**Basic Setup**

-get

0 - Update apt-get

1. sudo apt-get update

1- Install PSQL

1. Download and install Postgres using **sudo apt-get install postgresql postgresql-contrib**.
2. Open **pg\_hba.conf** located in postgres installation directory, for eg. **/etc/postgresql/9.5/main/pg\_hba.conf**, and change the line

**local all all md5/peer**

to

**local all all trust**

1. Restart postgres server using **sudo service postgresql restart** or **sudo /etc/init.d/postgresql restart**.
2. Create a new postgresql role using command **createuser --interactive** **-P -U postgres** or change password of **postgres**:
   1. Start postgres shell using command **psql -U postgres**
   2. Enter **alter role postgres password ‘<new password>’;**
   3. Exit (\q or Ctrl + d)
3. Test new user by starting postgres shell using command  **<username> -W template1**.

2- Install - pip <https://pip.pypa.io/en/latest/installing.html#using-the-installer>’

1. sudo apt-get install python-pip

3 - Install Virtual Enviromnent <https://virtualenv.pypa.io/en/latest/virtualenv.html#installation>

1. sudo pip install virtualenv

4 - Install and use virtual env wrapper <http://virtualenvwrapper.readthedocs.org/en/latest/#introduction>

1. sudo pip install virtualenvwrapper
2. export WORKON\_HOME=~/Envs
3. mkdir -p $WORKON\_HOME
4. source /usr/local/bin/virtualenvwrapper.sh
5. export VIRTUALENVWRAPPER\_PYTHON=/usr/bin/python3
6. mkvirtualenv env1
7. workon env1
8. deactivate

**We need to put statements 2,4 & 5 in our ~/.bashrc file**

**Note :- After putting statements in .bashrc you need to use**

**$ source .bashrc**

**once in logged in terminal window to access set variables.**

5- Install Django

1. workon env1
2. pip install django==2.2

6- Install Psycopg2

1. Install psycopg2 for PSQL: pip install psycopg2==2.5.4

sudo apt install libpq-dev python-dev in case of error.

7 - Install JDK (Optional)

1. For Oracle JDK:
   1. sudo apt-add-repository ppa:webupd8team/java
   2. sudo apt-get update
   3. sudo apt-get install oracle-java8-installer

**Visual Studio Setup:**

1. Download Visual Studio Code  
   <https://code.visualstudio.com/download>
2. Install and Open Visual Code
3. In the extensions tab, download the python extension.

**Setup your first Django Project**

1. Create directory  
   $ cd ~/  
   $ mkdir helloworld  
   $ cd helloworld
2. Activate virtual environment  
   $ workon env1
3. Create a django project  
   $ django-admin startproject helloworld\_project
4. Open folder helloworld\_project in Visual Studio Code
5. Structure of the project will be something like  
   ├── helloworld\_project  
   │ ├── \_\_init\_\_.py  
   │ ├── settings.py  
   │ ├── urls.py  
   │ └── wsgi.py  
   └── manage.py

**Configure virtual environment on Visual Studio Code.**

1. To select an available Python interpreter, Press Ctrl + Shift + P to open Command Palette, Select **Python: Select Interpreter** and select the interpreter
2. Alternatively to select a virtual environment follow the steps below
3. Open Settings **File > Preferences > Settings**
4. Add following to your Workspace Settings  
   "python.pythonPath": "/home/<username>/Envs/env1/bin/python3.7"
5. To hide all the pyc files from the IDE add following to the User Settings  
   "files.exclude": {"\*\*/\*\*/\*.pyc": true}
6. Save settings. In the bottom left you will see the interpreter   
   Python 3.7.x ()
7. virtualenv

**Run the Project:**

1. Press Ctrl + Shift + P to open Command Palette, Select **Python: Create Terminal** to start the terminal
2. Run $ python manage.py migrate to run migrations
3. Run server, $ python manage.py runserver
4. Open <http://127.0.0.1:8000/> in your browser. This should open a page saying   
   **It Worked**

**Open Django Admin**

1. Create Django Admin, in the terminal run $ python manage.py createsuperuser, fill in the required details.
2. Run the server
3. Open <http://127.0.0.1:8000/admin/> in your browser. Login using the username and password you had set in Step 1.

**References:**

1. <https://docs.djangoproject.com/en/2.2/intro/install/>
2. <https://docs.djangoproject.com/en/2.2/topics/install/#installing-official-release>
3. <https://docs.djangoproject.com/en/2.2/intro/tutorial01/>