



Taller de Servidores Linux

Andrés Milano 148175

Lucía Castiñeiras 228393

Sebastián Feijó 223186

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Configuración LVM

Tanto en el equipo CentOS, como en el Ubuntu, se realizó la configuración de discos en la instalación del SO, quedando de la siguiente forma:

CentOS

```
[root@localhost ~]# lsblk
NAME                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                  8:0    0   15G  0 disk
├─sda1               8:1    0    1G  0 part /boot
├─sda2               8:2    0   14G  0 part
│   └─cl-root        253:0    0    5G  0 lvm  /
│       └─cl-home     253:1    0    3G  0 lvm  /home
│           └─cl-var   253:2    0    4G  0 lvm  /var
│               └─cl-swap 253:3    0    2G  0 lvm  /swap
sr0                 11:0    1 1024M  0 rom
```

Ubuntu

```
ansible@ubuntu-ansible:~$ lsblk
NAME                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                  8:0    0   15G  0 disk
├─sda1               8:1    0    1M  0 part
├─sda2               8:2    0    1G  0 part /boot
├─sda3               8:3    0   14G  0 part
│   └─ubuntu--vg-ubuntu--lv 253:0    0    5G  0 lvm  /
│       └─ubuntu--vg-lv--0  253:1    0    4G  0 lvm  /var
│           └─ubuntu--vg-lv--1 253:2    0    3G  0 lvm  /home
│               └─ubuntu--vg-lv--2 253:3    0    2G  0 lvm  /swap
sr0                 11:0    1 1024M  0 rom
```

Permisos para el usuario ansible

Se realizó la configuración del archivo /etc/sudoers para permitir al usuario ansible pasarse a sudo sin necesidad de ingresar contraseña. Esta configuración se realizó en ambos SO:

```
# User privilege specification
root    ALL=(ALL:ALL) ALL
ansible ALL=(ALL) NOPASSWD:ALL
```

Generación de claves

Generamos el par de claves pública-privada en nuestro servidor bastión con el comando `ssh-keygen`:

```
sfeijo@Feijo-PC:~/.ssh$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/sfeijo/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/sfeijo/.ssh/id_rsa
Your public key has been saved in /home/sfeijo/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:VdcC48crtWugWn4QqfWy5iSyq9iELBz1ktOuyMEbhCK sfeijo@Feijo-PC
The key's randomart image is:
+---[RSA 3072]-----+
|
|             +... |
|             o +.  |
|             ... +. |
|... +       .+ o o |
|Eo + o    So oo o |
|=...+     . o..o . |
|.=o .... . ++ o |
|..=+.    o *o .. |
|  +..o.o..oo. |
+-----[SHA256]-----+
sfeijo@Feijo-PC:~/.ssh$
```

Luego copiamos esta llave a los servidores que vamos a administrar mediante ansible.

CentOS

```
sfeijo@Feijo-PC:~/.ssh$ ssh-copy-id ansible@192.168.56.101
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/sfeijo/.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 prompted now it is to install the new keys
ansible@192.168.56.101's password:

Number of key(s) added: 1

Now try logging into the machine, with:  "ssh 'ansible@192.168.56.101'"
and check to make sure that only the key(s) you wanted were added.

sfeijo@Feijo-PC:~/.ssh$ ssh ansible@192.168.56.101
Last login: Sat Aug  7 13:58:17 2021 from 192.168.56.1
[ansible@localhost ~]$
```

Ubuntu

```
sfeijo@Feijo-PC:~/.ssh$ ssh-copy-id ansible@192.168.56.102
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/sfeijo/.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 prompted now it is to install the new keys
ansible@192.168.56.102's password:

Number of key(s) added: 1

Now try logging into the machine, with:  "ssh 'ansible@192.168.56.102'"
and check to make sure that only the key(s) you wanted were added.

sfeijo@Feijo-PC:~/.ssh$ ssh ansible@192.168.56.102
Last login: Sat Aug  7 17:58:17 2021 from 192.168.56.1
ansible@ubuntu-ansible:~$
```

Ejecución del playbook

Para ejecutar las diferentes tareas asignadas en los roles, ejecutamos el comando *ansible-playbook site.yml*. La salida en consola muestra el resultado de la ejecución de cada *task*, mostrando el nombre de la tarea, y el resultado para cada uno de los servidores del inventario. Se ve en primer lugar las salidas del rol *common*, con todo lo referido al servidor *ntp*. Luego pasamos al rol *web*, donde se hace la instalación del servidor *apache* y de *php*, entre otros componentes necesarios para un *web server*. Finalmente, se ejecutan las tareas del rol *db*; instalación de base de datos *maria-db*, configuración de *SELinux*, etc. En la captura siguiente se puede ver la salida de la ejecución del comando *ansible-playbook site.yml*:

```
sfeijo@Feijo-PC:~/repos/obligatorio_2021_08/playbooks$ ansible-playbook site.yml

PLAY [apply common configuration to all nodes] *****

TASK [Gathering Facts] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [common : Install ntp] *****
skipping: [192.168.56.101]
ok: [192.168.56.102]

TASK [common : Install ntp] *****
skipping: [192.168.56.102]
ok: [192.168.56.101]

TASK [common : Install common dependencies] *****
skipping: [192.168.56.102]
ok: [192.168.56.101]

TASK [common : Install common dependencies] *****
skipping: [192.168.56.101]
ok: [192.168.56.102]

TASK [common : Start the ntp service] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [common : Configure ntp file] *****
skipping: [192.168.56.101]
ok: [192.168.56.102]

TASK [common : Configure ntp file] *****
skipping: [192.168.56.102]
ok: [192.168.56.101]

PLAY [configure and deploy the webservers and application code] *****

TASK [Gathering Facts] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [web : Install httpd and php] *****
skipping: [192.168.56.101]
ok: [192.168.56.102]

TASK [web : Install httpd and php] *****
skipping: [192.168.56.102]
ok: [192.168.56.101]

TASK [web : Install web role specific dependencies] *****
skipping: [192.168.56.101]
ok: [192.168.56.102]

TASK [web : Install web role specific dependencies] *****
skipping: [192.168.56.102]
ok: [192.168.56.101]

TASK [web : Start firewalld] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [web : insert firewalld rule for httpd] *****
ok: [192.168.56.102]
ok: [192.168.56.101]
```

```

TASK [web : http service state] *****
skipping: [192.168.56.102]
ok: [192.168.56.101]

TASK [web : http service state] *****
skipping: [192.168.56.102]
ok: [192.168.56.101]

TASK [web : Configure SELinux to allow httpd to connect to remote database] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [web : Copy the code from repository] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [web : Creates the index.php file] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

PLAY [deploy MySQL and configure the databases] *****

TASK [Gathering Facts] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [db : Install MariaDB package] *****
skipping: [192.168.56.102]
ok: [192.168.56.101]

TASK [db : Install MariaDB package] *****
skipping: [192.168.56.102]
ok: [192.168.56.101]

TASK [db : Install MariaDB package] *****
skipping: [192.168.56.102]
ok: [192.168.56.101]

TASK [db : Configure SELinux to start mysql on any port] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [db : Create Mysql configuration file] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [db : Create MariaDB log file] *****
changed: [192.168.56.102]
changed: [192.168.56.101]

TASK [db : Create MariaDB PID directory] *****
changed: [192.168.56.102]
changed: [192.168.56.101]

TASK [db : Start MariaDB Service] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [db : Start firewallld] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [db : insert firewallld rule] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [db : Create Application Database] *****
ok: [192.168.56.102]
ok: [192.168.56.101]

TASK [db : Create Application DB User] *****
[WARNING]: Module did not set no_log for update_password
ok: [192.168.56.102]
ok: [192.168.56.101]

PLAY RECAP *****
192.168.56.101      : ok=25   changed=2   unreachable=0    failed=0    skipped=7    rescued=0    ignored=0
192.168.56.102      : ok=25   changed=2   unreachable=0    failed=0    skipped=7    rescued=0    ignored=0

sfeijo@Feijo-PC:~/repos/obligatorio 2021 08/playbooks$

```