

[Training and Documentation]

[Deployment Details]

CONDUCTED FOR OPERATION
Report No. [DD-04]

For the Week Ending or Date Submitted: [24/12/2020]

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[Hosting for Django Oscar]

List of web host you can use

Firstly, you can scroll down to the end of the section to see some articles that you Can find a right one but below table is a list of hosts that I highly recommend using and you just Ctrl + Click on “Link” so you can have a head to it

Host name	Link
Pythonanywhere	[Link]
Heroku	[Link]
DigitalOcean	[Link]
Localhost	[Link]

Anyways, I am using Pythonanywhere because it supports Linux Kernel inside the host and by its name; Python is fully supported here so the deployment is more balancing and better performance.



Pros

- It's easy to set up and use.
- All accounts get free SSL support and you can share your console with other people.
- It has great customer service.
- It includes easy options for scaling.
- It offers flexible payments (you're billed monthly and can cancel anytime).

Cons

- It's Python-only on the server side. But it is OK because our web app is a Django Python app
- You cannot host a real-time app, as PA has no websocket support.

List of articles that you can use as references

- [Best web hosts for Django Python](#)
- [Django Web hosts with price tags](#)
- [Best Django Python web hosts in 2020](#)
- [Best Django webhosts in 2021](#)
- [Pros and cons of popular Django web hosts around the world](#)

[Deployment on localhost]

If you are an experienced programmer who has already worked with a Django project before, I highly suggest reading this official local deploying doc from Oscar: [Link](#)

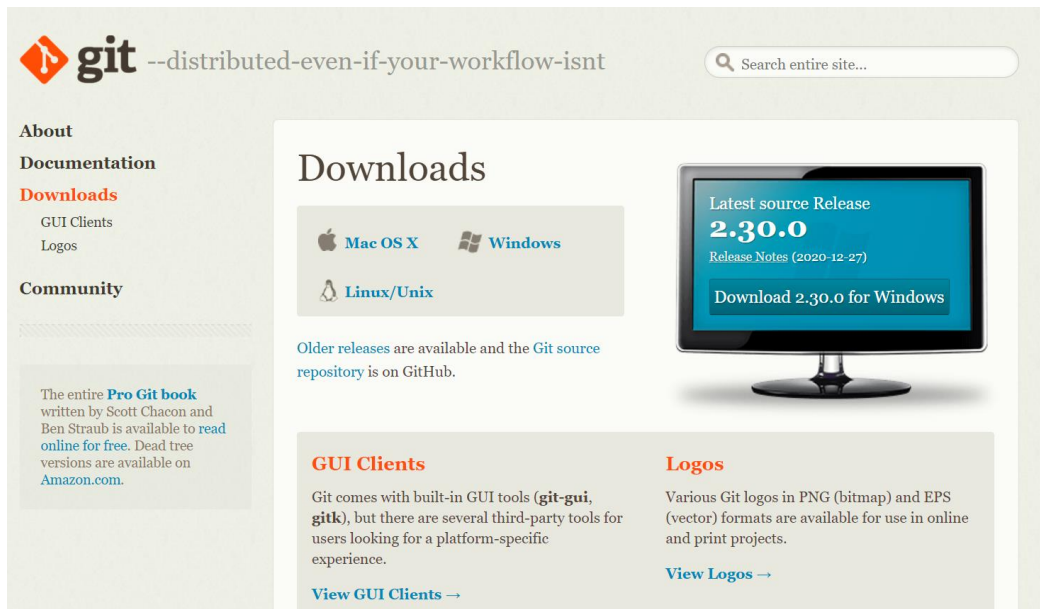
If you are not, watch this [Credit](#)

You will be expected to fail at the first step by watching this credit because the author has already installed virtualenv package in her Python terminal so everything seems very smooth here. Then, please read them all down there:

Before you want this project to run live, you must run it on your own local machine so you can have a local version on your own side, no need re-install or anything sort of that. And if you have your own working server in the room, running local on that server will be very helpful.

Installing Git

If you don't have Git yet in your PC so please get one [here](#)



Pick up the right OS so you won't go on the wrong direction

Then please take a look at this video [here](#) if you are also a newbie to Git so you will be able to install Git.

Cloning Oscar framework source code from our repo

After having Git in your PC, you have to clone Oscar framework source code here

```
git clone https://github.com/Software-Engineering-2020-Oscar/django-oscar-3
```

Installing Python

Because this is Python based app so first thing you must do is installing Python by downloading it [here](#) if you don't have one, else you can skip when you already have one.

The latest version of Python is 3.9.1 so I recommend you to use this one so we can keep everything close to the newest supported feature.

Then let the battle begin and I suggest ticking on add path checkbox so the installer can add python bin directory to Windows environment path library



With this kind of choice, we may avoid many unexpected error afterward. If you are using Windows then open your Windows command prompt up to test if you have installed Python successfully or not.

Type “python --version” to see if the python’s version you have installed satisfies your need or type “python” then you can expect a python terminal will appear in your cmd like this one below

```
C:\Windows\system32\cmd.exe - Python
Microsoft Windows [Version 10.0.18363.418]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Admin>python --version
Python 3.8.5

C:\Users\Admin>Python
Python 3.8.5 (tags/v3.8.5:580fbb0, Jul 20 2020, 15:43:08) [MSC v.1926 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> _
```

Create virtual environment for Django Python app

For Windows, it is impossible to create virtual environment like some popular tutorials on the internet which use Linux as their OS. So the first step ahead is installing virtualenv in Python terminal by typing

```
pip install virtualenv
```

```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.18363.418]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Admin>pip install virtualenv
Requirement already satisfied: virtualenv in d:\python_3.8.5\lib\site-packages (20.2.2)
Requirement already satisfied: filelock<4,>=3.0.0 in d:\python_3.8.5\lib\site-packages (from virtualenv) (3.0.12)
Requirement already satisfied: six<2,>=1.9.0 in d:\python_3.8.5\lib\site-packages (from virtualenv) (1.15.0)
Requirement already satisfied: distlib<1,>=0.3.1 in d:\python_3.8.5\lib\site-packages (from virtualenv) (0.3.1)
Requirement already satisfied: appdirs<2,>=1.4.3 in d:\python_3.8.5\lib\site-packages (from virtualenv) (1.4.4)
WARNING: You are using pip version 20.1.1; however, version 20.3.3 is available.
You should consider upgrading via the 'd:\python_3.8.5\python.exe -m pip install --upgrade pip' command.

C:\Users\Admin>
```

If you have the result like one above then it means virtualenv package is good to go. Let's move on to the second step of this stage – create a virtual environment and name it “oscar_venv” by typing

```
virtualenv oscar venv
```

```
Select C:\Windows\system32\cmd.exe

D:\OneDrive\Desktop>virtualenv oscar_venv
created virtual environment CPython3.8.5.final.0-32 in 5516ms
creator CPython3Windows(dest=D:\OneDrive\Desktop\oscar_venv, clear=False, no_vcs_ignore=False, global=False)
seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=C:\Users\Admin\AppData\Local\pypa\virtualenv)
added seed packages: pip==20.3.1, setuptools==51.0.0, wheel==0.36.1
activators BashActivator,BatchActivator,FishActivator,PowerShellActivator,PythonActivator,XonshActivator

D:\OneDrive\Desktop>
```

Activate your created environment up by going running file “activate” in Scripts folder in your venv

```
C:\Windows\system32\cmd.exe

Microsoft Windows [Version 10.0.18363.418]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Admin>cd D:\OneDrive\Desktop\oscar_venv

C:\Users\Admin>D:

D:\OneDrive\Desktop\oscar_venv>cd Scripts

D:\OneDrive\Desktop\oscar_venv\Scripts>activate

(oscar_venv) D:\OneDrive\Desktop\oscar_venv\Scripts>
```

Then you can expect to have your venv name in a pair of parentheses in front of the directory and this means your venv is successfully activated, but how to deactivate it? Just type

```
deactivate
```

So you will exit the current venv and expect this

```
D:\OneDrive\Desktop\oscar_venv>cd Scripts

D:\OneDrive\Desktop\oscar_venv\Scripts>activate

(oscar_venv) D:\OneDrive\Desktop\oscar_venv\Scripts>deactivate
D:\OneDrive\Desktop\oscar_venv\Scripts>
```

The parentheses are gone, this means you are out of the venv

Install Oscar Python lib and its dependencies

After activating your venv, installing django-oscar is required

```
D:\OneDrive\Desktop\oscar_venv\Scripts>activate

(oscar_venv) D:\OneDrive\Desktop\oscar_venv\Scripts>pip install django-oscar
Collecting django-oscar
  Using cached django_oscar-2.1-py3-none-any.whl (7.7 MB)
Collecting Babel<3.0,>=1.0
  Downloading Babel-2.9.0-py2.py3-none-any.whl (8.8 MB)
    |████████████████████| 8.8 MB 2.2 MB/s
Collecting django<3.1,>=2.2
  Downloading Django-3.0.11-py3-none-any.whl (7.5 MB)
    |████████████████████| 7.5 MB 3.2 MB/s
Collecting asgiref~3.2
  Downloading asgiref-3.3.1-py3-none-any.whl (19 kB)
Collecting django-extra-views<0.14,>=0.13
  Using cached django_extra_views-0.13.0.tar.gz (13 kB)
Collecting django-haystack>=3.0b1
  Downloading django-haystack-3.0.tar.gz (450 kB)
    |████████████████████| 450 kB 3.3 MB/s
Collecting django-phonenumbers-field<4.0.0,>=3.0.0
  Using cached django_phonenumber_field-3.0.1-py3-none-any.whl (49 kB)
Collecting django-tables2<2.3,>=2.2
```

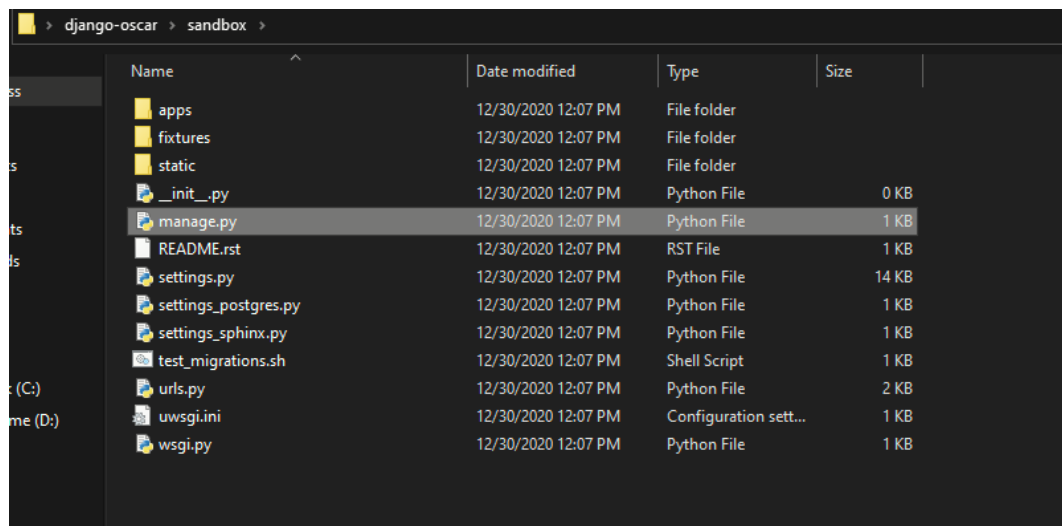
Then move to the dir of django-oscar you will see “requirement.txt”, pip install all the things in here and be calm because this process is very slow cause Python has to execute many pip lines and routing to many different package servers at the same time.

```
pip install -r requirements.txt
```

Migrating Django database from manage.py

To know more about this stage, you must read Django Doc [here](#) and you just have to focus on part 1 because part 2 is about writing your first Django app but DD-04 is about to tell you how to deploy an existing app so skip it please

Let's begin with “sandbox”, everything is kept in sandbox so route yourself to “sandbox” folder and look for manage.py file



Then run this line in terminal

```
python manage.py migrate
```

You are expected not to be successful at the first run because there still some missing packages that are not listed in “requirements.txt”. But if so, you must receive this screen below:

```
C:\Windows\system32\cmd.exe - python manage.py migrate
(oscar_venv) D:\OneDrive\Desktop\django-oscar\sandbox>python manage.py migrate
[2021-01-03 12:06:41,943] Using proactor: IocpProactor
Operations to perform:
  Apply all migrations: address, admin, analytics, auth, basket, catalogue, communication, contenttypes, customer, easy_thumbnails, flatpages, offer
, reviews, sessions, shipping, sites, thumbnail, voucher, wishlists
Running migrations:
  Applying contenttypes.0001_initial... OK
  Applying auth.0001_initial... OK
  Applying address.0001_initial... OK
  Applying address.0002_auto_20150927_1547... OK
  Applying address.0003_auto_20150927_1551... OK
  Applying address.0004_auto_20170226_1122... OK
  Applying address.0005_regenerate_user_address_hashes... OK
  Applying address.0006_auto_20181115_1953... OK
  Applying admin.0001_initial... OK
  Applying admin.0002_logentry_remove_auto_add... OK
  Applying admin.0003_logentry_add_action_flag_choices... OK
  Applying catalogue.0001_initial... OK
  Applying analytics.0001_initial... OK
  Applying analytics.0002_auto_20140827_1705... 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 auth.0009_alter_user_last_name_max_length... OK
  Applying auth.0010_alter_group_name_max_length... OK
  Applying auth.0011_update_proxy_permissions... OK
  Applying sites.0001_initial... OK
  Applying partner.0001_initial... OK
  Applying customer.0001_initial... OK
  Applying basket.0001_initial... OK
```

Run Django server

This is the final step of them all, run server to see everything around the demo

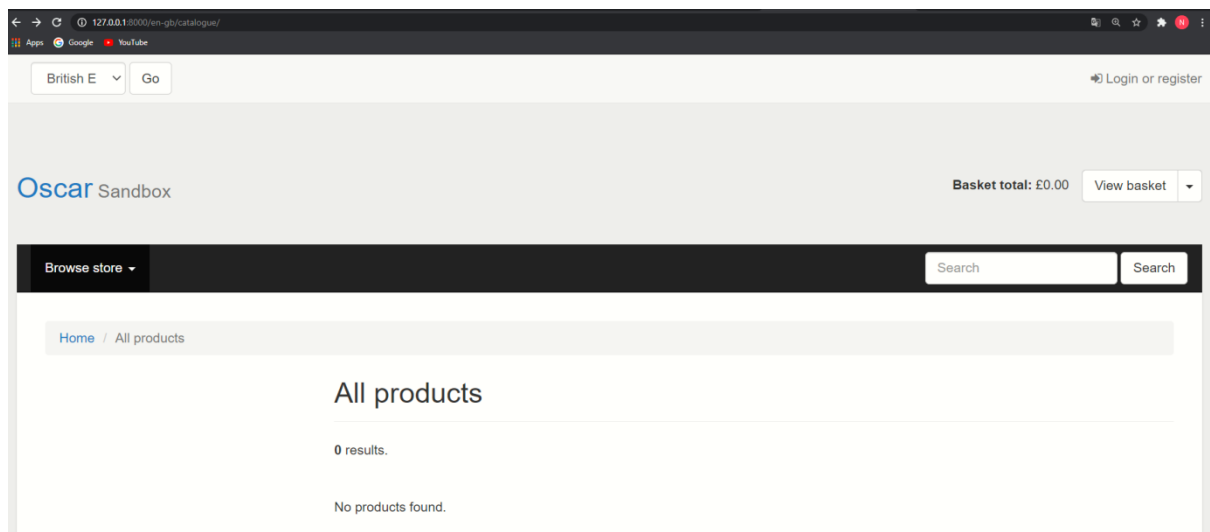
```
python manage.py runserver
```

Then you will expect to see this screen below

```
(oscar_venv) D:\OneDrive\Desktop\django-oscar\sandbox>python manage.py runserver
[2021-01-03 12:12:23,656] Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).
January 03, 2021 - 12:12:24
Django version 3.0.11, using settings 'settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
[2021-01-03 12:12:34,459] "GET / HTTP/1.1" 302 0
[2021-01-03 12:12:35,122] "GET /en-gb/ HTTP/1.1" 302 0
[2021-01-03 12:12:35,705] "GET /en-gb/catalogue/ HTTP/1.1" 200 20348
[2021-01-03 12:12:35,772] "GET /static/oscar/css/styles.css HTTP/1.1" 200 184503
[2021-01-03 12:12:35,780] "GET /static/debug_toolbar/css/toolbar.css HTTP/1.1" 200 11405
[2021-01-03 12:12:35,830] "GET /static/oscar/js/oscar/ui.js HTTP/1.1" 200 13863
[2021-01-03 12:12:35,856] "GET /static/oscar/js/bootstrap3/bootstrap.min.js HTTP/1.1" 200 39680
[2021-01-03 12:12:35,910] "GET /static/debug_toolbar/js/toolbar.js HTTP/1.1" 200 10268
[2021-01-03 12:12:35,959] "GET /static/oscar/fonts/fontawesome-webfont.woff?v=3.2.1 HTTP/1.1" 200 43572
[2021-01-03 12:12:36,011] "GET /static/debug_toolbar/css/print.css HTTP/1.1" 200 43
[2021-01-03 12:12:36,038] "GET /static/debug_toolbar/js/utils.js HTTP/1.1" 200 2090
[2021-01-03 12:12:36,107] "GET /static/oscar/favicon.ico HTTP/1.1" 200 1150
```

Do you see that red mark? That is your local address to Oscar, copy that one and paste in the browser search box and hit Enter you see this one.



You are all set-up here. Any question, please send an email to nhutnguyenf330@gmail.com for support.