

Windows

1. Создание папки проекта

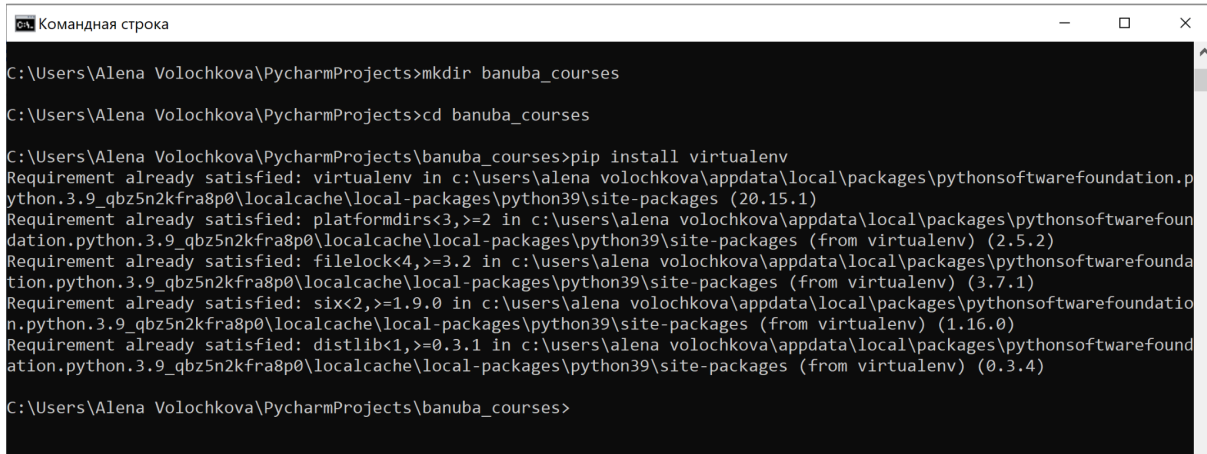
```
>>>mkdir banuba_courses
```

2. Переходим в нее

```
>>>cd banuba_courses
```

3. Устанавливаем virtualenv

```
>>>pip install virtualenv
```



```
Командная строка

C:\Users\Alena Volochkova\PycharmProjects>mkdir banuba_courses

C:\Users\Alena Volochkova\PycharmProjects>cd banuba_courses

C:\Users\Alena Volochkova\PycharmProjects\banuba_courses>pip install virtualenv
Requirement already satisfied: virtualenv in c:\users\alena volochkova\appdata\local\packages\pythonsoftwarefoundatio
python.3.9_qbz5n2kfra8p0\localcache\local-packages\python39\site-packages (20.15.1)
Requirement already satisfied: platformdirs<3,>=2 in c:\users\alena volochkova\appdata\local\packages\pythonsoftwarefound
python.3.9_qbz5n2kfra8p0\localcache\local-packages\python39\site-packages (from virtualenv) (2.5.2)
Requirement already satisfied: filelock<4,>=3.2 in c:\users\alena volochkova\appdata\local\packages\pythonsoftwarefounda
python.3.9_qbz5n2kfra8p0\localcache\local-packages\python39\site-packages (from virtualenv) (3.7.1)
Requirement already satisfied: six<2,>=1.9.0 in c:\users\alena volochkova\appdata\local\packages\pythonsoftwarefoundatio
python.3.9_qbz5n2kfra8p0\localcache\local-packages\python39\site-packages (from virtualenv) (1.16.0)
Requirement already satisfied: distlib<1,>=0.3.1 in c:\users\alena volochkova\appdata\local\packages\pythonsoftwarefounda
python.3.9_qbz5n2kfra8p0\localcache\local-packages\python39\site-packages (from virtualenv) (0.3.4)

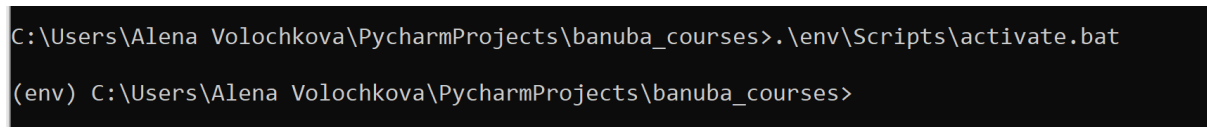
C:\Users\Alena Volochkova\PycharmProjects\banuba_courses>
```

4. Создаём виртуальное окружение для отдельного питона

```
>>>python -m virtualenv env
```

5. Активируем его

```
>>>.\env\Scripts\activate.bat
```

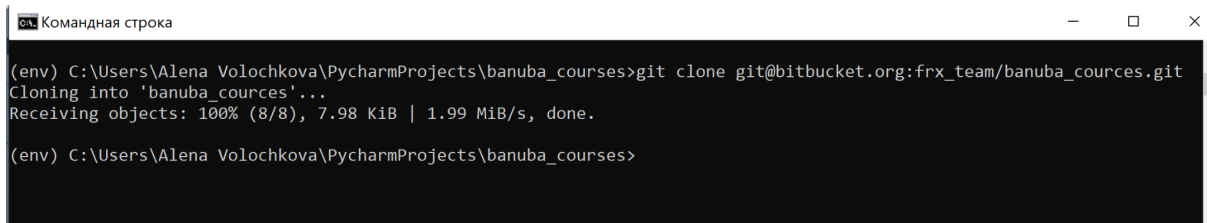


```
C:\Users\Alena Volochkova\PycharmProjects\banuba_courses>.\env\Scripts\activate.bat

(env) C:\Users\Alena Volochkova\PycharmProjects\banuba_courses>
```

6. Клонировем проект

```
>>>git clone git@bitbucket.org:BanubaLimited/banuba_courses.git
```



```
Командная строка

(env) C:\Users\Alena Volochkova\PycharmProjects\banuba_courses>git clone git@bitbucket.org:frx_team/banuba_courses.git
Cloning into 'banuba_courses'...
Receiving objects: 100% (8/8), 7.98 KiB | 1.99 MiB/s, done.

(env) C:\Users\Alena Volochkova\PycharmProjects\banuba_courses>
```

7. Устанавливаем numpy

```
>>>pip install numpy
```

8. Устанавливаем jupyter

```
>>>python -m pip install jupyter
```

9. Устанавливаем matplotlib

```
>>>pip install matplotlib
```

10. Устанавливаем opencv

```
>>>pip install opencv-python
```

11. Переходим в папку проекта

```
>>>cd banuba_courses
```

12. Запускаем jupyter

```
>>>jupyter notebook
```

Linux

1. Создание папки проекта

```
>>>mkdir banuba_courses
```

2. Переходим в нее

```
>>>cd banuba_courses
```

```
? ~ mkdir banuba_courses
? ~ cd banuba_courses
? banuba_courses
```

(если не установлен pip, у меня не был установлен)

```
? banuba_courses sudo apt-get install python3-pip
[sudo] password for alena:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu build-essential cpp cpp-9 dpkg-dev fakeroot g++ g++-9 gcc gcc-9
  gcc-9-base libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan5 libatomic1 libbinutils
  libc-dev-bin libc6-dev libcc1-0 libcrypt-dev libctf-nobfd0 libctf0 libdpkg-perl libexpat1-dev libfakeroot
  libfile-fcntllock-perl libgcc-9-dev libgomp1 libisl22 libitm1 liblsan0 libmpc3 libpython3-dev libpython3.8-dev
  libquadmath0 libstdc++-9-dev libtsan0 libubsan1 linux-libc-dev make manpages-dev python3-dev python3-wheel
  python3.8-dev zlib1g-dev
Suggested packages:
  binutils-doc cpp-doc gcc-9-locales debian-keyring g++-multilib g++-9-multilib gcc-9-doc gcc-multilib autoconf
  automake libtool flex bison gdb gcc-doc gcc-9-multilib glibc-doc bzip2 libstdc++-9-doc make-doc
The following NEW packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu build-essential cpp cpp-9 dpkg-dev fakeroot g++ g++-9 gcc gcc-9
  gcc-9-base libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan5 libatomic1 libbinutils
  libc-dev-bin libc6-dev libcc1-0 libcrypt-dev libctf-nobfd0 libctf0 libdpkg-perl libexpat1-dev libfakeroot
  libfile-fcntllock-perl libgcc-9-dev libgomp1 libisl22 libitm1 liblsan0 libmpc3 libpython3-dev libpython3.8-dev
  libquadmath0 libstdc++-9-dev libtsan0 libubsan1 linux-libc-dev make manpages-dev python3-dev python3-pip
  python3-wheel python3.8-dev zlib1g-dev
0 upgraded, 49 newly installed, 0 to remove and 0 not upgraded.
Need to get 48.0 MB of archives.
After this operation, 212 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

3. Устанавливаем virtualenv

```
>>>sudo apt install python-virtualenv
```

```
? banuba_courses sudo apt install python-virtualenv
Reading package lists... Done
Building dependency tree
Reading state information... Done
Package python-virtualenv is not available, but is referred to by another package.
This may mean that the package is missing, has been obsoleted, or
is only available from another source
```

4. Создаём виртуальное окружение для отдельного питона

```
>>>python3 -m venv env
```

5. Активируем его

```
>>>source env/bin/activate
```

```
? banuba_courses python3 -m venv env
? banuba_courses source env/bin/activate
(env) ? banuba_courses
```

(env) - значит, что окружение активировано

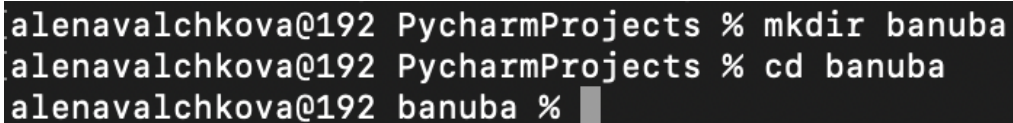
6. Клонировем проект

```
>>>git clone git@bitbucket.org:BanubaLimited/banuba_courses.git
```

7. Устанавливаем numpy
>>>sudo apt install python3-numpy
8. Устанавливаем jupyter
>>>pip install jupyter
9. Устанавливаем matplotlib
>>>sudo apt-get install python3-matplotlib
10. Устанавливаем opencv
>>>sudo apt install libopencv-dev python3-opencv
11. Переходим в папку проекта
>>>cd banuba_courses
12. Запускаем jupyter
>>>jupyter notebook

macOS

1. Создание папки проекта
% mkdir banuba
2. Переходим в нее
% cd banuba



```
alenaalchkova@192 PycharmProjects % mkdir banuba
alenaalchkova@192 PycharmProjects % cd banuba
alenaalchkova@192 banuba %
```

3. Устанавливаем virtualenv
% pip install virtualenv
4. Создаём виртуальное окружение для отдельного питона
% virtualenv venv
5. Активируем его
% source venv/bin/activate

```
virtualenv (1.1.1)
Requirement already satisfied: distlib<1,>=0.3.1 in /Library/Frameworks/Python.framework/Versions/3.10/lib/python3.10/site-packages (from virtualenv) (0.3.3)
Requirement already satisfied: six<2,>=1.9.0 in /Library/Frameworks/Python.framework/Versions/3.10/lib/python3.10/site-packages (from virtualenv) (1.16.0)
Requirement already satisfied: filelock<4,>=3.2 in /Library/Frameworks/Python.framework/Versions/3.10/lib/python3.10/site-packages (from virtualenv) (3.4.0)
Requirement already satisfied: platformdirs<3,>=2 in /Library/Frameworks/Python.framework/Versions/3.10/lib/python3.10/site-packages (from virtualenv) (2.4.0)
WARNING: You are using pip version 21.3.1; however, version 22.1.2 is available.
You should consider upgrading via the '/usr/local/bin/python3.10 -m pip install --upgrade pip' command.
alenaValchkova@192 banuba % virtualenv venv
created virtual environment CPython3.10.0.final.0-64 in 340ms
  creator CPython3Posix(dest=/Users/alenaValchkova/PycharmProjects/banuba/venv,
  clear=False, no_vcs_ignore=False, global=False)
  seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle
, via=copy, app_data_dir=/Users/alenaValchkova/Library/Application Support/virtualenv)
  added seed packages: pip==22.1, setuptools==62.2.0, wheel==0.37.1
  activators BashActivator,CShellActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActivator
alenaValchkova@192 banuba % source venv/bin/activate
(venv) alenaValchkova@192 banuba %
```

(venv) - значит, что окружение активировано

6. Клонировем проект

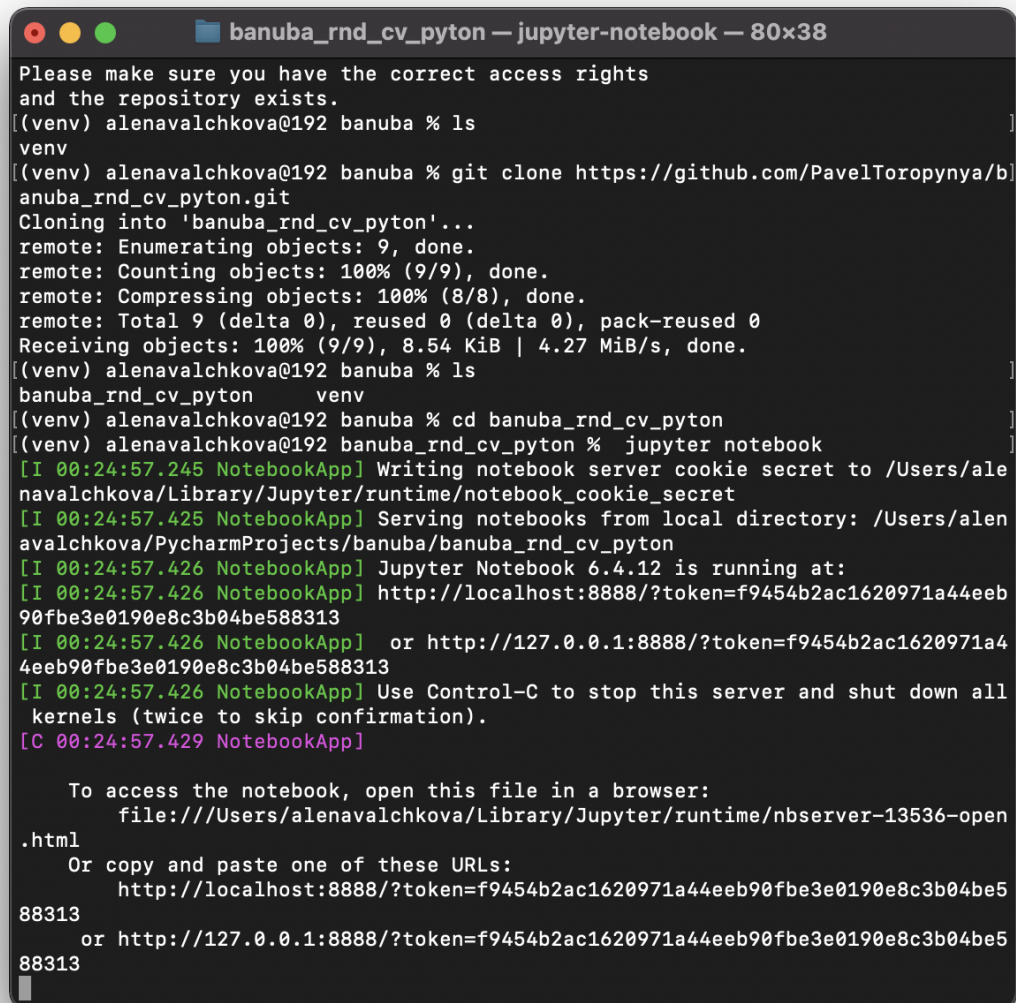
```
% git clone git@bitbucket.org:BanubaLimited/banuba_cources.git
```

7. Устанавливаем numpy

```
% pip3 install numpy
```

```
Requirement already satisfied: platformdirs<3,>=2 in /Library/Frameworks/Python.framework/Versions/3.10/lib/python3.10/site-packages (from virtualenv) (2.4.0)
WARNING: You are using pip version 21.3.1; however, version 22.1.2 is available.
You should consider upgrading via the '/usr/local/bin/python3.10 -m pip install --upgrade pip' command.
alenaValchkova@192 banuba % virtualenv venv
created virtual environment CPython3.10.0.final.0-64 in 340ms
  creator CPython3Posix(dest=/Users/alenaValchkova/PycharmProjects/banuba/venv,
  clear=False, no_vcs_ignore=False, global=False)
  seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle
, via=copy, app_data_dir=/Users/alenaValchkova/Library/Application Support/virtualenv)
  added seed packages: pip==22.1, setuptools==62.2.0, wheel==0.37.1
  activators BashActivator,CShellActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActivator
alenaValchkova@192 banuba % source venv/bin/activate
(venv) alenaValchkova@192 banuba % pip3 install numpy
Collecting numpy
  Downloading numpy-1.23.1-cp310-cp310-macosx_11_0_arm64.whl (13.3 MB)
    13.3/13.3 MB 110.1 kB/s eta 0:00:00
Installing collected packages: numpy
Successfully installed numpy-1.23.1
WARNING: There was an error checking the latest version of pip.
(venv) alenaValchkova@192 banuba %
```


8. Устанавливаем jupyter
`%pip3 install jupyter`
9. Устанавливаем matplotlib
`%pip3 install matplotlib`
10. Устанавливаем opencv
`%pip3 install opencv-python`
11. Переходим в папку проекта
`% cd banuba_sources`
12. Запускаем jupyter
`% jupyter notebook`



```
banuba_rnd_cv_pyton — jupyter-notebook — 80x38
Please make sure you have the correct access rights
and the repository exists.
[(venv) alenavalchkova@192 banuba % ls
venv
[(venv) alenavalchkova@192 banuba % git clone https://github.com/PavelToropynya/b]
anuba_rnd_cv_pyton.git
Cloning into 'banuba_rnd_cv_pyton'...
remote: Enumerating objects: 9, done.
remote: Counting objects: 100% (9/9), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 9 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (9/9), 8.54 KiB | 4.27 MiB/s, done.
[(venv) alenavalchkova@192 banuba % ls
banuba_rnd_cv_pyton      venv
[(venv) alenavalchkova@192 banuba % cd banuba_rnd_cv_pyton
[(venv) alenavalchkova@192 banuba_rnd_cv_pyton % jupyter notebook
[I 00:24:57.245 NotebookApp] Writing notebook server cookie secret to /Users/ale
navalchkova/Library/Jupyter/runtime/notebook_cookie_secret
[I 00:24:57.425 NotebookApp] Serving notebooks from local directory: /Users/alena
valchkova/PycharmProjects/banuba/banuba_rnd_cv_pyton
[I 00:24:57.426 NotebookApp] Jupyter Notebook 6.4.12 is running at:
[I 00:24:57.426 NotebookApp] http://localhost:8888/?token=f9454b2ac1620971a44eeb
90f3e0190e8c3b04be588313
[I 00:24:57.426 NotebookApp] or http://127.0.0.1:8888/?token=f9454b2ac1620971a4
4eeb90f3e0190e8c3b04be588313
[I 00:24:57.426 NotebookApp] Use Control-C to stop this server and shut down all
kernels (twice to skip confirmation).
[C 00:24:57.429 NotebookApp]

To access the notebook, open this file in a browser:
file:///Users/alenavalchkova/Library/Jupyter/runtime/nbserver-13536-open
.html
Or copy and paste one of these URLs:
http://localhost:8888/?token=f9454b2ac1620971a44eeb90f3e0190e8c3b04be5
88313
or http://127.0.0.1:8888/?token=f9454b2ac1620971a44eeb90f3e0190e8c3b04be5
88313
```