

금융 데이터 분석을 위한 파이썬 개발 환경 만들기

c9.io

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c9.io + Jupyter Notebook 서버

<https://c9.io>

- 학습에 충분한 성능의 우분투 머신이 무료 (메모리 1G, 저장소 5G)
- 완전한 파이썬 개발환경을 10분 이내에 빌드 (우분투 머신을 손쉽게 만들 수 있다)
- 무슨 실험이던 할 수 있는 root 권한

언제 어디서나 브라우저만으로 Jupyter Notebook 사용 가능하게 구축할 수 있다

Workspace 만들기

The screenshot shows the 'plusjune' workspace creation interface. On the left is a sidebar with a 'plusjune' logo, navigation links for 'Workspaces', 'Shared With Me', and 'Repositories', and a 'Free' subscription status with an 'Upgrade' button. The main area is titled 'Workspaces' and features a large grey box with a plus icon and the text 'Create a new workspace'. To the right, there are two tabs: 'Hosted workspace' (selected) and 'Remote SSH Workspace'. Under 'Hosted workspace', there are two radio button options: 'Private' (selected) with the description 'This is a workspace for your eyes only', and 'Public' with the description 'This will create a workspace for everybody to see'. Below these is a text input field for 'Clone from Git or Mercurial URL (optional)' with the example 'e.g. ajaxorg/ace or git@github.com:ajaxorg/ace.git'. Further down is a 'Choose a template' section with a grid of 10 options: Custom, HTML5, Node.js, Meteor, PHP, Apache & ..., Python, Django, Ruby, C++, Wordpress, and Rails Tutorial. At the bottom is a green 'Create workspace' button.

plusjune

Workspaces

Create a new workspace

Hosted workspace Remote SSH Workspace

☒ Private This is a workspace for your eyes only

☐ Public This will create a workspace for everybody to see

Clone from Git or Mercurial URL (optional)

e.g. ajaxorg/ace or git@github.com:ajaxorg/ace.git

Choose a template

Custom HTML5 Node.js Meteor PHP, Apache & ... Python Django Ruby C++ Wordpress Rails Tutorial

Create workspace

컨테이너

- Ubuntu 14.04 (무료: 메모리 1G, 저장소 5G)
- Python 2.7 과 3.4 이 기본으로 설치되어 있다

기본설치 S/W

- emacs, nano, vim
- git, mercurial, subversion, bzr
- python 2.7와 3.4 기본설치, c, c++, perl,
- bash, dash, zsh (default)

설치된 파이썬 확인

```
plusjune1:~/workspace $ arch
x86_64
plusjune1:~/workspace $ python
Python 2.7.6 (default, Jun 22 2015, 17:58:13)
[GCC 4.8.2] on linux2
Type "help", "copyright", "credits" or "license" for more information.
>>>
plusjune1:~/workspace $ python3
Python 3.4.3 (default, Oct 14 2015, 20:28:29)
[GCC 4.8.4] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>>
plusjune1:~/workspace $
```

update-alternatives

Python3를 기본으로 사용하기

```
sudo update-alternatives --install /usr/bin/python python /usr/bin/python2.7 1  
sudo update-alternatives --install /usr/bin/python python /usr/bin/python3.4 2
```

update-alternatives

update-alternatives 명령으로 동일한 이름에 대해 우선순위를 지정할 수 있다.
(숫자가 높을 수록 우선순위가 높다)

우선순위를 바꾸려면 아래와 같이 한다.

```
plusjune1:~/workspace $ sudo update-alternatives --config python
There are 2 choices for the alternative python (providing /usr/bin/python).
```

Selection	Path	Priority	Status
* 0	/usr/bin/python3.4	2	auto mode
1	/usr/bin/python2.7	1	manual mode
2	/usr/bin/python3.4	2	manual mode

Press enter to keep the current choice[*], or type selection number:

```
plusjune1:~/workspace $
```

pip, virtualenv 설치

```
# pip
```

```
sudo apt-get update
```

```
# pip
```

```
sudo apt-get install python3-pip
```

```
sudo apt-get install python3-setuptools
```

```
# virtualenv
```

```
sudo pip install virtualenv
```


패키지 설치

```
# numpy, pandas
```

```
sudo pip install numpy
```

```
sudo pip install pandas
```

```
# ipython, jupyter, matplotlib
```

```
sudo pip install ipython pyzmq tornado matplotlib jinja2 pygments
```

```
sudo pip install jupyter
```

```
# requests, beautifulsoup4
```

```
sudo pip install requests
```

```
sudo pip install beautifulsoup4
```

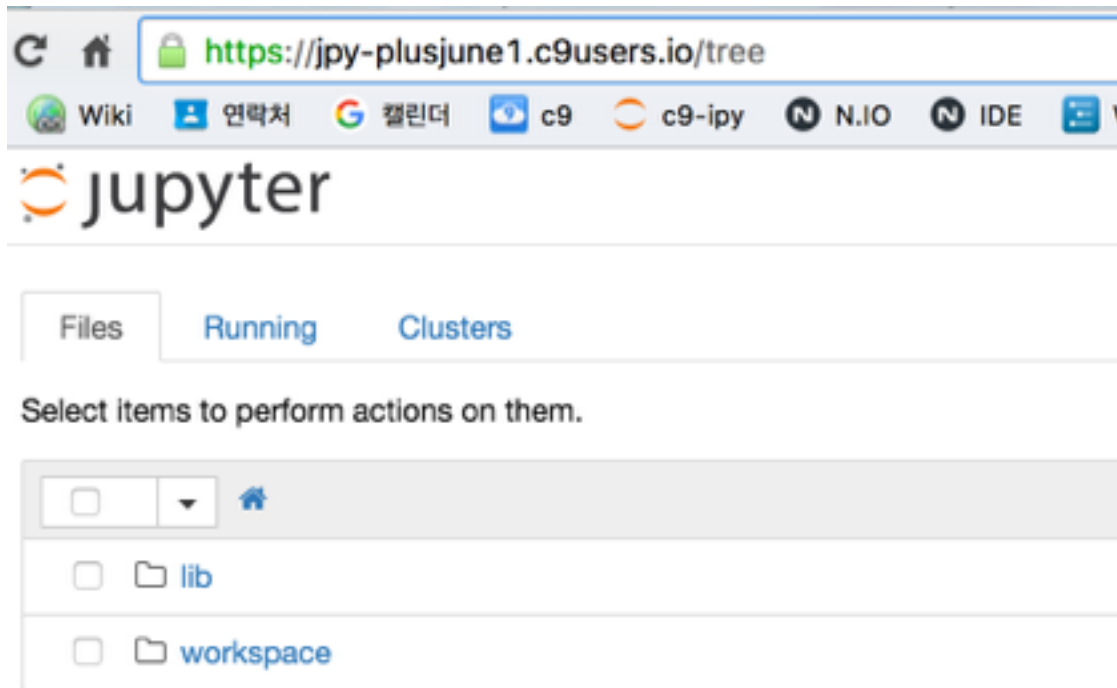
설치 확인

```
$ pip list  
beautifulsoup4 (4.4.1)  
chardet (2.2.1)  
colorama (0.2.5)  
decorator (4.0.4)  
...
```

```
$ sudo pip install -U setuptools  
$ sudo pip install -U pip
```

jupyter notebook 실행

```
jupyter notebook --ip=0.0.0.0 --port=8080
```



설치 요약 (c9.io)

시스템 전체에 걸쳐 Python 3.4가 기본이 되도록 설정한다.

```
sudo update-alternatives --install /usr/bin/python python /usr/bin/python2.7 1
```

```
sudo update-alternatives --install /usr/bin/python python /usr/bin/python3.4 2
```

pip 설치

```
sudo apt-get install python3-pip
```

```
sudo apt-get install python3-setuptools
```

numpy, pandas 등 각종 패키지 설치

```
sudo pip install numpy
```

```
sudo pip install pandas
```

```
sudo pip install ipython pyzmq tornado matplotlib jinja2 pygments
```

```
sudo pip install jupyter
```

```
sudo pip install requests
```

```
sudo pip install beautifulsoup4
```

실행 요약

ipython notebook 실행

\$ jupyter notebook --ip=0.0.0.0 --port=8080 &