ...
Setting up python-django-common (1:1.11.11-1ubuntu1.2) ...
Setting up python3-tz (2018.3-2) ...
Setting up python3-django (1:1.11.11-1ubuntu1.2) ...
wlug@wlug:~$
```

Create a project...

```
wlug@wlug:~$ mkdir project
wlug@wlug:~$ cd project
wlug@wlug:~/project$ django-admin startproject test1
wlug@wlug:~/project$ tree
.
└── test1
    ├── manage.py
    └── test1
        ├── __init__.py
        ├── settings.py
        ├── urls.py
        └── wsgi.py


wlug@wlug:~/project$ python3 test1/manage.py migrate
Operations to perform:
  Apply all migrations: admin, auth, contenttypes, sessions
Running migrations:
```

```
  Applying contenttypes.0001_initial... OK
  Applying auth.0001_initial... OK
  Applying admin.0001_initial... OK
  Applying admin.0002_logentry_remove_auto_add... OK
  Applying contenttypes.0002_remove_content_type_name... OK
  Applying auth.0002_alter_permission_name_max_length... OK
  Applying auth.0003_alter_user_email_max_length... OK
  Applying auth.0004_alter_user_username_opts... OK
  Applying auth.0005_alter_user_last_login_null... OK
  Applying auth.0006_require_contenttypes_0002... OK
  Applying auth.0007_alter_validators_add_error_messages... OK
  Applying auth.0008_alter_user_username_max_length... OK
  Applying sessions.0
```

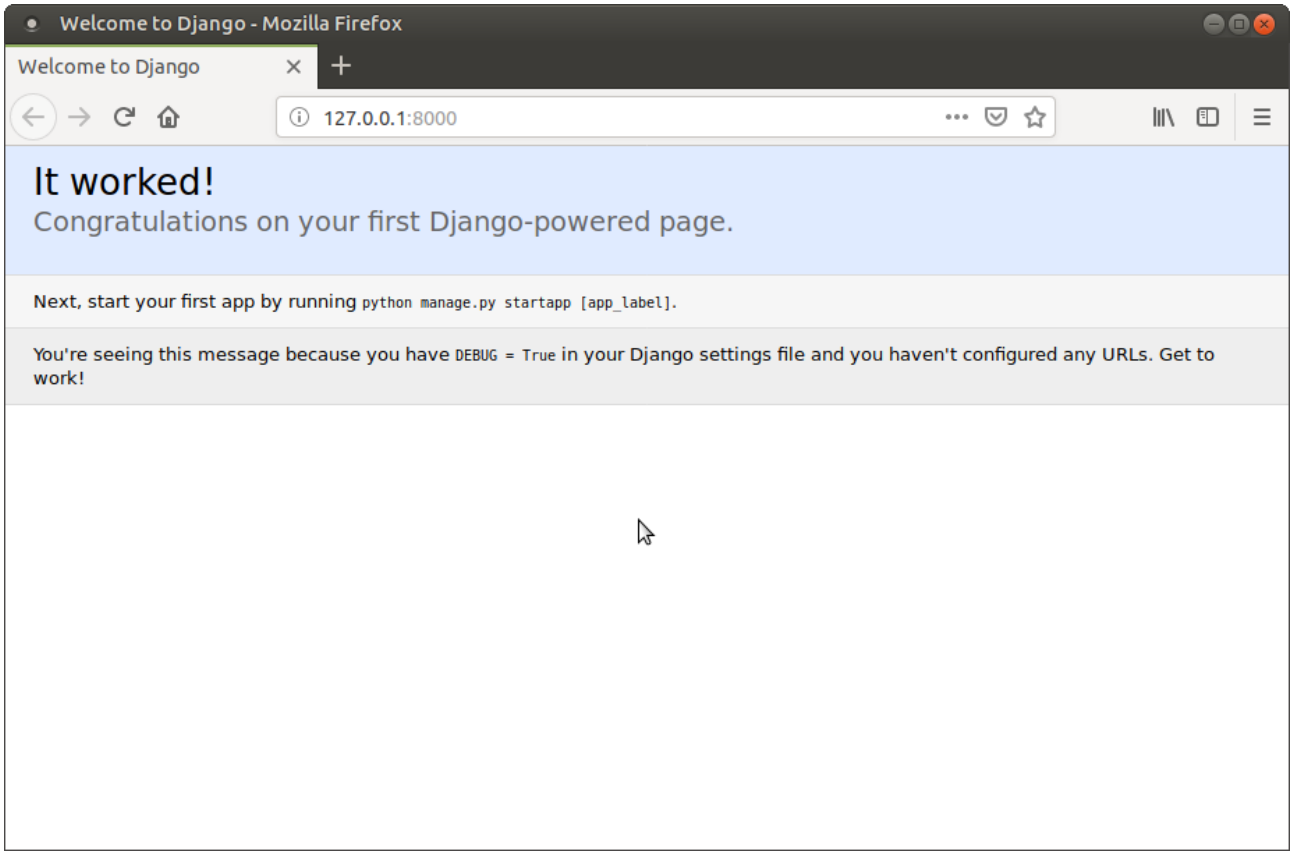
```
wlug@wlug:~/project$ tree
.
└── test1
    ├── db.sqlite3
    ├── manage.py
    └── test1
        ├── __init__.py
        ├── __pycache__
        │   ├── __init__.cpython-36.pyc
        │   ├── settings.cpython-36.pyc
        │   └── urls.cpython-36.pyc
        ├── settings.py
        ├── urls.py
        └── wsgi.py
```

Launch the web-server for the project...

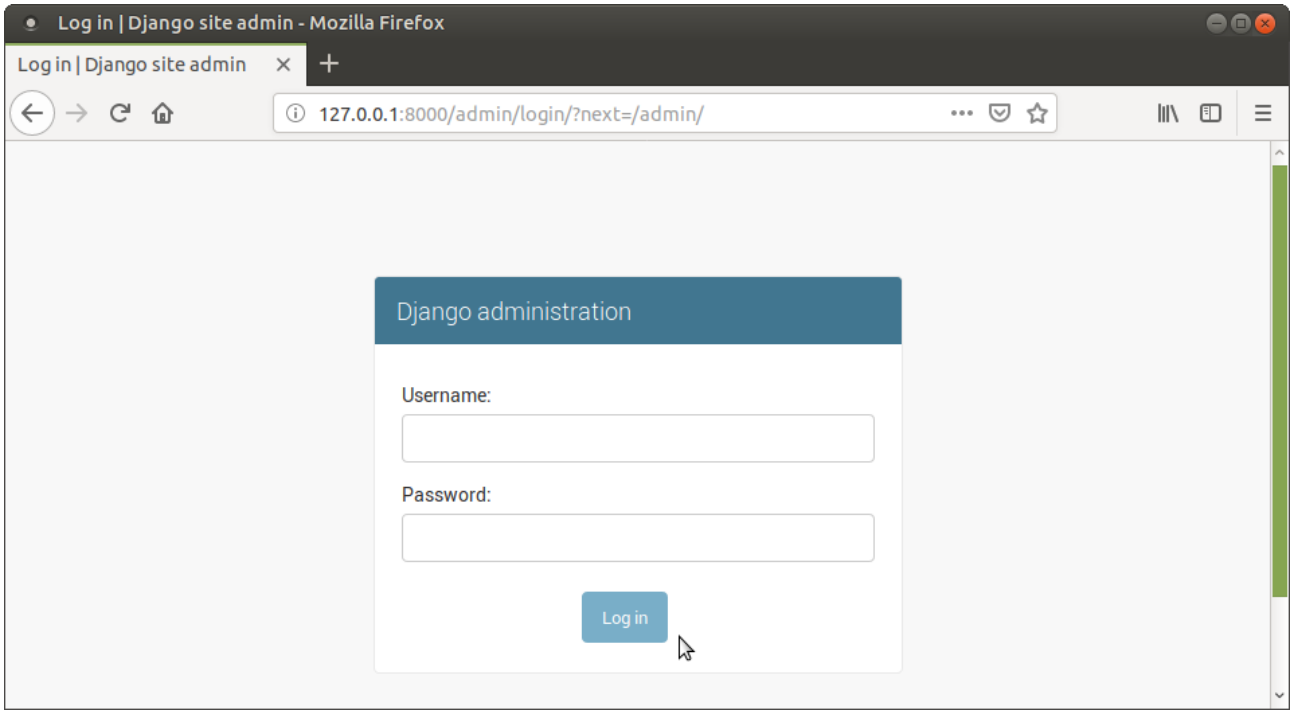
```
wlug@wlug:~/project$ python3 test1/manage.py runserver
Performing system checks...

System check identified no issues (0 silenced).
February 11, 2019 - 22:41:43
Django version 1.11.11, using settings 'test1.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.
```

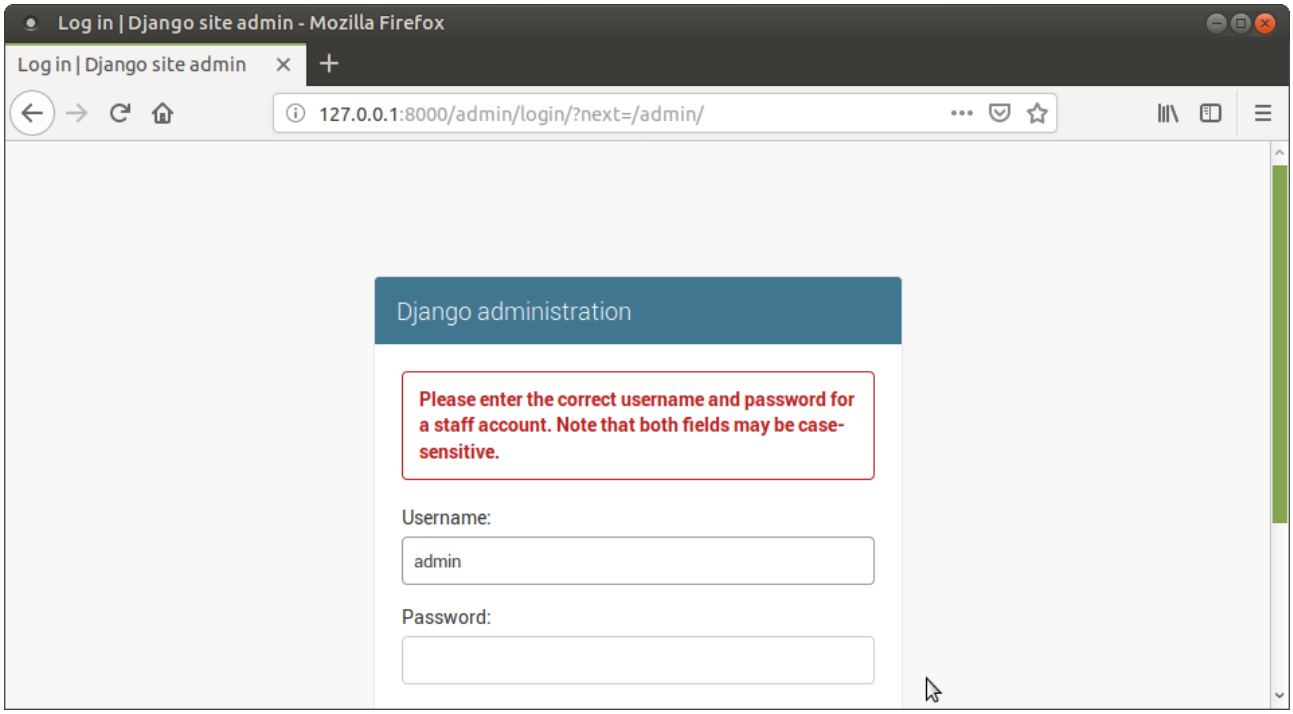
Use web-browser and see if web-page is http://127.0.0.1:8000/ being served...



Is there an Administration page? Entering http://127.0.0.1:8000/admin/ displays the admin page, but at this stage we don't have any user accounts or passwords to log in...



Try logging in, but fail...

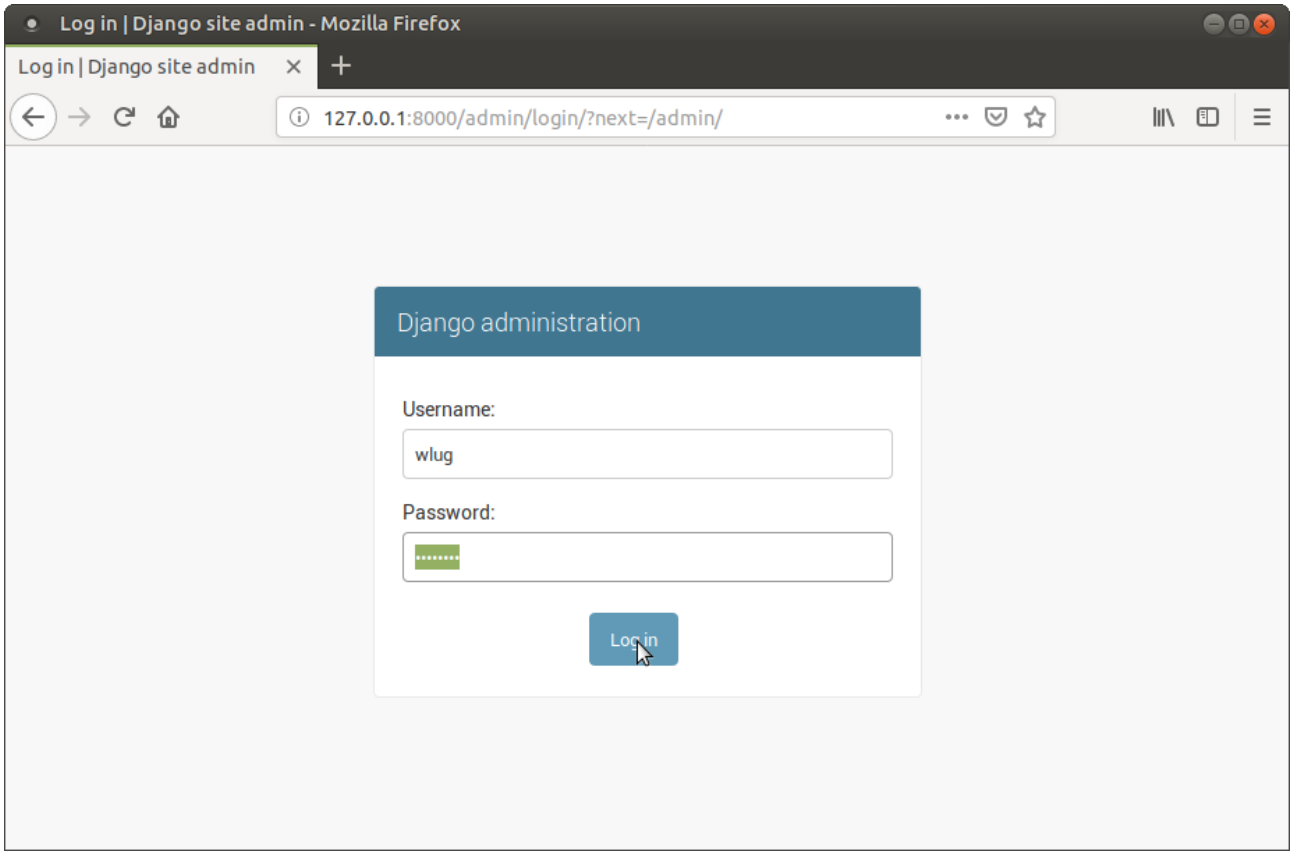


Quit the server . Create a superuser called “wlug”...

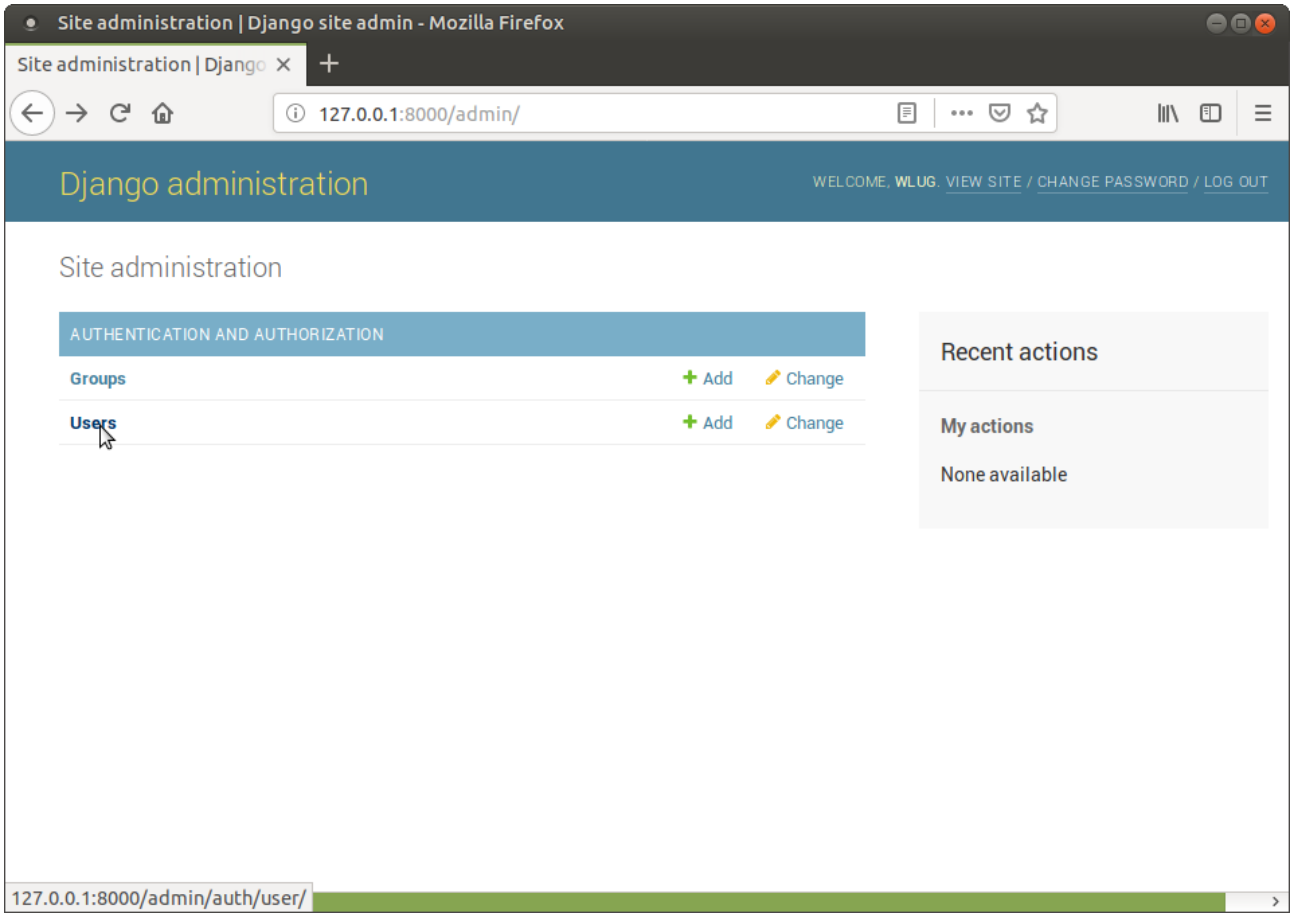
```
wlug@wlug:~/project$ python3 test1/manage.py createsuperuser
Username (leave blank to use 'wlug'):
Email address: wlug@gmail.com
Password:
Password (again):
Superuser created successfully.
wlug@wlug:~/project$ tree
.
└── test1
    ├── db.sqlite3
    ├── manage.py
    └── test1
        ├── __init__.py
        ├── __pycache__
        │   ├── __init__.cpython-36.pyc
        │   ├── settings.cpython-36.pyc
        │   ├── urls.cpython-36.pyc
        │   └── wsgi.cpython-36.pyc
        ├── settings.py
        ├── urls.py
        └── wsgi.py

3 directories, 10 files
```

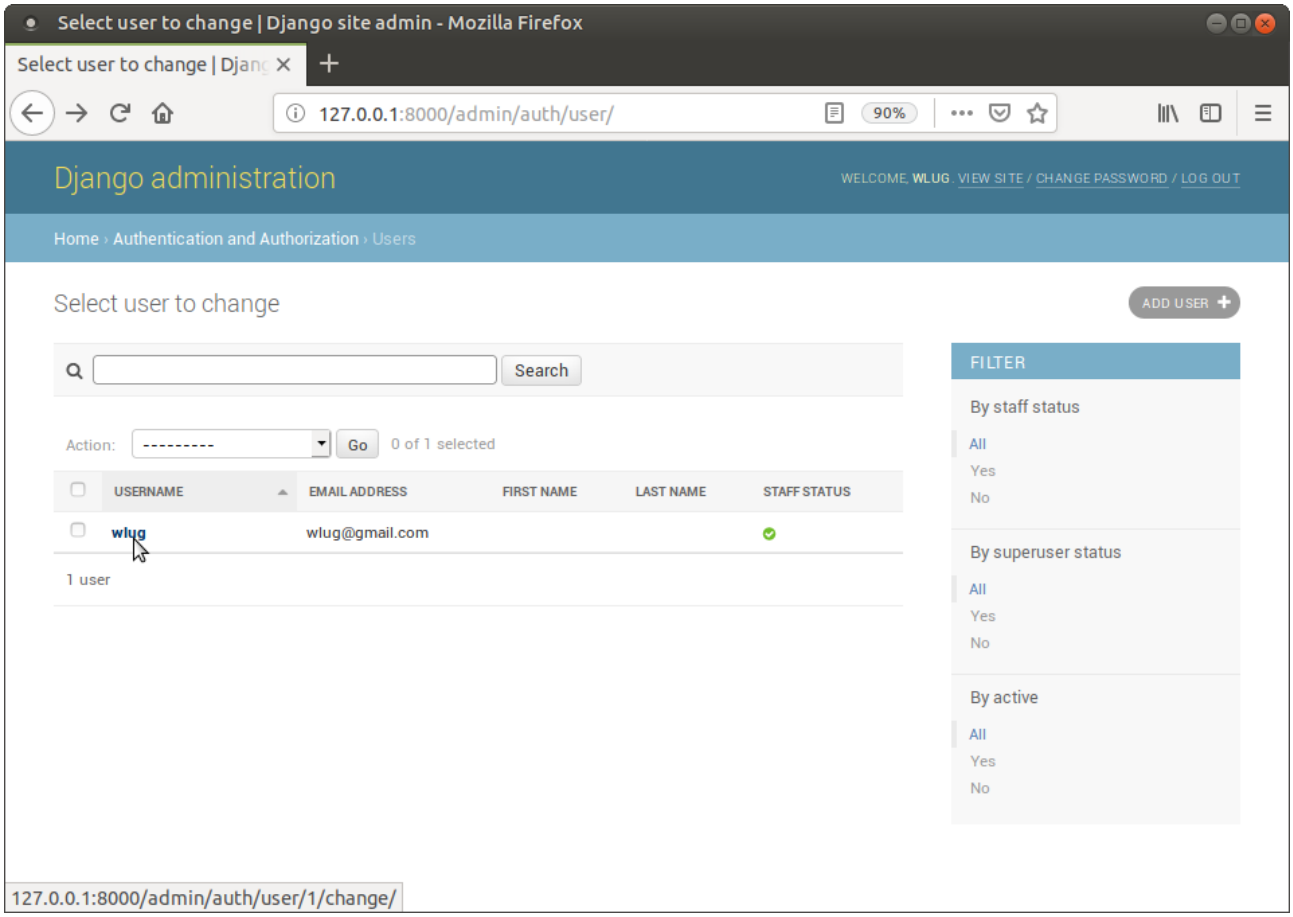
Creating the superuser did not add any files to the project. The data defining the super user is stored in the db.sqlite3 database.
Restart the server . Login the super user “wlug” with the admin window.
http://127.0.0.1:8000/admin/



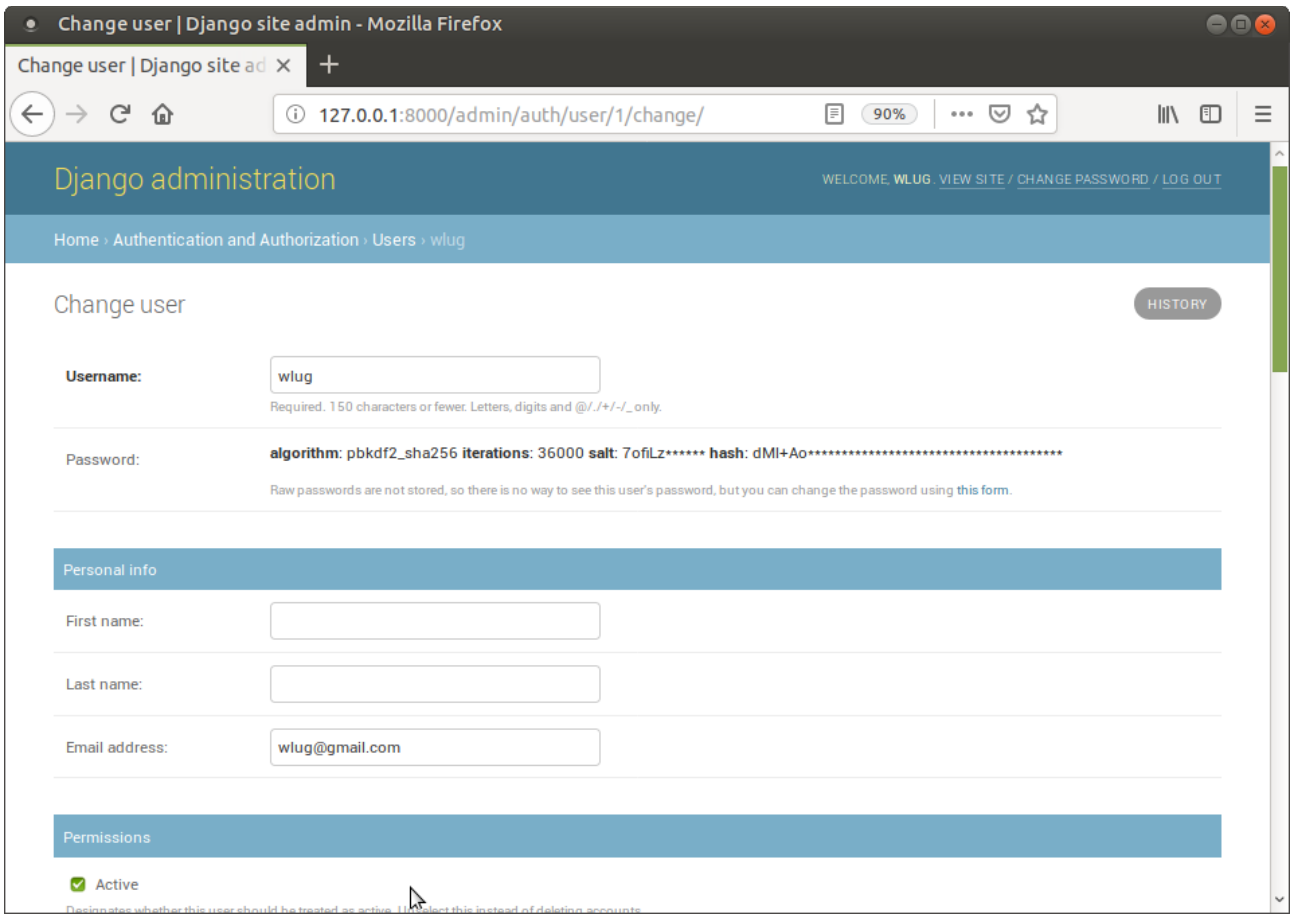
In Administration page, click on Users...



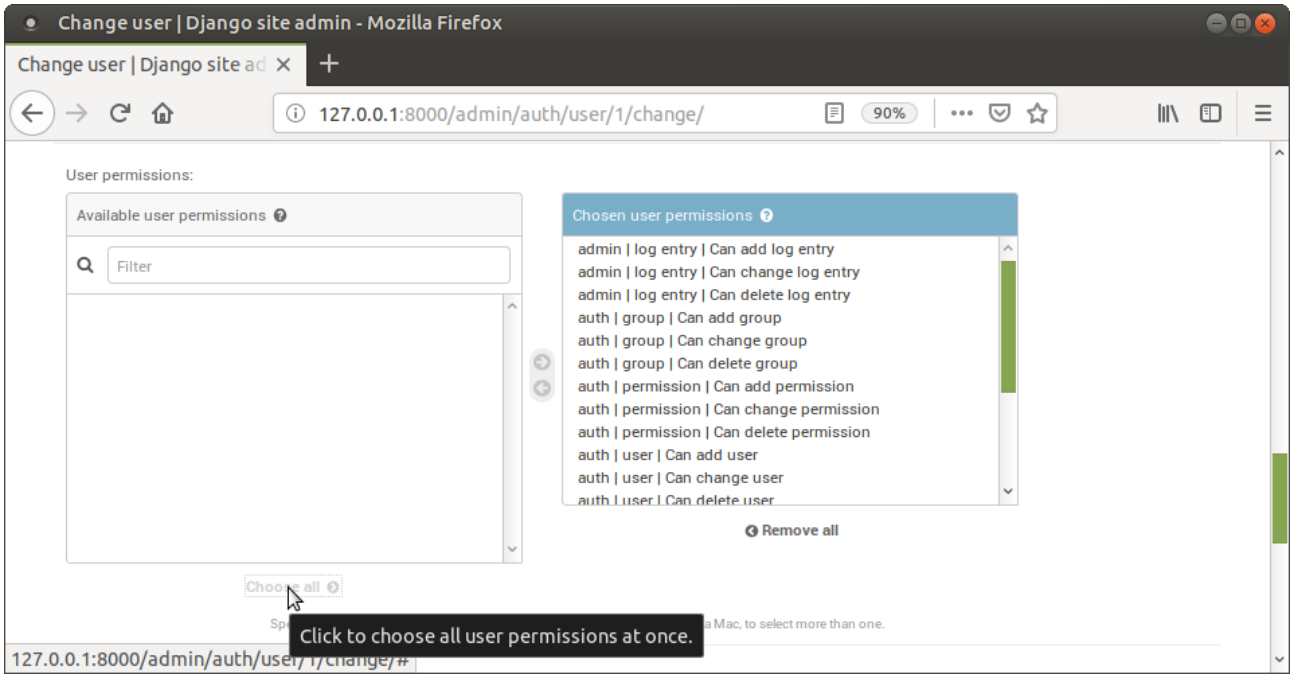
Administration page shows User “wlug”...



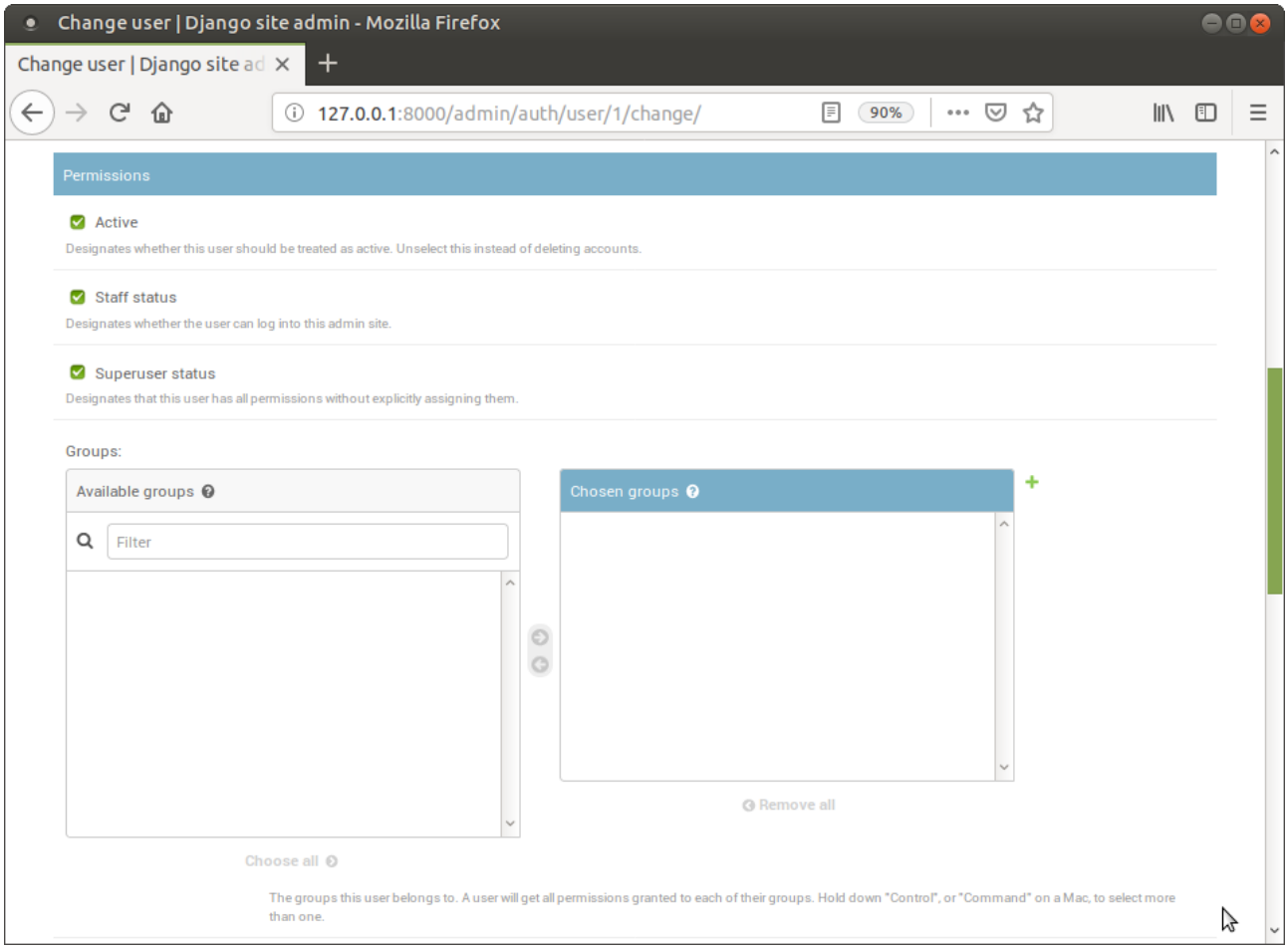
In Administration page, click on user “wlug” and details of the user can then be viewed or changed...



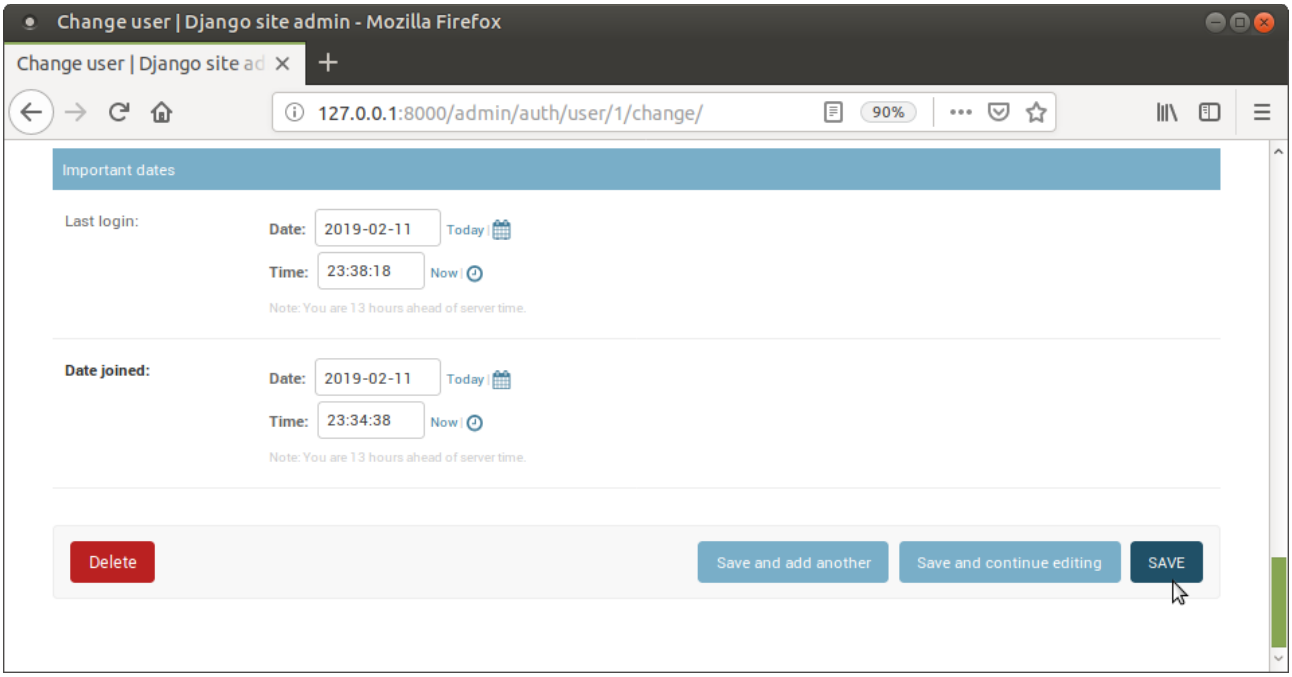
Give wlug user all permissions...


Change user | Django site admin - Mozilla Firefox
Change user | Django site ad
127.0.0.1:8000/admin/auth/user/1/change/
90%
User permissions:
Available user permissions
Filter
Chosen user permissions
admin | log entry | Can add log entry
admin | log entry | Can change log entry
admin | log entry | Can delete log entry
auth | group | Can add group
auth | group | Can change group
auth | group | Can delete group
auth | permission | Can add permission
auth | permission | Can change permission
auth | permission | Can delete permission
auth | user | Can add user
auth | user | Can change user
Remove all
Choose all
Click to choose all user permissions at once.
127.0.0.1:8000/admin/auth/user/1/change/#

. . .

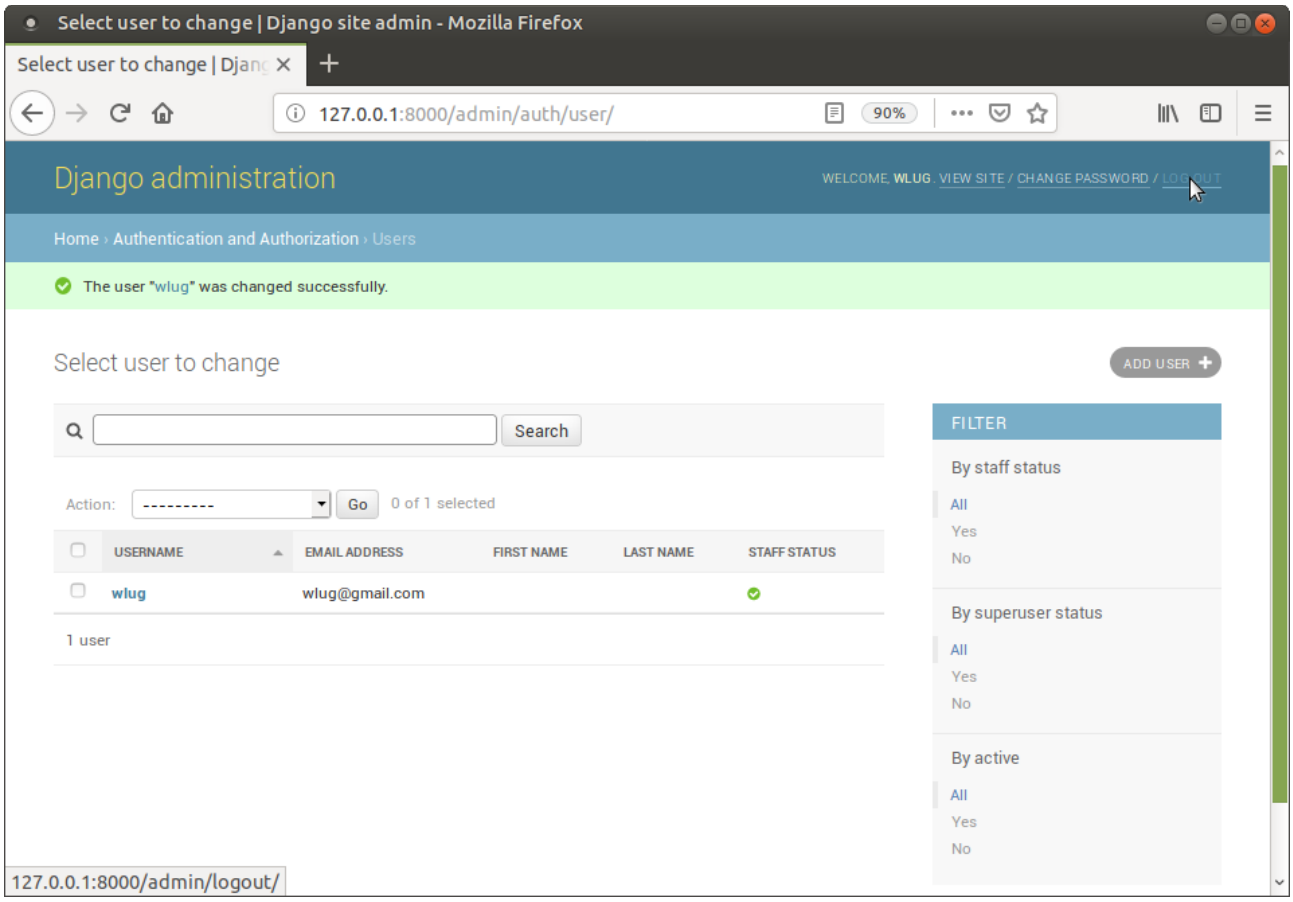

Change user | Django site admin - Mozilla Firefox
Change user | Django site ad
127.0.0.1:8000/admin/auth/user/1/change/
90%
Permissions
Active
Designates whether this user should be treated as active. Unselect this instead of deleting accounts.
Staff status
Designates whether the user can log into this admin site.
Superuser status
Designates that this user has all permissions without explicitly assigning them.
Groups:
Available groups
Filter
Chosen groups
Remove all
Choose all
The groups this user belongs to. A user will get all permissions granted to each of their groups. Hold down "Control", or "Command" on a Mac, to select more than one.

...

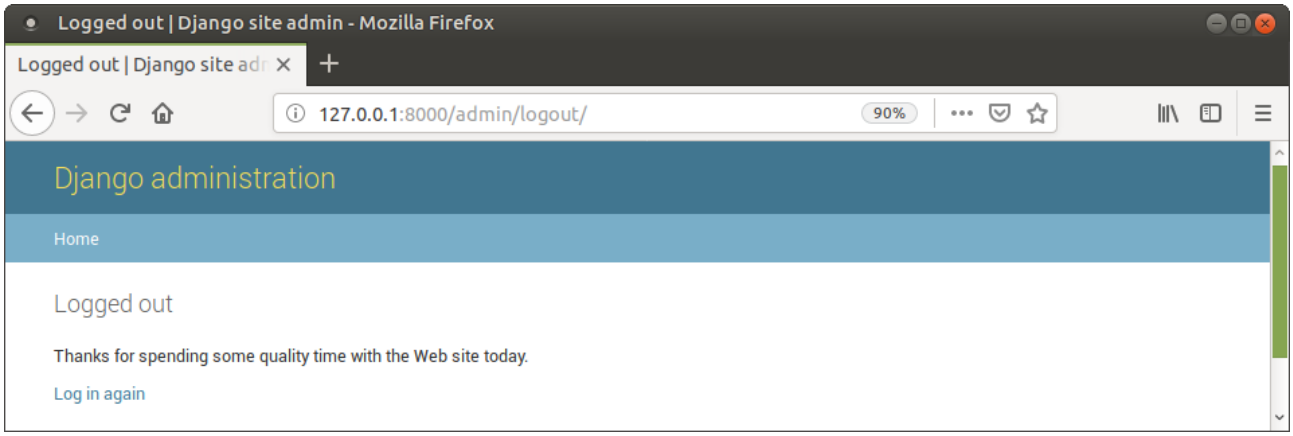


Note that it appears to use GMT date and time rather than NZST that the laptop is using.

User wlug has now been updated and saved.



Logout...


Logged out | Django site admin - Mozilla Firefox
Logged out | Django site adr
127.0.0.1:8000/admin/logout/
90%
Django administration
Home
Logged out
Thanks for spending some quality time with the Web site today.
Log in again