

# Ansible 실습

master

node

```
ubuntu@ip-172-31-46-244:~$ sudo su -  
root@ip-172-31-46-244:~# apt-get update
```

```
root@ip-172-31-46-244:~# apt-get install -y ansible
```

```
ubuntu@ip-172-31-29-60:~$ sudo su -  
root@ip-172-31-29-60:~# apt-get update
```

```
root@ip-172-31-29-60:~# apt-get install -y ansible
```

Update 후 install

ansible --version으로 버전 check

```
root@ip-172-31-29-60:~# ansible --version  
ansible 2.5.1  
  config file = /etc/ansible/ansible.cfg  
  configured module search path = [u'/root/.ansible/plugins/modules', u'/usr/share/ansible/plugins/modules']  
  ansible python module location = /usr/lib/python2.7/dist-packages/ansible  
  executable location = /usr/bin/ansible  
  python version = 2.7.17 (default, Apr 15 2020, 17:20:14) [GCC 7.5.0]
```

hosts file의 webserver에 server로 쓸  
machine의 private IP 기입

서로 communicate 할 key 생성 필요

```
root@ip-172-31-46-244:~# vim /etc/ansible/hosts
root@ip-172-31-46-244:~# ansible all --list-host
hosts (1):
  172.31.29.60
root@ip-172-31-46-244:~# ansible webserver -m ping
The authenticity of host '172.31.29.60 (172.31.29.60)' can't be established.
ECDSA key fingerprint is SHA256:YorT8AyphLrgxk9XMVyx7Fn5B0z39RmpcRlgH4PEeJc
Are you sure you want to continue connecting (yes/no)? no
172.31.29.60 | UNREACHABLE! => {
  "changed": false,
  "msg": "Failed to connect to the host via ssh: Host key verification fa
\\r\\n",
  "unreachable": true
}
root@ip-172-31-46-244:~# ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/root/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /root/.ssh/id_rsa.
Your public key has been saved in /root/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:3I3ijKpXS1kl/1lyTM9hmDaMxKVgJ/ML8se7MTgGGc4 root@ip-172-31-46-244
The key's randomart image is:
+---[RSA 2048]---+
|      =oo+.o      |
|     ..*+.B o     |
|    o..oo+ = .    |
|   o *o+.++ o     |
|  EoS.*=.         |
|   += +o.         |
|  o..* +         |
|   .... . +      |
|  .o. .          |
+---[SHA256]-----+
root@ip-172-31-46-244:~# ls -la
```

```
root@ip-172-31-46-244: ~
#192.168.100.1
#192.168.100.10
# Ex 2: A collection of hosts belonging to the 'webserver' group

[webserver]
172.31.29.60
#alpha.example.org
#beta.example.org
#192.168.1.100
#192.168.1.110

# If you have multiple hosts following a pattern you can specify
# them like this:

#www[001:006].example.com

# Ex 3: A collection of database servers in the 'dbserver' group

[dbserver]
#
#db01.intranet.mydomain.net
#db02.intranet.mydomain.net
-- INSERT --
```

21,13

63%

master

node

Node쪽에 key  
전달 위해  
node쪽  
sshd\_config  
설정 변경

```
# To disable tunneled clear text passwords, change to no here!  
PasswordAuthentication yes  
PermitEmptyPasswords yes
```

```
# Authentication:  
  
#LoginGraceTime 2m  
PermitRootLogin yes  
#StrictModes yes  
#MaxAuthTries 6  
#MaxSessions 10
```

전달시, node의 root  
password 필요하여  
설정

master

```
root@ip-172-31-46-244:~# ssh-copy-id 172.31.29.60
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa
.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter
out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompt
ed now it is to install the new keys
root@172.31.29.60's password:

Number of key(s) added: 1

Now try logging into the machine, with:  "ssh '172.31.29.60'"
and check to make sure that only the key(s) you wanted were added.

root@ip-172-31-46-244:~# ssh '172.31.29.60'
Welcome to Ubuntu 18.04.4 LTS (GNU/Linux 4.15.0-1065-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Thu May 14 05:31:47 UTC 2020

System load:  0.02           Processes:            96
Usage of /:   17.8% of 7.69GB Users logged in:        1
Memory usage: 19%           IP address for eth0: 172.31.29.60
Swap usage:   0%

43 packages can be updated.
24 updates are security updates.

root@ip-172-31-29-60:~# exit
logout
Connection to 172.31.29.60 closed.
```

서로 key 공유 및 설정 완료

확인 위해서, ssh '172.31.29.60'으로  
접근

master

node

```
root@ip-172-31-46-244:~# ansible all -m ping
172.31.29.60 | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
root@ip-172-31-46-244:~# vim trivial.txt
root@ip-172-31-46-244:~# vim test.yml
root@ip-172-31-46-244:~# vim test.yml
root@ip-172-31-46-244:~# ansible-playbook test.yml --syntax-check

playbook: test.yml
root@ip-172-31-46-244:~# ansible-playbook test.yml

PLAY [test] *****

TASK [Gathering Facts] *****
ok: [172.31.29.60]

TASK [copy a file] *****
changed: [172.31.29.60]

PLAY RECAP *****
172.31.29.60 : ok=2    changed=1    unreachable=0    failed=0
```

```
root@ip-172-31-29-60:~# ls -ll
total 8
drwxr-xr-x 3 root root 4096 May 14 02:37 snap
-rw-r--r-- 1 root root  20 May 14 05:50 yap.txt
root@ip-172-31-29-60:~# cat yap.txt
Hello my friends!!!
```

Node machine에서의 결과!

Connection이 잘 동작하는지 ping으로 확인

예제의 trivial.txt, test.yml을 작성 후,  
ansible-playbook을 이용하여  
test.yml 동작

```
root@ip-172-31-46-244:~# vim demo1.yml
root@ip-172-31-46-244:~# ansible-playbook demo1.yml --syntax-check

playbook: demo1.yml
root@ip-172-31-46-244:~# vim demo1.yml
root@ip-172-31-46-244:~# ansible-playbook demo1.yml

PLAY [install apache2 & php] *****

TASK [Gathering Facts] *****
ok: [172.31.29.60]

TASK ["install apache2"] *****
changed: [172.31.29.60]

TASK ["install apache2-php7"] *****
changed: [172.31.29.60]

TASK ["install php-cli"] *****
changed: [172.31.29.60]

TASK ["install php-gd"] *****
changed: [172.31.29.60]

TASK [start apache2] *****
changed: [172.31.29.60]

PLAY RECAP *****
172.31.29.60          : ok=6    changed=5    unreachable=0    fa
```

Ansible-playbook을 이용하여 demo1.yml file을  
syntax check 후 작동 시켜서, node machine에  
apache2, php를 install

```
root@ip-172-31-46-244: ~
- name : install apache2 & php # play1 (리스트 1) (분명한 의미를 갖는 이름으로 작명)
  hosts : webservers # dictionary 1 (key : value),
                        # webservers 라는 그룹이 inventory 파일에 기재되어 있어야 함
  gather_facts : true
  tasks : # 복합 dictionary (nested object)
    - name : "install apache2"
      package : name=apache2 state=present # ansible apt module, 노드에서 실행할 명령
    - name : "install apache2-php7"
      package : name=libapache2-mod-php state=present
    - name : "install php-cli"
      package : name=php-cli state=present
    - name : "install php-gd"
      package : name=php-gd state=latest
    - name : start apache2
      service : name=apache2 state=restarted # ansible service module
```



masternode

```
root@ip-172-31-46-244:~# vim convert.php
root@ip-172-31-46-244:~# vim deploywebsites.yml
root@ip-172-31-46-244:~# ansible-playbook deploywebsites.yml --syntax-check
```

```
playbook: deploywebsites.yml
root@ip-172-31-46-244:~# ansible-playbook deploywebsites.yml

PLAY [deploy files] *****

TASK [Gathering Facts] *****
ok: [172.31.29.60]

TASK [copy php file] *****
changed: [172.31.29.60]

PLAY RECAP *****
172.31.29.60      : ok=2    changed=1    unreachable=0    failed=0

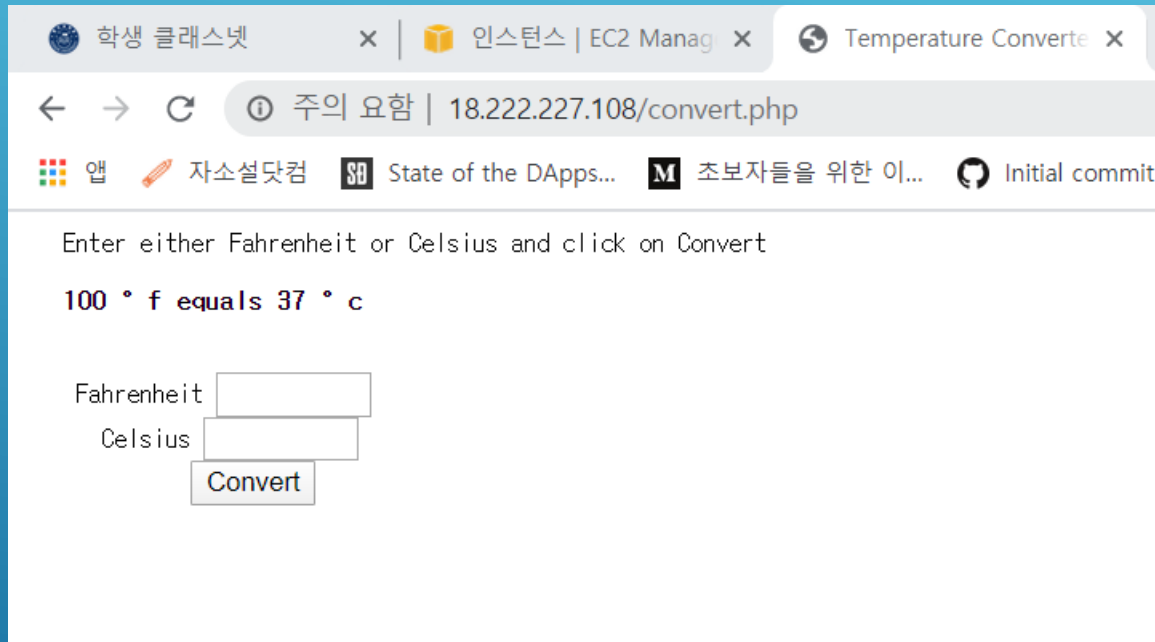
root@ip-172-31-46-244:~#
```

```
root@ip-172-31-29-60:~# ls -ll /var/www/html
total 16
-rw-r--r-- 1 root root  983 May 14 06:25 convert.php
-rw-r--r-- 1 root root 10918 May 14 06:13 index.html
root@ip-172-31-29-60:~#
```

Node machine에서의 결과

Website 원하대로 변경 & deploy 위해, convert.php, deploywebsites.yml file 생성. Ansible-playbook을 이용하여 yml file 동작.

# Result



Node machine의 php에 접속한 결과!