

# MICROSOFT HYPER-V SERVER VS. HYPER-V MANAGER

Comenzar!



Sistemas Operativos

# INDICE

- 1** Microsoft Hyper-V Server
- 2** Hyper-V Manager
- 3** Discusion
- 4** Resultados
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# MICROSOFT HYPER-V SERVER

Microsoft Hyper-V es una tecnología de virtualización de hipervisor que permite crear y gestionar máquinas virtuales en un entorno Windows. Hyper-V es parte integral de las versiones de Windows server y tambien está disponible en algunas ediciones de Windows 10 y Windows 11



# REQUISITOS

## HARDWARE:

- Procesador: Compatible con 64bits
- Memoria RAM: Mínimo 4Gb
- ROM: Mínimo 15Gb

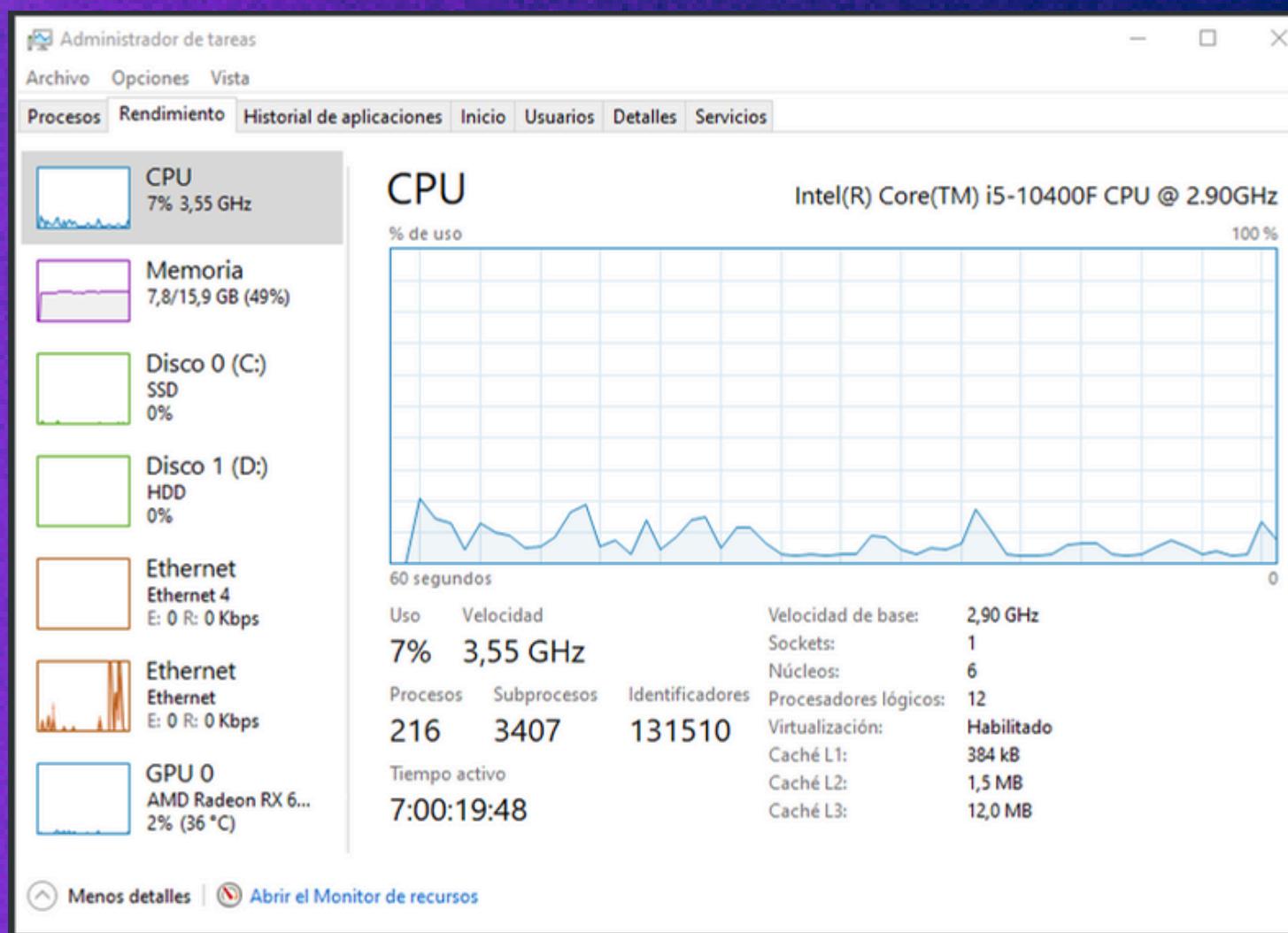
## SOFTWARE:

- Sistema Operativo: Windows Server 2008
- BIOS: Firmware y BIOS del servidor actualizados

# VERIFICAR REQUISITOS

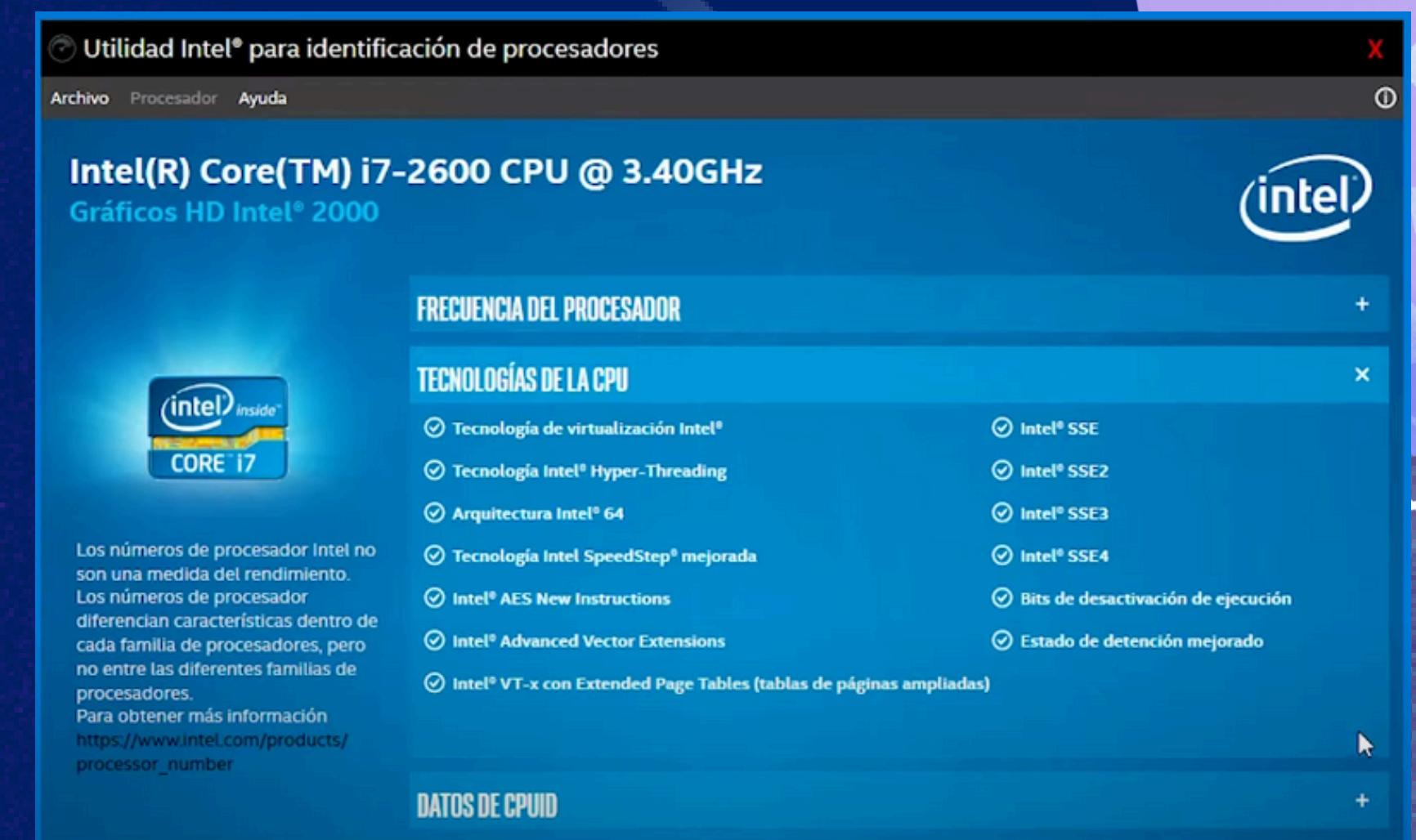
1

Comprobar la virtualización con el Administrador de tareas



2

Comprobar a través de software del procesador

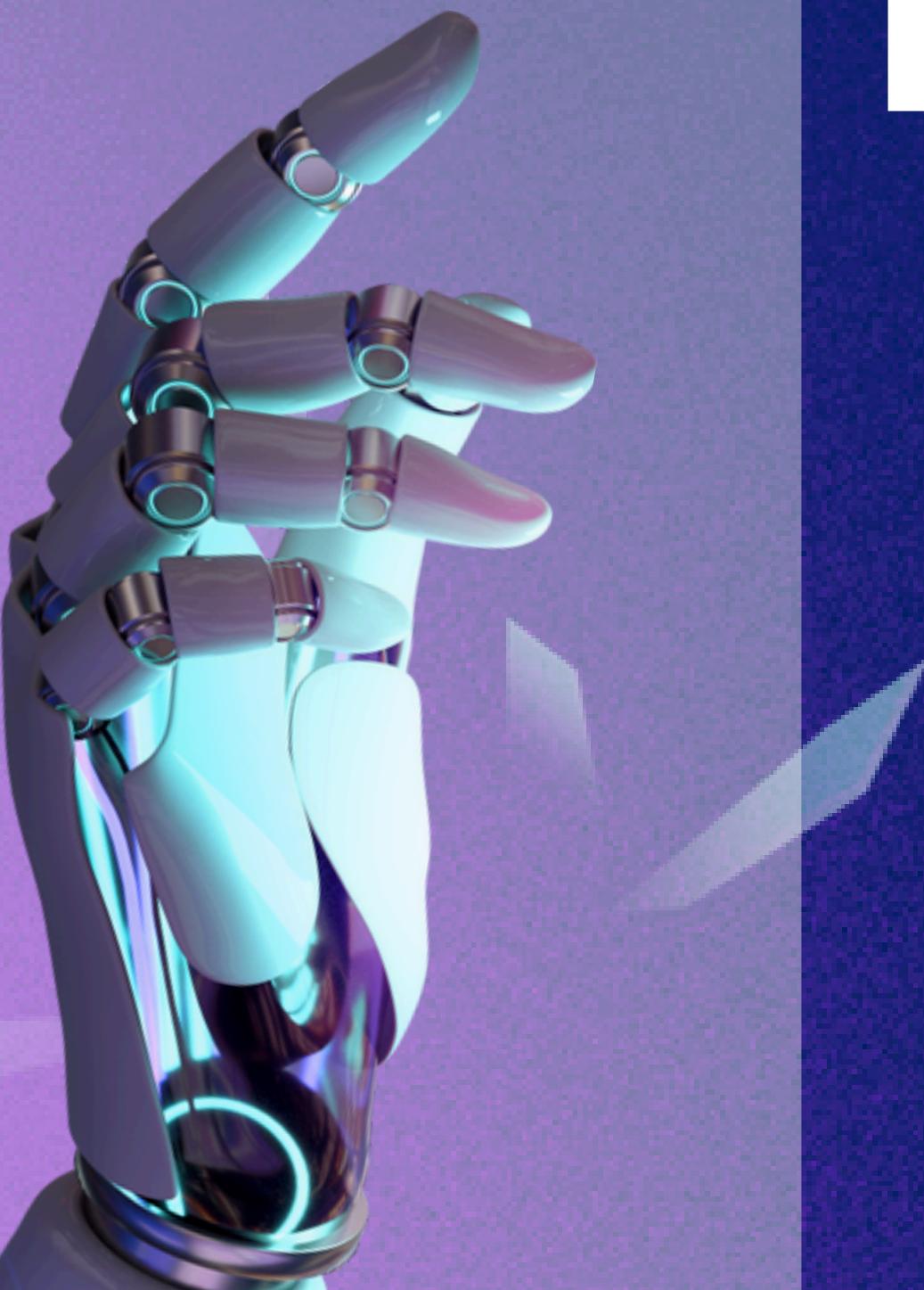


# HYPER-V MANAGER

¿Que hace?



Hyper-V Manager es una herramienta de administración gráfica para Hyper-V, la tecnología de virtualización de Microsoft. Permite a los administradores crear, configurar y gestionar máquinas virtuales (VM) en un entorno de Hyper-V.



# **HYPER-V MANAGER**

**Creación y gestión  
de máquinas  
virtuales**

**Snapshots  
Checkpoints**

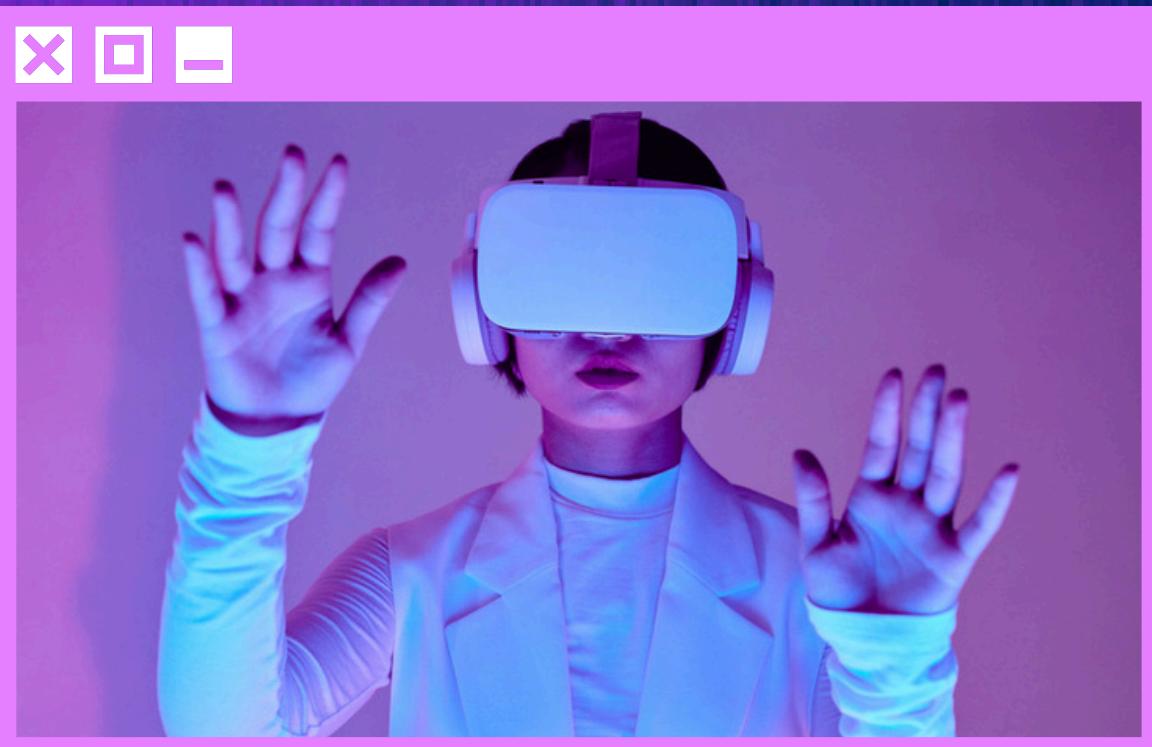
**Conectividad  
Redes Virtuales**

# REQUISITOS

## Hardware



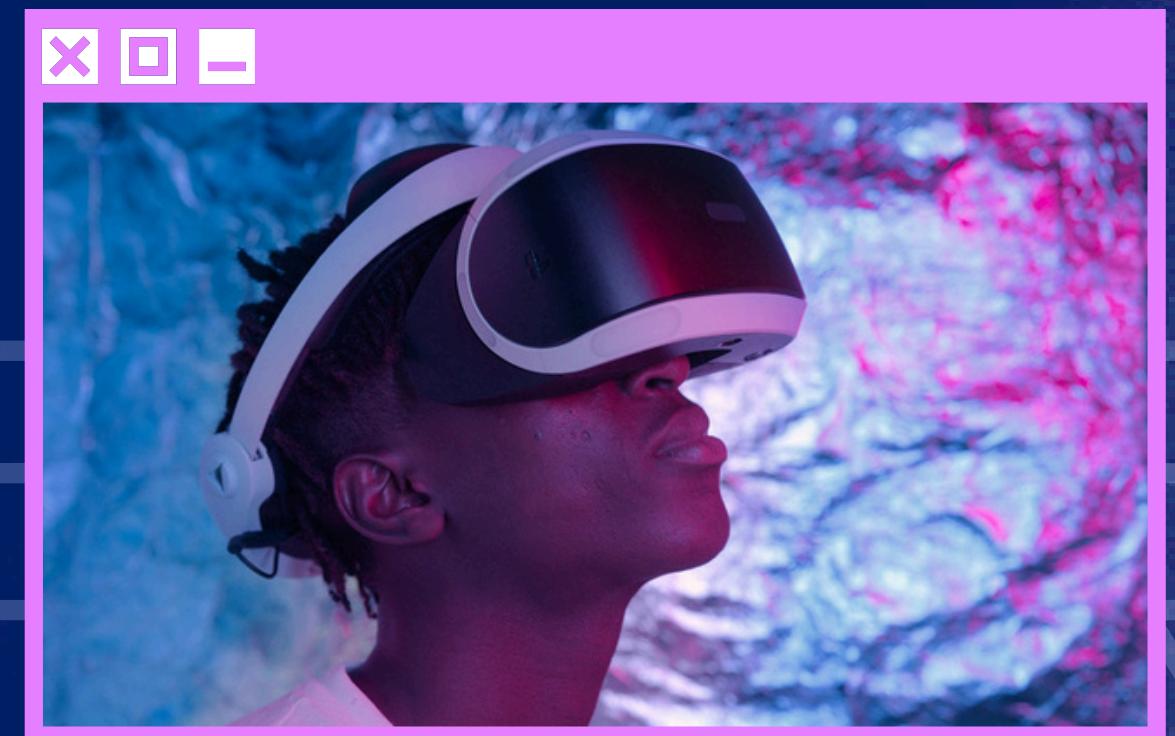
- Procesador de 64 bits
- Mínimo de 4 GB de RAM



## Software



- Windows Server
- Windows 10 Pro, Enterprise o Education (con Hyper-V incluido).
- Versión de Hyper-V

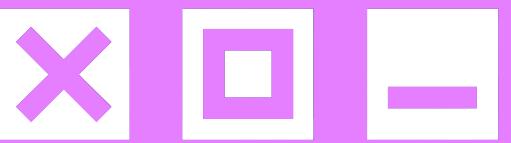


# DISCUSION

Hipotesis



Hyper-V Manager tiene una implementación más amigable con los nuevos usuarios a diferencia de Microsoft Hyper-V Server, tomando en cuenta las funcionalidades, especificaciones y métodos de instalación

A screenshot of a terminal window with a dark background and light-colored text. The code is a Ruby script, likely a test file, with syntax highlighting. It includes require statements for 'spec\_helper', 'rspec/rails', 'copybara/rspec', and 'copybara/rails'. It also includes configuration for 'Copybara.javascript\_driver', 'Category.delete\_all', 'Category.create', 'Shoulda::Matchers.configure', 'config.integrate', and 'with.test\_framework'. The code ends with a note about additional requirements and a warning about running twice.

```
5 abort("The Rails environment is running in production mode! Please run\n6 require 'spec_helper'\n7 require 'rspec/rails'\n8\n9 require 'copybara/rspec'\n10 require 'copybara/rails'\n11\n12 Copybara.javascript_driver = :webkit\n13 Category.delete_all; Category.create\n14 Shoulda::Matchers.configure do |config|\n15   config.integrate do |with|\n16     with.test_framework :rspec\n17     with.library :rails\n18   end\n19 end\n20\n21 # Add additional require statements for each of the supported\n22 # spec/support/ and its subdirectories here.\n23\n24 # Requires supporting files with the .rb suffix.\n25 # In *_spec.rb, you can use a suffix for files requiring support\n26 # files, for example \"*.support.rb\".\n27 # You can also run these files directly, e.g. \"rspec ./support/mongoid\"\n28
```

## Experimentación en campo - Ponderación de resultados

# IMPLICACIONES DEL EXPERIMENTO

**Habilitación del sistema de virtualización seleccionado**

**Creación de una máquina virtual**

**Instalación de funcionalidades dentro del sistema operativo de la máquina virtual**

# CONSIDERACIONES DEL EXPERIMENTO

**Posibles sesgos en  
la versión y  
características del  
SO**

**Limitaciones del  
diseño experimental  
y factores de  
hardware**

**Evaluación de la  
reproducibilidad**

# RESULTADOS

Generales



- **Permisones de habilitación manejables y fáciles de activar.**
- **Distros de Linux disponibles:** Ubuntu 20 y 22
- **Método de instalación:** Común y parecido a instalación en máquina física.
- **Gestiones de paquetes de datos actualizables.**
- **GUI funcional**

# HYPERN-V MANAGER

```
> Administrador Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. Todos los derechos reservados.

Prueba la nueva tecnologia PowerShell multiplataforma https://aka.ms/pscore6

PS C:\Windows\system32> DISM /Online /Enable-Feature /All /FeatureName:Microsoft-Hyper-V
Deployment Image Servicing and Management tool
Version: 10.0.19041.3636

Image Version: 10.0.19045.4529

Enabling feature(s)
[=====100.0%=====]
The operation completed successfully.

PS C:\Windows\system32>
```

# Administrador de Hyper-V

Archivo Acción Ver Ayuda



## Administrador de Hyper-V

DACSG-HOME

### Máquinas virtuales

Nombre	Acción en c...	Uso de CPU	Memoria asignada	Tiempo de ejecución
--------	----------------	------------	------------------	---------------------

No se encontraron máquinas virtuales en el servidor.

### Puntos de control

No se seleccionó ninguna máquina virtual.

### Detalles

Ningún elemento seleccionado.

### Acciones

DACSG-HOME

Creación rápida...

Nuevo

Importar máquina virtual...

Configuración de Hyper-V...

Administrador de conmutadores vi...

Administrador de SAN virtual...

Editar disco...

Inspeccionar disco...

Detener servicio

Quitar servidor

Actualizar

Ver

Ayuda

Administrador de Hyper-V

Archivo Acción Ver Ayuda

Administrador de Hyper-V

DACSG- Crear máquina virtual

Acciones

Selección de sistema operativo

- Windows 10 MSIX packaging environment
- Ubuntu 18.04 LTS
- Ubuntu 20.04 LTS
- Ubuntu 22.04 LTS
- Windows 11 dev environment

Ubuntu 22.04 LTS  
Canonical Group Ltd

This LTS release comes with five years of support meaning that you can be assured of secure and dependable operating system giving you the fastest route from development to deployment on desktop, devices, server, cloud and IoT edge.

ubuntu

License: <https://www.ubuntu.com/licensing>  
Jammy Jellyfish  
22.04 LTS  
Versión: 22.04 LTS  
Configuración regional: en-US  
Actualizado: martes, 14 de junio de 2022  
Descargar: 2.31 GB

Más opciones

Cerrar Crear máquina virtual

```
dacs@dacs-Virtual-Machine:~/Escritorio$ screenfetch
      ./+o+-      dacs@dacs-Virtual-Machine
      yyyyyy- -yyyyyy+  OS: Ubuntu 22.04 jammy
      ://+/////-yyyyyyo  Kernel: x86_64 Linux 5.15.0-27-generic
      .++ .:/+++++/-.+sss/-  Uptime: 24n
      .:+o: /+++++++/:-:/-  Packages: 1882
      o:+o:+:+.-/oo+++++/  Shell: bash 5.1.16
      .:+o:+o/.      +ssssoo+/  Resolution: 1364x768
      .++/+:+oo:+o:      /sssooo.  DE: GNOME 41.4
      /++//+:'oo+o      /::--:.
      \+/+o+++`o++o      ++///.
      .+++.o++oo+:      /dddhhh.
      .+,o+oo:.      `oddhhhh+
      \+..++o+o`-`-`-.:ohdhhhhh+
      `:o+++'ohhhhhhhhyo++os:
      .o:`syhhhhhhh/.oo++o"
      /osyyyyyyo++ooo+++/  GPU:
      ````+oo++oo\':      RAM: 2459MiB / 9792MiB
      `oo++.

dacs@dacs-Virtual-Machine:~/Escritorio$ 
```

dacs@dacs-Virtual-Machine: ~/Escritorio



```
@dacs-Virtual-Machine:~/Escritorio$ vim philoso_probl.cpp
```

```
Stopped          vim philoso_probl.cpp
```

```
@dacs-Virtual-Machine:~/Escritorio$ vim philoso_probl.cpp
```

```
@dacs-Virtual-Machine:~/Escritorio$ g++ -std=c++11 -pthread -o philoso_d philoso_probl.cpp
```

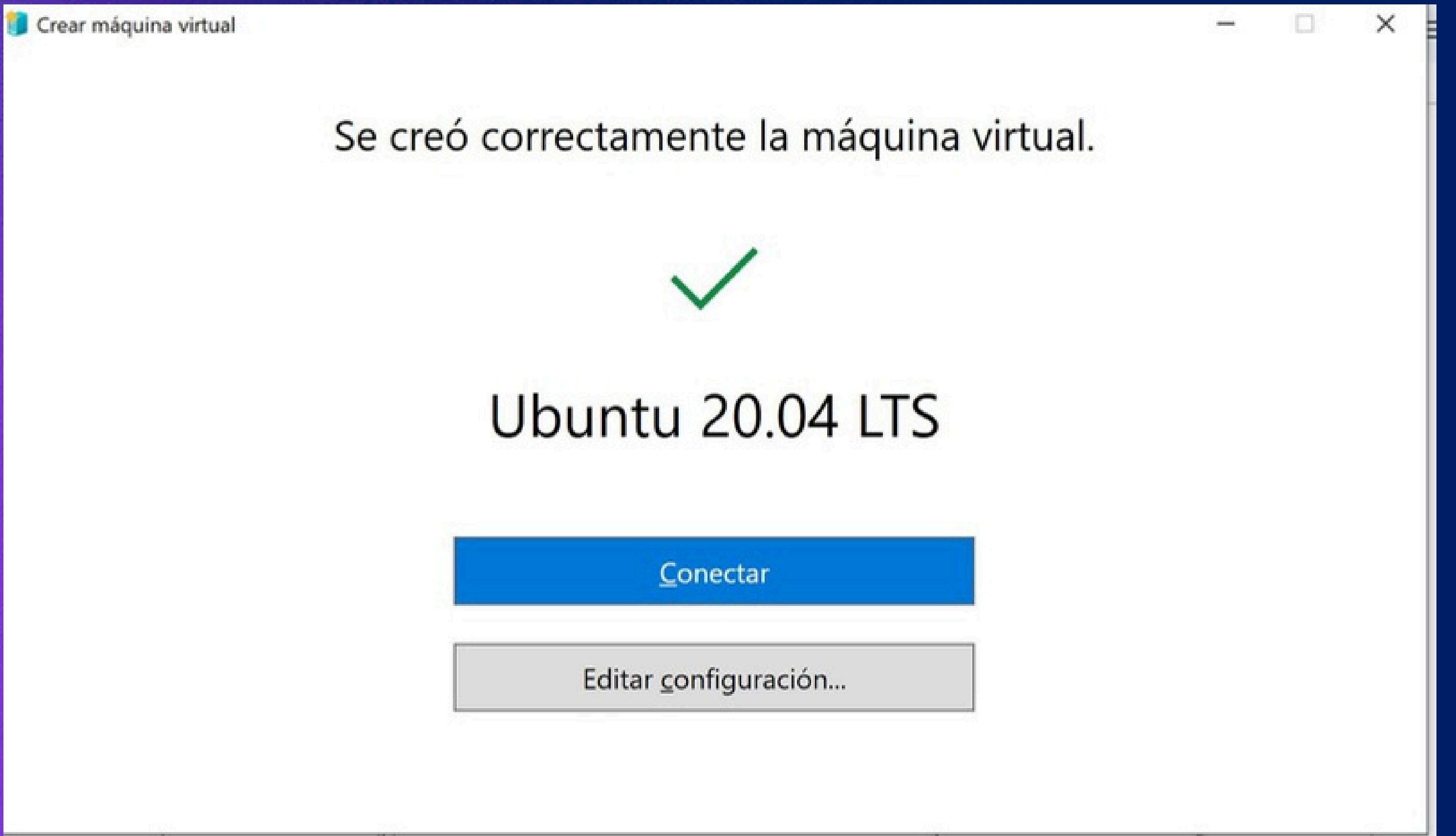
dacs@dacs-Virtual-Machine: ~/Escritorio

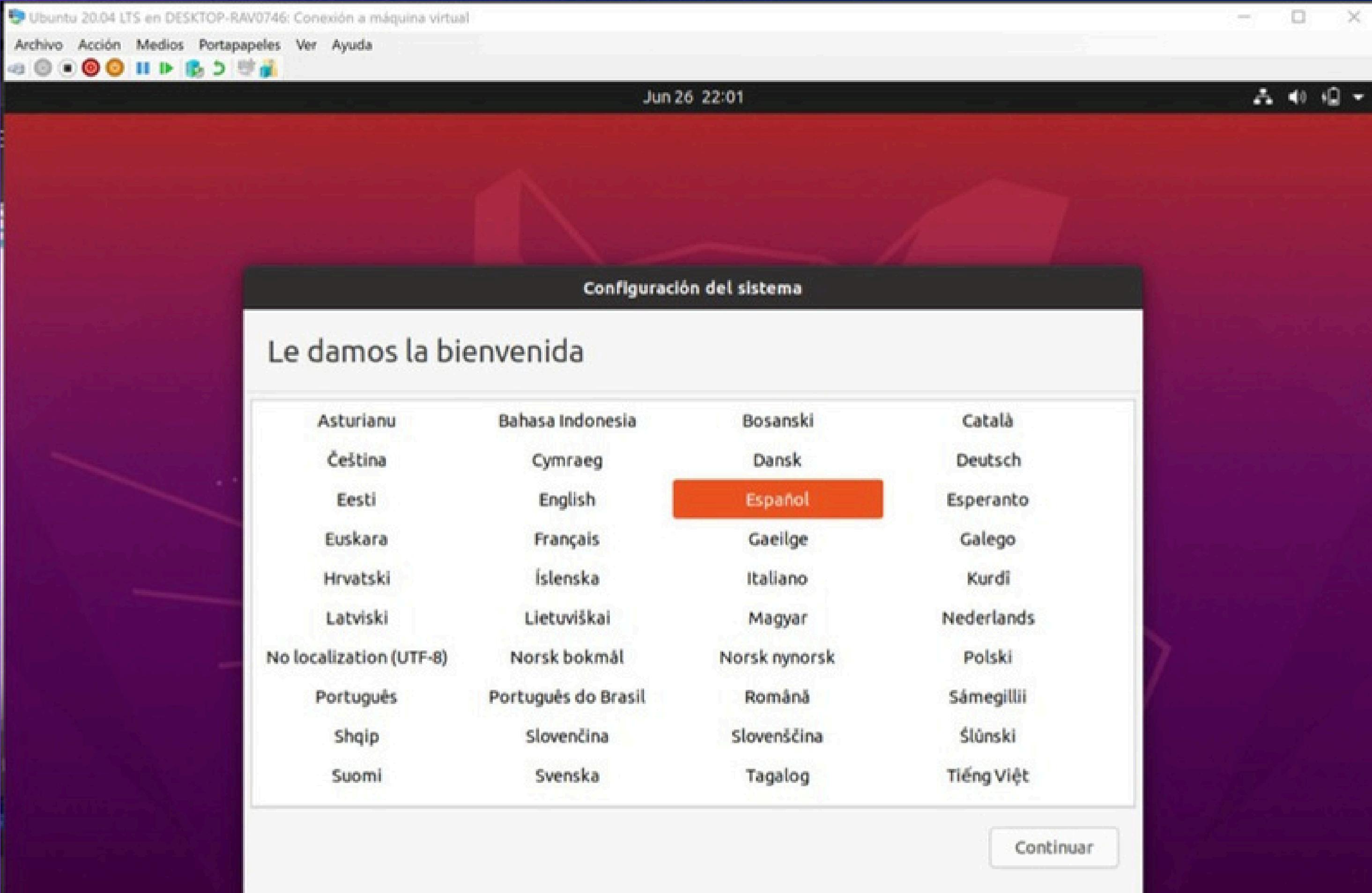


```
^Z
@dacs-Virtual-Machine:~/Escritorio$ vim philoso_probl.cpp
@dacs-Virtual-Machine:~/Escritorio$ g++ -std=c++11 -pthread -o philoso_d philoso_probl.cpp
@dacs-Virtual-Machine:~/Escritorio$ ./philoso_d
osopher 2 is thinking.
osopher 1 is thinking.
osopher 0 is thinking.
osopher 3 is thinking.
osopher 4 is thinking.
osopher 1 is eating.
osopher 4 is eating.
osopher 1 is thinking.
osopher 2 is eating.
osopher 0 is eating.
osopher 4 is thinking.
osopher 0 is thinking.
osopher 3 is eating.
osopher 1 is eating.
osopher 2 is thinking.
osopher 1 is thinking.
osopher 3 is thinking.
osopher 4 is eating.
osopher 2 is eating.
osopher 4 is thinking.
osopher 0 is eating.
osopher 2 is thinking.
osopher 3 is eating.
osopher 0 is thinking.
osopher 1 is eating.
osopher 4 is eating.
osopher 3 is thinking.
osopher 4 is thinking.
osopher 0 is eating.
osopher 1 is thinking.
osopher 2 is eating.
osopher Philosopher 4 is eating.
osopher 1 is eating.
thinking.
exited at line 1000
```

# MICROSOFT HYPER-V

SERV<sup>E</sup>R







Jun 26 22:02



## Configuración del sistema

### Disposición del teclado

Elija la disposición del teclado:

Sinhala (phonetic)

Slovak

Slovenian

Spanish

Spanish (Latin American)

Swahili (Kenya)

Swahili (Tanzania)

Swedish

Switzerland

#### Spanish (Latin American)

Spanish (Latin American) - Spanish (Latin American, Colemak for gaming)

Spanish (Latin American) - Spanish (Latin American, Colemak)

Spanish (Latin American) - Spanish (Latin American, Dvorak)

Spanish (Latin American) - Spanish (Latin American, dead tilde)

Spanish (Latin American) - Spanish (Latin American, no dead keys)

Spanish (Latin American) - Spanish (Latin American, with Sun dead keys)

Detectar la distribución del teclado

Atrás

Continuar

Archivo Acción Medios Ver Ayuda



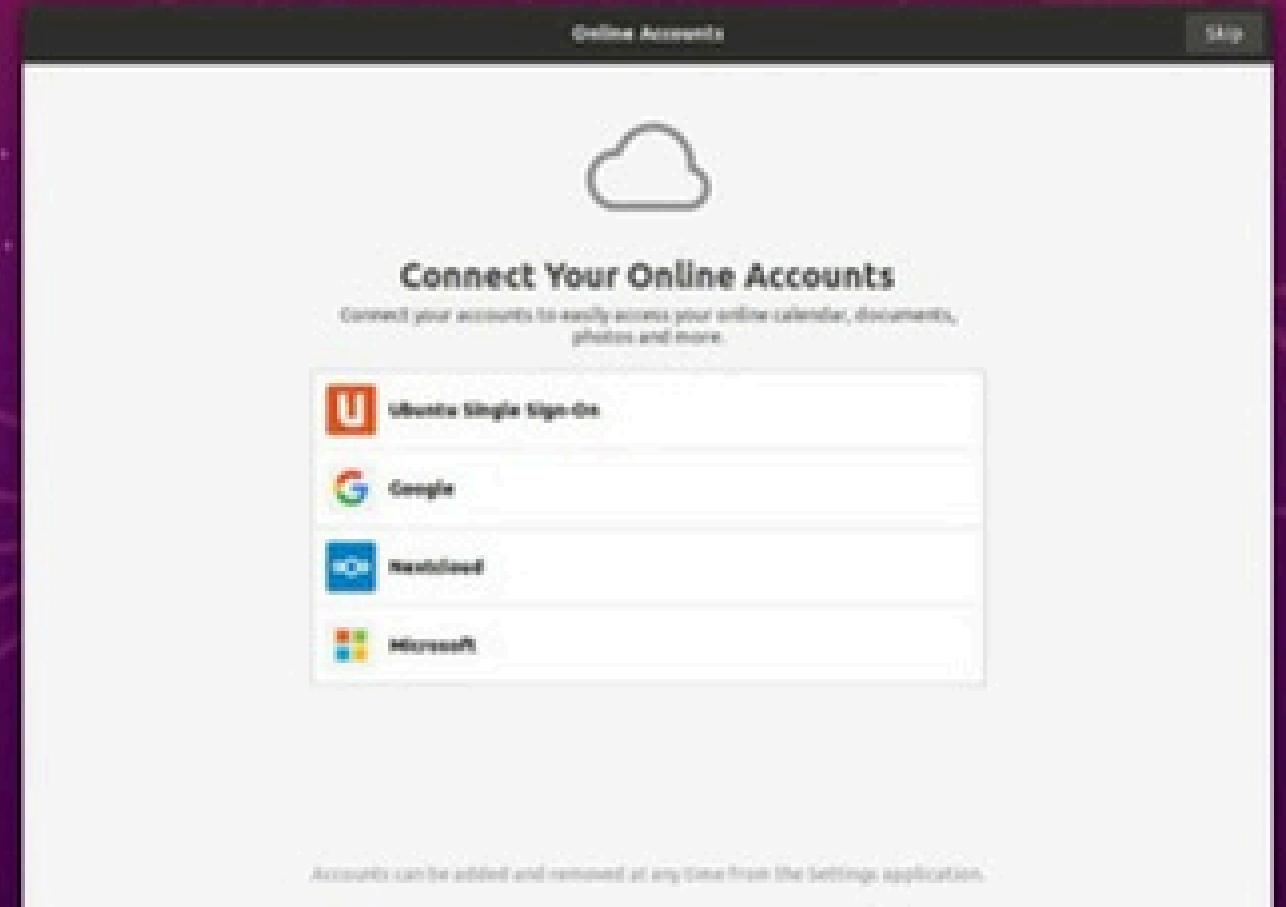
Activities

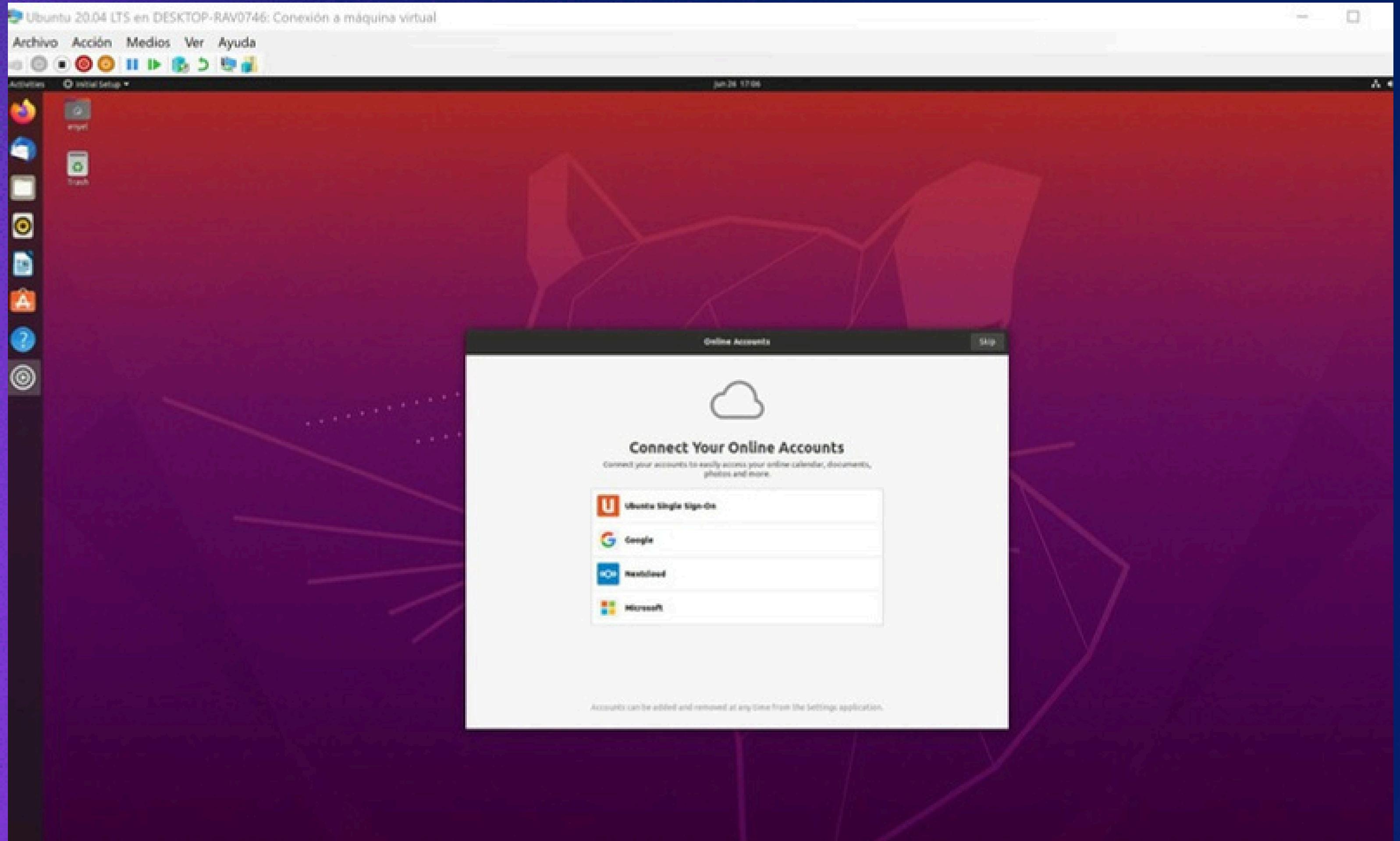
Initial Setup

jun 26 17:00

—

□





```
eneyel@eneyel-Virtual-Machine: ~
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

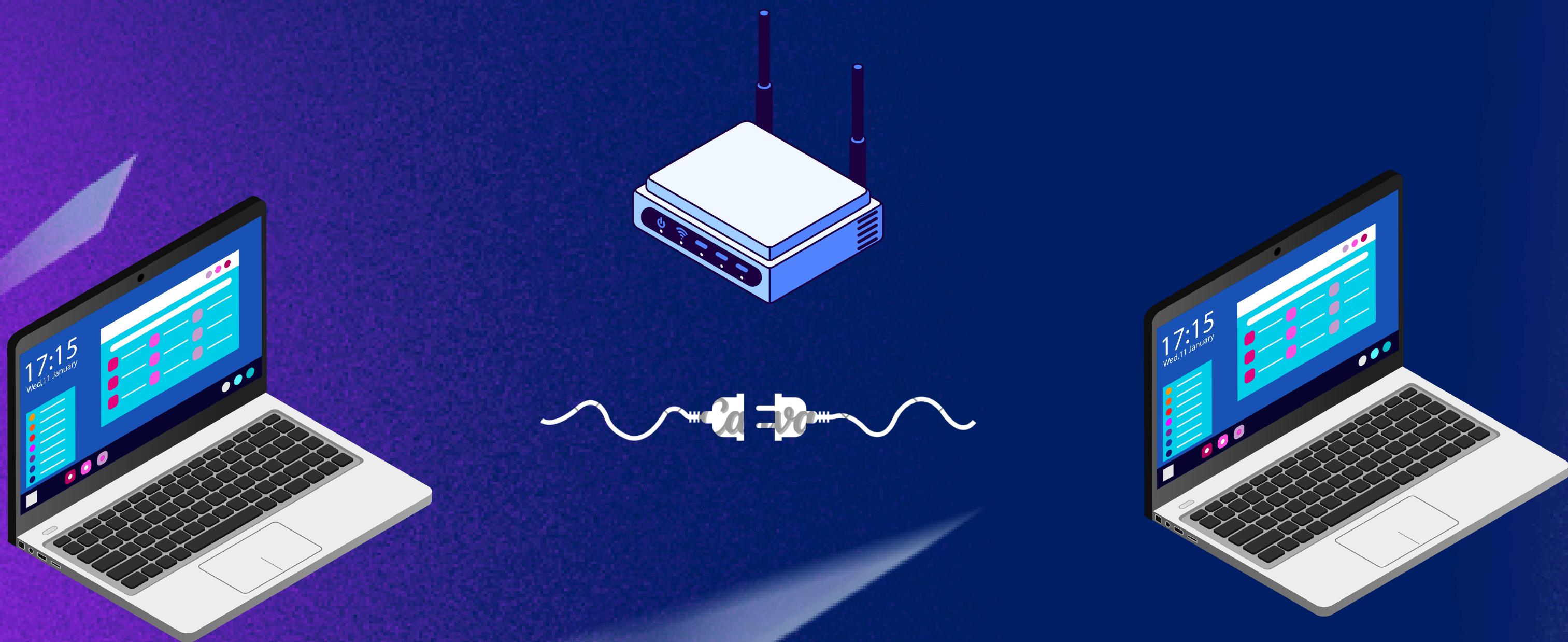
eneyel@eneyel-Virtual-Machine:~$ sudo apt update
[sudo] password for eneyel:
[...]
Leyendo lista de paquetes... Hecho
Creando árbol de dependencias
Leyendo la información de estado... Hecho
Se pueden actualizar 449 paquetes. Ejecute «apt list --upgradable» para verlos.
eneyel@eneyel-Virtual-Machine:~$ sudo apt install g++ gcc vim screenfetch
Leyendo lista de paquetes... Hecho
Creando árbol de dependencias
Leyendo la información de estado... Hecho
Los paquetes indicados a continuación se instalaron de forma automática y ya no son necesarios.
  apt-clone archdetect-deb cryptsetup-bin dctrl-tools dmeventd dmraid dpkg-repack giri.2-timezonemap:1.0 giri.2-xkl:1.0 kpartx kpartx-boot libata1 libdebian-installers
  libdevmapper-event1:0.2.1 libdmraidi:0.0.rc16 liblvm2cmd2:0.3 libreadlines libtimezonemap-data libtimezonemap1 lvm2 python3-icu python3-pam rdate
  thin-provisioning-tools
Utilice «sudo apt autoremove» para eliminarlos.
Se instalarán los siguientes paquetes adicionales:
  binutils binutils-common binutils-x86_64-linux-gnu cpp-9 gcc-10-base gcc-9-base gliblibi libasan5 libatomici libbinutils libc-dev-bin libcd libcd-dbg
  libcd-dev libcc1-0 libcrypt-dev libctf-nobfd0 libctf0 libgcc-9-dev libgomp1 libid3tag0 libimlib2 libitm1 liblsan0 libquadmath0 libstdc++-9-dev libstdc++-6
  libtsan0 libubsan1 linux-libc-dev manpages-dev scrot vim-common vim-runtime vim-tiny
Paquetes sugeridos:
  binutils-doc gcc-9-locales g++-multilib g++-9-multilib gcc-9-doc gcc-multilib make autoconf automake libtool flex bison gcc-doc gcc-9-multilib glibc-doc
  libstdc++-9-doc ctags vim-doc vim-scripts indent
Se instalarán los siguientes paquetes NUEVOS:
  binutils binutils-common binutils-x86_64-linux-gnu g++ g++-9 gcc gcc-9 gliblibi libasan5 libatomici libbinutils libc-dev-bin libcd libcd-dbg libcrypt-dev libctf-nobfd0
  libctf0 libgcc-9-dev libid3tag0 libimlib2 libitm1 liblsan0 libquadmath0 libstdc++-9-dev libtsan0 libubsan1 linux-libc-dev manpages-dev screenfetch scrot vim
  vim-runtime
Se actualizarán los siguientes paquetes:
  cpp-9 gcc-10-base gcc-9-base libcd libcd-dbg libcc1-0 libgcc-si libgomp1 libstdc++6 vim-common vim-tiny
31 actualizados, 31 nuevos se instalarán, 0 para eliminar y 438 no actualizados.
Se necesita descargar 74,9 MB de archivos.
Se utilizarán 203 MB de espacio de disco adicional después de esta operación.
¿Desea continuar? [S/n] s
[...]
Des:1 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libcd-dbg amd64 2.31-0ubuntu9.16 [29,6 kB]
Des:2 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libcc1-0 amd64 10.5.0-1ubuntu1-20.04 [48,8 kB]
Des:3 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 gcc-10-base amd64 10.5.0-1ubuntu1-20.04 [20,8 kB]
Des:4 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libstdc++6 amd64 10.5.0-1ubuntu1-20.04 [501 kB]
Des:5 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libgomp1 amd64 10.5.0-1ubuntu1-20.04 [102 kB]
Des:6 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libgcc-si amd64 10.5.0-1ubuntu1-20.04 [41,8 kB]
Des:7 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libcd amd64 2.31-0ubuntu9.16 [2.723 kB]
Des:8 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 vim-tiny amd64 2:8.1.2269-1ubuntu5.23 [582 kB]
Des:9 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 vim-common all 2:8.1.2269-1ubuntu5.23 [87,9 kB]
Des:10 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 binutils-common amd64 2.34-6ubuntu1.9 [208 kB]
Des:11 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libbinutils amd64 2.34-6ubuntu1.9 [475 kB]
Des:12 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libctf-nobfd0 amd64 2.34-6ubuntu1.9 [49,2 kB]
Des:13 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libctf0 amd64 2.34-6ubuntu1.9 [46,6 kB]
Des:14 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 binutils-x86_64-linux-gnu amd64 2.34-6ubuntu1.9 [1.614 kB]
Des:15 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 binutils amd64 2.34-6ubuntu1.9 [3.386 kB]
Des:16 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 cpp-9 amd64 9.4.0-1ubuntu1-20.04.2 [7.502 kB]
Des:17 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 gcc-9-base amd64 9.4.0-1ubuntu1-20.04.2 [18,9 kB]
Des:18 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libitm1 amd64 10.5.0-1ubuntu1-20.04 [26,2 kB]
Des:19 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libatomici amd64 10.5.0-1ubuntu1-20.04 [9.284 kB]
Des:20 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libasan5 amd64 9.4.0-1ubuntu1-20.04.2 [2.752 kB]
Des:21 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 liblsan0 amd64 10.5.0-1ubuntu1-20.04 [835 kB]
Des:22 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libtsan0 amd64 10.5.0-1ubuntu1-20.04 [2.016 kB]
```

```
Procesando disparadores para cron (2.32-1ubuntu2.2) ...
Procesando disparadores para man-db (2.9.1-1) ...
Procesando disparadores para desktop-file-utils (0.24-1ubuntu3) ...
enyel@enyel-Virtual-Machine:~$ screenfetch
```

```
 ./+o+-      enyel@enyel-Virtual-Machine
  yyyy- -yyyyy+
 ://+/////-yyyyyyo  OS: Ubuntu 20.04 focal
 .++ .:/+++++/-+sss/  Kernel: x86_64 Linux 5.4.0-117-generic
 .:+o: /+++++++/:-:/-  Uptime: 16m
 o:+o:++. . . .-/ooo+++/  Packages: 1689
 .:+o:+o/.      +sssooo/  Shell: bash 5.0.17
 .++/+:+oo+o: /sssooo.  Resolution: 2560x1600
 /++/+/:`oo+o      /:::::.
 \/+o+++`o++o      +///-
 .++.o++oo+:`      /ddhhh.
 .+.o+oo:.      `odhhhhh+
 \+.++o+o` . . . .:ohhhhhhh+
 `:o++` `ohhhhhhhhyo++os:
 .o:` .syhhhhhhh/.oo++o`  DE: GNOME 3.36.5
 /osyyyyyyo++ooo+++/  WM: Mutter
           +ooo++o\:
           `00++.
enyel@enyel-Virtual-Machine:~$
```

```
enyel@enyel-Virtual-Machine:~$  
enyel@enyel-Virtual-Machine:~$ g++ -std=c++11 filosofos.cpp -o filosofos -pthread  
enyel@enyel-Virtual-Machine:~$  
enyel@enyel-Virtual-Machine:~$ ./filosofos  
Philosopher 0 is thinking.  
Philosopher 1 is thinking.  
Philosopher 3 is thinking.  
Philosopher 2 is thinking.  
Philosopher 4 is thinking.  
Philosopher 1 is eating.  
Philosopher 3 is eating.  
Philosopher 1 is thinking.  
Philosopher 0 is eating.  
Philosopher 3 is thinking.  
Philosopher 2 is eating.  
Philosopher 2 is thinking.  
Philosopher 1 is eating.  
Philosopher 0 is thinking.  
Philosopher 4 is eating.  
Philosopher Philosopher 12 is thinking.  
Philosopher 4 is thinking.  
    is eating.  
Philosopher 0 is eating.  
Philosopher 2 is thinking.  
Philosopher Philosopher 0Philosopher 3 is eating.  
1 is eating.  
    is thinking.  
Philosopher 3 is thinking.  
Philosopher 2 is eating.  
Philosopher 4 is eating.  
Philosopher 1 is thinking.  
Philosopher Philosopher 2 is thinking.  
1 is eating.  
Philosopher 3 is eating.  
Philosopher 4 is thinking.  
Philosopher 1 is thinking.  
Philosopher 0 is eating.  
Philosopher Philosopher 32 is eating.  
    is thinking.  
^C  
enyel@enyel-Virtual-Machine:~$
```

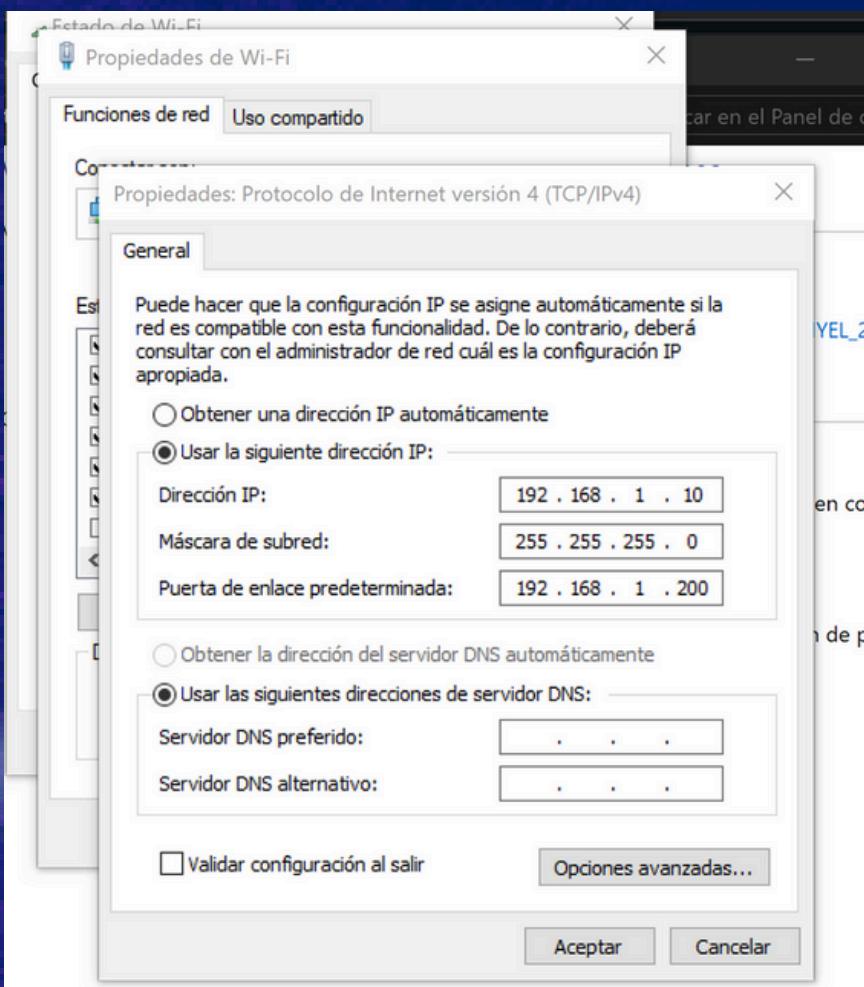
# CONEXIÓN A RED



# Se necesita

CONFIGURAR UNA RED VIRTUAL DENTRO DE TU SOFTWARE DE  
VIRTUALIZACIÓN

## ASIGNA DIRECCIONES IP ESTÁTICAS



# Verificamos

PING <DIRECCIÓN IP DE LA OTRA MÁQUINA VIRTUAL>

```
C:\Users\Enyel>ping 192.168.1.4

Haciendo ping a 192.168.1.4 con 32 bytes de datos:
Respuesta desde 192.168.1.4: bytes=32 tiempo<1m TTL=128

Estadísticas de ping para 192.168.1.4:
    Paquetes: enviados = 4, recibidos = 4, perdidos = 0
                (0% perdidos),
Tiempos aproximados de ida y vuelta en milisegundos:
    Mínimo = 0ms, Máximo = 0ms, Media = 0ms
```

# CONCLUSIONES

## Rentabilidad



Software gratuito que se centra completamente a la virtualización

## Eficiencia y Flexibilidad



Hyper-V permite ejecutar varios sistemas operativos en un solo servidor físico dando flexibilidad para adaptarse a muchas necesidades

## Compatibilidad



Amplia compatibilidad con diferentes sistemas operativos de Windows y Linux

# RECOMENDACIONES

Evaluacion  
Inicial

Capacitación

Monitoreo  
continuo

# MICROSOFT HYPER-V SERVER VS. HYPER-V MANAGER

Comenzar!



Sistemas Operativos