

CARPETAS E DOMINIOS MEDIANTE SAMBA

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0. Consideracións previas

Para levar a cabo a compartición de cartafoles e a configuración dun dominio con Samba, empregaremos un equipo Ubuntu 18.04 e outro Windows 10. Tratamos de facelo previamente cunha distribución máis lixeira de Linux como Lubuntu, pero xurdiron diversas limitacións e incompatibilidades durante o proceso. De todas formas, o obxectivo da práctica trátase de experimentar diversos métodos para compartir cartafoles, tanto de Windows a Linux como viceversa. Ademais, crearemos un dominio, faremos que o equipo Linux sexa o controlador do mesmo e despois engadiremos o equipo Windows, que se converterá nun administrador remoto do dominio.

Ambos equipos foron creados como máquinas virtuais empregando o software Oracle VM VirtualBox (versión 6.0.16). A modo de resumo, amosamos unha táboa que recolle a nomenclatura e configuración IP dos equipos.

| | | |
|---------------------|----------------------|---------------------|
| Sistema operativo: | Ubuntu 18.04 | Windows 10 Pro 1909 |
| Nome do equipo: | serverubuntu18 | CLIENTE1018 |
| Nome do dominio: | dominiolinux18.local | |
| Dirección IP: | 192.168.18.21 | 192.168.18.101 |
| Máscara de subrede: | 255.255.255.0 | 255.255.255.0 |
| Porta de enlace: | 192.168.18.1 | 192.168.18.1 |
| DNS preferido: | 192.168.18.21 | 192.168.18.21 |
| DNS alternativo: | 1.1.1.1 | 1.1.1.1 |

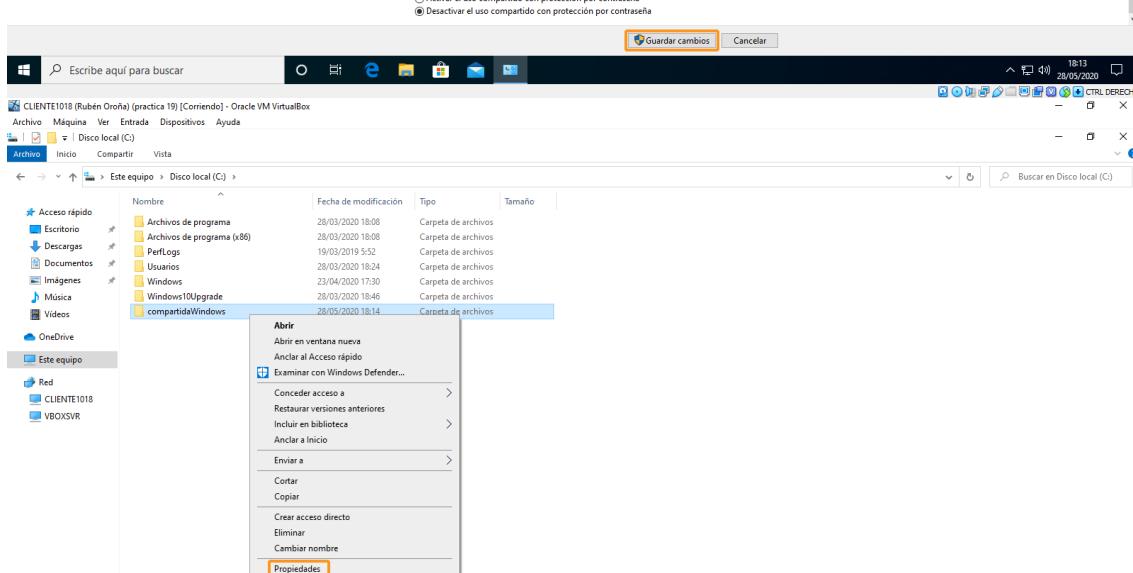
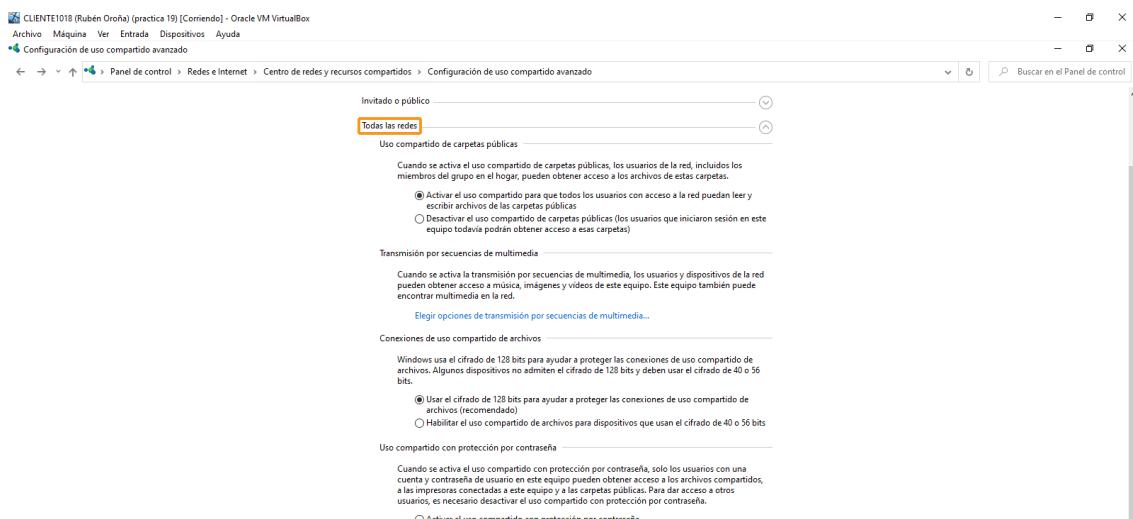
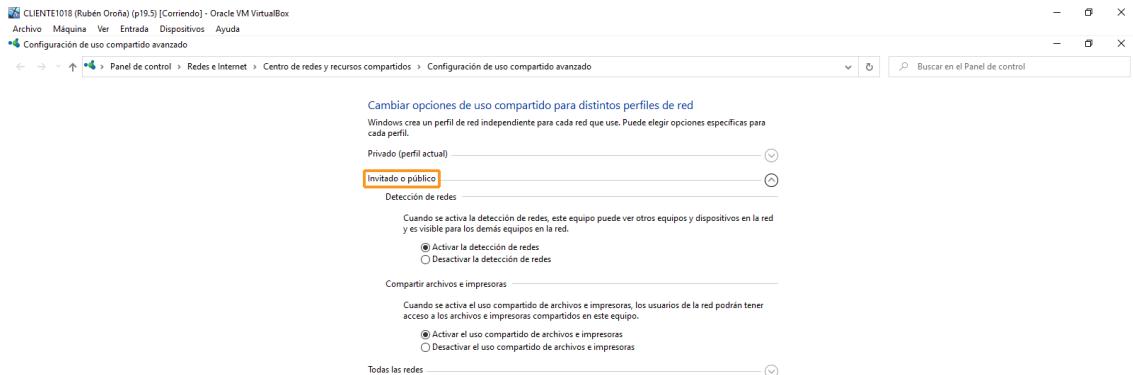
A. Compartir cartafol de Windows a Linux

Para compartir un cartafol dende un equipo Windows a un Linux, empregaremos un grupo de traballo. Comezamos por **establecer o nome do grupo de traballo**, na configuración de Sistema. Empregaremos o grupo por defecto WORKGROUP. Tras isto, debemos **cambiar as opcións de uso compartido**. No perfil privado, activamos a detección de redes, o uso compartido e a configuración automática.

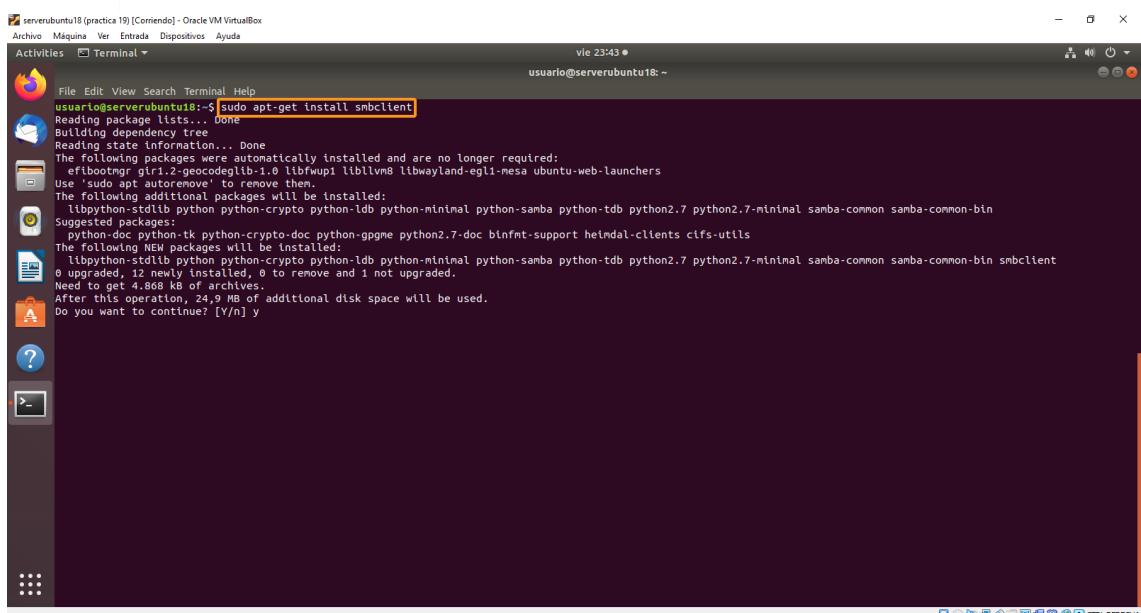
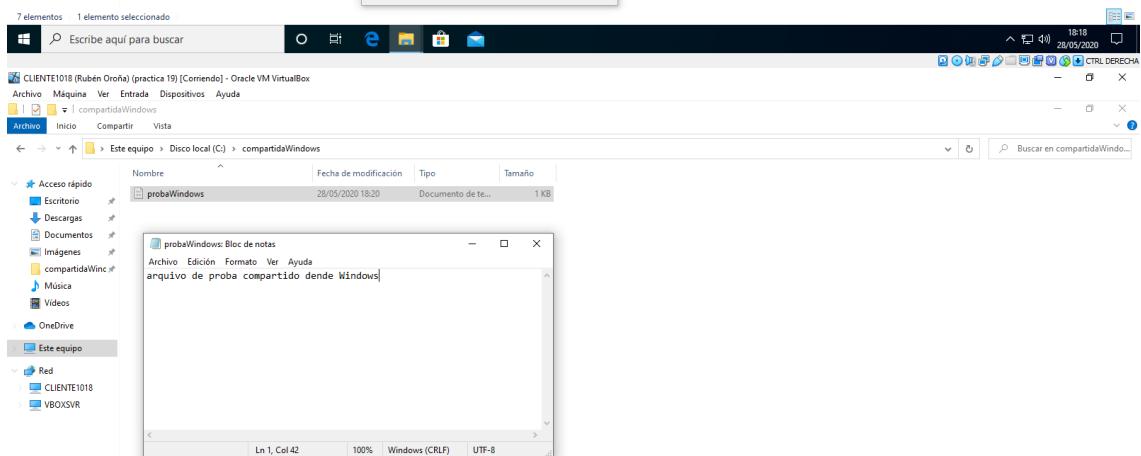
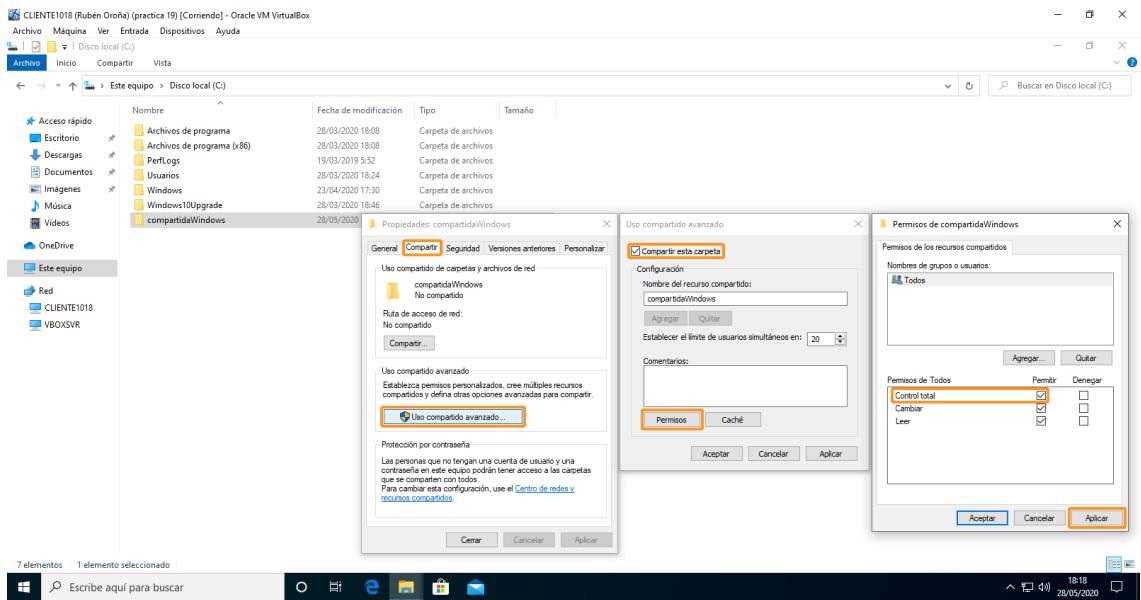
The figure consists of three screenshots of a Windows 10 desktop environment:

- Screenshot 1: System Properties (Propiedades del sistema)**
Shows the 'Sistema' tab with the 'Nombre de equipo' (Computer name) set to 'CLIENTE1018'. The 'Grupo de trabajo' (Workgroup) is currently set to 'WORKGROUP'. A second window titled 'Cambiar en el dominio o nombre del equipo' (Change domain or computer name) is open, showing the same computer name and workgroup, with the 'Grupo de trabajo' field highlighted.
- Screenshot 2: Network and Sharing Center (Centro de redes y recursos compartidos)**
Shows the 'Red' (Network) tab. The 'Cambiar configuración del adaptador' (Change adapter settings) link is highlighted. A third window titled 'Cambiar opciones de uso compartido para distintos perfiles de red' (Change sharing options for different network profiles) is open, showing the 'Privado (perfil actual)' (Private (current profile)) tab. Under 'Detección de redes' (Network discovery), the 'Activar la detección de redes' (Enable network discovery) radio button is selected. Under 'Compartir archivos e impresoras' (Share files and printers), the 'Activar el uso compartido de archivos e impresoras' (Enable file and printer sharing) radio button is selected.
- Screenshot 3: Confirmation Dialog (Guarda cambios / Guardar cambios)**
A confirmation dialog box is shown, asking if the changes should be applied. The 'Guardar cambios' (Save changes) button is visible at the bottom.

No perfil invitado ou público, tamén habiltamos o uso compartido e detección de dispositivos. En canto a pestana todas as redes, activamos o uso compartido, o cifrado por 128 bits e desactivamos a protección de arquivos compartidos mediante contrasinal. Tras isto, imos crear o cartafol /compartidaWindows.



Entramos nas propiedades do directorio e compartímolo, outorgando control total a todos os usuarios. Aproveitamos para crear tamén un arquivo de texto que servirá más adiante como comprobació. Posteriormente, tomamos control do equipo Linux para [instalar o paquete cliente de Samba](#), mediante o comando [<# sudo apt-get install smbclient]#.



Unha vez rematou a instalación, accedemos ó arquivo de configuración de Samba para establecer o nome do grupo de traballo. Neste caso, tamén deixamos WORKGROUP por defecto. Posteriormente, imos instalar o paquete [cifs-utils](#), para poder montar o directorio compartido de maneira permanente.

```
volverubuntu18 [practica 19] [Comiendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal vie 23:45 •
usuario@serverubuntu18:~
```

Selecting previously unselected package samba-common.
Preparing to unpack .../1_samba-common_2%3a4.7.6+dfsg-ubuntu-0ubuntu2.16_all.deb ...
Selecting previously unselected package smbclient.
Preparing to unpack .../2_smbclient_2%3a4.7.6+dfsg-ubuntu-0ubuntu2.16_amd64.deb ...
Selecting previously unselected package python-crypto.
Preparing to unpack .../3_python-crypto_2.6.1-8ubuntu2_amd64.deb ...
Unpacking python-crypto (2.6.1-8ubuntu2) ...
Selecting previously unselected package python-ldb:amd64.
Preparing to unpack .../4_python-ldb_2%3a1.2.1-2.1_amd64.deb ...
Unpacking python-ldb:amd64 (2.1.2.1-2.1_amd64) ...
Selecting previously unselected package python-ldb.
Preparing to unpack .../5_python-ldb_1.3.15-2_amd64.deb ...
Unpacking python-ldb (1.3.15-2) ...
Selecting previously unselected package python-samba.
Preparing to unpack .../6_python-samba_2%3a4.7.6+dfsg-ubuntu-0ubuntu2.16_amd64.deb ...
Unpacking python-samba (2:4.7.6+dfsg-ubuntu-0ubuntu2.16) ...
Selecting previously unselected package samba-common-bin.
Preparing to unpack .../7_samba-common-bin_2%3a4.7.6+dfsg-ubuntu-0ubuntu2.16_amd64.deb ...
Unpacking samba-common-bin (2:4.7.6+dfsg-ubuntu-0ubuntu2.16) ...
Setting up python2.7 (2.7.17-1-18.4ubuntu1) ...
Setting up samba-common (2:4.7.6+dfsg-ubuntu-0ubuntu2.16) ...
Creating config file /etc/samba/smb.conf with new version
Setting up libpython-stdlib:amd64 (2.7.15-rc1-1) ...
Setting up smbclient (2:4.7.6+dfsg-ubuntu-0ubuntu2.16) ...
Setting up python (2.7.15-rc1-1) ...
Setting up python-ldb:amd64 (2:1.2.3-1ubuntu0.1) ...
Setting up python-crypto (2.6.1-8ubuntu2) ...
Setting up python-ldb (1.3.15-2) ...
Setting up python-samba (2:4.7.6+dfsg-ubuntu-0ubuntu2.16) ...
Processing triggers for desktop-file-utils (0.23-1ubuntu3.18.04.2) ...
Processing triggers for liblc-bl (2.27-3ubuntu1) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for gnome-menus (3.13.3-1ubuntu1.1) ...
Processing triggers for mime-support (3.60ubuntu1) ...
usuario@serverubuntu18:~\$ sudo nano /etc/samba/smb.conf

```
volverubuntu18 [practica 19] [Comiendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal vie 23:45 •
usuario@serverubuntu18:~
```

enough to be mentioned here
NOTE! Whenever you modify this file you should run the command
"testparm" to check that you have not made any basic syntactic
errors.

===== Global Settings =====

[global]

Browsing/Identification

Change this to the workgroup/NT-domain name your Samba server will part of
workgroup = WORKGROUP

[A] # server string is the equivalent of the NT Description field
server string = %h server (Samba, Ubuntu)

[?] # Windows Internet Name Serving Support Section:
WINS Support - Tells the NMBD component of Samba to enable its WINS Server
wins support = no

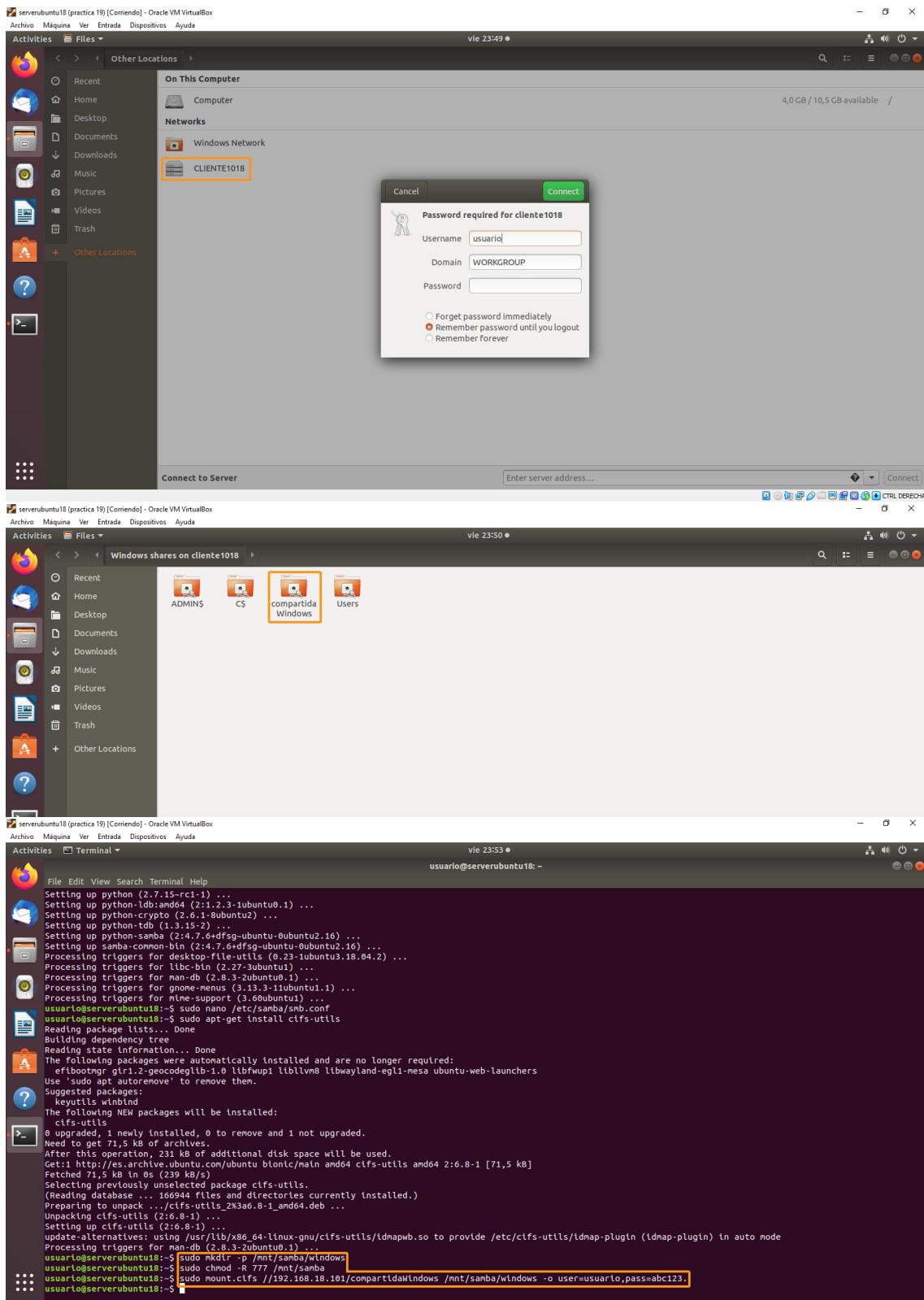
[>] # WINS Server - Tells the NMBD components of Samba to be a WINS Client
Note: Samba can be either a WINS Server, or a WINS Client, but NOT both
; wins server = w.x.y.z

This will prevent nmbd to search for NetBIOS names through DNS.
dns proxy = no

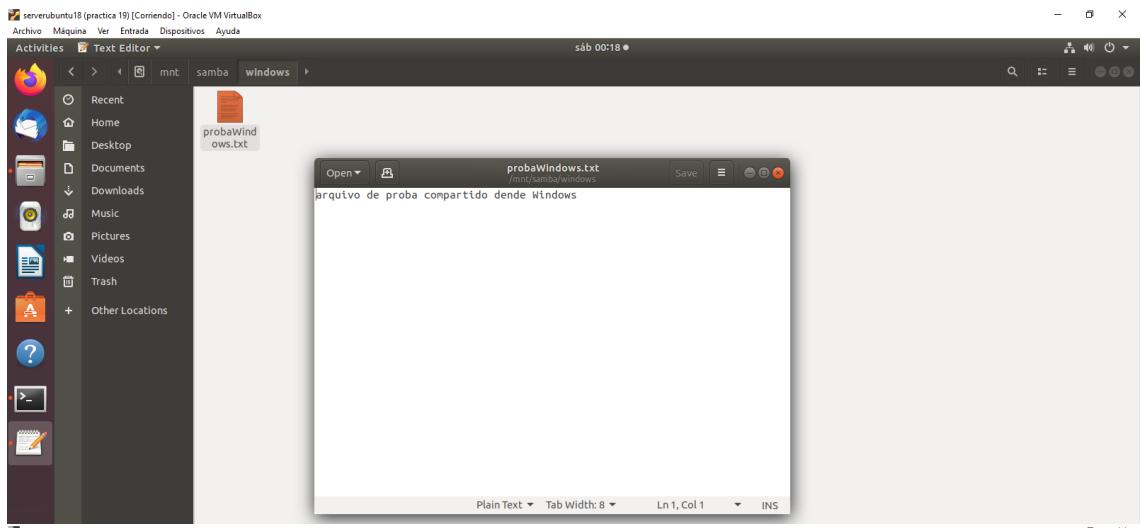
```
volverubuntu18 [practica 19] [Comiendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal vie 23:46 •
usuario@serverubuntu18:~
```

Creating config file /etc/samba/smb.conf with new version
Setting up libpython-stdlib:amd64 (2.7.15-rc1-1) ...
Setting up smbclient (2:4.7.6+dfsg-ubuntu-0ubuntu2.16) ...
Setting up python (2.7.15-rc1-1) ...
Setting up python-ldb:amd64 (2:1.2.3-1ubuntu0.1) ...
Setting up python-crypto (2.6.1-8ubuntu2) ...
Setting up python-ldb (1.3.15-2) ...
Setting up python-samba (2:4.7.6+dfsg-ubuntu-0ubuntu2.16) ...
Setting up samba-common-bin (2:4.7.6+dfsg-ubuntu-0ubuntu2.16) ...
Processing triggers for desktop-file-utils (0.23-1ubuntu3.18.04.2) ...
Processing triggers for liblc-bl (2.27-3ubuntu1) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for gnome-menus (3.13.3-1ubuntu1.1) ...
Processing triggers for mime-support (3.60ubuntu1) ...
usuario@serverubuntu18:~\$ sudo nano /etc/samba/smb.conf
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
efibootmgr gir1.2-geocodeglib-1.0 liblfbwup1 liblfbvmb1 libwayland-egl1-mesa ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
Suggested packages:
keyutils winbind
The following NEW packages will be installed:
cifs-utils
0 upgraded, 1 newly installed, 0 to remove and 1 not upgraded.
Need to get 71,5 kB of archives.
After this operation, 231 kB of additional disk space will be used.
Get:1 http://es.archive.ubuntu.com/ubuntu bionic/main amd64 cifs-utils amd64 2:6.8-1 [71,5 kB]
Fetched 71,5 kB in 0s (239 kB/s)
Selecting previously unselected package cifs-utils.
(Reading database ... 160944 files and directories currently installed.)
Preparing to unpack .../cifs-utils_2%3a6.8-1_amd64.deb ...
Unpacking cifs-utils (2:6.8-1) ...
Setting up cifs-utils (2:6.8-1) ...
update-alternatives: using /usr/lib/x86_64-linux-gnu/cifs-utils/idmapwb.so to provide /etc/cifs-utils/idmap-plugin (idmap-plugin) in auto mode
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
usuario@serverubuntu18:~\$

Se imos ó apartado Network do administrador de arquivos, atopamos o equipo Windows. Este solicítanos identificación, pero non é necesaria, pois só pretendemos acceder a un cartafol compartido publicamente. Isto é porque si nos identificamos, poderemos ademais atopar outros directorios compartidos para usos administrativos. De todas formas, o seguinte paso é conectarnos á IP da computadora Windows e **montar o directorio compartido provisionalmente**, na ruta [/mnt/smb/windows].



Accedendo ó cartafol que debemos crear para facer a montaxe, atopamos no seu interior o arquivo de texto de proba. Por último, imos **montar o directorio compartido permanentemente**, editando o arquivo [/etc/fstab].



```
sab 00:18 ●
```

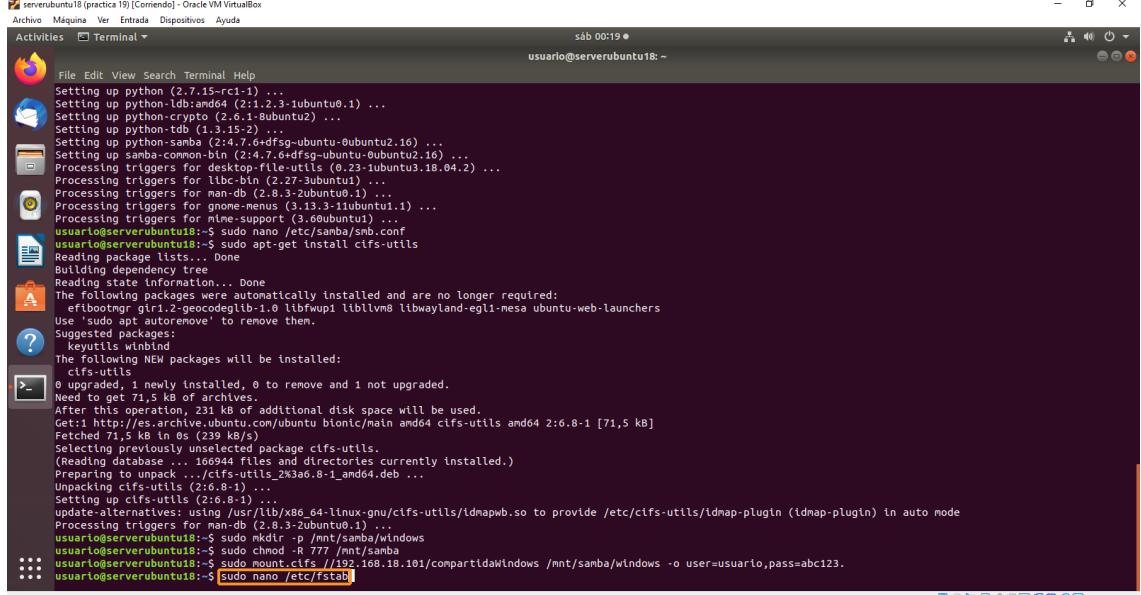
Activities Text Editor ▾

probaWindows.txt

probaWindows.txt

Arquivo de proba compartido desde Windows

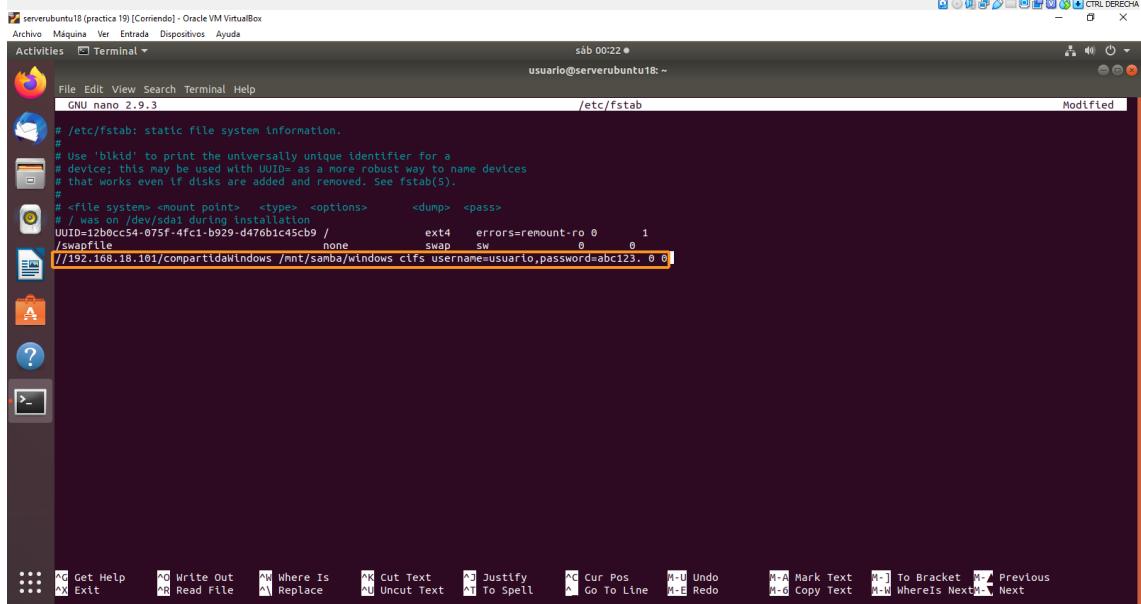
Plain Text Tab Width: 8 Ln 1, Col 1 INS



```
sab 00:19 ●
```

usuario@serverubuntu18:~

```
File Edit View Search Terminal Help
Setting up python (2.7.15-rc1-1) ...
Setting up python-lldb:amd64 (2:1.2.3-1ubuntu0.1) ...
Setting up python-crypto (2.6.1-1ubuntu2) ...
Setting up python-tk (1.0.4-2)
Setting up python-samba (2:4.7.6+dfsg-ubuntu-0ubuntu2.16) ...
Setting up python-common-bin (2:4.7.6+dfsg-ubuntu-0ubuntu2.16) ...
Processing triggers for desktop-file-utils (0.23-1ubuntu3.18.04.2) ...
Processing triggers for libc-bin (2.27-3ubuntu1) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for gnome-menus (3.13.3-1ubuntu1.1) ...
Processing triggers for mime-support (3.60ubuntu1) ...
usuario@serverubuntu18:~$ sudo nano /etc/samba/smb.conf
usuario@serverubuntu18:~$ sudo apt-get install cifs-utils
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  efi-bootmgr-dirs.2-geocodelib-1.0 libfwupd0 libhw沅nayland-egli-nesa ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
Suggested packages:
  keyutils winbind
The following NEW packages will be installed:
  cifs-utils
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
Need to get 71,5 kB of archives.
After this operation, 231 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu bionic/main amd64 cifs-utils amd64 2:6.8-1 [71,5 kB]
Fetched 71,5 kB in 0s (239 kB/s)
Selecting previously unselected package cifs-utils.
(Reading database ... 166944 files and directories currently installed.)
Preparing to unpack .../cifs-utils_2%3a6.8-1_amd64.deb ...
Unpacking cifs-utils (2:6.8-1) ...
Setting up cifs-utils (2:6.8-1) ...
update-alternatives: using /usr/lib/x86_64-linux-gnu/cifs-utils/idmapw.so to provide /etc/cifs-utils/idmap-plugin (idmap-plugin) in auto mode
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
usuario@serverubuntu18:~$ sudo mkdir -p /mnt/samba/windows
usuario@serverubuntu18:~$ sudo chmod -R 777 /mnt/samba
usuario@serverubuntu18:~$ sudo mount.cifs //192.168.18.101/compartidaWindows /mnt/samba/windows -o user=usuario,password=abc123.
usuario@serverubuntu18:~$ sudo nano /etc/fstab
```

```
sab 00:22 ●
```

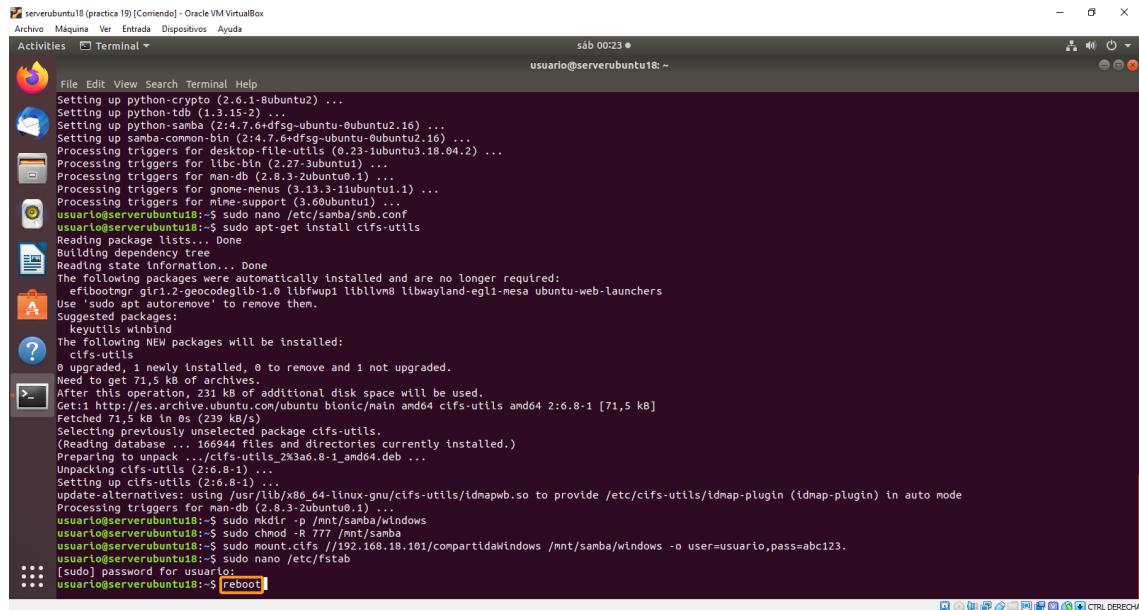
usuario@serverubuntu18:~

```
File Edit View Search Terminal Help
GNU nano 2.9.3 /etc/fstab Modified
```

```
# /etc/fstab: static file system information.
#
# Use 'blkid' to print the universally unique identifier for a
# device; this may be used with UUID= as a more robust way to name devices
# that works even if disks are added and removed. See fstab(5).
#
# <file system> <mount point> <type> <options> <dump> <pass>
# was on /dev/sda1 during installation
UUID=12b0cc54-075f-4fc1-b929-d47691c45cb9 / ext4 errors=remount-ro 0 1
/swanfile none swap sw 0 0
//192.168.18.101/compartidaWindows /mnt/samba/windows cifs username=usuario,password=abc123. 0 0
```

GN Get Help W Write Out A Where Is C Cut Text J Justify G Cur Pos U Undo M-A Mark Text M-J To Bracket M-P Previous M-Q Exit R Read File A Replace U Uncut Text T To Spell G Go To Line M-E Redo M-D Copy Text M-W WhereIs Next M-N Next

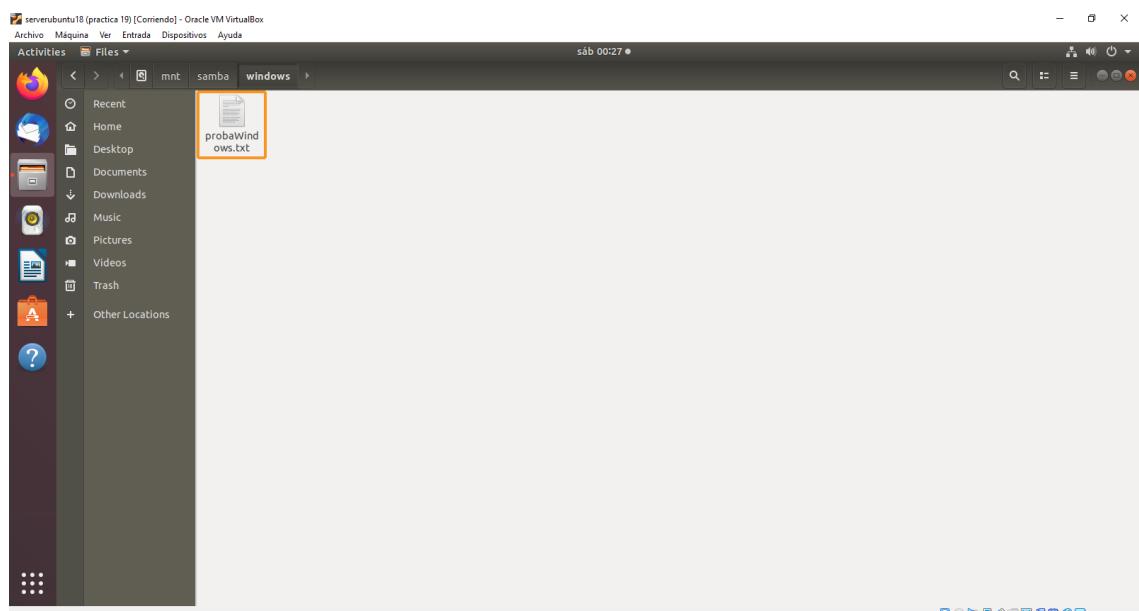
Tras isto, reiniciamos o equipo para comprobar que o proceso de montaxe foi correcto. Como podemos observar, se imos á ruta [mnt/samba/windows], atoparemos no seu interior o arquivo de texto compartido.



```

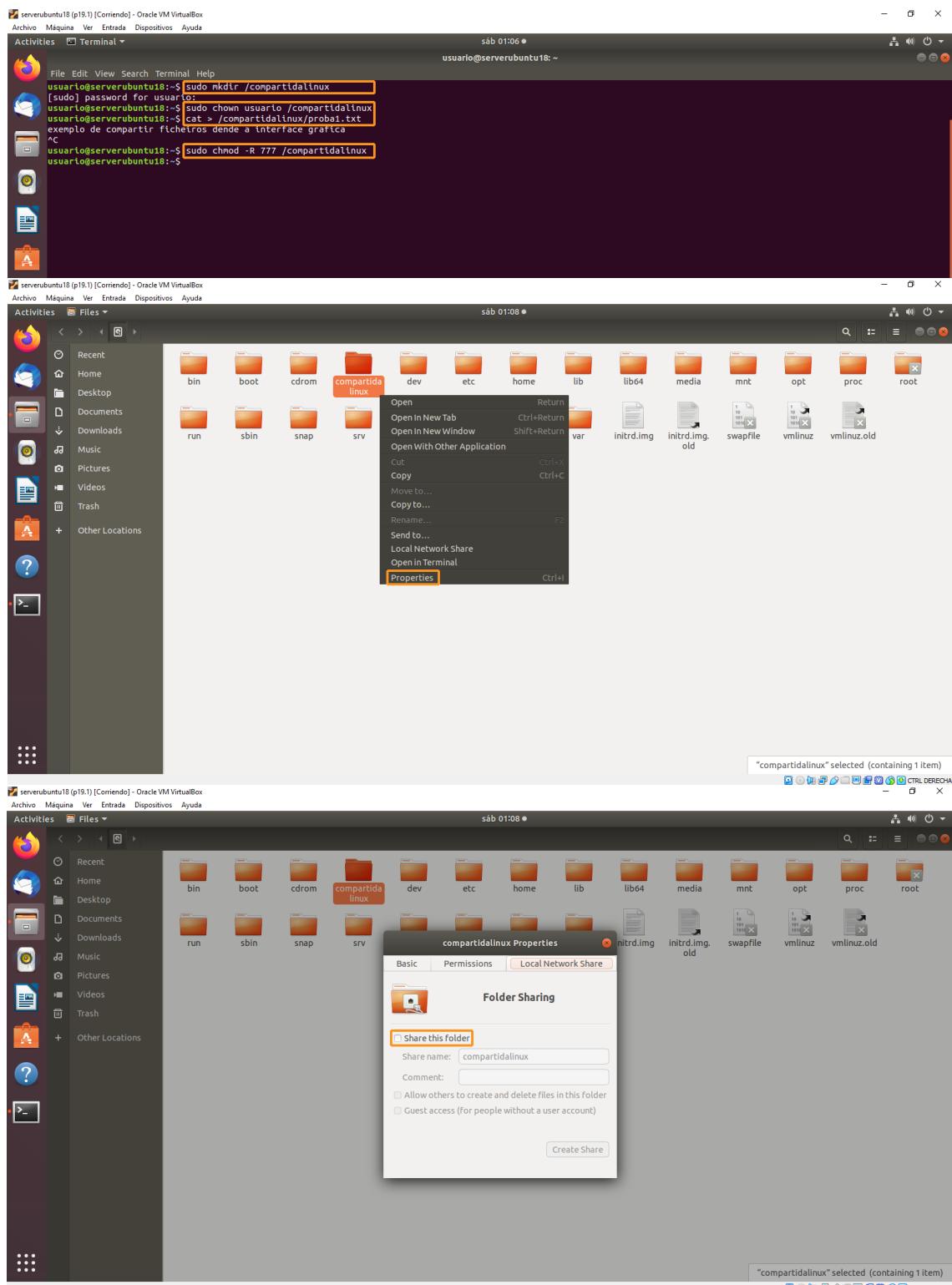
serverubuntu18 (práctica 19) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal sáb 00:23 ~
usuario@serverubuntu18:~$ sudo apt-get install cifs-utils
Reading package lists... Done
Building dependency tree...
Reading state information... Done
The following packages were automatically installed and are no longer required:
  efbbootmgr gir1.2-geocodelib-1.0 libfwupl libllvm8 libwayland-egl-mesa ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
Suggested packages:
  keyutils winbind
The following NEW packages will be installed:
  cifs-utils
0 upgraded, 1 newly installed, 0 to remove and 1 not upgraded.
Need to get 71,5 kB of archives.
After this operation, 231 kB of additional disk space will be used.
Get:1 http://es.archive.ubuntu.com/ubuntu bionic/main amd64 cifs-utils amd64 2:6.8-1 [71,5 kB]
Fetched 71,5 kB in 0s (239 kB/s)
Selecting previously unselected package cifs-utils.
(Reading database ... 166944 files and directories currently installed.)
Preparing to unpack .../cifs-utils_2%3a6.8-1_amd64.deb ...
Unpacking cifs-utils (2:6.8-1) ...
Setting up cifs-utils (2:6.8-1) ...
update-alternatives: using /usr/lib/x86_64-linux-gnu/cifs-utils/idmapw.so to provide /etc/cifs-utils/idmap-plugin (idmap-plugin) in auto mode
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
usuario@serverubuntu18:~$ sudo mkdir -p /mnt/samba/windows
usuario@serverubuntu18:~$ sudo chmod -R 777 /mnt/samba
usuario@serverubuntu18:~$ sudo mount.cifs //192.168.10.101/compartidaWindows /mnt/samba/windows -o user=usuario,password=abc123.
usuario@serverubuntu18:~$ sudo nano /etc/fstab
[usuario] password for usuario:
usuario@serverubuntu18:~$ reboot

```

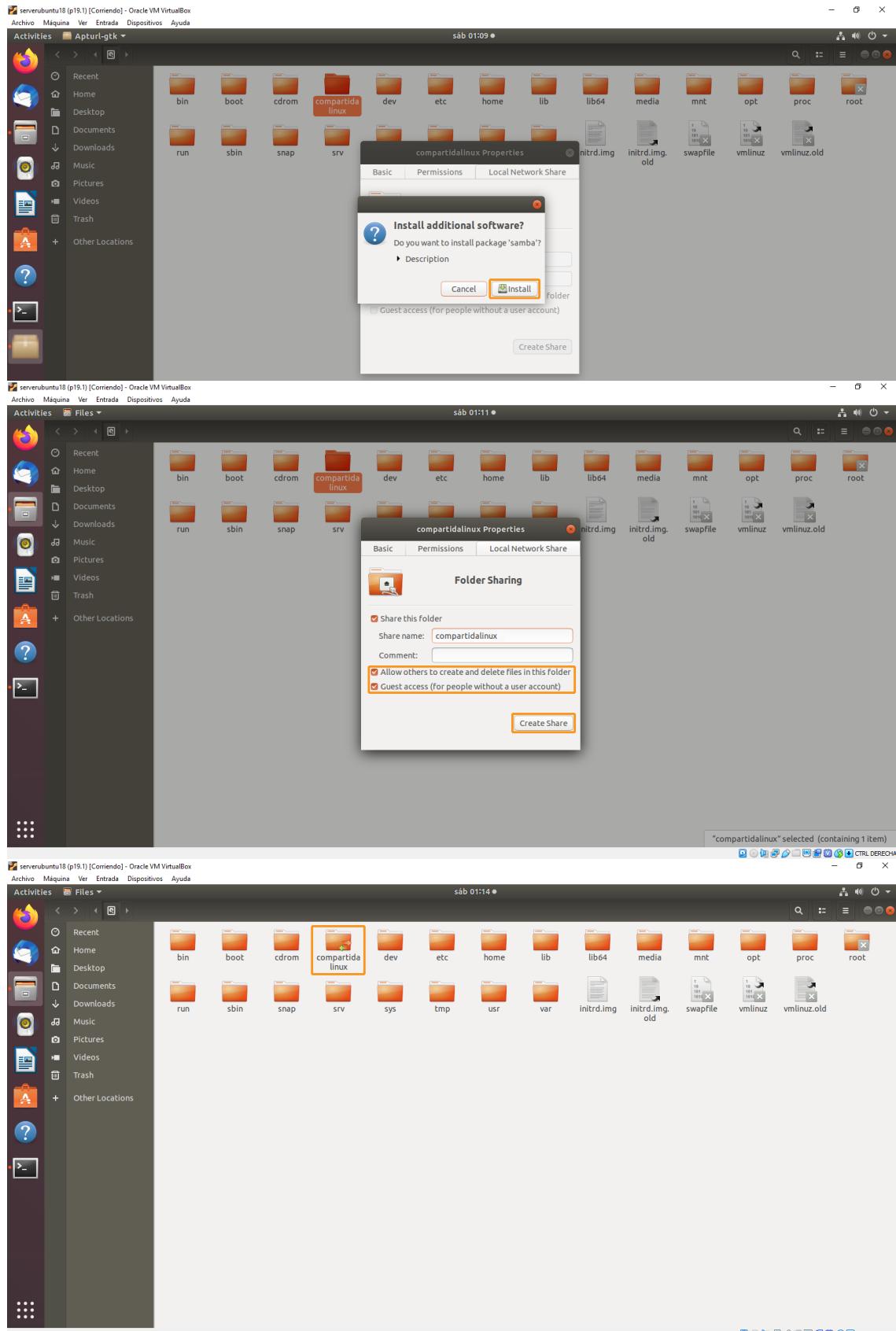


B. Compartir cartafol de Linux a Windows (file manager)

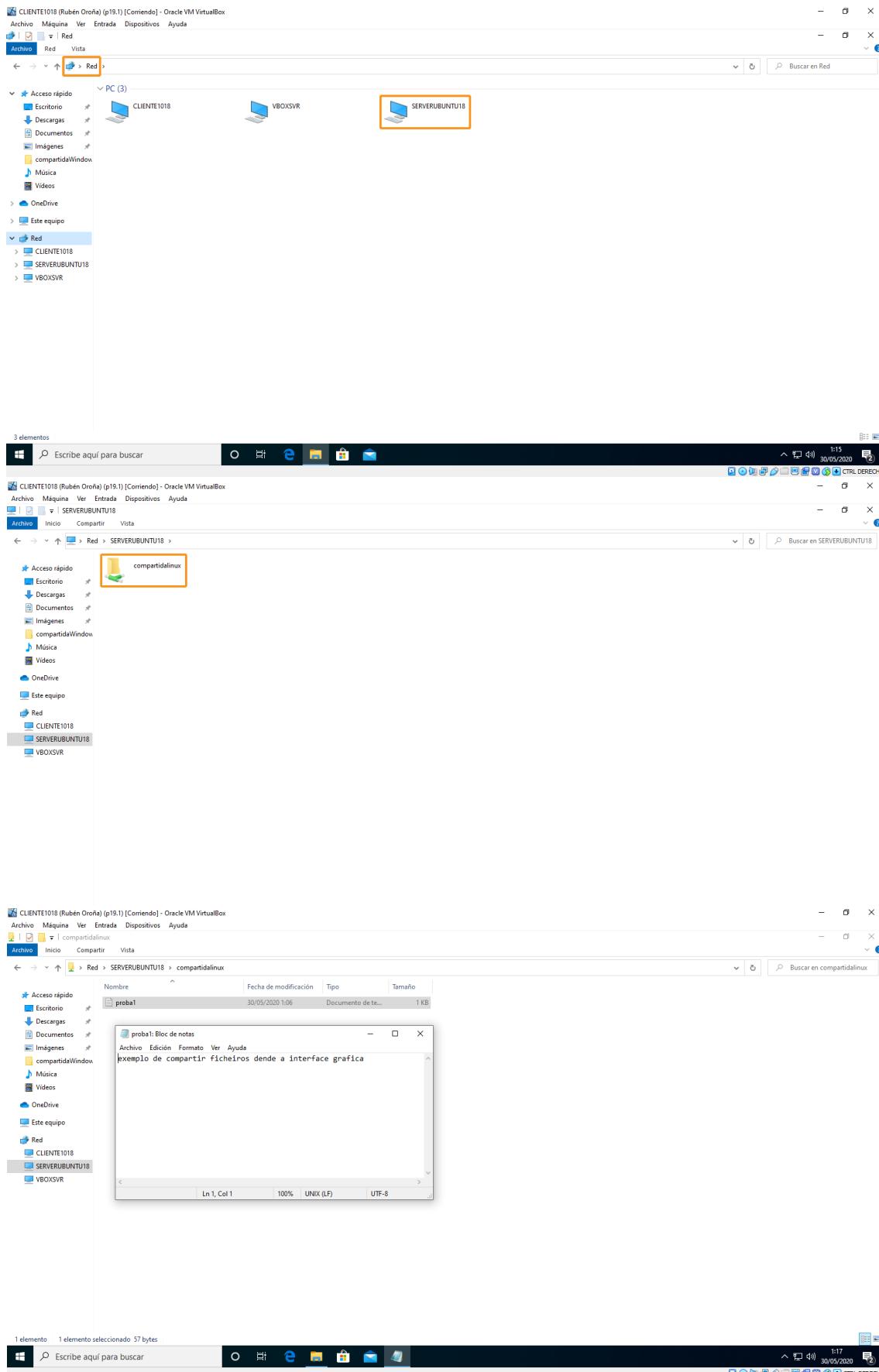
Empregaremos o entorno gráfico de Ubuntu para compartir un cartafol, algo que resultou imposible co administrador de arquivos lixeiro que emprega Lubuntu. O primeiro paso é [crear o directorio /compartidalinux](#), no que o noso usuario debe ser propietario para poder compartilo mediante o entorno gráfico. Creamos ademais un arquivo de texto para futuras comprobacións. Así pois, facemos clic dereito no directorio creado, e nas propiedades, prememos en [compartir o cartafol](#).



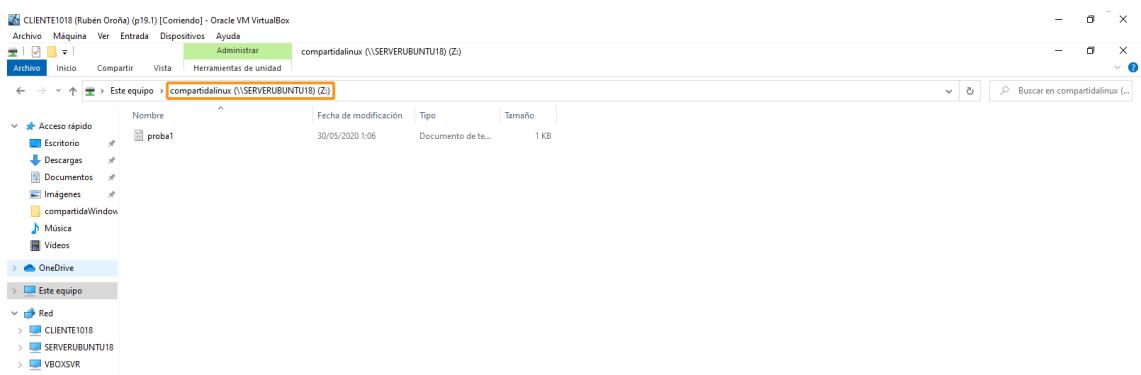
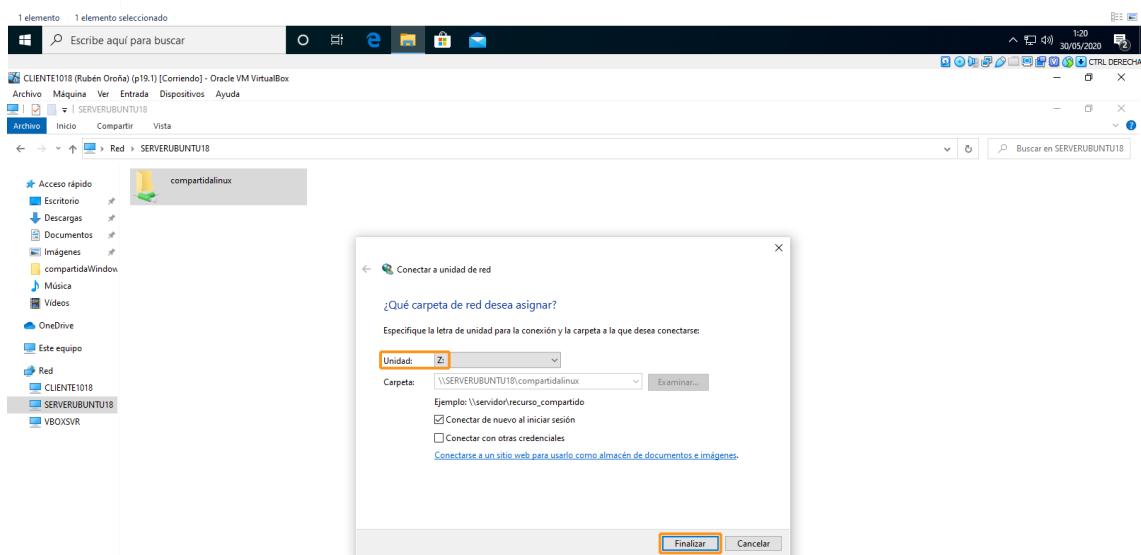
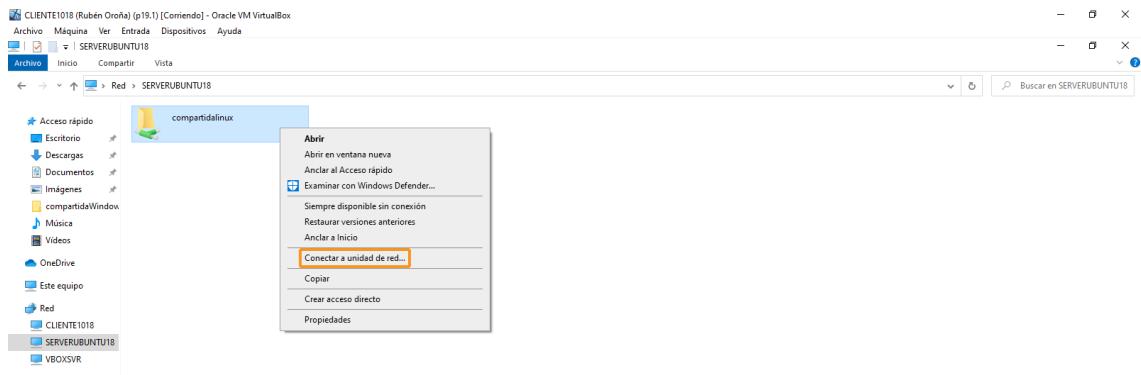
O sistema indícanos que será necesario [instalar o paquete Samba](#). Así pois, aceptamos e activamos as xanelas para permitir dereitos de escritura e usuarios invitados. Como podemos ver, o aspecto do cartafol cambiou, con dúas frechas que indican que o directorio está compartido por rede.



Agora tomamos control do equipo Windows. Se entramos no apartado de Rede, podemos acceder ó cartafol compartido. Nel podemos ver e editar o arquivo de texto de proba.



Por último, imos **asignar a letra Z: como unidad de rede**. Para elo, basta con que escollamos a opción facendo clic dereito no cartafol.



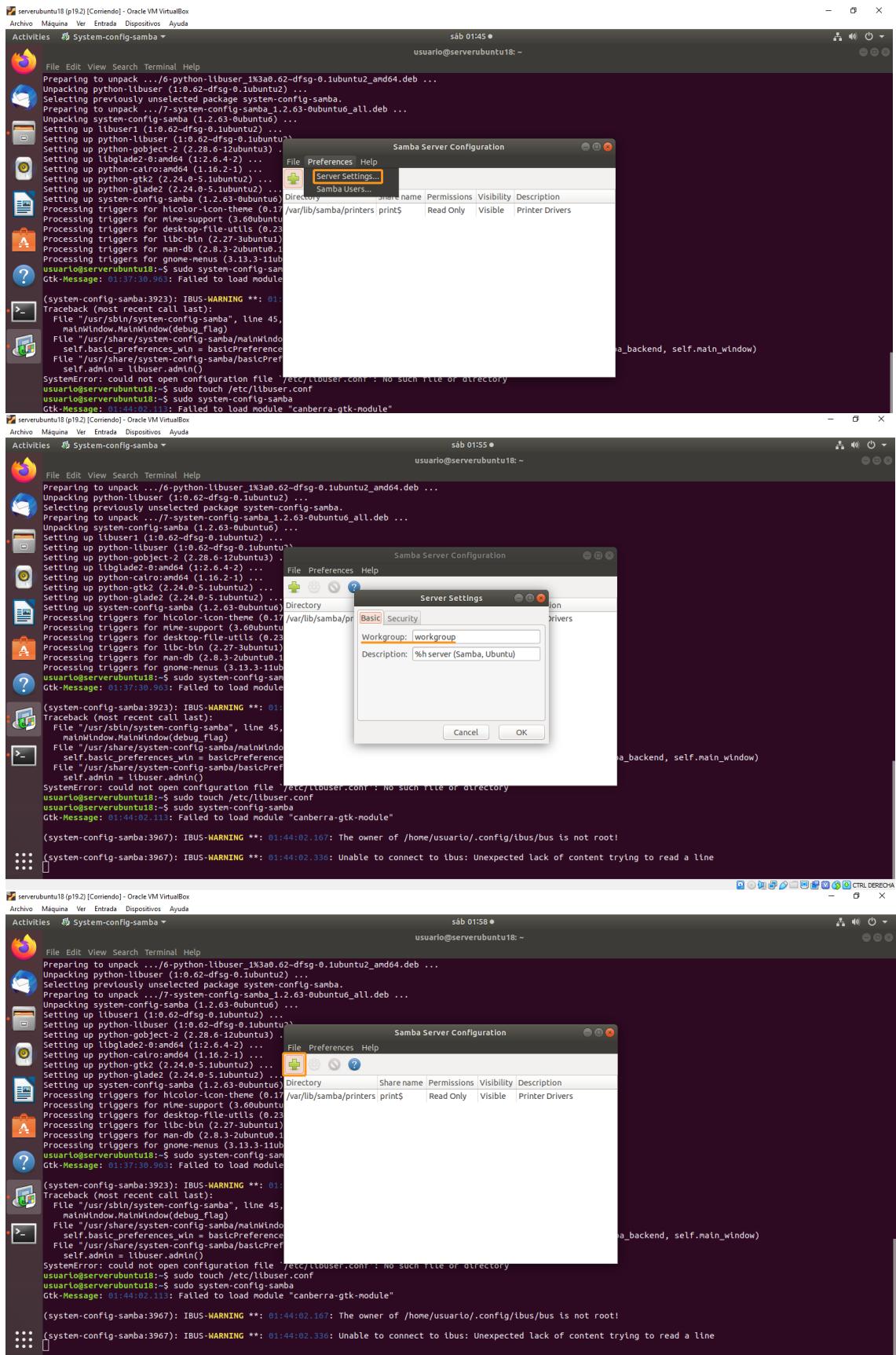
C. Compartir cartafol de Linux a Windows (system-config-samba)

Por algunha razón, as distribucións de Linux posteriores a 18.04 non poden empregar esta ferramenta, pois o paquete de instalación foi eliminado do repositorio oficial. En todo caso, coa nosa versión si podemos, e empregaremos este menú interactivo de Samba para a compartición. O primeiro paso é [crear o directorio /datoslinux](#), no que incluímos un arquivo de texto para futuras comprobacións. Despois, debemos [instalar o paquete system-config-samba](#). Ó querer usalo, danos un erro, pois o sistema infórmanos de que falta un arquivo de configuración. Para bordear este problema, basta con crear un arquivo baleiro nesa mesma ruta. Tras isto, xa podemos abrir o menú de configuración Samba.

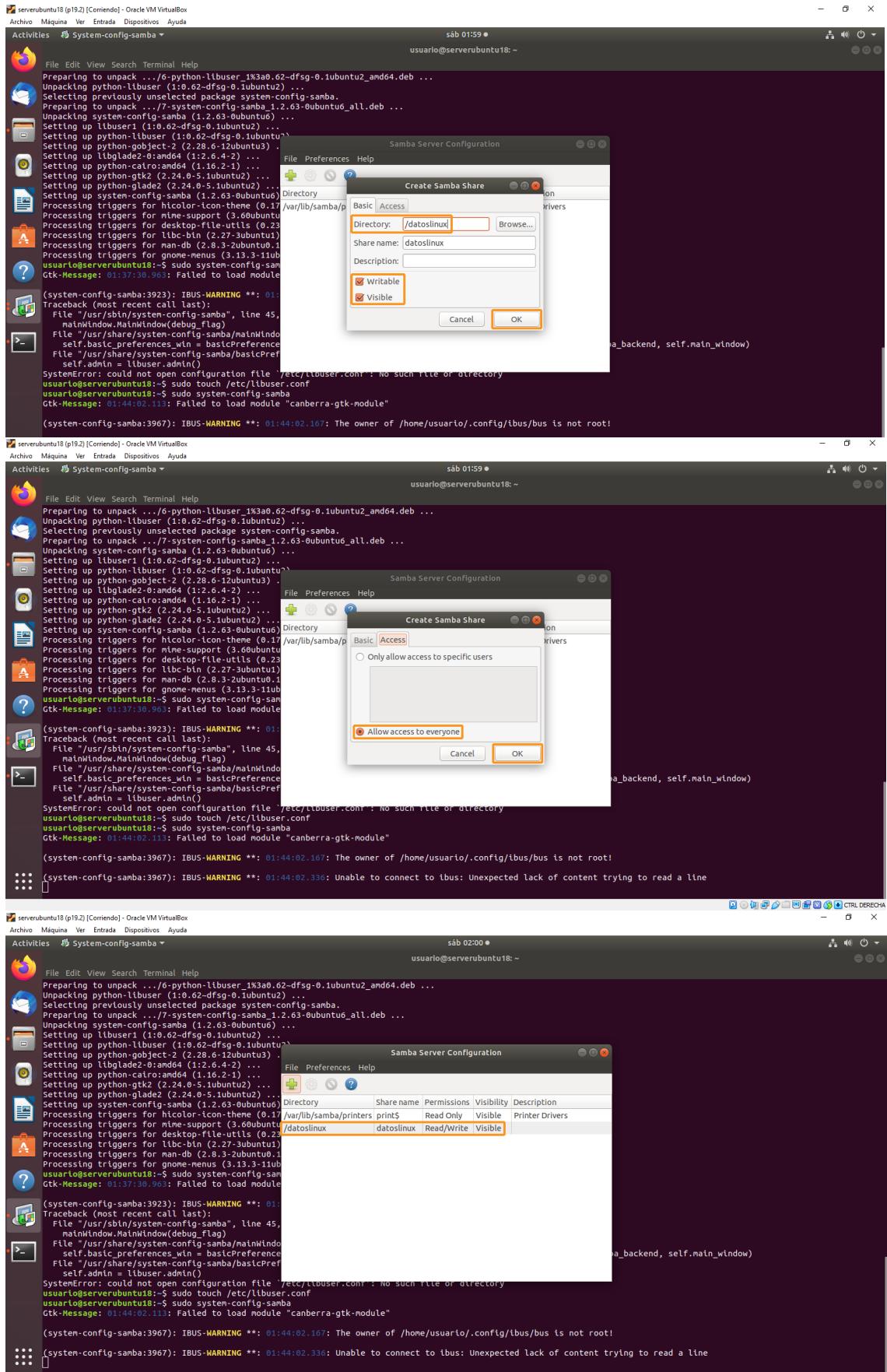
The image consists of three vertically stacked screenshots of a Linux desktop environment, likely Ubuntu, showing terminal windows. Each window has a title bar indicating the session is running in Oracle VM VirtualBox.

- Top Window:** Shows a terminal session for user 'usuario'. The user runs several commands:
 - `sudo mkdir /datoslinux`
 - `sudo chmod 0700 /datoslinux`
 - `sudo chown usuario /datoslinux`
 - `cat > /datoslinux/proba2.txt`
 - `example de compartir ficheros mediante a ferramenta system-config-samba`
 - `nc`
 - `sudo chmod -R 777 /datoslinux`
 - `sudo apt-get install system-config-samba`
- Middle Window:** Shows a terminal session for user 'usuario'. It displays the output of the `sudo apt-get install system-config-samba` command, which lists many packages being installed or upgraded, including libuser1, python-cairo, python-gobject, python-gtk2, system-config-samba, and others.
- Bottom Window:** Shows a terminal session for user 'usuario'. The user runs `sudo system-config-samba`. The terminal shows the configuration interface loading, followed by an error message: "Gtk-Message: 01:37:30.963: Failed to load module 'canberra-gtk-module'". It then continues with a long stack trace from the system-config-samba application, ending with the error: "SystemError: could not open configuration file '/etc/libuser.conf': No such file or directory".

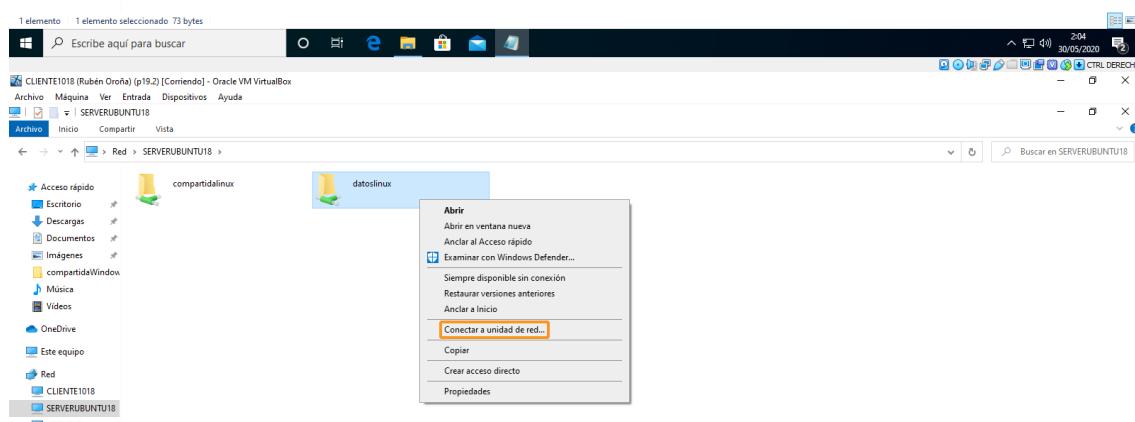
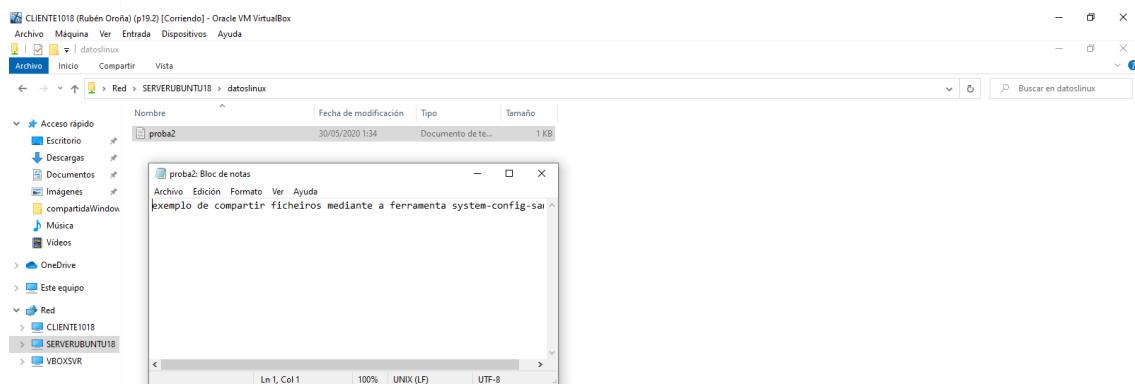
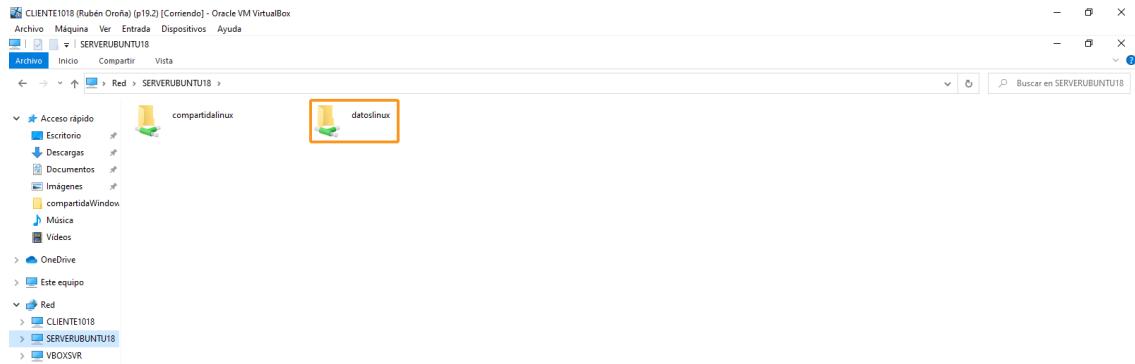
Comezamos establecer o nome do grupo de traballo, no configurador do servidor Samba. Deixamos WORKGROUP por defecto. Despois, prememos no botón verde para engadir o directorio a compartir.



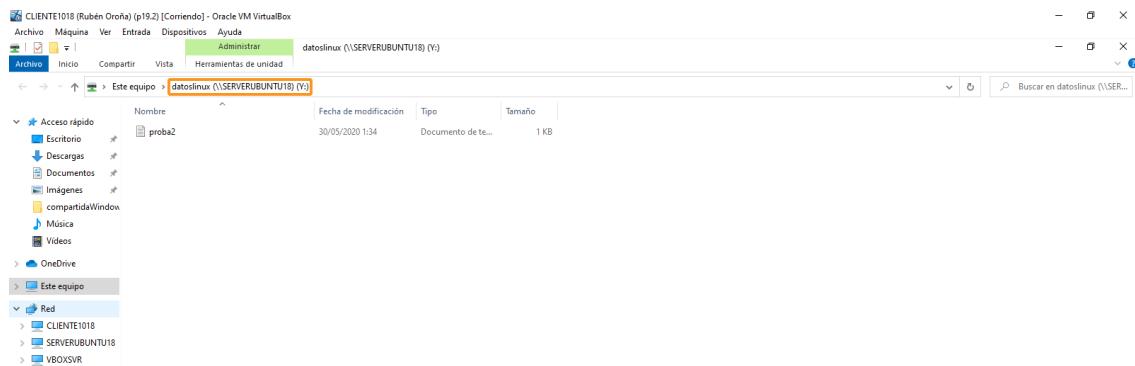
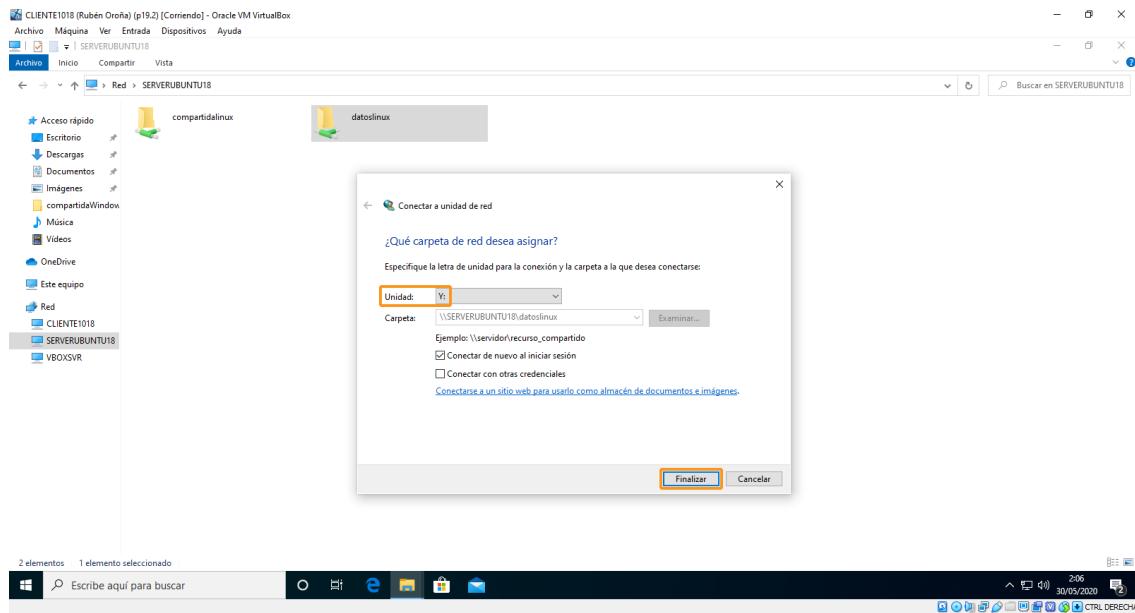
Establecemos a ruta do directorio, e activamos as xanelas de lectura e escritura. Debemos habilitar tamén a opción para permitir o acceso ós archivos para todos os usuarios.



Agora tomamos control do equipo Windows. Se entramos no apartado de Rede, podemos acceder ó cartafol compartido. Nel temos a opción de ver e editar o arquivo de texto de proba. Por último, imos asignar a letra Y: como unidade de rede.



Para elo, basta con facer clic dereito no cartafol, e escoller a letra desexada para a asignación da unidade de rede.



D. Ubuntu como controlador de dominio Active Directory

Comezamos por actualizar a máquina. Despois debemos establecer o nome do equipo, que debe ter menos de 15 caracteres [serverubuntu18]. Ademais, imos [editar o arquivo /etc/hosts](#) para mapear a IP do equipo co dominio [dominiolinux18.local]. Posteriormente, vémonos forzados a [deshabilitar o NetworkManager](#), pois por unha estraña razón provocaranos despois unha actualización non desexada no DNS resolver. Así pois, procedemos coa secuencia de comandos stop/ disable/ umask para desfacernos da opción de configurar a rede mediante o entorno gráfico. Tras isto, facemos o proceso inverso co networkd, para configurar unha IP estática.

The terminal window shows the following steps:

```
sábado 23:20 • usuario@serverubuntu18: ~
usuario@serverubuntu18:~$ sudo apt-get update && sudo apt-get upgrade
[sudo] password for usuario:
Get:1 http://security.ubuntu.com/ubuntu bionic-security InRelease [88,7 kB]
Get:2 http://es.archive.ubuntu.com/ubuntu bionic-security InRelease [88,7 kB]
Get:3 http://es.archive.ubuntu.com/ubuntu bionic-updates InRelease [74,6 kB]
Get:4 http://es.archive.ubuntu.com/ubuntu bionic-backports InRelease [42,6 kB]
Get:5 http://security.ubuntu.com/ubuntu bionic-security/main amd64 DEP-11 Metadata [42,0 kB]
Get:6 http://security.ubuntu.com/ubuntu bionic-security/universe amd64 DEP-11 Metadata [42,0 kB]
Get:7 http://es.archive.ubuntu.com/ubuntu bionic-updates/main amd64 Packages [950 kB]
Get:8 http://security.ubuntu.com/ubuntu bionic-updates/main i386 Packages [684 kB]
Get:9 http://es.archive.ubuntu.com/ubuntu bionic-updates/main amd64 DEP-11 Metadata [2.464 B]
Get:10 http://es.archive.ubuntu.com/ubuntu bionic-updates/main amd64 DEP-11 Metadata [305 kB]
Get:11 http://es.archive.ubuntu.com/ubuntu bionic-updates/universe i386 Packages [1.017 kB]
Get:12 http://es.archive.ubuntu.com/ubuntu bionic-updates/universe amd64 Packages [1.076 kB]
Get:13 http://es.archive.ubuntu.com/ubuntu bionic-updates/universe amd64 DEP-11 Metadata [273 kB]
Get:14 http://es.archive.ubuntu.com/ubuntu bionic-updates/multiverse amd64 DEP-11 Metadata [2.468 B]
Get:15 http://es.archive.ubuntu.com/ubuntu bionic-backports/universe amd64 DEP-11 Metadata [7.972 B]
Fetched 4.652 kB in 4s (1.036 kB/s)
Reading package lists... Done
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
efibootmgr gir1.2-geocodelib-1.0 libfwupl libllvmb libwayland-egl-mesa ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
The following packages have been kept back:
netplan.io
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
usuario@serverubuntu18:~$ hostname
serverubuntu18
usuario@serverubuntu18:~$ sudo nano /etc/hosts

sábado 23:24 • usuario@serverubuntu18: ~
GNU nano 2.9.3
/etc/hosts
Modified
127.0.0.1 localhost
127.0.1.1 serverubuntu18.dominiolinux18.local serverubuntu18
192.168.18.21 serverubuntu18.dominiolinux18.local serverubuntu18

# The following lines are desirable for IPv6 capable hosts
::1 ip6-localhost ip6-loopback
fe00:: ip6-localnet
ff00:: ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters

sábado 23:34 • usuario@serverubuntu18: ~
File Edit View Search Terminal Help
sábado 23:34 • usuario@serverubuntu18: ~
usuario@serverubuntu18:~$ sudo systemctl mask NetworkManager
Created symlink /etc/systemd/system/NetworkManager.service → /dev/null.
.usuario@serverubuntu18:~$ sudo systemctl stop NetworkManager
.usuario@serverubuntu18:~$ sudo systemctl disable NetworkManager
Removed /etc/systemd/system/multi-user.target.wants/NetworkManager.service.
Removed /etc/systemd/system/dbus-org.freedesktop.nm-dispatcher.service.
.usuario@serverubuntu18:~$ sudo systemctl mask NetworkManager
Created symlink /etc/systemd/system/NetworkManager.service → /dev/null.
.usuario@serverubuntu18:~$ sudo systemctl enable systemd-networkd.service
.usuario@serverubuntu18:~$ sudo systemctl start systemd-networkd.service
Created symlink /etc/systemd/system/dbus-org.freedesktop.network1.service → /lib/systemd/system/systemd-networkd.service.
Created symlink /etc/systemd/system/multi-user.target.wants/systemd-networkd.service → /lib/systemd/system/systemd-networkd.service.
Created symlink /etc/systemd/system/sockets.target.wants/systemd-networkd.socket → /lib/systemd/system/systemd-networkd.socket.
Created symlink /etc/systemd/system/network-online.target.wants/systemd-networkd-wait-online.service → /lib/systemd/system/systemd-networkd-wait-online.service.
.usuario@serverubuntu18:~$ sudo nano /etc/netplan/01-network-manager-all.yaml
```

Agora o netplan converteuse na opción primaria para configurar a rede, o que ademais parece unha opción más coherente para tratándose este equipo dun servidor. Como DNS primario establecemos a propia dirección IP do equipo. Tras activar o netplan e reiniciar o equipo, deshabilitamos o IPv6 de maneira provisional (decatámonos despois de que non funciona tras un novo arranque do sistema, e arranxarémos máis adiante).

```

# Let NetworkManager manage all devices on this system
network:
  version: 2
  renderer: networkd
  ethernets:
    enp0s3:
      dhcp: false
      addresses: [192.168.18.21/24]
      gateway: 192.168.18.1
      nameservers:
        search: [domaintolinux18.local]
        addresses: [192.168.18.21, 1.1.1.1]

[sudo] password for usuario:
usuario@serverubuntu18:~$ sudo netplan apply
[sudo] password for usuario:
usuario@serverubuntu18:~$ reboot

```

```

Get:9 http://es.archive.ubuntu.com/ubuntu bionic-updates/main l386 Packages [684 kB]
Get:10 http://es.archive.ubuntu.com/ubuntu bionic-updates/main and64 DEP-11 Metadata [305 kB]
Get:11 http://es.archive.ubuntu.com/ubuntu bionic-updates/universe l386 Packages [1.01 kB]
Get:12 http://es.archive.ubuntu.com/ubuntu bionic-updates/universe and64 DEP-11 Metadata [170 kB]
Get:13 http://es.archive.ubuntu.com/ubuntu bionic-updates/universe and64 DEP-11 Metadata [273 kB]
Get:14 http://es.archive.ubuntu.com/ubuntu bionic-updates/multiverse and64 DEP-11 Metadata [27.468 kB]
Get:15 http://es.archive.ubuntu.com/ubuntu bionic-backports/universe and64 DEP-11 Metadata [7.972 kB]
Fetched 4.652 kB in 4s (1.036 kB/s)
Reading package lists... Done
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
  efbbootmgr gir1.2-geocodex lib1.0 libiwlib0 libwayland-egl1-mesa ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
The following packages have been kept back:
  netplan.io
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
usuario@serverubuntu18:~$ hostname
serverubuntu18
usuario@serverubuntu18:~$ sudo nano /etc/hosts
usuario@serverubuntu18:~$ sudo systemctl stop NetworkManager
usuario@serverubuntu18:~$ sudo systemctl disable NetworkManager
Removed '/etc/systemd/system/multi-user.target.wants/NetworkManager.service'.
Removed '/etc/systemd/system/NetworkManager-wait-online.service'.
Removed '/etc/systemd/system/NetworkManager-wait-online.target'.
Removed '/etc/systemd/system/NetworkManager-wait-online.wants/NetworkManager-wait-online.service'.
usuario@serverubuntu18:~$ sudo systemctl mask NetworkManager
Created symlink /etc/systemd/system/NetworkManager.service → /dev/null.
usuario@serverubuntu18:~$ sudo systemctl unmask systemd-networkd.service
usuario@serverubuntu18:~$ sudo systemctl enable systemd-networkd.service
Created symlink /etc/systemd/system/dbus-org.freedesktop.network1.service → /lib/systemd/system/systemd-networkd.service.
Created symlink /etc/systemd/system/multi-user.target.wants/systemd-networkd.service → /lib/systemd/system/systemd-networkd.service.
Created symlink /etc/systemd/system/sockets.target.wants/systemd-networkd.socket → /lib/systemd/system/systemd-networkd.socket.
Created symlink /etc/systemd/system/network-online.target.wants/systemd-networkd-wait-online.service → /lib/systemd/system/systemd-networkd-wait-online.service.
usuario@serverubuntu18:~$ sudo systemctl start systemd-networkd.service
usuario@serverubuntu18:~$ sudo nano /etc/netplan/01-network-manager-all.yaml
usuario@serverubuntu18:~$ sudo netplan apply
[sudo] password for usuario:
usuario@serverubuntu18:~$ reboot

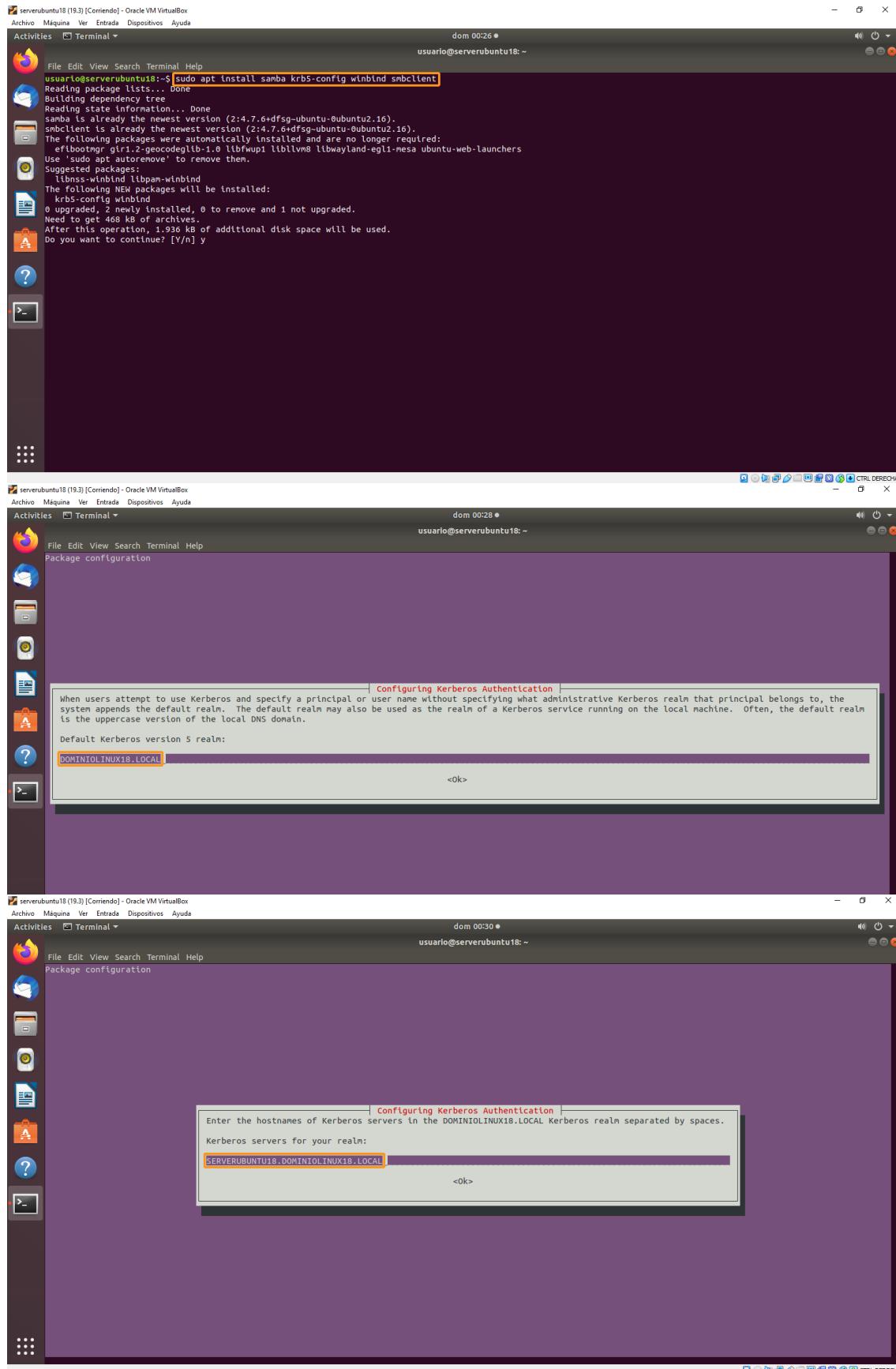
```

```

usuario@serverubuntu18:~$ ping www.google.es
PING www.google.es (216.58.211.35) 56(84) bytes of data.
64 bytes from muc03s14-in-f35.1e100.net (216.58.211.35): icmp_seq=1 ttl=44 time=40.6 ms
64 bytes from muc03s14-in-f35.1e100.net (216.58.211.35): icmp_seq=2 ttl=44 time=40.4 ms
64 bytes from muc03s14-in-f35.1e100.net (216.58.211.35): icmp_seq=3 ttl=44 time=41.4 ms
^C
--- www.google.es ping statistics ---
3 packets transmitted, 3 packets received, 0% packet loss, time 200ms
rtt min/avg/max/mdev = 40.478/40.859/41.432/0.445 ms
usuario@serverubuntu18:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
      inet 192.168.18.21  netmask 255.255.255.0  broadcast 192.168.18.255
              inet6 fe80::1802:27ff:fece:3c2e  brd fe80::fe18:27ff:fece:3c2e  scopeid 0x20<link>
      ether 08:00:27:ce:3c:2e  txqueuelen 1000  (Ethernet)
          RX packets 554  bytes 737741 (737.7 KB)
          RX errors 0  dropped 0  overruns 0  frame 0
          TX packets 440  bytes 51273 (51.2 KB)
          TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
      inet 127.0.0.1  netmask 255.0.0.0
      inet6 ::1  prefixlen 128  scopeid 0x10<host>
      loop  txqueuelen 1000  (Local Loopback)
          RX packets 85  bytes 8429 (8.4 KB)
          RX errors 0  dropped 0  overruns 0  frame 0
          TX packets 85  bytes 8429 (8.4 KB)
          TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0
usuario@serverubuntu18:~$ sudo sysctl -w net.ipv6.conf.all.disable_ipv6=1
net.ipv6.conf.all.disable_ipv6=1
usuario@serverubuntu18:~$ sudo sysctl -w net.ipv6.conf.default.disable_ipv6=1
net.ipv6.conf.default.disable_ipv6=1
usuario@serverubuntu18:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
      inet 192.168.18.21  netmask 255.255.255.0  broadcast 192.168.18.255
              inet6 fe80::1802:27ff:fece:3c2e  brd fe80::fe18:27ff:fece:3c2e  scopeid 0x20<link>
      ether 08:00:27:ce:3c:2e  txqueuelen 1000  (Ethernet)
          RX packets 555  bytes 737876 (737.8 KB)
          RX errors 0  dropped 0  overruns 0  frame 0
          TX packets 442  bytes 51548 (51.5 KB)
          TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

```

Agora imos **instalar os paquetes necesarios** en relación ó Samba 4. Tras isto, vaise **iniciar a configuración de Kerberos**. Xurdirá un menú interactivo, no que debemos introducir, en maiúsculas, os datos do servidor e o dominio.



Posteriormente, debemos configurar o sistema de archivos a empregar no noso dominio, editando o arquivo [/etc/fstab] na liña sobre o formato ext4.

The image consists of three vertically stacked screenshots of a Ubuntu 18.04 LTS desktop environment running in Oracle VM VirtualBox. The desktop has a purple theme with a dark panel at the top.

Screenshot 1: A terminal window titled "Configuring Kerberos Authentication". It displays a configuration dialog box asking for the hostname of the administrative server for the "DOMINIOLINUX18.LOCAL" Kerberos realm. The input field contains "SERVERUBUNTU18.DOMINIOLINUX18.LOCAL". Below the input field is an "Ok" button.

Screenshot 2: A terminal window showing the output of a package installation command. The command "sudo apt install winbind" is run, and the terminal shows the progress of the download and installation of packages like "libnss-winbind", "libpam-winbind", and "krb5-config". The terminal ends with the command "sudo nano /etc/fstab".

Screenshot 3: A terminal window titled "GNU nano 2.9.3" showing the contents of the "/etc/fstab" file. The file contains several entries, including one for a swap partition and one for a Windows share. The entry for the Windows share is highlighted with a yellow selection bar. The command "ctrl d" is shown at the bottom right of the terminal window.

Tras isto reiniciamos o equipo. Aí procedemos a [desactivar o IPv6 permanentemente](#), pois decatámonos que os dous comandos anteriores só funcionan ata que o sistema volve a cargarse. Para acadalo, configuraremos o GRUB para editar os parámetros do kernel e que así se manteñan os cambios tras cada inicio do sistema.

```

serverubuntu18 (19.3) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal dom 00:49 ●
usuario@serverubuntu18:~$ sudo apt autoremove
Building dependency tree
Reading state information... done
samba is already the newest version (2:4.7.6+dfsg-ubuntu-0ubuntu2.16).
smbclient is already the newest version (2:4.7.6+dfsg-ubuntu-0ubuntu2.16).
The following packages were automatically installed and are no longer required:
  efbbootmgr gir1.2-geocodexlibg-1.0 libfwupl1 liblivm8 libwayland-egl1-mesa ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
Suggested packages:
  libnss-wlnbind libpam-wlnbind
The following NEW packages will be installed:
  krb5-config wlnbind
0 upgraded, 2 newly installed, 0 to remove and 1 not upgraded.
Need to get 468 kB of archives.
After this operation, 236 kB of additional disk space will be used.
Do you want to continue? [y/n] y
Get:1 http://es.archive.ubuntu.com/ubuntu bionic/c/main amd64 krb5-config all 2.6 [22,6 kB]
Get:2 http://es.archive.ubuntu.com/ubuntu bionic-updates/main amd64 winbind amd64 2:4.7.6+dfsg-ubuntu-0ubuntu2.16 [445 kB]
Fetched 468 kB in 0s (348 kB/s)
Preconfiguring packages...
Selecting previously unselected package krb5-config.
(Reading database ... 168838 files and directories currently installed.)
Preparing to unpack .../krb5-config_2.6_all.deb ...
Unpacking krb5-config (2.6) ...
Selecting previously unselected package wlnbind.
Preparing to unpack .../wlnbind_2:83a4.7.6+dfsg-ubuntu-0ubuntu2.16_amd64.deb ...
Unpacking wlnbind (2:4.7.6+dfsg-ubuntu-0ubuntu2.16) ...
Setting up wlnbind (2:4.7.6+dfsg-ubuntu-0ubuntu2.16) ...
mkdir: created directory '/var/lib/samba/wlnbindd_privileged'
changed group of '/var/lib/samba/wlnbindd_privileged' from root to wlnbindd_priv
mode of '/var/lib/samba/wlnbindd_privileged' changed from 0755 (rwxr-xr-x) to 0750 (rwxr-x---)
Created symlink /etc/systemd/system/multi-user.target.wants/wlnbind.service → /lib/systemd/system/wlnbind.service.
Setting up krb5-config (2.6) ...
Processing triggers for libc-bin (2.27-3ubuntu1) ...
Processing triggers for systemd (237-3ubuntu14) ...
Processing triggers for man-db (2.7.6-1ubuntu1) ...
Processing triggers for manpages (4.10-1) ...
Processing triggers for manpages-common (0.100.0-21) ...
usuario@serverubuntu18:~$ sudo nano /etc/fstab
[sudo] password for usuario:
usuario@serverubuntu18:~$ sudo shutdown -r 0

```



```

serverubuntu18 (p19.5) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal dom 02:07 ●
usuario@serverubuntu18:~$ sudo nano /etc/default/grub

```



```

serverubuntu18 (19.3) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal dom 01:07 ●
usuario@serverubuntu18:~$ sudo nano /etc/default/grub
GNU nano 2.9.3
# If you change this file, run 'update-grub' afterwards to update
# /boot/grub/grub.cfg.
# For full documentation of the options in this file, see:
#   info f grub -n 'Simple configuration'

GRUB_DEFAULT=0
GRUB_TIMEOUT_STYLE=hidden
GRUB_TIMEOUT=8
GRUB_DISTRIBUTOR=`lsb_release -i -s` || echo Debian
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash ipv6.disable=1"
GRUB_CMDLINE_LINUX="ipv6.disable=1"

# Uncomment to enable BadRAM filtering, modify to suit your needs
# This works with Linux (no patch required) and with any kernel that obtains
# the memory map information from GRUB (GNU Mach, kernel of FreeBSD ...)
#GRUB_BADRAM="0x01234567,0xfffffe,0x89abcdef,0xefefef"

# Uncomment to disable graphical terminal (grub-pc only)
#GRUB_TERMINAL=console

# The resolution used on graphical terminal
# note that you can use only modes which your graphic card supports via VBE
# you can see them in real GRUB with the command 'vbeinfo'
#GRUB_GFXMODE=640x480

# Uncomment if you don't want GRUB to pass "root=UUID=xxx" parameter to Linux
#GRUB_DISABLE_LINUX_UUID=true

# Uncomment to disable generation of recovery mode menu entries
#GRUB_DISABLE_RECOVERY="true"

# Uncomment to get a beep at grub start
#GRUB_INIT_TUNE="480 440 1"

```

Tras isto, imos **instalar o servizo ntp**. Unha vez rematou, debemos **deshabilitar o arquivo de configuración predeterminado de Samba**, cambiando o seu nome para ter a posibilidade de recuperalo nun futuro, pero realizar igual a configuración dende cero. Agora estamos listos para **promover o equipo como controlador do dominio**, facéndoo de maneira interactiva mediante o comando [<# sudo samba-tool domain provision]. Así pois, iremos cubrindo todos os campos con letras maiúsculas.

```

serverubuntu18 (19.3) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal dom 01:14 ● usuario@serverubuntu18:~ 
File Edit View Search Terminal Help
Reading package lists... done
Building dependency tree...
Reading state information...
The following packages were automatically installed and are no longer required:
  efbbootmgr gir1.2-geocodexlib-1.0 libfwuplib libllvmm8 libwayland-egl1-mesa ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libopts25 ntp
Suggested packages:
  ntp-doc
The following NEW packages will be installed:
  libopts25 ntp
0 upgraded, 3 newly installed, 0 to remove and 1 not upgraded.
Need to get 785 kB of archives.
After this operation, 2,393 kB of additional disk space will be used.
Do you want to continue? [Y/n] y

serverubuntu18 (p19.4) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal dom 01:31 ● usuario@serverubuntu18:~ 
File Edit View Search Terminal Help
Created symlink /etc/systemd/system/network-pre.target.wants/ntp-systemd-netif.path → /lib/systemd/system/ntp-systemd-netif.path.
Created symlink /etc/systemd/system/multi-user.target.wants/ntp.service → /lib/systemd/system/ntp.service.
ntp-systemd-netif.service is a disabled or a static unit, not starting it.
Processing triggers for systemd (237-3ubuntu0.41) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for ureadahead (0.100.0-11) ...
Reading package lists... done
Reading state information...
The following packages were automatically installed and are no longer required:
  efbbootmgr gir1.2-geocodexlib-1.0 libfwuplib libllvmm8 libwayland-egl1-mesa ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  ntpdate
0 upgraded, 1 newly installed, 0 to remove and 1 not upgraded.
After this operation, 483 kB of additional disk space will be used.
Get:1 http://es.archive.ubuntu.com/ubuntu bionic-updates/universe amd64 ntpdate amd64 1:4.2.8p10+dfsg-5ubuntu7.1 [51,8 kB]
Fetched 51,8 kB in 0s (235 kB/s)
Selecting previously unselected package ntpdate.
(Reading database ... 168965 files and directories currently installed.)
Preparing to unpack .../ntpdate_1:4.2.8p10+dfsg-5ubuntu7.1_amd64.deb ...
Unpacking ntpdate (1:4.2.8p10+dfsg-5ubuntu7.1) ...
Setting up ntpdate (1:4.2.8p10+dfsg-5ubuntu7.1) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
usuario@serverubuntu18:~$ sudo service ntp stop
usuario@serverubuntu18:~$ sudo service ntp start
31 May 01:17:46 ntpdate[3471]: adjust time on server 212.183.233.76 offset 0.044879 sec
usuario@serverubuntu18:~$ sudo mv /etc/samba/smb.conf /etc/samba/smb.conf.old
usuario@serverubuntu18:~$ sudo samba-tool domain provision
Realm [DOMINIOLINUX18.LOCAL]: DOMINIOLINUX18.LOCAL
Domain [DOMINIOLINUX18]: DOMINIOLINUX18
Server Role (dc, member, standalone) [dc]: dc
DNS backend (SAMBA_INTERNAL, BIND9_FLATFILE, BIND9_DLZ, NONE) [SAMBA_INTERNAL]: SAMBA_INTERNAL
DNS forwarder IP address (write 'none' to disable forwarding) [127.0.0.53]: 1.1.1.1
Administrator password:
Retype password:
usuario@serverubuntu18:~$ 

serverubuntu18 (p19.4) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal dom 01:32 ● usuario@serverubuntu18:~ 
File Edit View Search Terminal Help
Retype password:
Looking up IPv4 addresses
Looking up IPv6 addresses
No IPv6 address will be assigned
Setting up secretsldb
Setting up secrets.ldb
Setting up the registry
Setting up the privileges database
Setting up idmap db
Setting up SAM db
Setting up sam.ldb partitions and settings
Setting up sam.ldb rootDSE
Pre-loading the Samba 4 and AD schema
Adding domainDN: DC=dominiolinux18,DC=local
Adding configuration container
Setting up secrets schema
Setting up sam.ldb configuration data
Setting up display specifiers
Modifying display specifiers
Adding users container
Modifying users container
Adding computers container
Modifying computers container
Setting up sam.ldb data
Setting up well known security principals
Setting up sam.ldb users and groups
Setting up self container
Adding DNS accounts
Creating CN=MicrosoftDNS,CN=System,DC=dominiolinux18,DC=local
Creating DomainDnsZones and ForestDnsZones partitions
Populating DomainDnsZones and ForestDnsZones partitions
Setting up sam.ldb rootDSE marking as synchronized
Fixing provision GUIDs
A Kerberos configuration suitable for Samba AD has been generated at /var/lib/samba/private/krb5.conf
Once the above files are installed, your Samba AD server will be ready to use
Server Role:      active directory domain controller
Hostname:        serverubuntu18
NetBIOS domain:  DOMINIOLINUX18
DNS Domain:      dominiolinux18.local
DOMAIN SID:      S-1-5-21-650885301-1959232620-1149579741

```

Agora debemos mover o arquivo de configuración de Kerberos a súa ruta correcta, en [/etc]. Tras isto, debemos deshabilitar os servizos relacionados coa resolución de nomes. Posteriormente, imos crear o arquivo /etc/resolv.conf, que tivemos que eliminar xusto antes porque é un enlace a outra ruta. Nel establecemos o nome do dominio e a IP do equipo, que funcionará como o propio DNS resolver. Deshabilitar o NetworkManager e eliminar o rastro do sistema de resolución de nomes é o único método que funcionou para que a configuración do arquivo non se modifique automaticamente coa IP predeterminada [127.0.0.53]. Por último, imos comprobar o funcionamento do dominio Samba 4 e Kerberos, cunha serie de comandos que demostran que o proceso foi satisfactorio.

```

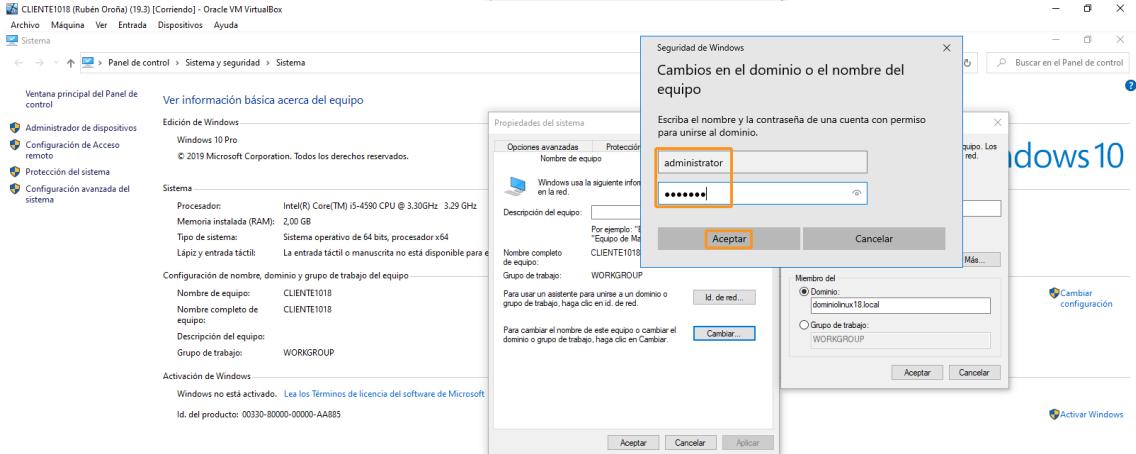
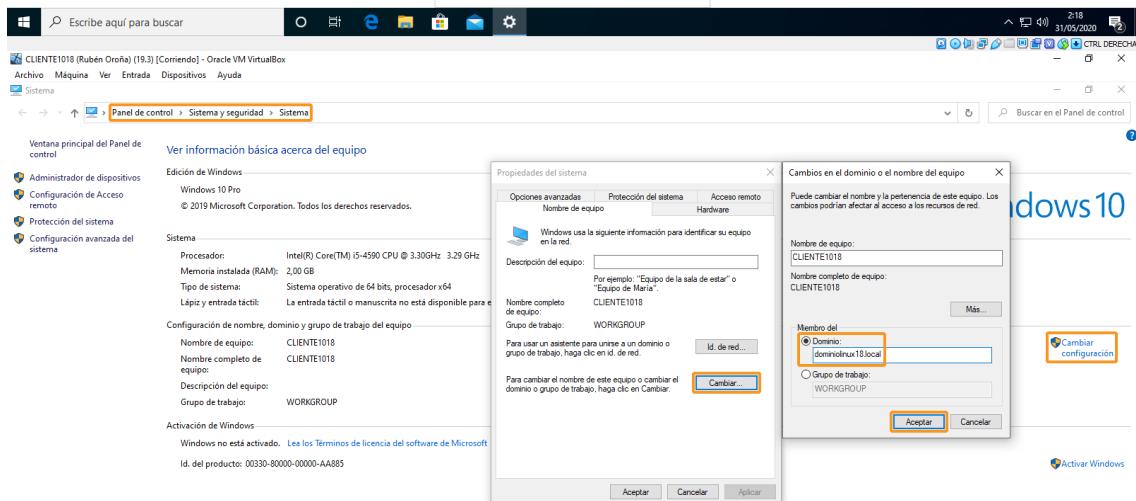
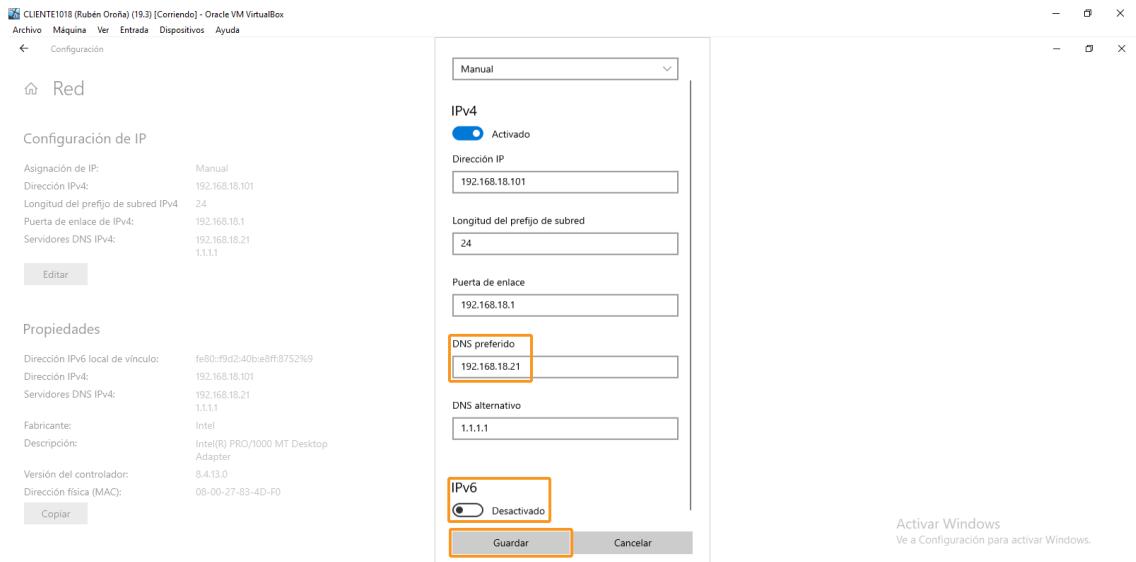
serverubuntu18 (p19.4) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal dom 01:41 ● usuario@serverubuntu18: ~
File Edit View Search Terminal Help
Adding users container
Modifying users container
Adding computers container
Modifying computers container
Setting up initial data
Setting up well known security principals
Setting up san.lldb users and groups
Setting up self join
Adding DNS accounts
Creating CN=MicrosoftDNS,CN=System,DC=dominiolinux18,DC=local
Creating DomainDnsZones and ForestDnsZones partitions
Populating DomainDnsZones and ForestDnsZones partitions
Setting up sam.ldb rootDSE marking as synchronized
Fixing provision GUIDs
A Kerberos configuration suitable for Samba AD has been generated at /var/lib/samba/private krb5.conf
Once the above files are installed, your Samba AD server will be ready to use
Server Role: active directory domain controller
Hostname: serverubuntu18
NetBIOS Domain: DOMINOLINUX18
DNS Domain: dominiolinux18.local
DOMAIN SID: S-1-5-21-650885301-1959232620-1149579741
usuario@serverubuntu18:~$ sudo cp /var/lib/samba/private/krb5.conf /etc/
usuario@serverubuntu18:~$ sudo systemctl stop smbd nmbd winbind systemd-resolved
usuario@serverubuntu18:~$ sudo systemctl disable smbd nmbd winbind systemd-resolved
Synchronizing state of smbd.service with sysv service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install disable smbd
Synchronizing state of nmbd.service with sysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install disable nmbd
Synchronizing state of winbind.service with sysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install disable winbind
Removed /etc/systemd/system/dbus-org.freedesktop.resolve1.service.
Removed /etc/systemd/system/multi-user.target.wants/systemd-resolved.service.
usuario@serverubuntu18:~$ sudo systemctl unmask samba-ad-dc
Removed /etc/systemd/system/samba-ad-dc.service.
usuario@serverubuntu18:~$ sudo ln -s /etc/resolv.conf
ln: failed to create symbolic link '/etc/resolv.conf' to '../run/systemd/resolve/stub-resolv.conf'
usuario@serverubuntu18:~$ sudo rm /etc/resolv.conf
usuario@serverubuntu18:~$ sudo nano /etc/resolv.conf

serverubuntu18 (p19.4) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal dom 01:43 ● usuario@serverubuntu18: ~
File Edit View Search Terminal Help
GNU nano 2.9.3 /etc/resolv.conf Modified
nameserver 192.168.18.21
search dominiolinux18.local

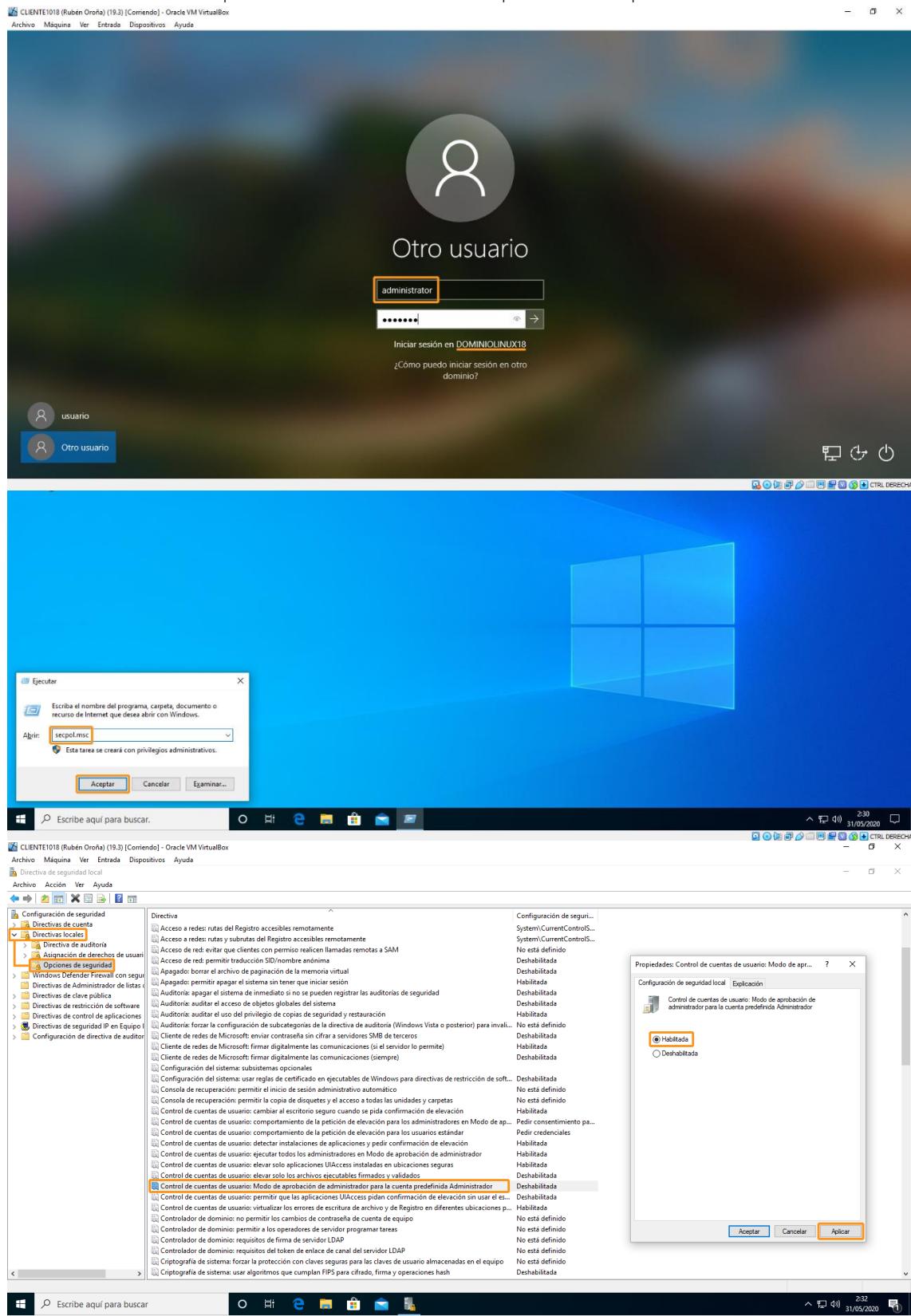
serverubuntu18 (p19.4) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Activities Terminal dom 02:01 ● usuario@serverubuntu18: ~
File Edit View Search Terminal Help
sudo systemctl start samba-ad-dc
sudo systemctl enable samba-ad-dc
Synchronizing state of samba-ad-dc.service with sysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable samba-ad-dc
sudo samba-tool domain level show
Domain and forest function level for domain 'DC=dominiolinux18,DC=local'
Forest function level: (Windows) 2008 R2
Domain function level: (Windows) 2008 R2
Lsass function level of a DC: (Windows) 2008 R2
host -t SRV ldap.tcp.dominiolinux18.local
host -t SRV kerberos.udp.dominiolinux18.local
kerberos.udp.dominiolinux18.local has SRV Record 0 100 88 serverubuntu18.dominiolinux18.local.
host -t A serverubuntu18.dominiolinux18.local
serverubuntu18.dominiolinux18.local has address 192.168.18.21
sudo smbclient -L serverubuntu18.dominiolinux18.local -U 'administrator'
Enter DOMINOLINUX18\administrator's password:
Sharename Type Comment
----- -----
netlogon Disk
sysvol Disk
IPC$ IPC IPC Service (Samba 4.7.6-Ubuntu)
compartidlinux Disk
Reconnecting with SMB1 for workgroup listing.
Server Comment
----- -----
Workgroup Master
----- -----
WORKGROUP SERVERUBUNTU18
sudo smbclient //localhost/netlogon -U 'administrator'
Enter DOMINOLINUX18\administrator's password:
Try "help" to get a list of possible commands.
smb: > exit
usuario@serverubuntu18:~$ 
```

E. Converter o Windows10 en administrador remoto do dominio

O primeiro paso será **configurar unha IP estática**, establecendo como DNS primario a IP do servidor Ubuntu. Aproveitamos tamén para deshabilitar o IPv6. Tras isto, imos **unir a computadora ó dominio Samba 4**, no apartado de sistema do equipo.



Agora podemos **iniciar sesión co administrador do dominio**. Antes de continuar coa práctica, debemos **axustar as directivas de seguridade do cliente**, pois precisaremos conexión a Internet. Para elo, prememos a combinación windows + R e executamos [secpol.msc]. Cando se abra o menú, entramos nas directivas de seguridade local e habilitamos a opción Control de contas: Modo de aprobación de administrador para a conta predefinida Administrador.



Tras isto, imos **instalar as ferramentas RSAT**. Para elo, entramos no menú Aplicacións e prememos en características opcionais. Aí facemos clic en agregar características, e instalamos todas as relacionadas coas RSAT.

Aplicaciones y características

Elige de dónde quieres obtener aplicaciones
La instalación de aplicaciones solo desde Microsoft Store ayuda a proteger tu dispositivo.
De cualquier lugar

Aplicaciones y características

Características opcionales

Alias de ejecución de aplicaciones

Busca, ordena y filtra por unidad. Si quieras desinstalar o mover una aplicación, seleccionala de la lista.
Buscar en esta lista

Ordenar por: Nombre Filtrar por: Todas las unidades

| Nombre | Tamaño | Última actualización |
|---|---------|----------------------|
| 3D Builder | 8.00 KB | 31/05/2020 |
| Alarms y reloj | 16.0 KB | 31/05/2020 |
| Asistente para actualización a Windows 10 | 5.00 MB | |

Características opcionales

Ver historial de características opcionales

Agregar una característica

| Nombre | Tamaño |
|--|---------|
| Asistencia rápida de Microsoft | 1.44 MB |
| Cliente OpenSSH | 5.05 MB |
| Escrutura en español (España) | 41.3 MB |
| Internet Explorer 11 | 1.60 MB |
| Reconocedor matemático | 16.6 MB |
| Reconocimiento de voz en español (España) | 61.5 MB |
| Reconocimiento óptico de caracteres del español (España) | 238 KB |
| Reproductor de Windows Media | 46.1 MB |

Características del sistema

RSAT: Administrador del servidor

RSAT: Cliente de administración de direcciones IP (IPAM)

RSAT: Herramientas de activación de volumen

RSAT: Herramientas de Active Directory Domain Services y Lightweight Directory Services

RSAT: Herramientas de administración de acceso remoto

RSAT: Herramientas de administración de controladora de red

RSAT: Herramientas de administración de directivas de grupo

RSAT: herramientas de administración de servicios de migración de almacenamiento

RSAT: Herramientas de clústeres de conmutación por error

RSAT: Herramientas de equilibrio de carga de red

RSAT: Herramientas de LLDP de puente del centro de datos

Por último, imos **crear un usuario** para comprobar o funcionamiento das capacidades de administración de dominio.

The screenshots illustrate the process of creating a new user account in Active Directory from a Windows 10 client machine connected to a domain controller.

Screenshot 1: The Windows Start menu is open, showing the search bar and pinned icons. The taskbar shows the Oracle VM VirtualBox icon.

Screenshot 2: The "Usuarios y equipos de Active Directory" (Active Directory Users and Computers) snap-in is open. The left pane shows the tree structure: Consultas guardadas, dominiolinux18.local (with sub-nodes: Computers, Builtin, Domain Controllers, ForeignSecurityPrincipals), and Usuarios y equipos de Active Directory. The right pane lists various built-in groups like OnUpdateProxy, Domain Computers, Domain Controllers, etc. A context menu is open over the "Nuevo" option, with "Usuario" highlighted.

Screenshot 3: The "Nuevo objeto: Usuario" (New Object: User) dialog box is displayed. It shows fields for Nombre de pila (First Name): "proba1", Nombre completo (Full Name): "proba1", Nombre de inicio de sesión de usuario (User logon name): "proba1", and Nombre de inicio de sesión de usuario (anterior a Windows 2000) (Older Windows logon name): "DOMINOLINUX18\proba1". Buttons at the bottom include "Atrás" (Back), "Siguiente >" (Next >), and "Cancelar" (Cancel).

Screenshot 4: The "Nuevo objeto: Usuario" dialog box is shown again, this time with the "Contraseña:" (Password) field filled with "*****" and the "Confirmar contraseña:" (Confirm password) field also filled with "*****". There are several checkboxes at the bottom: "El usuario debe cambiar la contraseña en el siguiente inicio de sesión" (The user must change the password at the next logon) is unchecked; "El usuario no puede cambiar la contraseña" (The user cannot change the password) is unchecked; "La contraseña nunca expira" (The password never expires) is checked; and "La cuenta está deshabilitada" (The account is disabled) is unchecked. Buttons at the bottom include "Atrás" (Back), "Siguiente >" (Next >), and "Cancelar" (Cancel).

Terminamos de crear o usuario, e comprobamos que podemos iniciar sesión con el.

