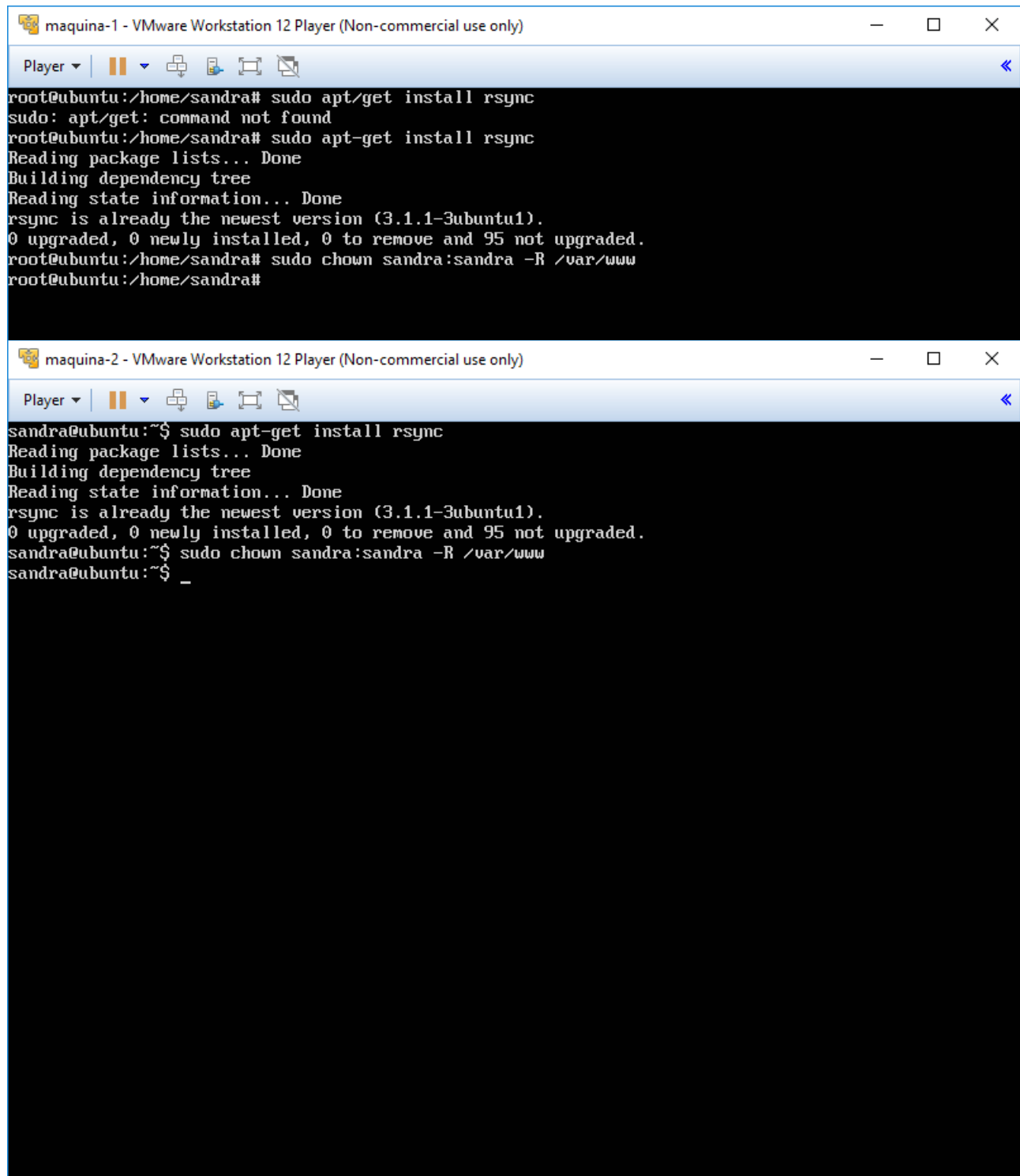


Práctica 2

En primer lugar instalamos rsync en ambas máquinas con:

```
sudo apt-get install rsync
```



The image displays two screenshots of VMware Workstation 12 Player windows, each showing a terminal session for installing rsync on an Ubuntu machine.

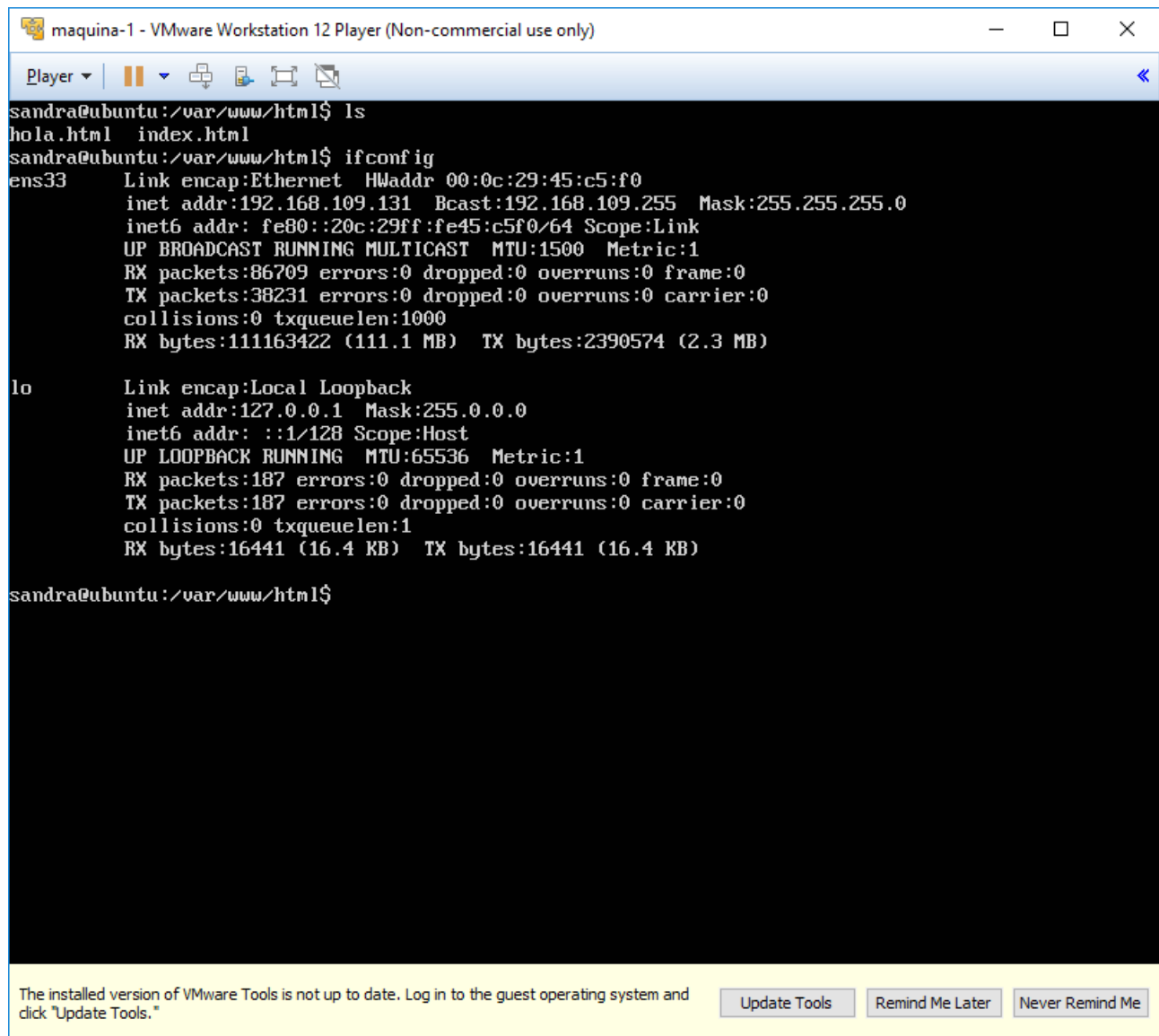
The top window, titled "maquina-1 - VMware Workstation 12 Player (Non-commercial use only)", shows a terminal session where the user is root at an Ubuntu machine. The commands and output are as follows:

```
root@ubuntu:/home/sandra# sudo apt-get install rsync
sudo: apt/get: command not found
root@ubuntu:/home/sandra# sudo apt-get install rsync
Reading package lists... Done
Building dependency tree
Reading state information... Done
rsync is already the newest version (3.1.1-3ubuntu1).
0 upgraded, 0 newly installed, 0 to remove and 95 not upgraded.
root@ubuntu:/home/sandra# sudo chown sandra:sandra -R /var/www
root@ubuntu:/home/sandra#
```

The bottom window, titled "maquina-2 - VMware Workstation 12 Player (Non-commercial use only)", shows a terminal session where the user is sandra at an Ubuntu machine. The commands and output are as follows:

```
sandra@ubuntu:~$ sudo apt-get install rsync
Reading package lists... Done
Building dependency tree
Reading state information... Done
rsync is already the newest version (3.1.1-3ubuntu1).
0 upgraded, 0 newly installed, 0 to remove and 95 not upgraded.
sandra@ubuntu:~$ sudo chown sandra:sandra -R /var/www
sandra@ubuntu:~$ _
```

Luego creamos el archivo hola.html en la máquina 1 en /var/www/html/ y vemos la ip de esta máquina con ifconfig:



```
maquina-1 - VMware Workstation 12 Player (Non-commercial use only)
Player
sandra@ubuntu:/var/www/html$ ls
hola.html  index.html
sandra@ubuntu:/var/www/html$ ifconfig
ens33      Link encap:Ethernet  HWaddr 00:0c:29:45:c5:f0
          inet addr:192.168.109.131  Bcast:192.168.109.255  Mask:255.255.255.0
          inet6 addr: fe80::20c:29ff:fe45:c5f0/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:86709 errors:0 dropped:0 overruns:0 frame:0
          TX packets:38231 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:111163422 (111.1 MB)  TX bytes:2390574 (2.3 MB)

lo         Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:187 errors:0 dropped:0 overruns:0 frame:0
          TX packets:187 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1
          RX bytes:16441 (16.4 KB)  TX bytes:16441 (16.4 KB)

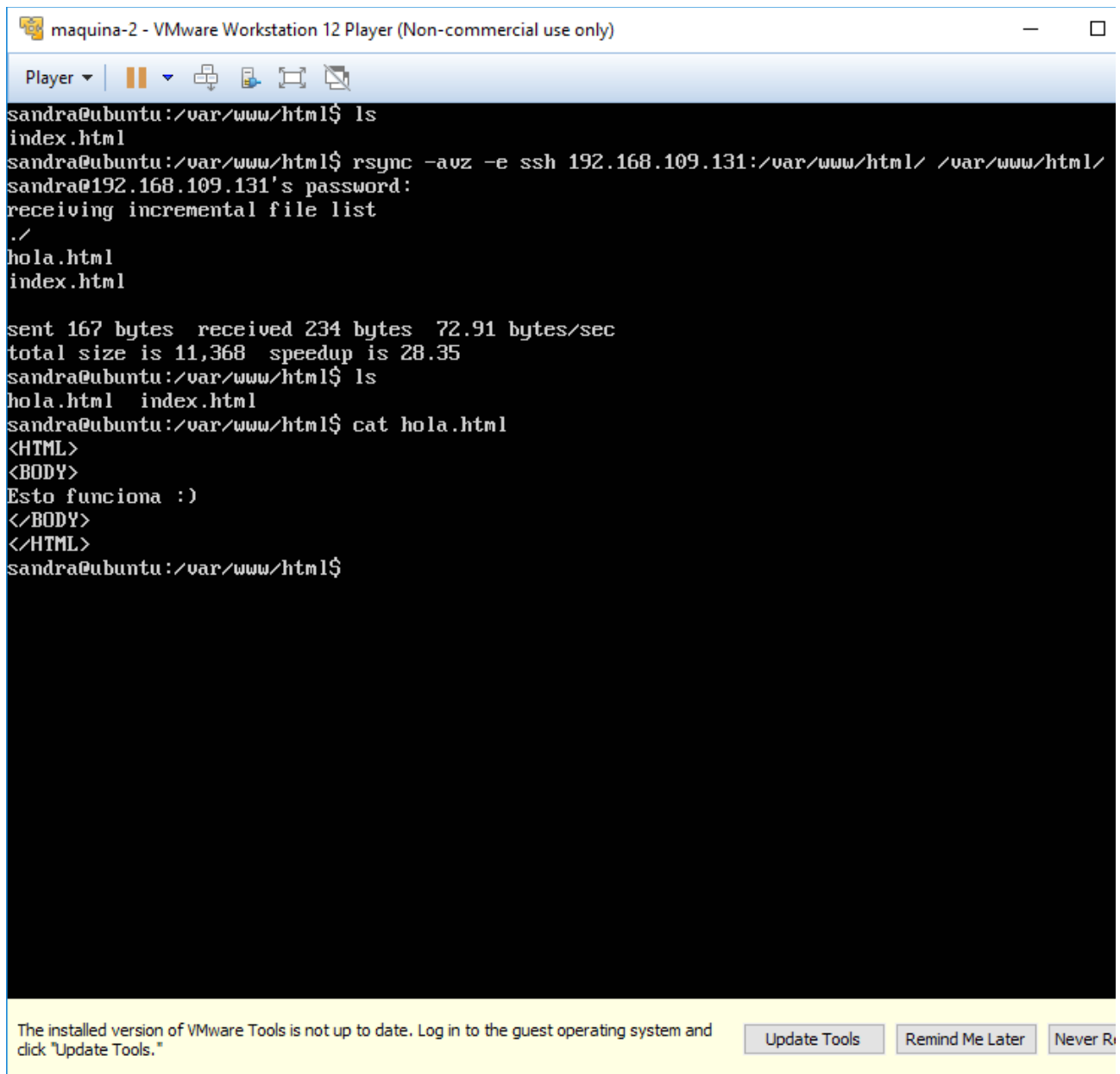
sandra@ubuntu:/var/www/html$
```

The installed version of VMware Tools is not up to date. Log in to the guest operating system and click "Update Tools." [Update Tools](#) [Remind Me Later](#) [Never Remind Me](#)

Ahora vamos a la máquina 2 y copiamos el archivo hola.html de la maquina 1 en el mismo directorio con:

```
rsync -avz -e ssh 192.168.109.131:/var/www/html/ /var/www/html/
```

nos solicitará la contraseña de la máquina 1. Tras introducirla comprobamos que el contenido del directorio de la máquina 1 se ha copiado correctamente en la máquina 2.



```
sandra@ubuntu:/var/www/html$ ls
index.html
sandra@ubuntu:/var/www/html$ rsync -avz -e ssh 192.168.109.131:/var/www/html/ /var/www/html/
sandra@192.168.109.131's password:
receiving incremental file list
./
hola.html
index.html

sent 167 bytes received 234 bytes 72.91 bytes/sec
total size is 11,368 speedup is 28.35
sandra@ubuntu:/var/www/html$ ls
hola.html index.html
sandra@ubuntu:/var/www/html$ cat hola.html
<HTML>
<BODY>
Esto funciona :)
</BODY>
</HTML>
sandra@ubuntu:/var/www/html$
```

The installed version of VMware Tools is not up to date. Log in to the guest operating system and click "Update Tools."

Update Tools Remind Me Later Never R...

Para obtener acceso sin contraseña en la máquina 1, creamos una clave pública en la máquina 2 con:

```
ssh-keygen -b 4096 -t rsa
```

y luego la copiamos a la máquina 1 con:

```
ssh-copy-id 192.168.109.131
```

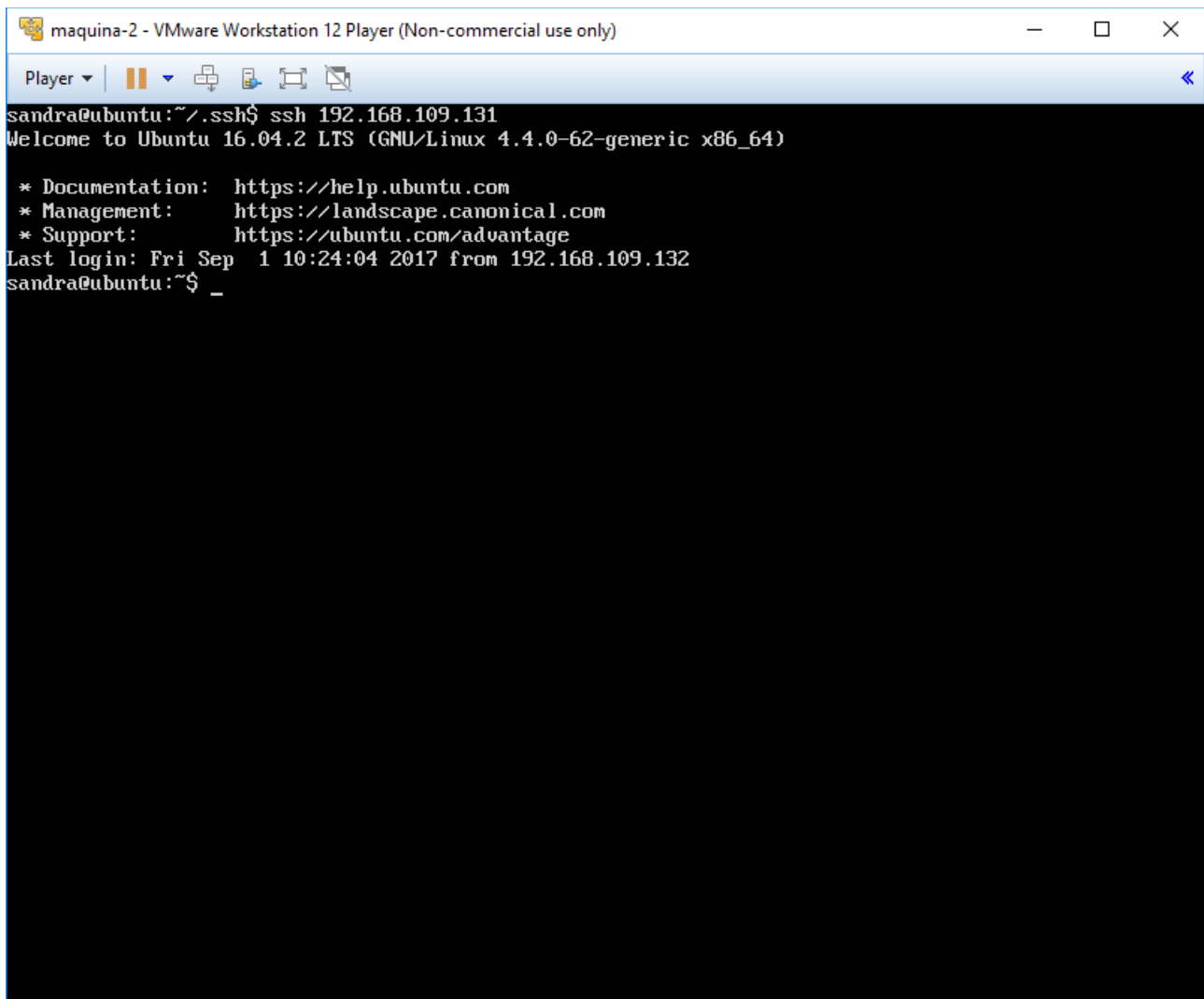
```
maquina-2 - VMware Workstation 12 Player (Non-commercial use only)
Player
sandra@ubuntu:~/.ssh$ ssh-keygen -b 4096 -t rsa
Generating public/private rsa key pair.
Enter file in which to save the key (/home/sandra/.ssh/id_rsa): id_rsa
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in id_rsa.
Your public key has been saved in id_rsa.pub.
The key fingerprint is:
SHA256:LYqYPgLrm7+8lQ18LpF5kurfBczzKzr8zWpb1E/aZpY sandra@ubuntu
The key's randomart image is:
+---[RSA 4096]-----+
|
|
|
|  . *   ..
|   O B .S...
|  . oB.B. . = .
| .o+..=+.+ . E
|+.+o+o= . +
|.*=OB=++
+---[SHA256]-----+
sandra@ubuntu:~/.ssh$ ssh-copy-id 192.168.109.131
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/sandra/.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
sandra@192.168.109.131's password:

Number of key(s) added: 1

Now try logging into the machine, with: "ssh '192.168.109.131'"
and check to make sure that only the key(s) you wanted were added.

sandra@ubuntu:~/.ssh$ _
```

Ahora comprobamos que podemos conectarnos mediante ssh a la máquina 1 sin necesidad de introducir la contraseña:



```
maquina-2 - VMware Workstation 12 Player (Non-commercial use only)
Player
sandra@ubuntu:~/.ssh$ ssh 192.168.109.131
Welcome to Ubuntu 16.04.2 LTS (GNU/Linux 4.4.0-62-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage
Last login: Fri Sep  1 10:24:04 2017 from 192.168.109.132
sandra@ubuntu:~$ _
```

Por último programamos una tarea con crontab que se ejecute cada hora para mantener actualizado el contenido del directorio /var/www/html. Para ello vamos añadimos en el archivo etc/crontab la siguiente línea:

```
0 * * * * root rsync -avz -e ssh
192.168.109.131:/var/www/html/ /var/www/html/
```

```
maquina-2 - VMware Workstation 12 Player (Non-commercial use only)

Player ▾ | [Icons]

# command to install the new version when you edit this file
# and files in /etc/cron.d. These files also have username fields,
# that none of the other crontabs do.

SHELL=/bin/sh
PATH=/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin

# m h dom mon dow user  command
17 * * * * root    cd / && run-parts --report /etc/cron.hourly
25 6 * * * root    test -x /usr/sbin/anacron || ( cd / && run-parts --report /etc/cron.daily )
47 6 * * 7 root    test -x /usr/sbin/anacron || ( cd / && run-parts --report /etc/cron.weekly )
52 6 1 * * root    test -x /usr/sbin/anacron || ( cd / && run-parts --report /etc/cron.monthly
)
#
root@ubuntu:/etc# cat >> crontab
0 * * * * root    rsync -avz -e ssh 192.168.109.131:/var/www/html/ /va
r/www/html/
root@ubuntu:/etc# cat crontab
# /etc/crontab: system-wide crontab
# Unlike any other crontab you don't have to run the `crontab'
# command to install the new version when you edit this file
# and files in /etc/cron.d. These files also have username fields,
# that none of the other crontabs do.

SHELL=/bin/sh
PATH=/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin

# m h dom mon dow user  command
17 * * * * root    cd / && run-parts --report /etc/cron.hourly
25 6 * * * root    test -x /usr/sbin/anacron || ( cd / && run-parts --report /etc/cron.daily )
47 6 * * 7 root    test -x /usr/sbin/anacron || ( cd / && run-parts --report /etc/cron.weekly )
52 6 1 * * root    test -x /usr/sbin/anacron || ( cd / && run-parts --report /etc/cron.monthly
)
#
0 * * * * root    rsync -avz -e ssh 192.168.109.131:/var/www/html/ /va
r/www/html/
root@ubuntu:/etc#
```