

DOCUMENTATION AWS-DJANGO

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1. launch instance

An EC2 instance is a virtual machine running in the AWS cloud. So basically, we are only going to create an ubuntu virtual machine (or anything else available) and generate a key to connect with ssh to the instance. It is on this instance that we will put our django code.

- go on EC2 page
- on left panel, click on instance
- click on launch instance button
- select distro
- select instance type
- choose a security key or create a new one (DO NOT LOOSE IT, it is used to connect to the instance. Key lost means having to kill the instance and start again..) I put it in the `/.ssh/` folder

Now your instance should be up running

2. Create a DB

Here, we are going to launch a virtual machine optimized to run databases. I would recommend Postgresql because I like it (for no specific reason, never had any problem with MySQL). Then we are going to set the security rules so that only our EC2 instance can access the database.

- on the main AWS panel, go on RDS
- click on get started now
- Select database
- production (be careful default one is not free)
- choose details and settings (for instance my DB instance identifier is "dbinstance", my master username is "dbadmin" and my password is "password" no kidding i

- complete advanced settings. BE CAREFUL with publicly accessible. I put no so that only my instances on AWS can access it. Choose a dbname (mine is dbname_of_project)
- click on launching db instance. Creating a DB can take a little time so be patient.
- create a security group (they are available from the ec2 dashboard on the left) name it as you wish (i choose dbsecuritygroup), inbound should be HTTP with custom IP for the source. The custom IP will be the identifier of the security group of your instance sg...

That is it, your DB should be safe and running now.

3. Create a S3 instance to store media files

S3 instance are specially designed to store files. I have not finished this part of the tutorial so you will have to store all the files on you EC2 instance for now. If you want to store it on a S3 instance, check the cactus group website. They did a good job explaining how to serve static and media files on AWS.

4. Setting up the shortcut to connect with ssh using config file in .ssh/ folder

This part explains only how to create and configure a ssh with a local key.

- go in your /.ssh/ folder
- create a file named config
- fill it as follow :

```
Host name_of_shortcut
HostName adresse of your instance ec2...
User name_of_user (ubuntu for ubuntu instances)
IdentityFile /path/to/key/file/ (generated earlier)
```

- change rights

```
chmod 700 for ~/.ssh/ folder
```

```
chmod 600 for the key
```

- run commande :

```
ssh name\_of\_shortcut
```

to connect to the instance

Now you should be connected to the terminal of the instance.

5. installation (postgre etc..) simply run the following commands (for debian/ubuntu instance):

- `sudo apt-get update`
- `sudo apt-get upgrade`

- `sudo apt-get install -y python git python-pip postgresql postgresql-server-dev-all python-dev libpq-dev supervisor nginx vim curl ntp libncurses5-dev make build-essential libssl-dev zlib1g-dev libbz2-dev libreadline-dev libsqlite3-dev wget curl llvm tcl8.5`

6. clone your repository

This part is up to you. Git is installed so if you use git+github then you just have to git clone your repo and that is it. The point here is to put your django project on the instance.

7. setting git options

tape all the following commands to set the options:

```
git config --global color.diff auto
git config --global color.status auto
git config --global color.branch auto
git config --global alias.br branch
git config --global alias.ci commit
git config --global alias.co checkout
git config --global alias.st status
git config --global user.name "votre_pseudo"
git config --global user.email moi@email.com
```

8. installation pyenv, pyenv virtualenv, pip and requirements.txt (if you have one)

Normally, git should be installed by now. It is time to install pyenv and pyenv wrapper. Here is a good start. However, do not install following what is in the link but what is above.

- To install pyenv, follow the very well made guide here : <https://github.com/yyuu/pyenv#installation> (source the .bash_profile file after modification or it might not be taken into account)
- now install virtualenv following instructions here : <https://github.com/yyuu/pyenv-virtualenv>
- create a virtualenv with this command : `pyenv virtualenv 2.7.8 nom_du_virtualenv`
- to install pip ... well do nothing, the previous command took care of it :D
- use `pip install -r /path/to/requirement.txt` to install all the required program with pip (fairly practical..)
- to activate the virtual env do : `pyenv activate name_virtualenv`

9. configuration of supervisor It is a program that launch and supervise different process automatically for us (thx dude). Here is how to configure it :

- `sudo vim /etc/supervisor/conf.d/django.conf`
- fill the document with :

```
[program:name_wsgi_process]
command=/home/ubuntu/.pyenv/versions/name_project_env/bin/gunicorn
    name_project.wsgi:application -b 127.0.0.1:8005 -w 4 -t 30
environment=LANG="en_US.UTF-8"
directory=/home/ubuntu/name_project/name_project/
user=name_of_user (ubuntu in general)
autostart=True
autorestart=True
stdout_logfile=/var/log/django.log
stderr_logfile=/var/log/django.log
```

- enter : `sudo supervisorctl update`. This should returns added process group.
- for more info on the different part, check this link <http://reustle.io/blog/managing-long-running-processes-with-supervisor>
- to check that everything went alright, type this :
`gunicorn -check-config name_wsgi_process`
- after modifications of `django.conf` file, you can launch these command to make them taken into account.
`supervisorctl reread`
`supervisorctl reload`

10. configure nginx

- run `sudo vim /etc/nginx/sites-available/django`
 - put this in it replacing what should be replaced.
- ```
server_names_hash_bucket_size 350;

underscores_in_headers on;

server {
 listen 80;
 server_name project_name;
 client_max_body_size 10m;
 set $static_root "/path/to/static/files";
 set $media_root "/path/to/media/files";

 location /static {
 alias $static_root;
 expires max;
 }

 location /media {
 alias $media_root;
 expires max;
 }
}
```

```

location = /favicon.ico {
 rewrite (.*) /static/ico/favicon.ico;
}

location / {
 proxy_set_header X-Real-IP $remote_addr;
 proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
 proxy_set_header Host $http_host;
 proxy_pass http://127.0.0.1:8005;
 proxy_read_timeout 120;
 proxy_connect_timeout 120;
}
}

```

- run

```
cd /etc/nginx/sites-enabled/
```

- if there is a default file in it, remove it (sudo rm default)
- creation of a symbolic link to our file :

```
sudo ln -s /etc/nginx/sites-available/django django
```

- to launch the server type :

```
sudo service nginx start
```

11. every time you modify something, the dev server relaunch by itself, here it is not the case. You have to type :

```

sudo supervisorctl restart name_wsgi_process
sudo service nginx reload

```