Lab manual – How to setup SSH key login from one Linux Machine to another Linux Machine

Objective of the LAB.

Setup an SSH key on the Ansible Master

Configure the SSH on the ansible to authenticate on servers "Client".

1. Setup an SSH Key.
   I. Create an user **"centos"** and login to this user and change to home directory of centos.
   $ useradd centos
   $ su centos

```
[root@AnsibleSer home]# useradd centos
Creating mailbox file: File exists
[root@AnsibleSer home]# su centos
[centos@AnsibleSer home]$ cd ~
[centos@AnsibleSer ~]$
```

   II. Create ssh-keygen for "**centos"** user

```
[centos@AnsibleSer ~]$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/centos/.ssh/id_rsa):
Created directory '/home/centos/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/centos/.ssh/id_rsa.
Your public key has been saved in /home/centos/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:cCHuWx22ZAaYunJfmGxbTiRCYlOIP4bXybV/M1ZRxVA centos@AnsibleSer
The key's randomart image is:
+---[RSA 2048]----+
| . o. .oo    .o=E|
|. = ..+. o  .   .|
| + * +o.. *  .   |
|. = *.oo.* o.    |
| o . +.*S o.     |
|  . o =o= =      |
|   o o.* o o     |
|      o .        |
|                 |
+----[SHA256]-----+
[centos@AnsibleSer ~]$
```

There would be an hidden ".ssh" folder that would be created.

```
[centos@AnsibleSer ~]$ ls -la
total 12
drwx------. 5 centos centos 103 Apr 29 05:06 .
drwxr-xr-x. 3 root   root    20 Apr 29 05:01 ..
-rw-r--r--. 1 centos centos  18 Oct 30 13:07 .bash_logout
-rw-r--r--. 1 centos centos 193 Oct 30 13:07 .bash_profile
-rw-r--r--. 1 centos centos 231 Oct 30 13:07 .bashrc
drwxrwxr-x. 3 centos centos  18 Apr 29 05:01 .cache
drwxrwxr-x. 3 centos centos  18 Apr 29 05:01 .config
drwx------. 2 centos centos  38 Apr 29 05:06 .ssh
[centos@AnsibleSer ~]$
```

III. Create “authorized_keys” file.
This file is used as the Public key by the Ansible server to login to the Client Machines.

```
[centos@AnsibleSer ~]$ cd .ssh
[centos@AnsibleSer .ssh]$ pwd
/home/centos/.ssh
[centos@AnsibleSer .ssh]$ cat id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQCwoMmdZyXfdmNZ16LclCVJnJisWEYZttZcnQ5tWeNR0ZXR8yenI+UggSjt4xLapsCd2fIYl+x/SGrd5lRpzLaYSAt2eJq4ObV46HMosWrNT1y41QIAR
ePr7kl66DPsZgy46kRg2MbzkFFLsIdvXs3Cf53MMHttwBL0uNYZBXiO8bdW8LVzR3vmo0rXKH68cgDr5izVQC1kuzvxDtDbt8KvZ8UvYHJWEyQAR7ZoGEl7swCNcNdN0igajatCiLxkjLVYKzUgP96W0E
sunDgcNpM9KjAhiS3HMyvvnQWvZG4V3I+Y8jbmMGfUBPrgQNuGvVl+mOdxUF4X8NnpqasTWNcH centos@AnsibleSer
[centos@AnsibleSer .ssh]$
[centos@AnsibleSer .ssh]$
[centos@AnsibleSer .ssh]$ cat id_rsa.pub > authorized_keys
[centos@AnsibleSer .ssh]$
```

$ cd .ssh

$ cat id_rsa.pub > authorized_keys → This would copy the content of the public key to the “**authorized_keys**”.

IV. Change the permission of the “authorized_keys” file

$ chmod 600 authorized_keys

```
[centos@AnsibleSer .ssh]$ ls -l
total 16
-rw-rw-r--. 1 centos centos  399 Apr 29 05:10 authorized_keys
-rw-------. 1 centos centos 1675 Apr 29 05:06 id_rsa
-rw-r--r--. 1 centos centos  399 Apr 29 05:06 id_rsa.pub
-rw-r--r--. 1 centos centos  176 Apr 29 05:34 known_hosts
[centos@AnsibleSer .ssh]$ chmod 600 authorized_keys
[centos@AnsibleSer .ssh]$
```

2. Setup the SSH key on the client server as well.
   I. Create the same user “centos” on the client sever.

$ useradd centos

$ su centos

```
[root@Client1 ~]# useradd centos
[root@Client1 ~]# su centos
[centos@Client1 root]$
```

$ passwd centos

```
[root@Client1 ~]# passwd centos
Changing password for user centos.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[root@Client1 ~]#
```

   II. Create the “**.ssh**” folder and “**authorized_keys**”

$ cd ~

$ pwd

$ mkdir .ssh

```
[centos@Client1 root]$ cd ~
[centos@Client1 ~]$ pwd
/home/centos
[centos@Client1 ~]$ mkdir .ssh
[centos@Client1 ~]$
```

$ chmod 700 .ssh

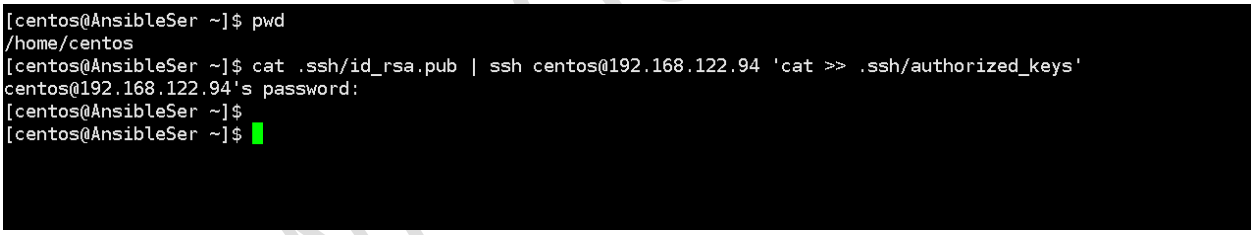
```
[centos@Client1 ~]$ ls -la
total 20
drwx------. 5 centos centos  140 Apr 29 10:21 .
drwxr-xr-x. 3 root   root     20 Apr 29 05:20 ..
-rw-------. 1 centos centos  183 Apr 29 10:15 .bash_history
-rw-r--r--. 1 centos centos   18 Oct 30 13:07 .bash_logout
-rw-r--r--. 1 centos centos  193 Oct 30 13:07 .bash_profile
-rw-r--r--. 1 centos centos  231 Oct 30 13:07 .bashrc
drwxrwxr-x. 3 centos centos   18 Apr 29 05:20 .cache
drwxrwxr-x. 3 centos centos   18 Apr 29 05:20 .config
drwxrwxr-x. 2 centos centos   29 Apr 29 10:21 .ssh
-rw-------. 1 centos centos 1221 Apr 29 10:21 .viminfo
[centos@Client1 ~]$ chmod 700 .ssh
[centos@Client1 ~]$ ls -la
total 20
drwx------. 5 centos centos  140 Apr 29 10:21 .
drwxr-xr-x. 3 root   root     20 Apr 29 05:20 ..
-rw-------. 1 centos centos  183 Apr 29 10:15 .bash_history
-rw-r--r--. 1 centos centos   18 Oct 30 13:07 .bash_logout
-rw-r--r--. 1 centos centos  193 Oct 30 13:07 .bash_profile
-rw-r--r--. 1 centos centos  231 Oct 30 13:07 .bashrc
drwxrwxr-x. 3 centos centos   18 Apr 29 05:20 .cache
drwxrwxr-x. 3 centos centos   18 Apr 29 05:20 .config
drwx------. 2 centos centos   29 Apr 29 10:21 .ssh
-rw-------. 1 centos centos 1221 Apr 29 10:21 .viminfo
```

III. Copy the content of “authorized_keys” from the Ansible server to the Client1 “authorized_keys” file inside the **“/home/centos/.ssh/** folder**”**

Note: instead of copying manually and pasting it to the client machine, do the below commands, so that the key file does not have any extra space and it would be perfectly the same.

Login to the Ansibleser


```
$ cat .ssh/id_rsa.pub | ssh centos@<ip of the client1> 'cat >> .ssh/authorized_keys'
```



IV. Change the permission of the “authorized_keys” file on the client1.
$ chmod 600 authorized_keys

```
[centos@Client1 .ssh]$ ls -l
total 4
-rw-rw-r--. 1 centos centos 399 Apr 29 05:32 authorized_keys
[centos@Client1 .ssh]$ chmod 600 authorized_keys
[centos@Client1 .ssh]$ ls -l
total 4
-rw-------. 1 centos centos 399 Apr 29 05:32 authorized_keys
[centos@Client1 .ssh]$
```

V. Test whether we can login from Ansible server to Client1.

```
[centos@AnsibleSer ~]$ ssh 192.168.122.94
Last login: Mon Apr 29 13:18:29 2019
[centos@Client1 ~]$
```