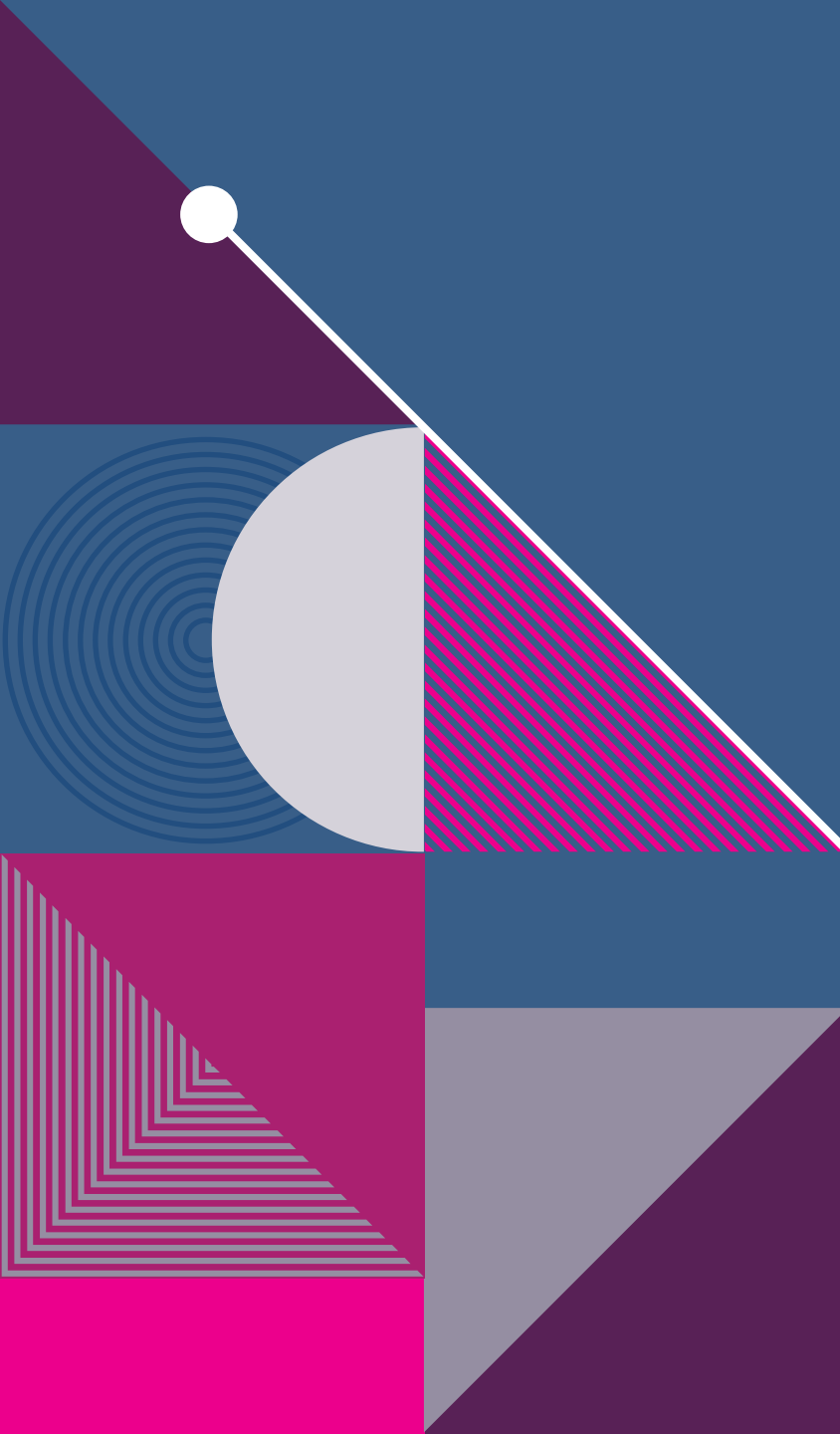


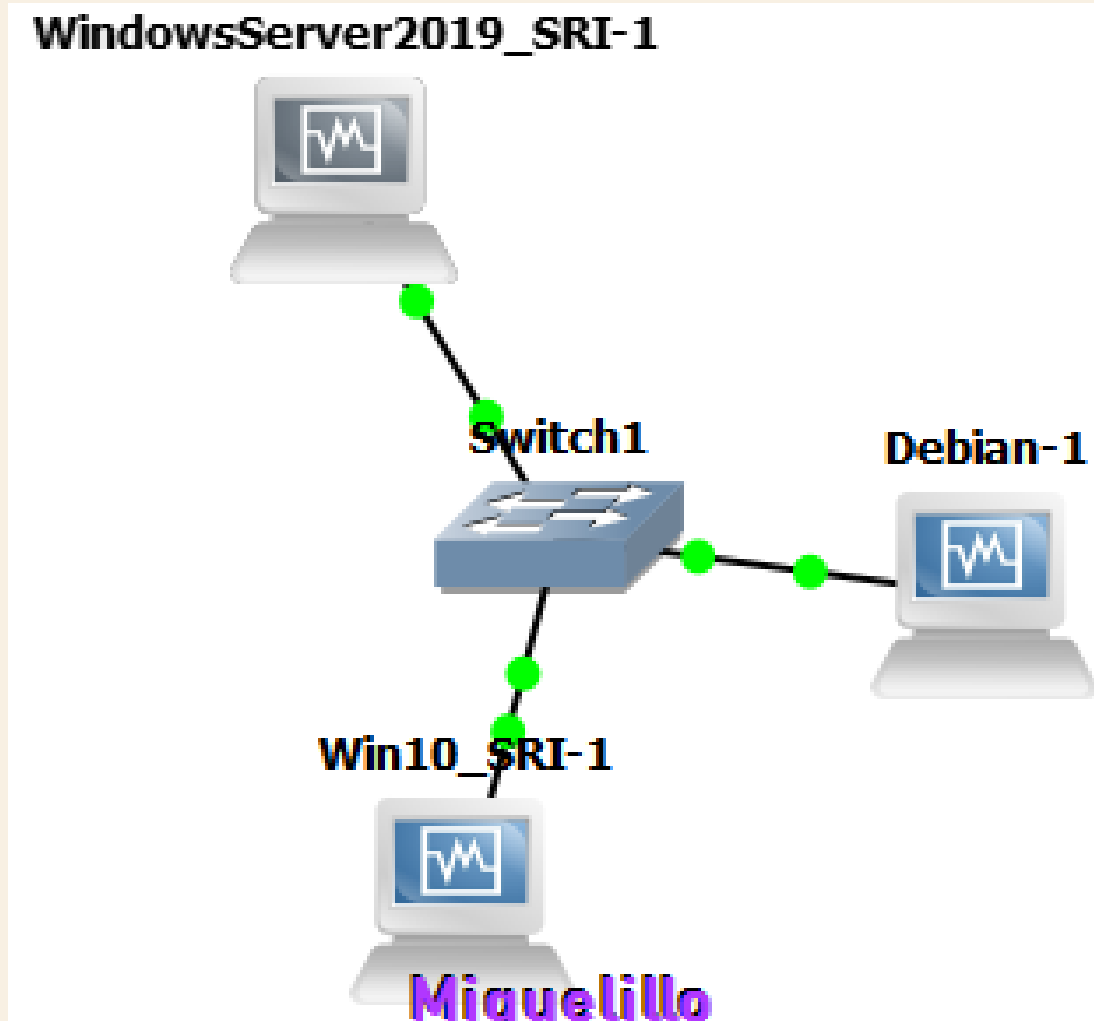


CONFIGURACION NTP EN WINDOWS & LINUX

Miguel Lillo Romero

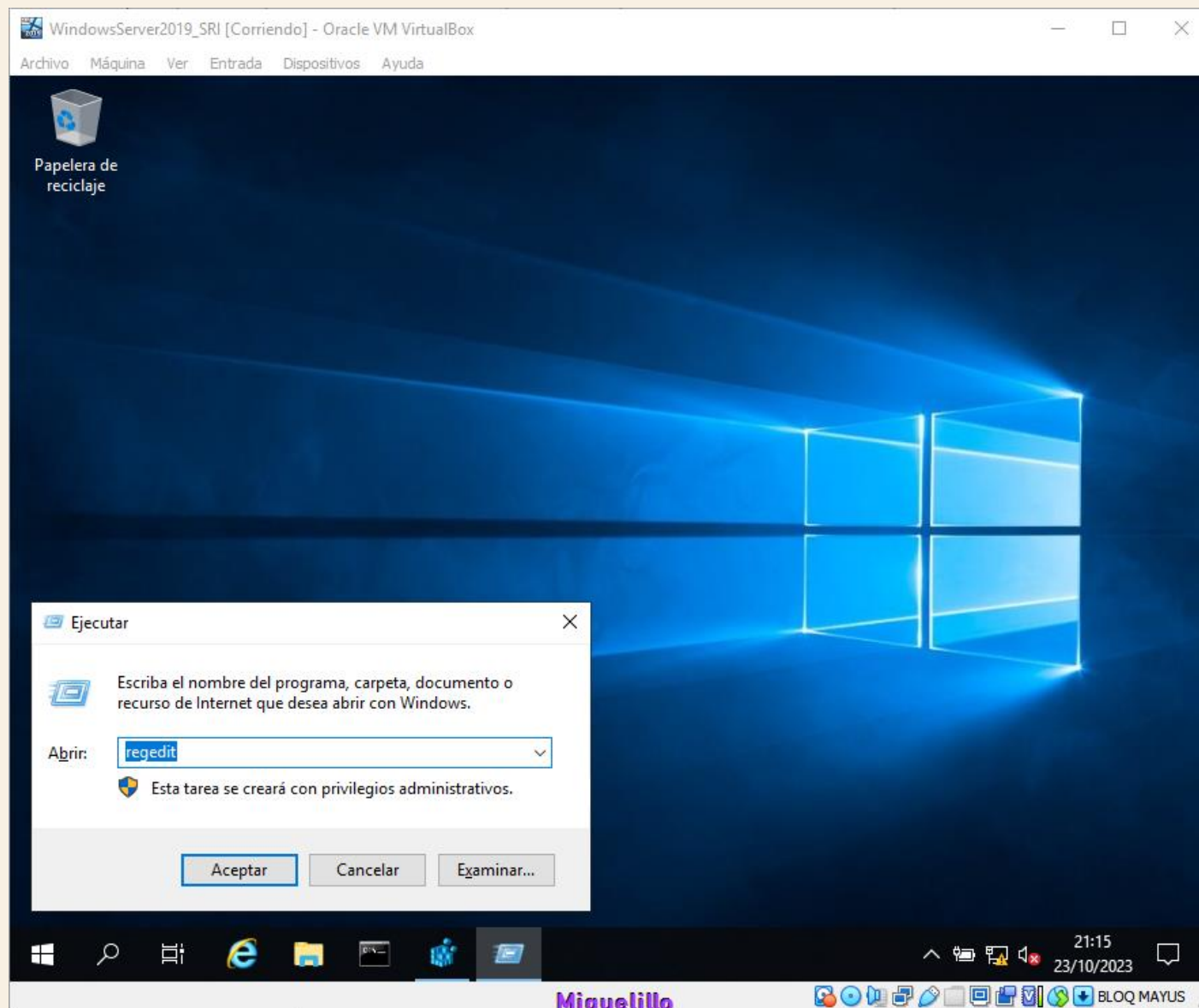
WINDOWS

Escenario



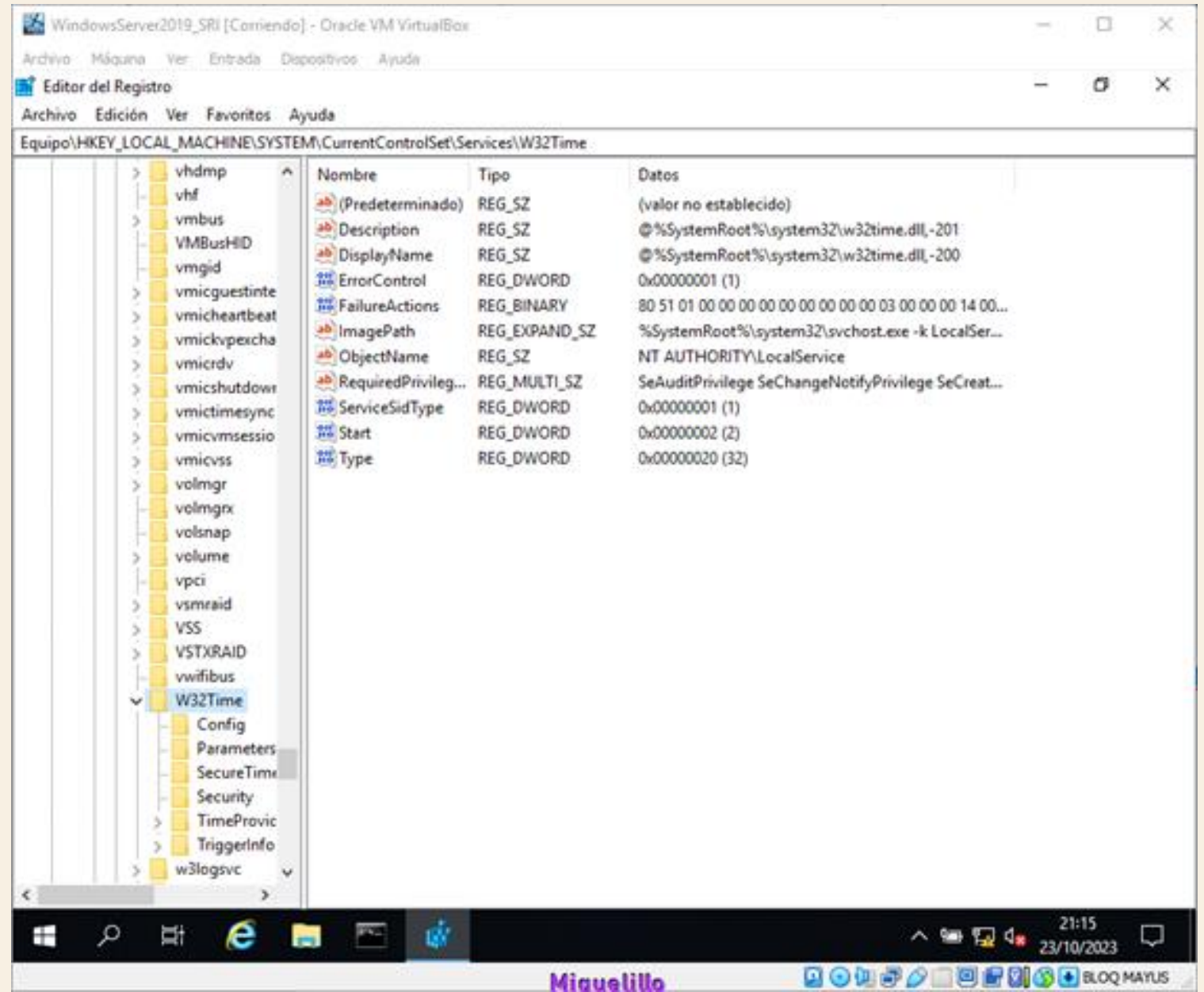
WINDOWS

Lo primero que haremos en Windows es entrar en el Editor de Registro para ello Win + R y escribimos regedit



WINDOWS

Una vez dentro vamos a HKEY_LOCAL_MACHINE→ System→ CurrentControlSet→ Services→ W32Time



WINDOWS

Vamos a Config y configuramos los valores

WindowsServer2019_SRI [Corriendo] - Oracle VM VirtualBox

Archivo Máquina Ver Entrada Dispositivos Ayuda

Editor del Registro

Archivo Edición Ver Favoritos Ayuda

Equipo\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Config

Nombre	Tipo	Datos
(Predeterminado)	REG_SZ	(valor no establecido)
AnnounceFlags	REG_DWORD	0x00000004 (4)
ClockAdjustme...	REG_DWORD	0x00000320 (800)
ClockHoldoverP...	REG_DWORD	0x00001e78 (7800)
EventLogFlags	REG_DWORD	0x00000002 (2)
FrequencyCorre...	REG_DWORD	0x00000004 (4)
HoldPeriod	REG_DWORD	0x00000005 (5)
LargePhaseOffset	REG_DWORD	0x02faf080 (50000000)
LastKnownGood...	REG_QWORD	0x1da05de310d8d74 (133425590824701300)
LocalClockDispe...	REG_DWORD	0x0000000a (10)
MaxAllowedPha...	REG_DWORD	0x0000012c (300)
MaxNegPhaseC...	REG_DWORD	0x00000e10 (3600)
MaxPollInterval	REG_DWORD	0x0000000a (10)
MaxPosPhaseCo...	REG_DWORD	0x00000e10 (3600)
MinPollInterval	REG_DWORD	0x00000006 (6)
PhaseCorrectRate	REG_DWORD	0x00000007 (7)
PollAdjustFactor	REG_DWORD	0x00000005 (5)
SpikeWatchPeriod	REG_DWORD	0x00000384 (900)
TimeJumpAudit...	REG_DWORD	0x00007080 (28800)
UpdateInterval	REG_DWORD	0x00000064 (100)
UtilizeSslTimeDa...	REG_DWORD	0x00000001 (1)

Editar valor de DWORD (32 bits)

Nombre de valor:
MaxPosPhaseCorrection

Información del valor:
3600

Base
☐ Hexadecimal
☒ Decimal

Aceptar Cancelar

lunes, 23 de octubre de 2023

21:39
23/10/2023

Miguelillo

BLOQ MAYUS

WINDOWS

Cambiamos el valor de Type que se encuentra dentro de Parameters

WindowsServer2019_SRI [Corriendo] - Oracle VM VirtualBox

Archivo Máquina Ver Entrada Dispositivos Ayuda

Editor del Registro

Archivo Edición Ver Favoritos Ayuda

Equipo\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Parameters

Nombre	Tipo	Datos
(Predeterminado)	REG_SZ	(valor no establecido)
NtpServer	REG_SZ	time.windows.com,0x8
ServiceDll	REG_EXPAND_SZ	%systemroot%\system32\w32time.dll
ServiceDllUnloa...	REG_DWORD	0x00000001 (1)
ServiceMain	REG_SZ	ServiceMain_W32Time
Type	REG_SZ	NT5DS

Editar cadena

Nombre de valor:
Type

Información del valor:
NTP

Aceptar Cancelar

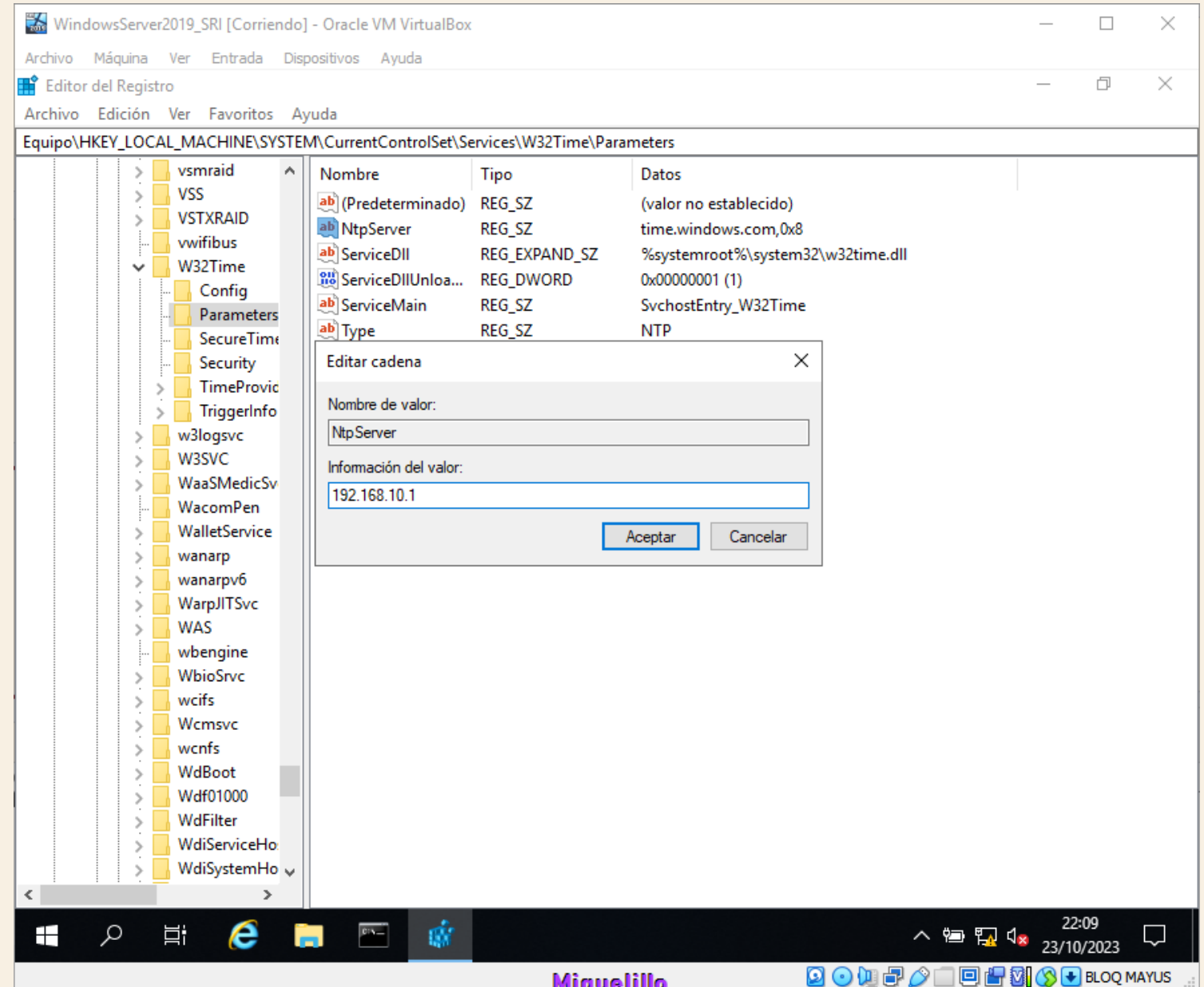
miguel1.edu
Sin acceso a Internet

BLOQ MAYUS

Miguelillo

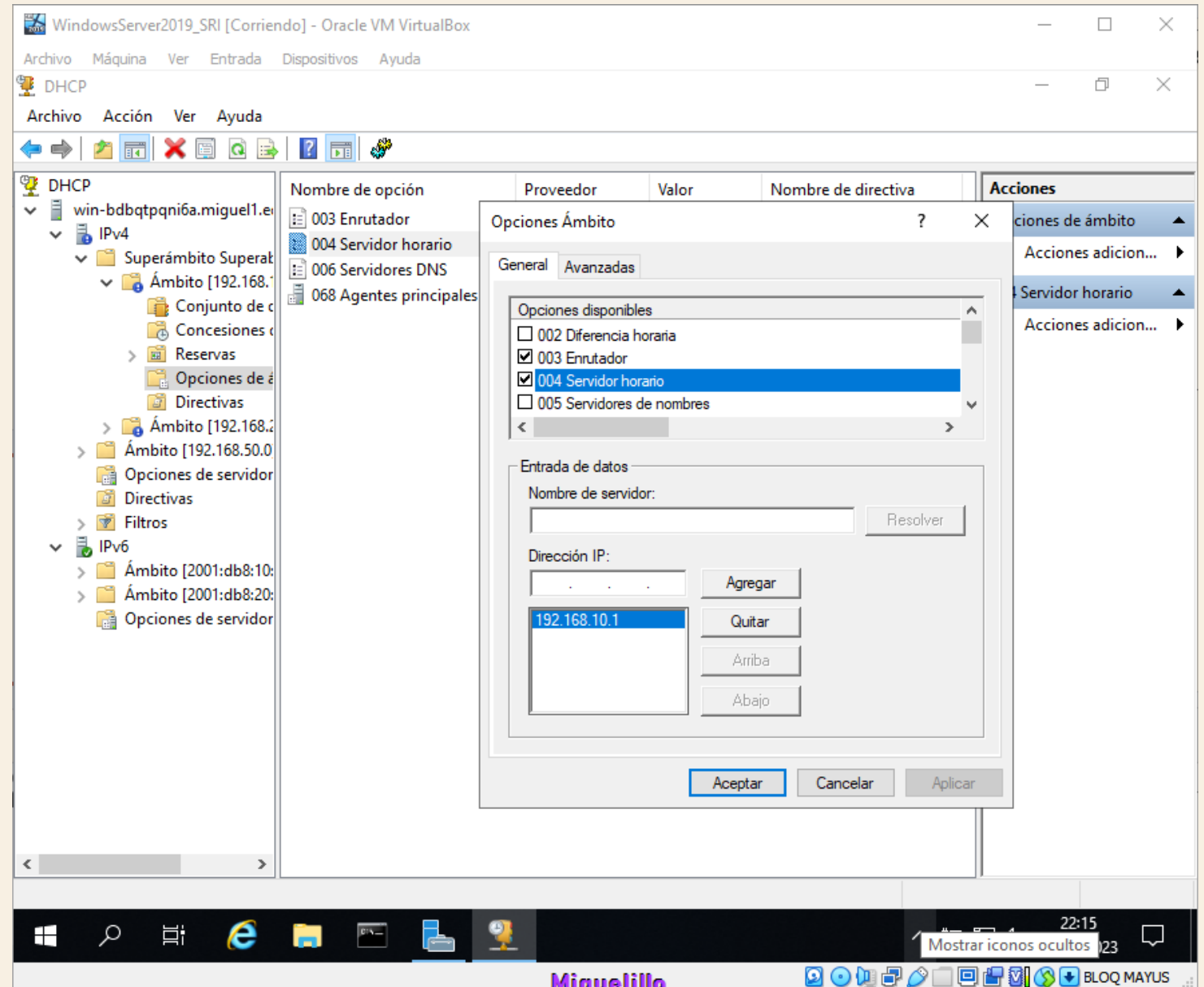
WINDOWS

Ponemos la IP del servidor en NtpServer



WINDOWS

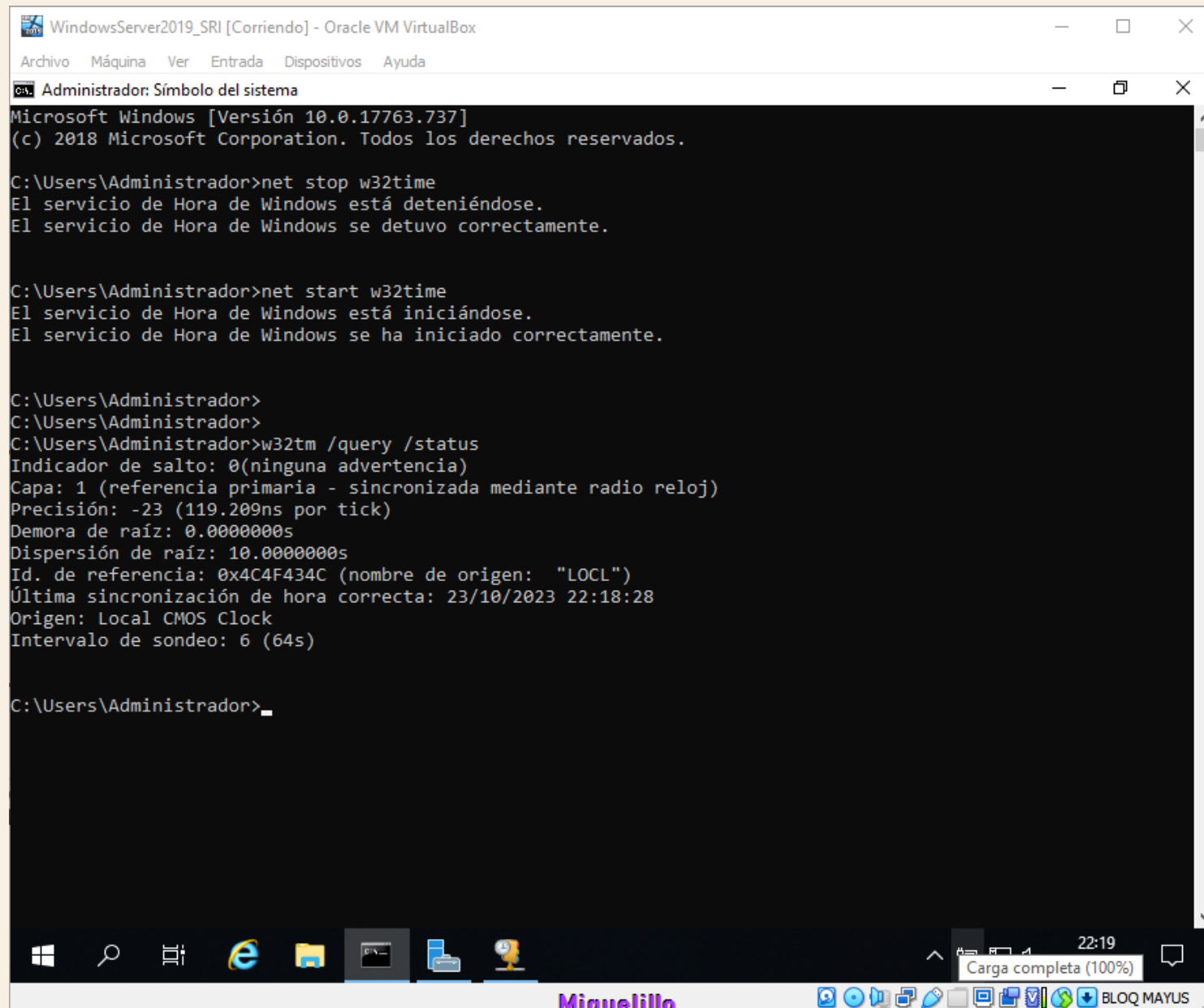
Vamos a DHCP y configuramos en Opciones del servidor el Servidor de Horario



WINDOWS

Para iniciarlo ponemos abrimos CMD en el sevidor y reiniciamos el servicio con :

```
net stop w32time  
net start w32time
```



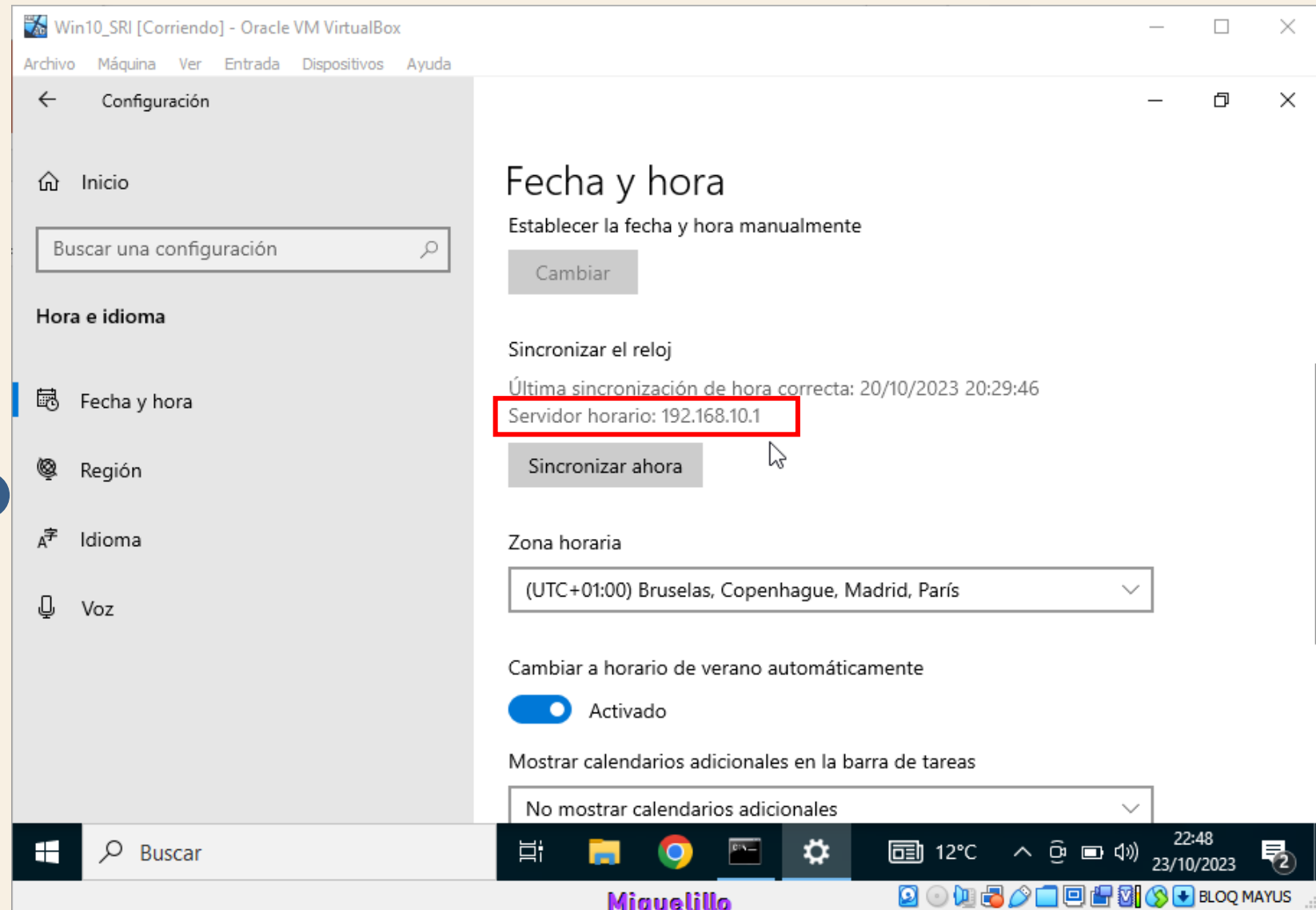
The screenshot shows a Windows Server 2019 virtual machine window titled "WindowsServer2019_SRI [Corriendo] - Oracle VM VirtualBox". Inside, a command prompt window titled "Administrador: Símbolo del sistema" is open. The user has entered the following commands and received the following responses:

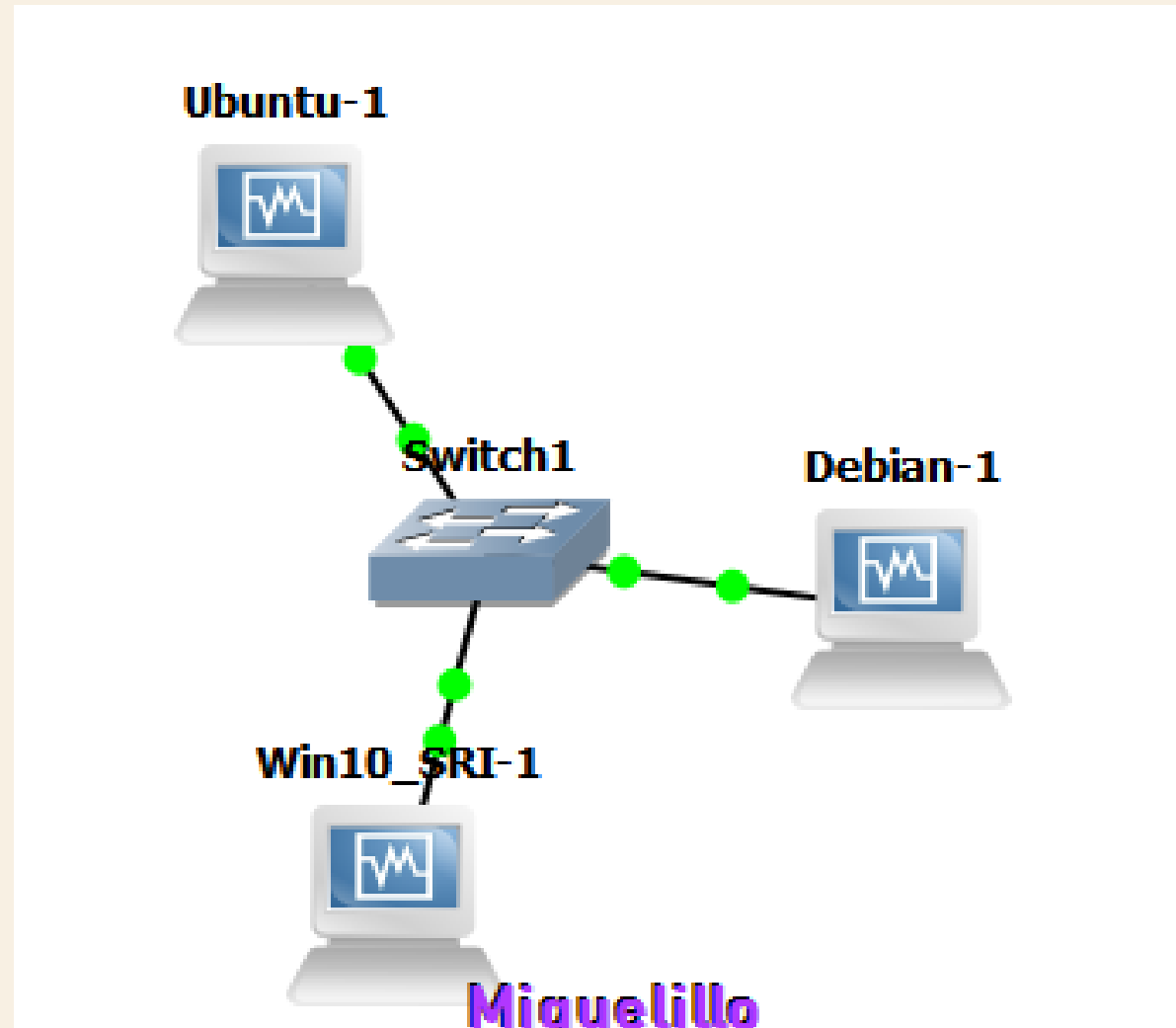
```
C:\Users\Administrador>net stop w32time  
El servicio de Hora de Windows está deteniéndose.  
El servicio de Hora de Windows se detuvo correctamente.  
  
C:\Users\Administrador>net start w32time  
El servicio de Hora de Windows está iniciándose.  
El servicio de Hora de Windows se ha iniciado correctamente.  
  
C:\Users\Administrador>  
C:\Users\Administrador>  
C:\Users\Administrador>w32tm /query /status  
Indicador de salto: 0(ninguna advertencia)  
Capa: 1 (referencia primaria - sincronizada mediante radio reloj)  
Precisión: -23 (119.209ns por tick)  
Demora de raíz: 0.0000000s  
Dispersión de raíz: 10.0000000s  
Id. de referencia: 0x4C4F434C (nombre de origen: "LOCL")  
Última sincronización de hora correcta: 23/10/2023 22:18:28  
Origen: Local CMOS Clock  
Intervalo de sondeo: 6 (64s)  
  
C:\Users\Administrador>_
```

The taskbar at the bottom shows the Windows logo, search icon, task view icon, and several application icons. The system tray on the right shows the time as 22:19 and a notification for "Carga completa (100%)".

WINDOWS

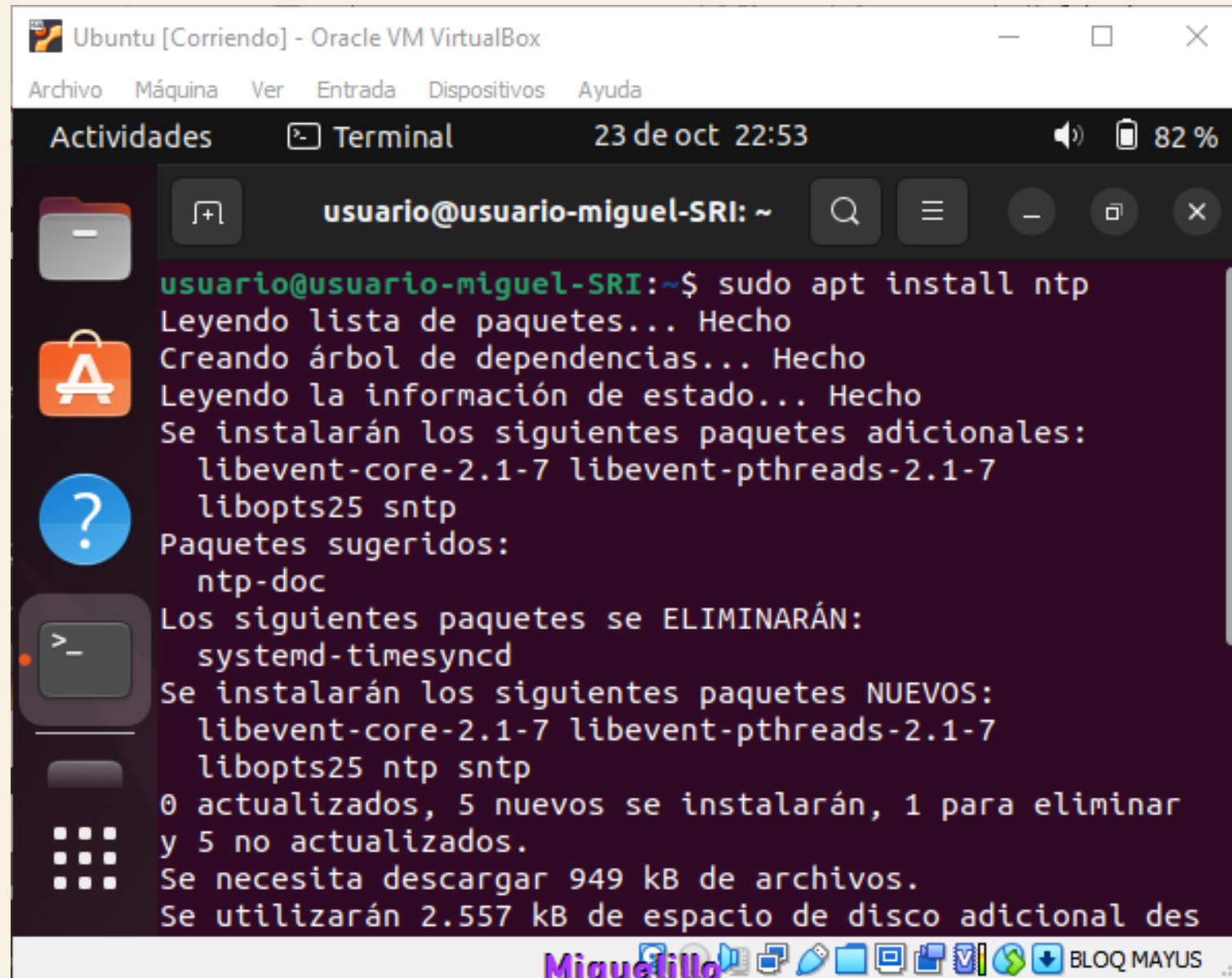
Comprobamos en el Cliente vamos a Configuración → Hora e Idioma → Fecha y Hora





LINUX

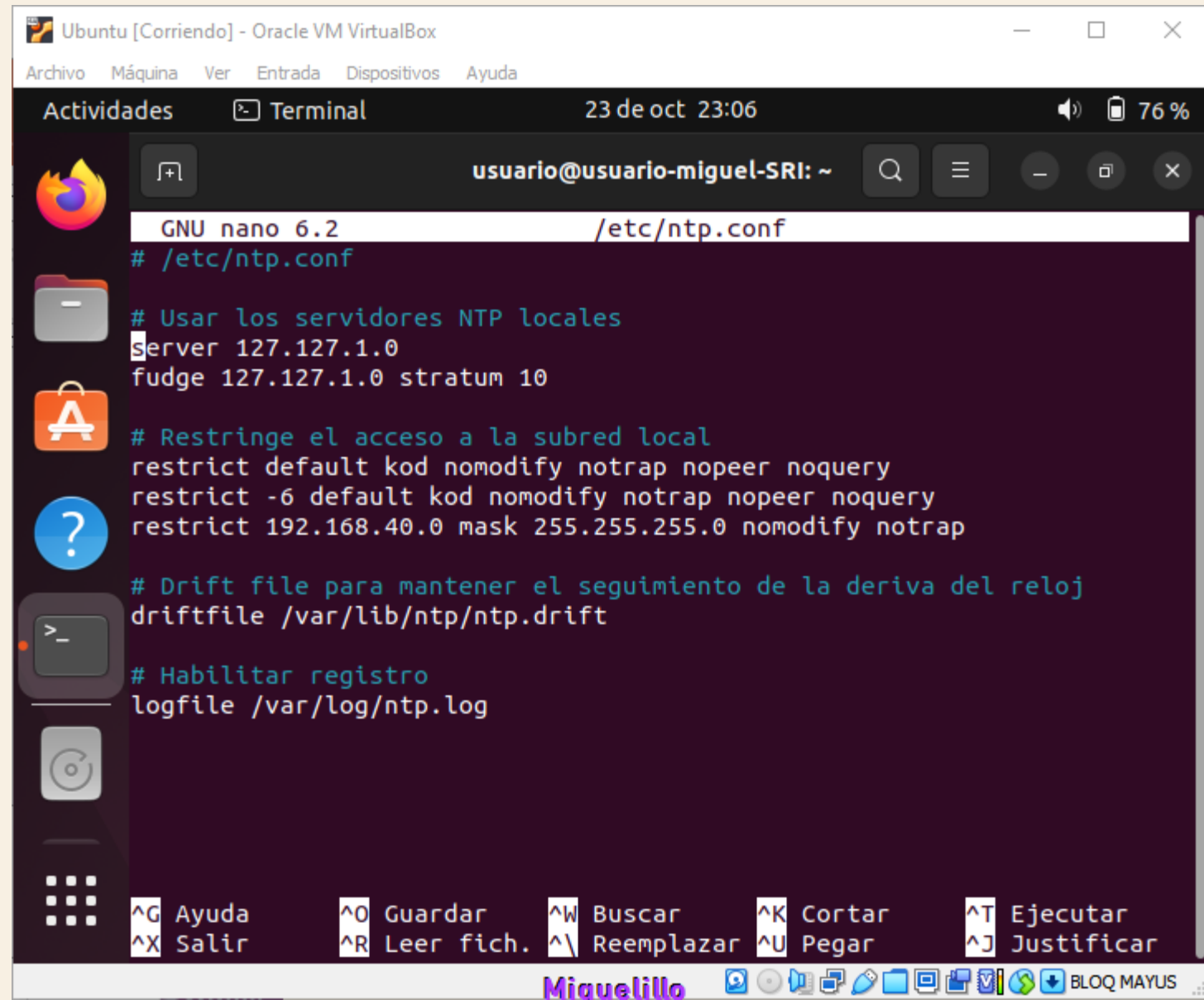
INSTALAMOS NTP



The screenshot shows a terminal window titled "Ubuntu [Corriendo] - Oracle VM VirtualBox". The window has a menu bar with "Archivo", "Máquina", "Ver", "Entrada", "Dispositivos", and "Ayuda". Below the menu bar is a status bar showing "Actividades", "Terminal", the date and time "23 de oct 22:53", and a battery icon at "82 %". The terminal prompt is "usuario@usuario-miguel-SRI: ~". The user has entered the command "sudo apt install ntp". The output shows the package list being read, dependencies being created, and the state information being read. It lists additional packages to be installed: "libevent-core-2.1-7", "libevent-pthreads-2.1-7", "libopts25", "sntp", and "ntp-doc". It also lists packages to be removed: "systemd-timesyncd". The output states that 5 new packages will be installed, 1 will be removed, and 5 will not be updated. It also shows the disk space requirements: 949 kB of archives to be downloaded and 2.557 kB of additional disk space to be used.

```
usuario@usuario-miguel-SRI:~$ sudo apt install ntp
Leyendo lista de paquetes... Hecho
Creando árbol de dependencias... Hecho
Leyendo la información de estado... Hecho
Se instalarán los siguientes paquetes adicionales:
  libevent-core-2.1-7 libevent-pthreads-2.1-7
  libopts25 sntp
Paquetes sugeridos:
  ntp-doc
Los siguientes paquetes se ELIMINARÁN:
  systemd-timesyncd
Se instalarán los siguientes paquetes NUEVOS:
  libevent-core-2.1-7 libevent-pthreads-2.1-7
  libopts25 ntp sntp
0 actualizados, 5 nuevos se instalarán, 1 para eliminar
y 5 no actualizados.
Se necesita descargar 949 kB de archivos.
Se utilizarán 2.557 kB de espacio de disco adicional des
```

EDITAMOS EL FICHERO DE CONFIGURACIÓN NTP.CONF Y LE INTRODUCIMOS ESTE CONTENIDO.



The screenshot shows a terminal window titled "Ubuntu [Corriendo] - Oracle VM VirtualBox". The window has a menu bar with "Archivo", "Máquina", "Ver", "Entrada", "Dispositivos", and "Ayuda". The top bar shows "Actividades", "Terminal", and the date/time "23 de oct 23:06". The terminal displays the contents of the file `/etc/ntp.conf` using the `nano` editor. The configuration includes local NTP servers, network restrictions, drift file settings, and logging. At the bottom, there is a keyboard shortcuts menu.

```
GNU nano 6.2 /etc/ntp.conf
# /etc/ntp.conf

# Usar los servidores NTP locales
server 127.127.1.0
fudge 127.127.1.0 stratum 10

# Restringe el acceso a la subred local
restrict default kod nomodify notrap nopeer noquery
restrict -6 default kod nomodify notrap nopeer noquery
restrict 192.168.40.0 mask 255.255.255.0 nomodify notrap

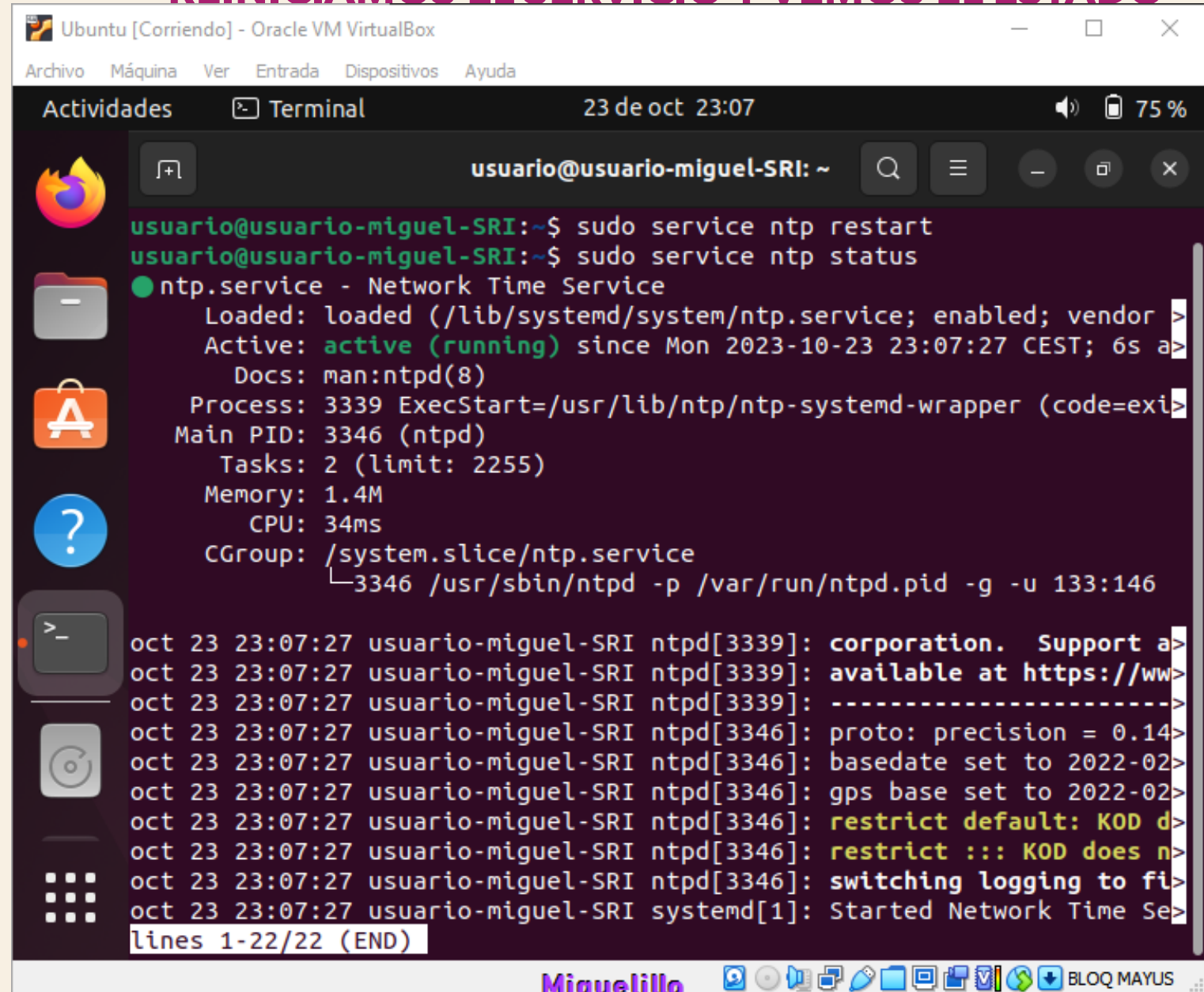
# Drift file para mantener el seguimiento de la deriva del reloj
driftfile /var/lib/ntp/ntp.drift

# Habilitar registro
logfile /var/log/ntp.log
```

^G Ayuda ^O Guardar ^W Buscar ^K Cortar ^T Ejecutar
^X Salir ^R Leer fich. ^\ Reemplazar ^U Pegar ^J Justificar

Miguelillo BLOQ MAYUS

REINICIAMOS EL SERVICIO Y VEMOS EL ESTADO



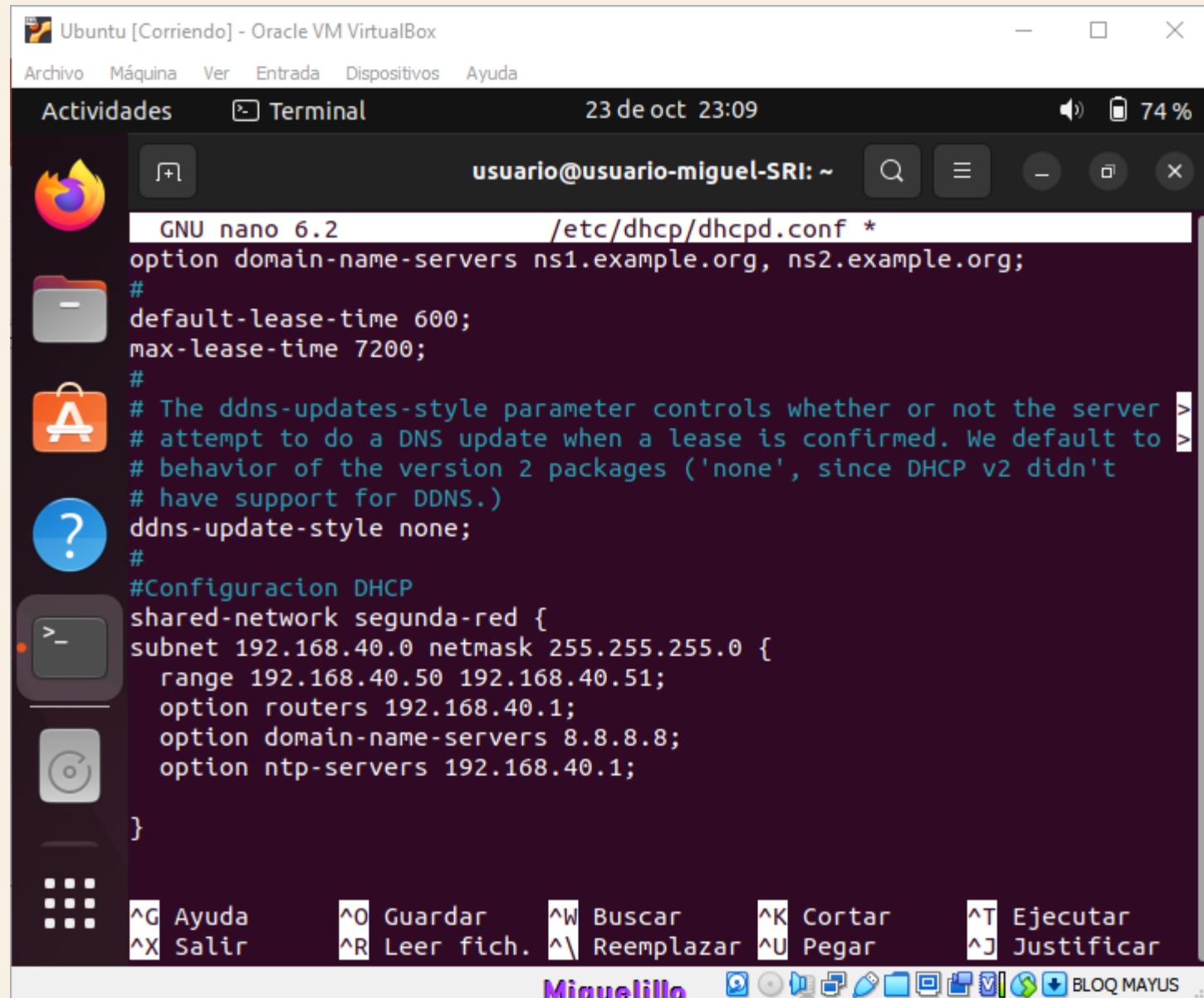
The screenshot shows a terminal window titled "Ubuntu [Corriendo] - Oracle VM VirtualBox". The terminal displays the following commands and output:

```
usuario@usuario-miguel-SRI:~$ sudo service ntp restart
usuario@usuario-miguel-SRI:~$ sudo service ntp status
● ntp.service - Network Time Service
   Loaded: loaded (/lib/systemd/system/ntp.service; enabled; vendor >
   Active: active (running) since Mon 2023-10-23 23:07:27 CEST; 6s a>
   Docs: man:ntpd(8)
   Process: 3339 ExecStart=/usr/lib/ntp/ntp-systemd-wrapper (code=exi>
   Main PID: 3346 (ntpd)
   Tasks: 2 (limit: 2255)
   Memory: 1.4M
   CPU: 34ms
   CGroup: /system.slice/ntp.service
           └─3346 /usr/sbin/ntpd -p /var/run/ntpd.pid -g -u 133:146

oct 23 23:07:27 usuario-miguel-SRI ntpd[3339]: corporation. Support a>
oct 23 23:07:27 usuario-miguel-SRI ntpd[3339]: available at https://ww>
oct 23 23:07:27 usuario-miguel-SRI ntpd[3339]: ----->
oct 23 23:07:27 usuario-miguel-SRI ntpd[3346]: proto: precision = 0.14>
oct 23 23:07:27 usuario-miguel-SRI ntpd[3346]: basedate set to 2022-02>
oct 23 23:07:27 usuario-miguel-SRI ntpd[3346]: gps base set to 2022-02>
oct 23 23:07:27 usuario-miguel-SRI ntpd[3346]: restrict default: KOD d>
oct 23 23:07:27 usuario-miguel-SRI ntpd[3346]: restrict ::: KOD does n>
oct 23 23:07:27 usuario-miguel-SRI ntpd[3346]: switching logging to fi>
oct 23 23:07:27 usuario-miguel-SRI systemd[1]: Started Network Time Se>
lines 1-22/22 (END)
```

The terminal window includes a sidebar with application icons (Firefox, Files, App Store, Help, Terminal) and a top bar showing the date and time (23 de oct 23:07) and battery level (75%). The bottom of the window shows a taskbar with various system icons and the name "Miguelillo".

AÑADIMOS EL SERVIDOR NTP A EL DHCP



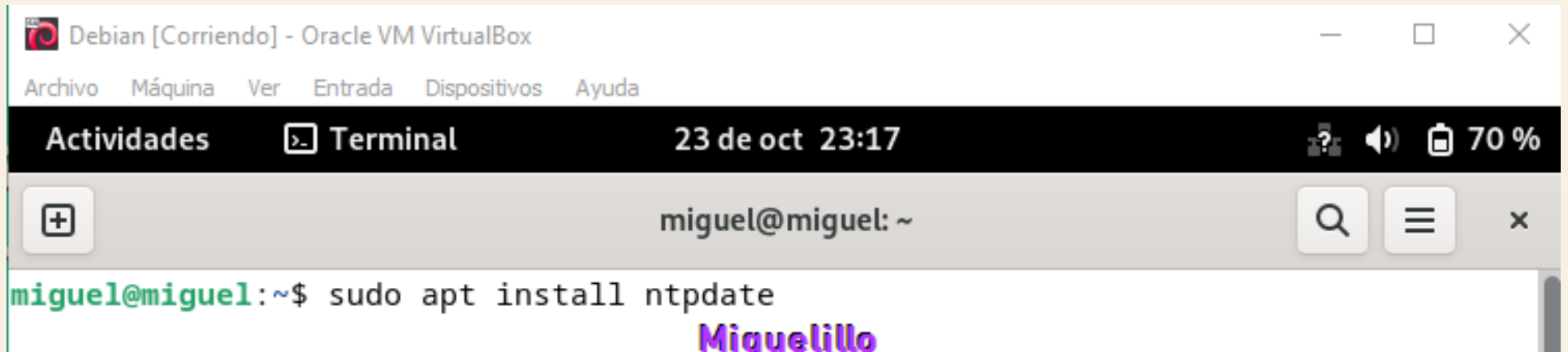
The screenshot shows a terminal window titled "Ubuntu [Corriendo] - Oracle VM VirtualBox". The window has a menu bar with "Archivo", "Máquina", "Ver", "Entrada", "Dispositivos", and "Ayuda". The top bar shows "Actividades", "Terminal", and the date/time "23 de oct 23:09". The terminal displays the configuration file `/etc/dhcp/dhcpd.conf` being edited with GNU nano 6.2. The configuration includes domain name servers, lease times, and a shared network configuration for "segunda-red" with a subnet of 192.168.40.0. The NTP server configuration is added at the bottom of the shared network block.

```
GNU nano 6.2 /etc/dhcp/dhcpd.conf *
option domain-name-servers ns1.example.org, ns2.example.org;
#
default-lease-time 600;
max-lease-time 7200;
#
# The ddns-updates-style parameter controls whether or not the server
# attempt to do a DNS update when a lease is confirmed. We default to
# behavior of the version 2 packages ('none', since DHCP v2 didn't
# have support for DDNS.)
ddns-update-style none;
#
#Configuracion DHCP
shared-network segunda-red {
subnet 192.168.40.0 netmask 255.255.255.0 {
    range 192.168.40.50 192.168.40.51;
    option routers 192.168.40.1;
    option domain-name-servers 8.8.8.8;
    option ntp-servers 192.168.40.1;
}
}
```

At the bottom of the terminal, there is a status bar with keyboard shortcuts: `^G` Ayuda, `^X` Salir, `^O` Guardar, `^R` Leer fich., `^W` Buscar, `^_` Reemplazar, `^K` Cortar, `^U` Pegar, `^T` Ejecutar, `^J` Justificar. The name "Miguelillo" is visible in the bottom right corner.

LINUX CLIENTE

INSTALAMOS NTPDATE

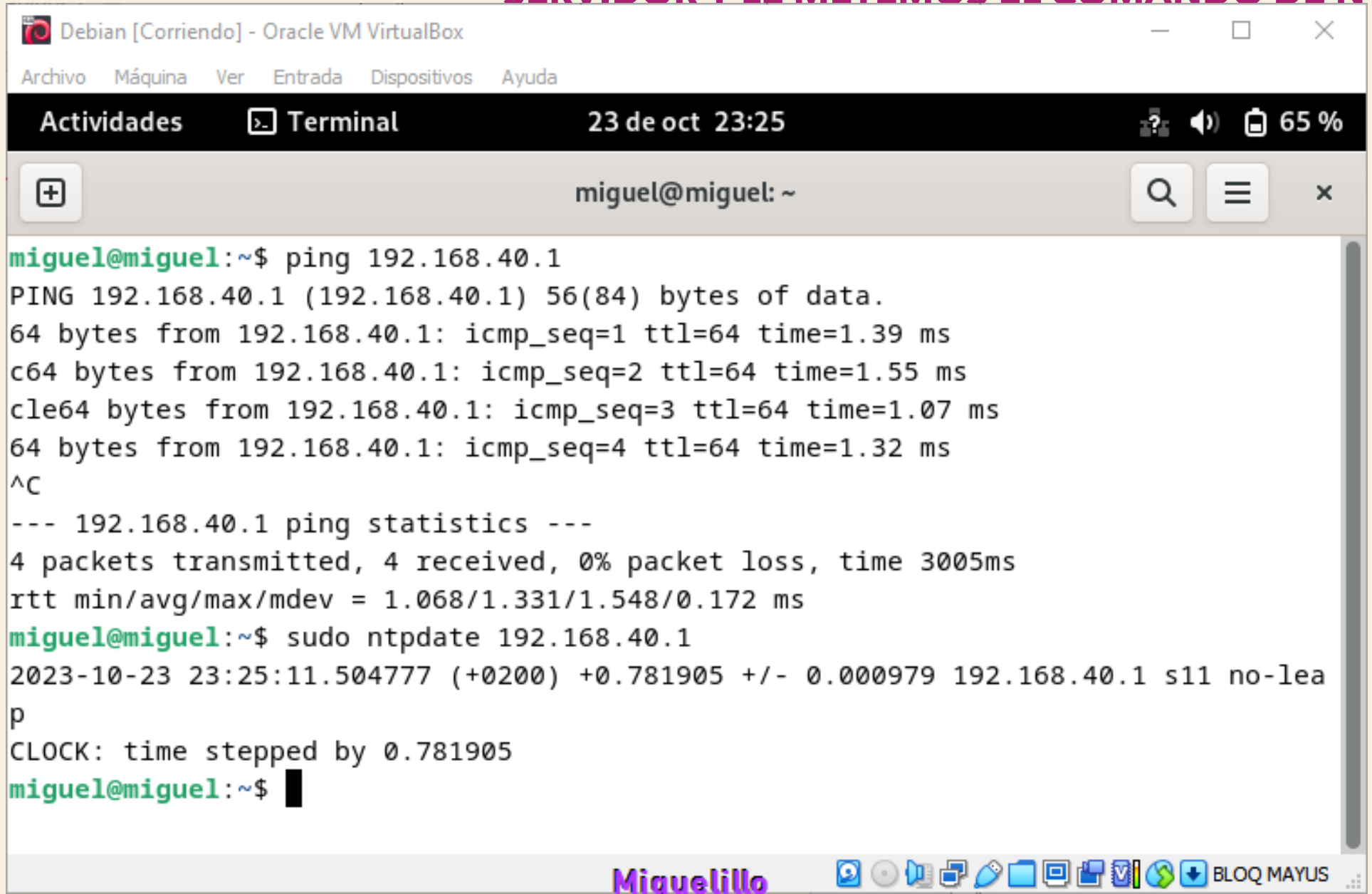


The screenshot shows a terminal window titled "Debian [Corriendo] - Oracle VM VirtualBox". The window has a menu bar with "Archivo", "Máquina", "Ver", "Entrada", "Dispositivos", and "Ayuda". Below the menu bar is a black bar with "Actividades", "Terminal", and the date/time "23 de oct 23:17". The terminal prompt is "miguel@miguel: ~". The command "sudo apt install ntpdate" has been entered. The output "Miguelillo" is displayed in purple text.

```
miguel@miguel:~$ sudo apt install ntpdate
Miguelillo
```

LINUX CLIENTE

PROBAMOS QUE TENGA CONECTIVIDAD CON EL
SERVIDOR Y LE METEMOS EL COMANDO DE NTP



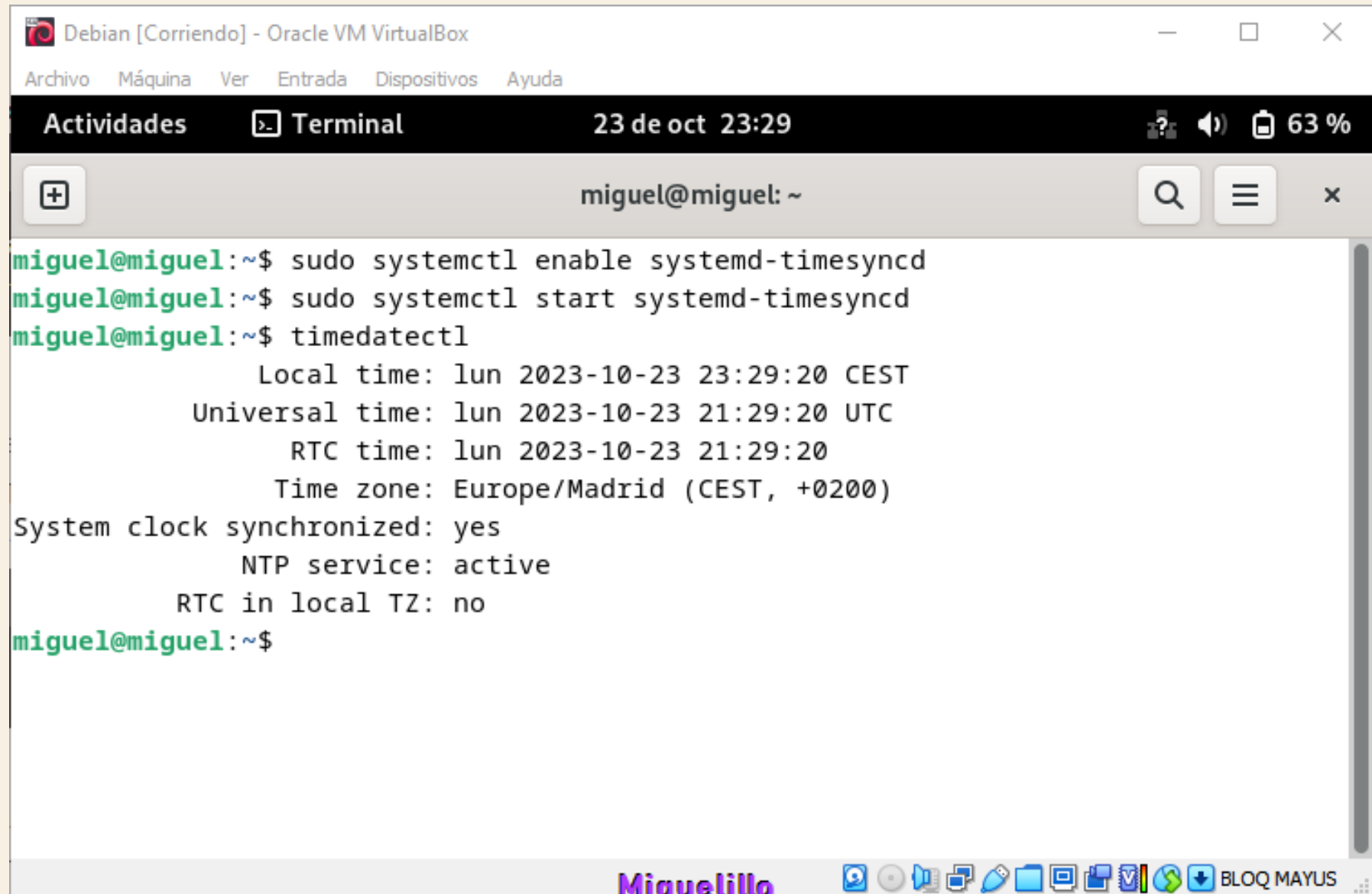
The screenshot shows a terminal window titled "Debian [Corriendo] - Oracle VM VirtualBox". The window has a menu bar with "Archivo", "Máquina", "Ver", "Entrada", "Dispositivos", and "Ayuda". Below the menu bar is a toolbar with "Actividades" and "Terminal" buttons. The terminal displays the following output:

```
miguel@miguel:~$ ping 192.168.40.1
PING 192.168.40.1 (192.168.40.1) 56(84) bytes of data.
64 bytes from 192.168.40.1: icmp_seq=1 ttl=64 time=1.39 ms
c64 bytes from 192.168.40.1: icmp_seq=2 ttl=64 time=1.55 ms
cle64 bytes from 192.168.40.1: icmp_seq=3 ttl=64 time=1.07 ms
64 bytes from 192.168.40.1: icmp_seq=4 ttl=64 time=1.32 ms
^C
--- 192.168.40.1 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 1.068/1.331/1.548/0.172 ms
miguel@miguel:~$ sudo ntpdate 192.168.40.1
2023-10-23 23:25:11.504777 (+0200) +0.781905 +/- 0.000979 192.168.40.1 s11 no-lea
p
CLOCK: time stepped by 0.781905
miguel@miguel:~$
```

The terminal window has a title bar with standard window controls and a status bar at the bottom showing the name "Miguelillo" and system icons including a clock and network status.

LINUX CLIENTE

HACEMOS UN UPDATE Y UN START AL SERVICIO NTP
Y COMPROBAMOS EL ESTADO CON TIMEDATECTL



The screenshot shows a terminal window titled "Debian [Corriendo] - Oracle VM VirtualBox". The window has a menu bar with "Archivo", "Máquina", "Ver", "Entrada", "Dispositivos", and "Ayuda". Below the menu bar is a toolbar with "Actividades", "Terminal", and a clock showing "23 de oct 23:29". The terminal prompt is "miguel@miguel: ~". The user has entered the following commands:

```
miguel@miguel:~$ sudo systemctl enable systemd-timesyncd
miguel@miguel:~$ sudo systemctl start systemd-timesyncd
miguel@miguel:~$ timedatectl
```

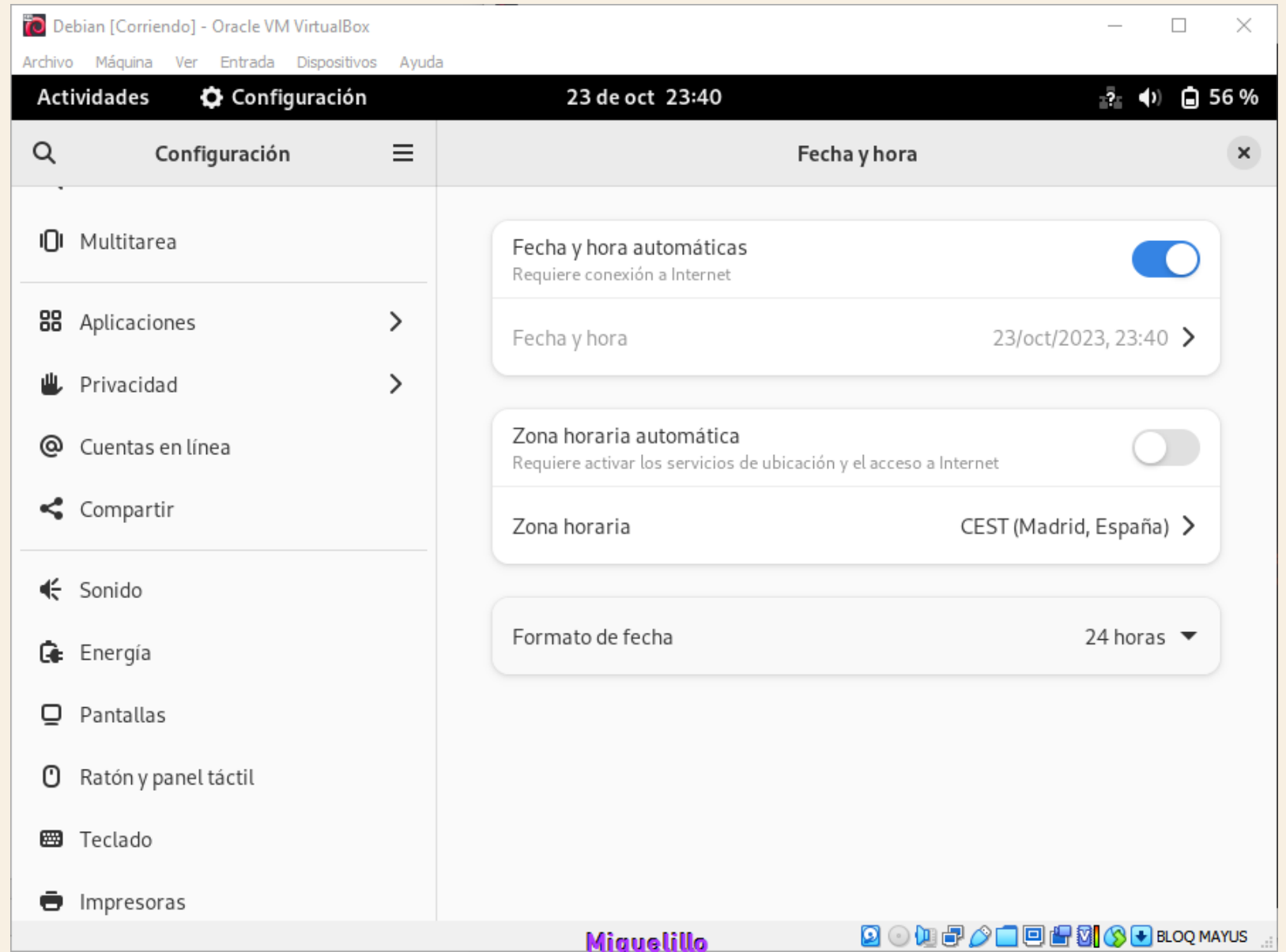
The output of the `timedatectl` command is:

```
Local time: lun 2023-10-23 23:29:20 CEST
Universal time: lun 2023-10-23 21:29:20 UTC
RTC time: lun 2023-10-23 21:29:20
Time zone: Europe/Madrid (CEST, +0200)
System clock synchronized: yes
NTP service: active
RTC in local TZ: no
```

The terminal prompt is now "miguel@miguel:~\$". The window has a status bar at the bottom with the name "Miguelillo" and a taskbar with various icons, including a clock and a "BLOQ MAYUS" button.

LINUX CLIENTE GRAFICO

COMPROBAMOS QUE ESTÁ EN AUTOMÁTICO Y QUE
NOS DA BIEN LA FECHA Y HORA





**MUCHAS
GRACIAS**