Aquí está la actvidad. Es una manera muy interesante de trabajar. Ha sido divertido. A continuación explico los pasos:

Una vez establecido el archivo vagratfile compruebo que se requiere contraseña. Así como que no exite firma.

```
luiis@Luis MINGW64 ~/Desktop/QualentumLab/Sprint4Lab2
$ ssh bastion
sign_and_send_pubkey: no mutual signature supported
vagrant@192.168.19.100's password:
```

Proveo de permisos el archivo .ssh local

```
luiis@Luis MINGW64 ~/.ssh
$ chmod 700 ~/.ssh
```

Abro el archivo /.ssh/config

```
luiis@Luis MINGW64 ~/Desktop/QualentumLab/Sprint4Lab2
$ nano ~/.ssh/config
```

Ingreso el host con su correspondiente ip y especifico que trabaje con ed25519. A las web les indico que hagan ProxyJump con bastion.

```
  GNU nano 8.1                    /c/Users/luiis/.ssh/config
Host bastion
    HostName 192.168.19.100
    User vagrant
    IdentityFile ~/.ssh/id_ed25519

Host web1.local
    HostName 192.168.19.101
    User vagrant
    ProxyJump bastion
    IdentityFile ~/.ssh/id_ed25519

Host web2.local
    HostName 192.168.19.102
    User vagrant
    ProxyJump bastion
    IdentityFile ~/.ssh/id_ed25519

^G Help        ^O Write Out   ^F Where Is    ^K Cut
^X Exit        ^R Read File   ^\ Replace     ^U Paste
```

Creo la clave correspondiente y compruebo su ubicación y que se ha generado bien.

```
luiis@Luis MINGW64 ~/Desktop/QualentumLab/Sprint4Lab2
$ ssh-keygen -t ed25519 -C "creando clave ed25519" -f ~/.ssh/id_ed25519
Generating public/private ed25519 key pair.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/luiis/.ssh/id_ed25519
Your public key has been saved in /c/Users/luiis/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:Nuu3GtE1yG5ZoKNF7gsO3JDqKXMo++fdfojDMPLxD8M creando clave ed25519
The key's randomart image is:
+--[ED25519 256]--+
|      ... .      |
|     ..= o o     |
|     .+ * o +    |
|    .. = + + .   |
|   o .o S =      |
|. = B. o *       |
| o * *E.+.       |
|.   o.==..o      |
| ..o. .+*+..     |
+----[SHA256]-----+

luiis@Luis MINGW64 ~/Desktop/QualentumLab/Sprint4Lab2
$ ls ~/.ssh/id_ed25519.pub
/c/Users/luiis/.ssh/id_ed25519.pub
```

Copio lo que he generado en el bastion mediante comando e ingreso a bastión.

```
luiis@Luis MINGW64 ~/Desktop/QualentumLab/Sprint4Lab2
$ ssh-copy-id -i ~/.ssh/id_ed25519.pub vagrant@bastion
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/c/Users/luiis/.ssh/
id_ed25519.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
vagrant@192.168.19.100's password:

Number of key(s) added: 1

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


luiis@Luis MINGW64 ~/Desktop/QualentumLab/Sprint4Lab2
$ ssh bastion
Welcome to Ubuntu 14.04.6 LTS (GNU/Linux 3.13.0-170-generic x86_64)

 * Documentation:  https://help.ubuntu.com/

  System information as of Sat Aug 31 20:04:27 UTC 2024
```

Compruebo que existen. Salen dos porque por error generé una más ya dentro de bastión.

```
vagrant@bastion:~$ ls ~/.ssh
authorized_keys  id_ed25519  id_ed25519.pub  known_hosts
```

Intento copiar la clave en web1.local mediante bastión pero no lo consigo y lo hago de manera distinta.

```
vagrant@bastion:~$ ssh-copy-id -i ~/.ssh/id_ed25519.pub vagrant@web1.local
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any th
at are already installed

/usr/bin/ssh-copy-id: ERROR: ssh: Could not resolve hostname web1.local: Name or service n
ot known
```

Abro el archivo /etc/hosts e ingreso manualmente las ip a la ruta de bastion.

```
vagrant@bastion:~$ sudo nano /etc/hosts
```

Ingreso manualmente la ruta de web1 y web2.

Compruebo conexión y ping.

```
vagrant@bastion:~$ ping web1.local
PING web1.local (192.168.19.101) 56(84) bytes of data.
64 bytes from web1.local (192.168.19.101): icmp_seq=1 ttl=64 time=0.830 ms
64 bytes from web1.local (192.168.19.101): icmp_seq=2 ttl=64 time=1.06 ms
64 bytes from web1.local (192.168.19.101): icmp_seq=3 ttl=64 time=0.909 ms
64 bytes from web1.local (192.168.19.101): icmp_seq=4 ttl=64 time=0.680 ms
64 bytes from web1.local (192.168.19.101): icmp_seq=5 ttl=64 time=1.99 ms
64 bytes from web1.local (192.168.19.101): icmp_seq=6 ttl=64 time=1.67 ms
64 bytes from web1.local (192.168.19.101): icmp_seq=7 ttl=64 time=1.67 ms
64 bytes from web1.local (192.168.19.101): icmp_seq=8 ttl=64 time=1.77 ms
64 bytes from web1.local (192.168.19.101): icmp_seq=9 ttl=64 time=1.84 ms
64 bytes from web1.local (192.168.19.101): icmp_seq=10 ttl=64 time=2.19 ms
^C
--- web1.local ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9087ms
rtt min/avg/max/mdev = 0.680/1.464/2.193/0.513 ms
vagrant@bastion:~$ ping web2.local
PING web2.local (192.168.19.102) 56(84) bytes of data.
64 bytes from web2.local (192.168.19.102): icmp_seq=1 ttl=64 time=1.63 ms
64 bytes from web2.local (192.168.19.102): icmp_seq=2 ttl=64 time=2.35 ms
64 bytes from web2.local (192.168.19.102): icmp_seq=3 ttl=64 time=1.89 ms
64 bytes from web2.local (192.168.19.102): icmp_seq=4 ttl=64 time=1.80 ms
64 bytes from web2.local (192.168.19.102): icmp_seq=5 ttl=64 time=1.96 ms
64 bytes from web2.local (192.168.19.102): icmp_seq=6 ttl=64 time=2.22 ms
64 bytes from web2.local (192.168.19.102): icmp_seq=7 ttl=64 time=1.80 ms
64 bytes from web2.local (192.168.19.102): icmp_seq=8 ttl=64 time=1.13 ms
64 bytes from web2.local (192.168.19.102): icmp_seq=9 ttl=64 time=1.40 ms
64 bytes from web2.local (192.168.19.102): icmp_seq=10 ttl=64 time=0.821 ms
^C
```

Copio en web1.local y web2.local

```
vagrant@bastion:~$ ssh-copy.id -i ~/.ssh/id_ed25519.pub vagrant@web1.local
No command 'ssh-copy.id' found, did you mean:
 Command 'ssh-copy-id' from package 'openssh-client' (main)
ssh-copy.id: command not found
vagrant@bastion:~$ ssh-copy-id -i ~/.ssh/id_ed25519.pub vagrant@web1.local
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any tha
t are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it i
s to install the new keys
vagrant@web1.local's password:
Permission denied, please try again.
vagrant@web1.local's password:
Permission denied, please try again.
vagrant@web1.local's password:

Number of key(s) added: 1

Now try logging into the machine, with:   "ssh 'vagrant@web1.local'"
and check to make sure that only the key(s) you wanted were added.
```

```
vagrant@bastion:~$ ssh-copy-id -i ~/.ssh/id_ed25519.pub vagrant@web2.local
The authenticity of host 'web2.local (192.168.19.102)' can't be established.
ECDSA key fingerprint is da:ae:b2:1d:68:b8:fa:74:39:c9:4d:90:da:d3:c9:eb.
Are you sure you want to continue connecting (yes/no)? yes
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any tha
 are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it i
 to install the new keys
vagrant@web2.local's password:

Number of key(s) added: 1

Now try logging into the machine, with:   "ssh 'vagrant@web2.local'"
and check to make sure that only the key(s) you wanted were added.
```

Y ya funciona la actividad.

```
luiis@Luis MINGW64 ~/Desktop/QualentumLab/Sprint4Lab2
$ ssh web1.local hostname -a
web1

luiis@Luis MINGW64 ~/Desktop/QualentumLab/Sprint4Lab2
$ ssh web2.local hostname -a
web2
```

También tengo acceso directo por proxyJump para iniciar directamente en web1 o web2 saltando el bastión.

```
luiis@Luis MINGW64 ~/Desktop/QualentumLab/Sprint4Lab2
$ ssh vagrant@web1.local
Welcome to Ubuntu 14.04.6 LTS (GNU/Linux 3.13.0-170-generic x86_64)

 * Documentation:  https://help.ubuntu.com/

  System information as of Sat Aug 31 22:17:05 UTC 2024

  System load:  0.03              Processes:           74
  Usage of /:   3.6% of 39.34GB   Users logged in:     0
  Memory usage: 24%               IP address for eth0: 10.0.2.15
  Swap usage:   0%                IP address for eth1: 192.168.19.101

  Graph this data and manage this system at:
    https://landscape.canonical.com/

UA Infrastructure Extended Security Maintenance (ESM) is not enabled.

0 updates can be installed immediately.
0 of these updates are security updates.

Enable UA Infrastructure ESM to receive 64 additional security updates.
See https://ubuntu.com/advantage or run: sudo ua status

New release '16.04.7 LTS' available.
Run 'do-release-upgrade' to upgrade to it.


Last login: Sat Aug 31 22:08:45 2024 from 192.168.19.100
vagrant@web1:~$
```