

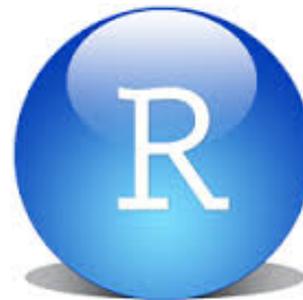
ESCENARIOS CLIMÁTICOS DE CORTO PLAZO

ENTORNO DE MODELACIÓN



El entorno de modelación de los escenarios de corto plazo mediante SIMGEN requiere el uso de librerías del soft **UVCDAT** por lo que el sistema sólo funciona bajo LINUX o OSX de 64 bits

Para modelar en entornos Windows se puede usar una máquina virtual





En Informática, **virtualización** es la creación -a través de software- de una versión virtual de algún recurso tecnológico, como puede ser una plataforma de hardware, un sistema operativo, un dispositivo de almacenamiento u otros recursos de red.

Esta capa de software (VMM) maneja, gestiona y arbitra los cuatro recursos principales de una computadora (CPU, Memoria, Dispositivos Periféricos y Conexiones de Red) y así podrá repartir dinámicamente dichos recursos entre todas las máquinas virtuales definidas en el computador central. Esto hace que se puedan tener varios ordenadores virtuales ejecutándose en el mismo ordenador físico.

```
apt-get install virtualbox-guest-dkms
```





<https://www.virtualbox.org/>

The screenshot shows a browser window with the URL <https://www.virtualbox.org/>. The page features the VirtualBox logo and a navigation menu on the left with links for About, Screenshots, Downloads (circled in red), Documentation, End-user docs, Technical docs, Contribute, and Community. The main content area includes a 'Welcome to VirtualBox.org!' heading, a paragraph describing the product, a 'Hot picks' section with links to Oracle Tech Network, Hyperbox, phpVirtualBox, and IQEmu, and an Oracle logo. A 'News Flash' sidebar on the right contains several announcements, including 'Important May 19th, 2014 We're hiring!', 'New May 16th, 2014 VirtualBox 4.3.12 released!', 'New March 14th, 2014 VirtualBox 4.2.24, 4.1.32, 4.0.24 and 3.2.22 released!', 'New October 15th, 2013 VirtualBox 4.3 released!', and 'Attention January 20th, 2012 This site has switched to Oracle single-sign-on authentication.' At the bottom, there are links for Contact, Privacy policy, and Terms of Use.



Recibidos - garodri@gmail... x Chapter 1. First steps x Downloads - Oracle VM Vir... x +

https://www.virtualbox.org/wiki/Downloads

Más visitados Primeros pasos Pectra Portal - Digital ... GMAIL



VirtualBox

Download VirtualBox

Here, you will find links to VirtualBox binaries and its source code.

VirtualBox binaries

By downloading, you agree to the terms and conditions of the respective license.

- **VirtualBox platform packages.** The binaries are released under the terms of the GPL version 2.
 - **VirtualBox 4.3.12 for Windows hosts** [⇒ x86/amd64](#)
 - **VirtualBox 4.3.12 for OS X hosts** [⇒ x86/amd64](#)
 - **VirtualBox 4.3.12 for Linux hosts**
 - **VirtualBox 4.3.12 for Solaris hosts** [⇒ amd64](#)
- **VirtualBox 4.3.12 Oracle VM VirtualBox Extension Pack** [⇒ All supported platforms](#)
Support for USB 2.0 devices, VirtualBox RDP and PXE boot for Intel cards. See [this chapter from the User Manual](#) for an introduction to this Extension Pack. The Extension Pack is available under the [Oracle VM VirtualBox Extension Pack Evaluation License \(PUEL\)](#).
Please install the extension pack with the same version as your installed version of VirtualBox!
*If you are using **VirtualBox 4.2.24**, please download the extension pack [⇒ here](#).*
*If you are using **VirtualBox 4.1.32**, please download the extension pack [⇒ here](#).*
*If you are using **VirtualBox 4.0.24**, please download the extension pack [⇒ here](#).*
- **VirtualBox 4.3.12 Software Developer Kit (SDK)** [⇒ All platforms](#)

See the [changelog](#) for what has changed.
You might want to compare the

- [SHA256](#) checksums or the
- [MD5](#) checksums

to verify the integrity of downloaded packages.
The SHA256 checksums should be favored as the MD5 algorithm must be treated as insecure!

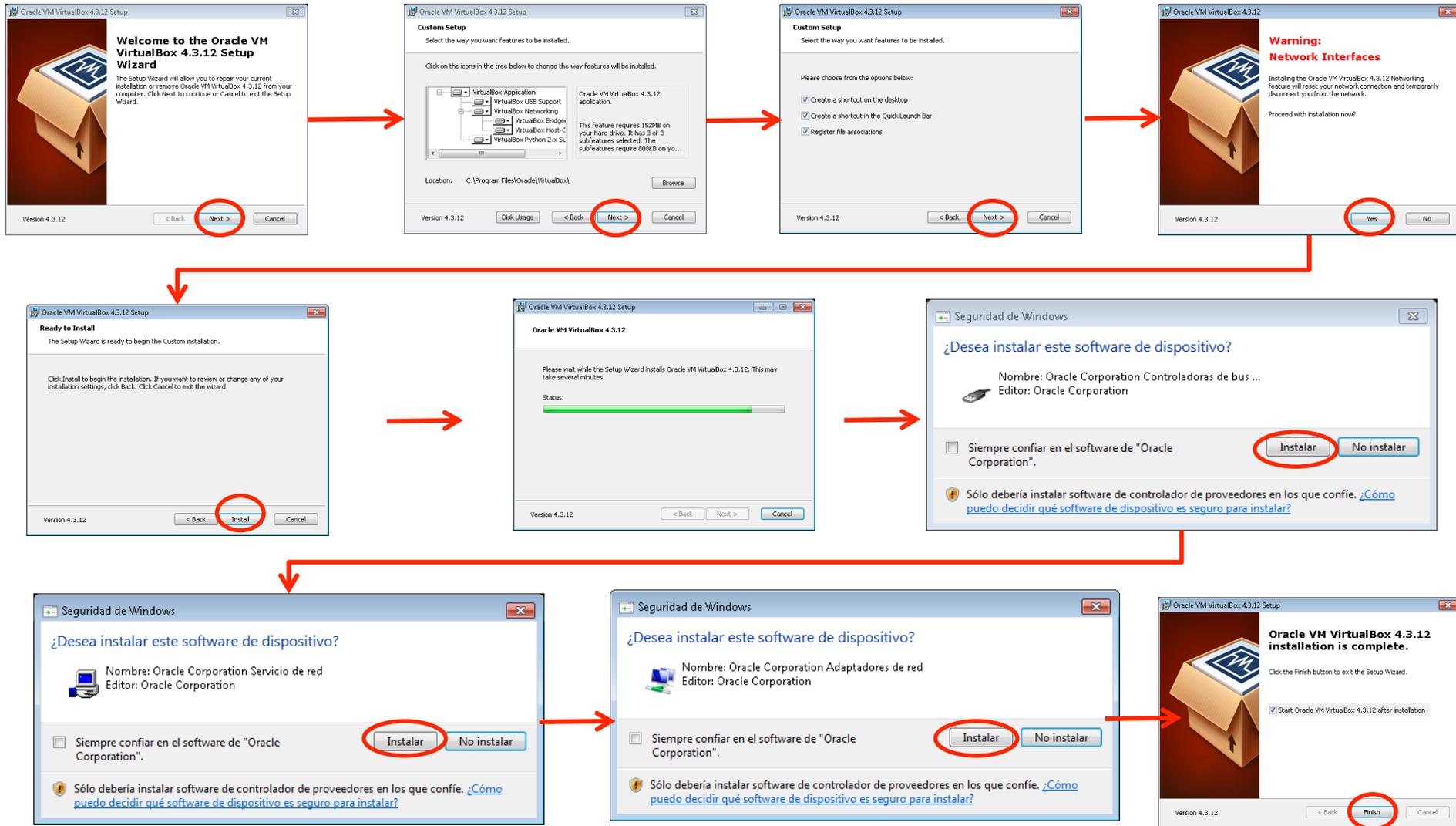
Note: After upgrading VirtualBox it is recommended to upgrade the guest additions as well.

Selección de S.O. Host





Obtención e Instalación de Oracle Virtual Box

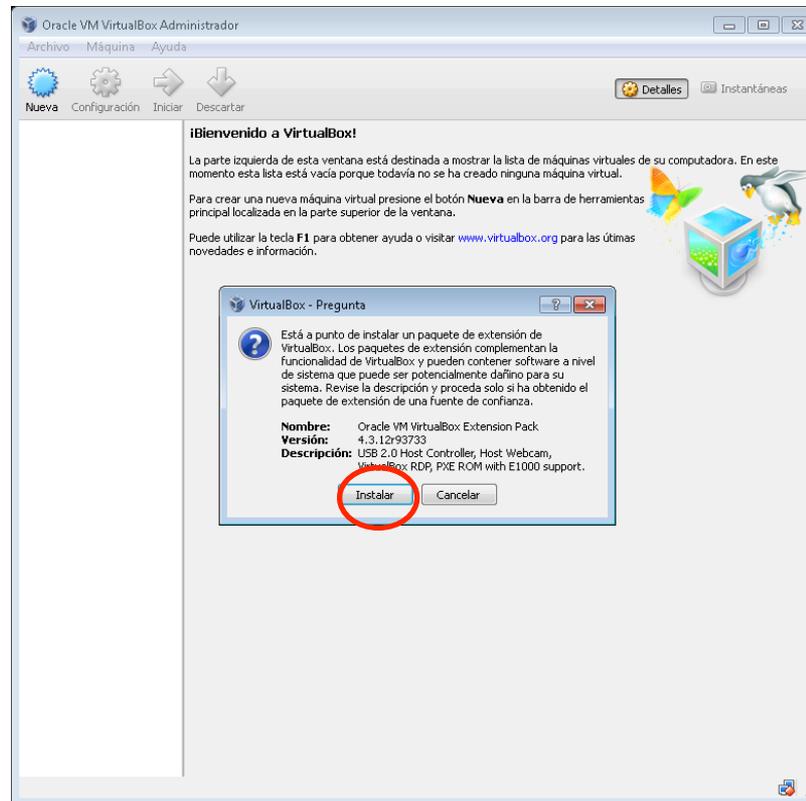




VirtualBox utiliza unas extensiones que entre otras cosas permite compartir carpetas y archivos entre los SO Host y Guest.

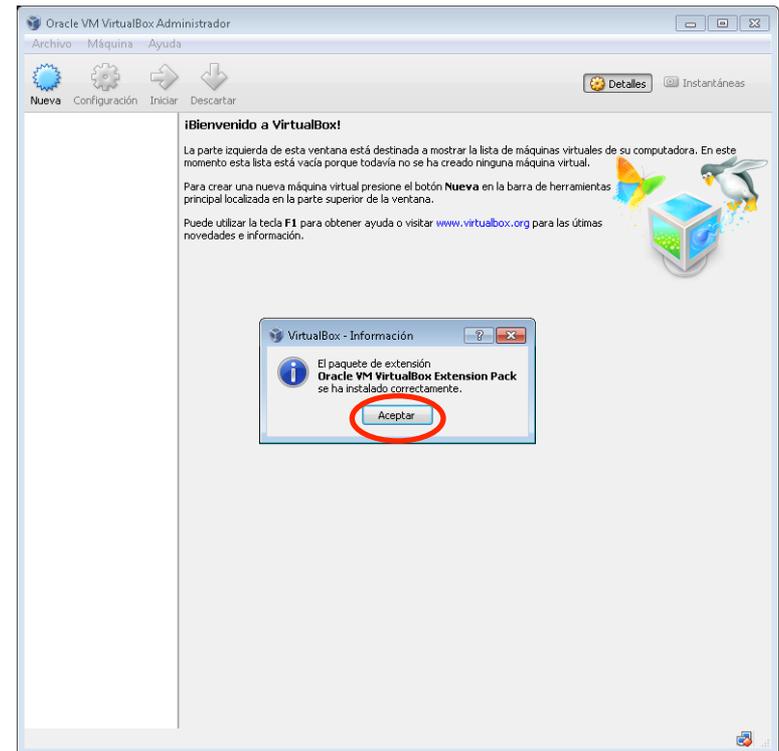
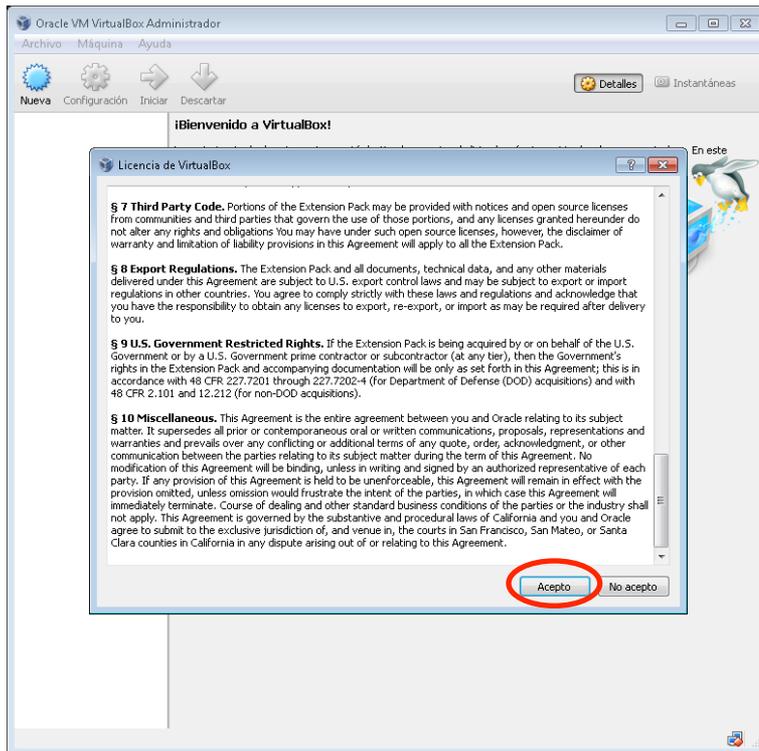
Instalación de los addins de VB

Oracle_VM_VirtualBox_Extension_Pack-4.3.12-93733.vbox-extpack





Obtención e Instalación de Oracle Virtual Box





<http://www.ubuntu.com/download/desktop>

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www.ubuntu.com/download/desktop

Más visitados Primeros pasos Pectra Portal - Digital... GMAIL

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Download Ubuntu Desktop

Ubuntu 14.04 LTS

The latest version of the Ubuntu operating system for desktop PCs and laptops, Ubuntu 14.04 LTS comes with five years of security and maintenance updates, guaranteed.

[Ubuntu 14.04 LTS release notes](#)

Choose your Flavour
64-bit

Download

Easy ways to switch to Ubuntu 14.04 LTS

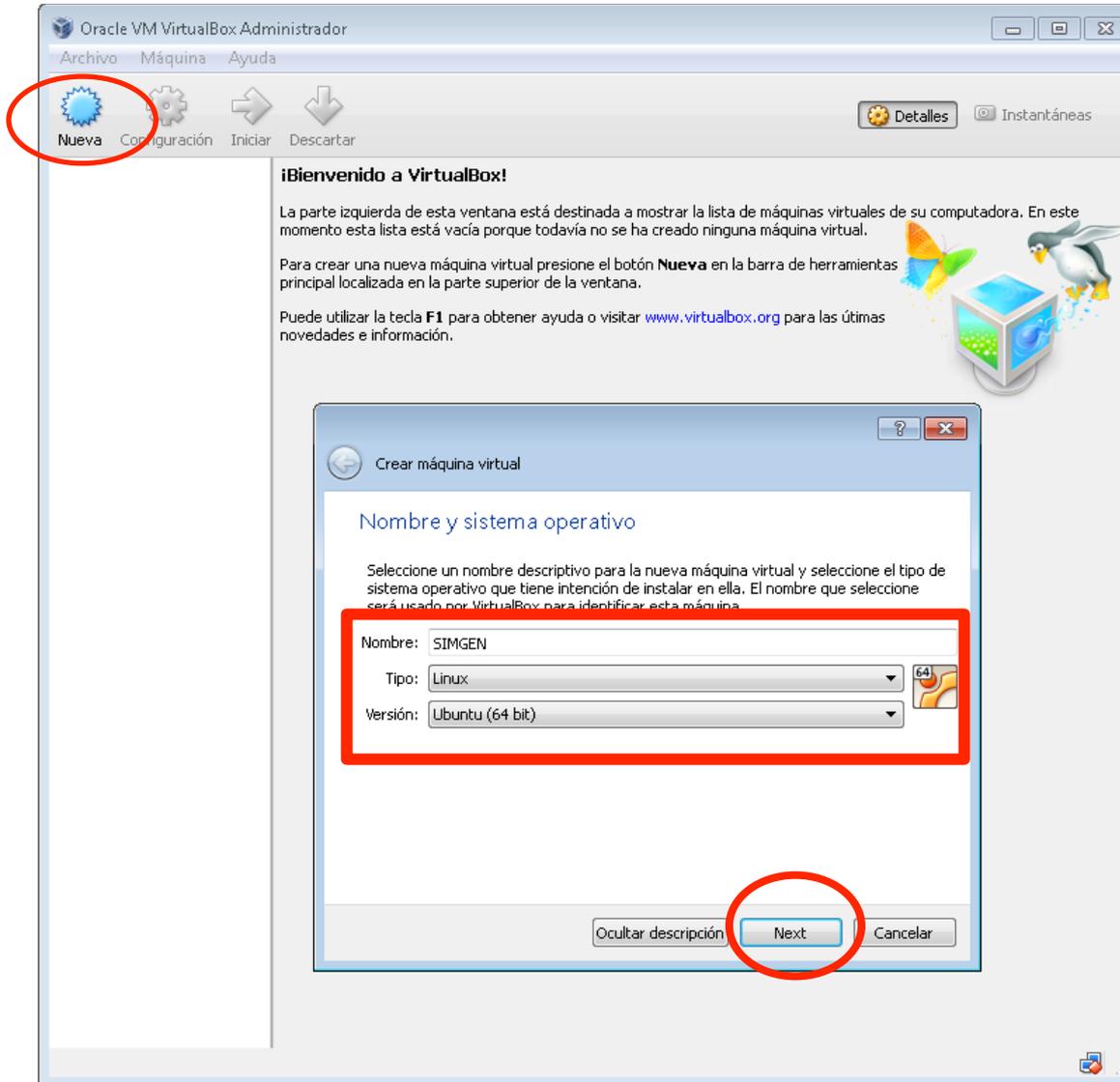
- From Ubuntu**
If you're already running Ubuntu, you can upgrade in a few clicks from [Software Updater](#).
- From Windows**
If you're using Windows 8 or any computer with a 64-bit processor, we recommend the 64-bit download.
- From Mac OS X**
Most Macs with Intel processors will work with either 64-bit or Mac images. If the 64-bit image doesn't work, try the Mac image.

We use cookies to improve your experience. By your continued use of this site you accept such use. To change your settings please [see our policy](#).

Bajar versión correspondiente al sistema (32 o 64 bits)



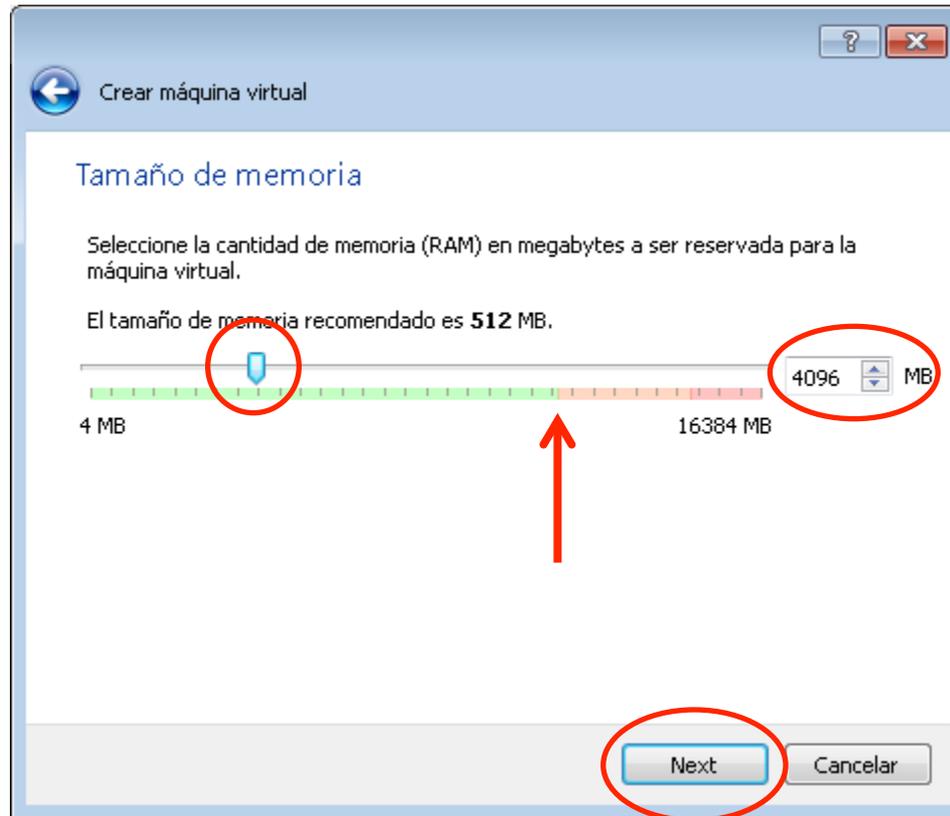
Una vez Instalado el software de virtualización se debe crear la maquina virtual que recibirá al Sistema Operativo GUEST (Ubuntu Linux)



OJO Seleccionar la version de 64 bits.



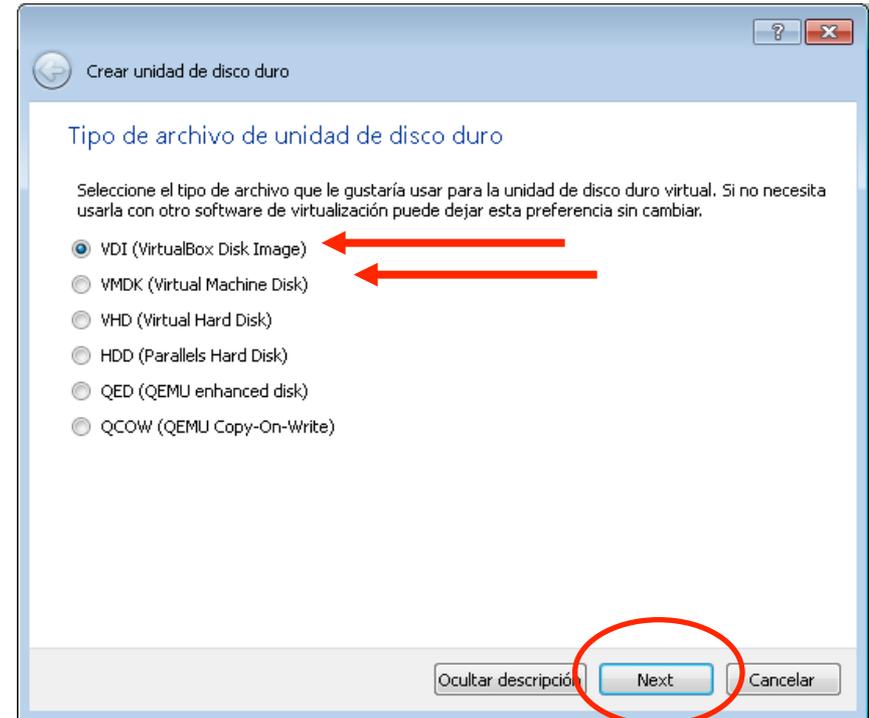
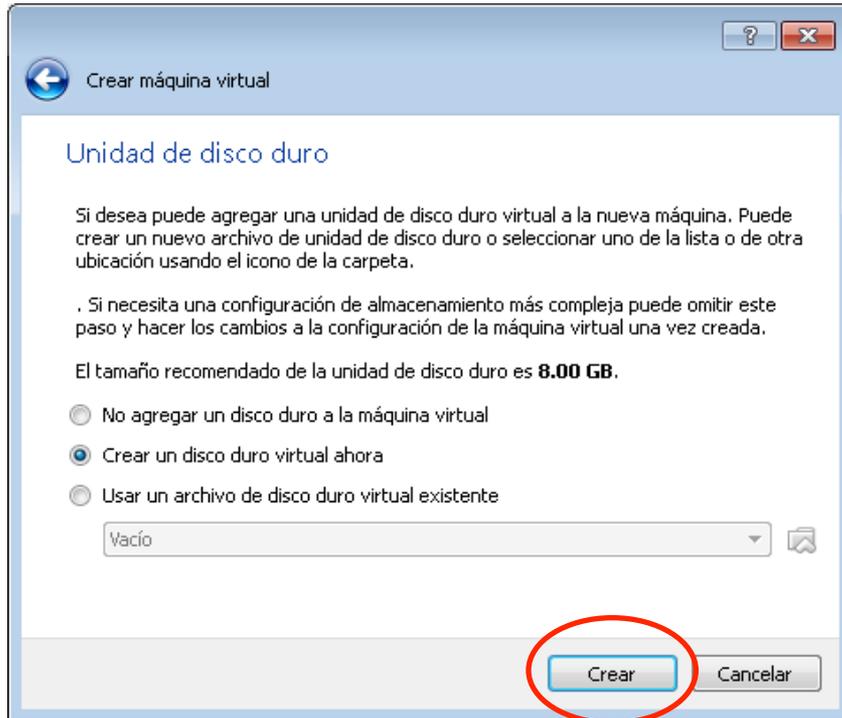
Debemos asignarle la memoria que dispondrá la maquina virtual

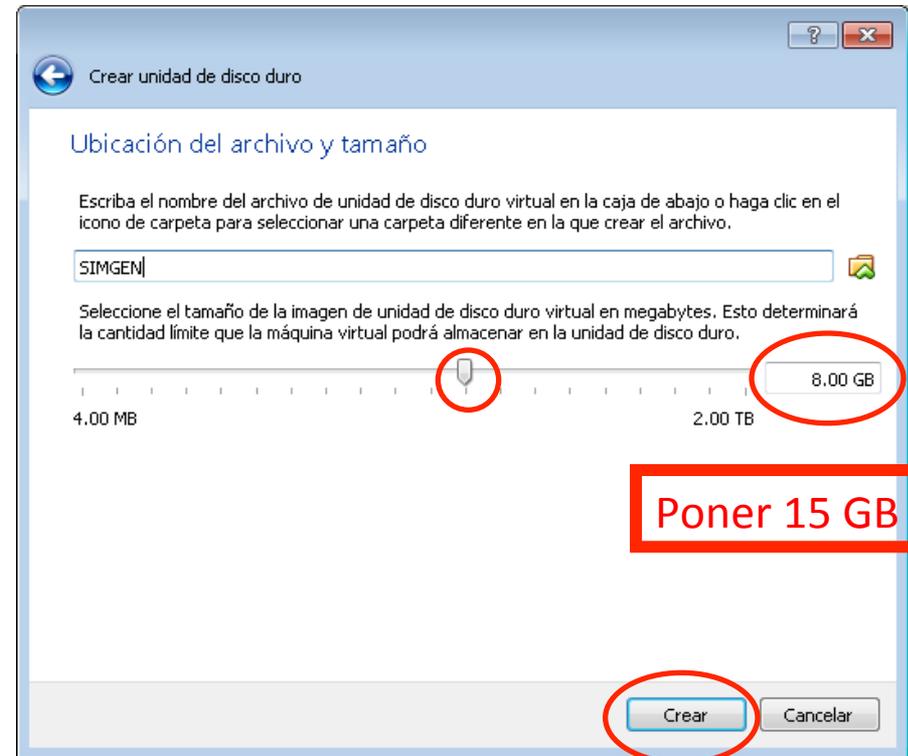
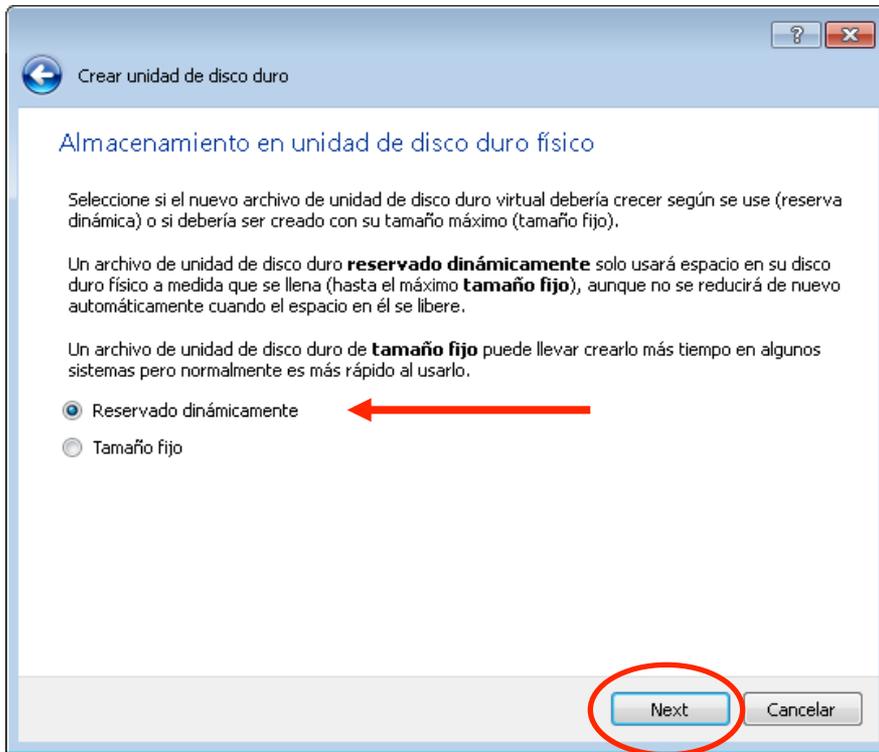


La zona verde se considera segura. Aquí hay que hacer un balance entre la performance del equipo host y virtual



Debemos asignarle el disco que dispondrá la maquina virtual







Otras configuraciones de la VM

The screenshot shows the Oracle VM VirtualBox Administrator interface. The 'Configuración' (Settings) icon is circled in red. The VM 'SIMGEN' is selected and its status is 'Apagada' (Powered Off). The configuration is divided into several sections:

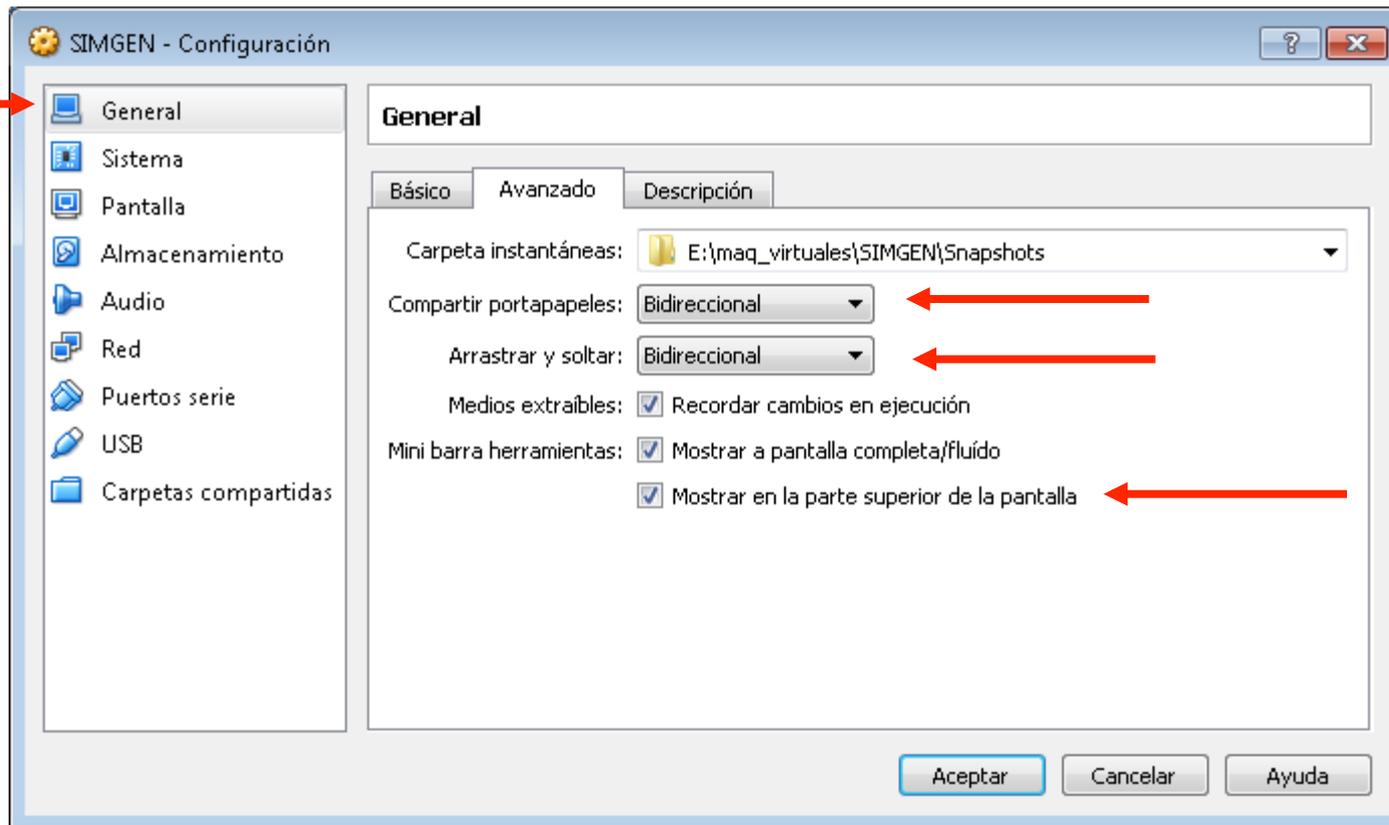
- General:** Nombre: SIMGEN, Sistema operativo: Ubuntu (64 bit)
- Sistema:** Memoria base: 4096 MB, Orden de arranque: Disquete, CD/DVD, Disco duro, Aceleración: VT-x/AMD-V, Paginación anidada
- Pantalla:** Memoria de vídeo: 12 MB, Servidor de escritorio remoto: Inhabilitado, Captura de vídeo: Inhabilitado
- Almacenamiento:** Controlador: IDE, IDE secundario maestro: [CD/DVD] Vacío, Controlador: SATA, Puerto SATA 0: SIMGEN.vdi (Normal, 8.00 GB)
- Audio:** Controlador de anfitrión: Windows DirectSound, Controlador: ICH AC97
- Red:** Adaptador 1: Intel PRO/1000 MT Desktop (NAT)
- USB:** Filtros de dispositivos: 0 (0 activo)
- Carpetas compartidas:** Ninguno
- Descripción:** Ninguno

The 'Previsualización' (Preview) window shows a black screen with the text 'SIMGEN' in white.



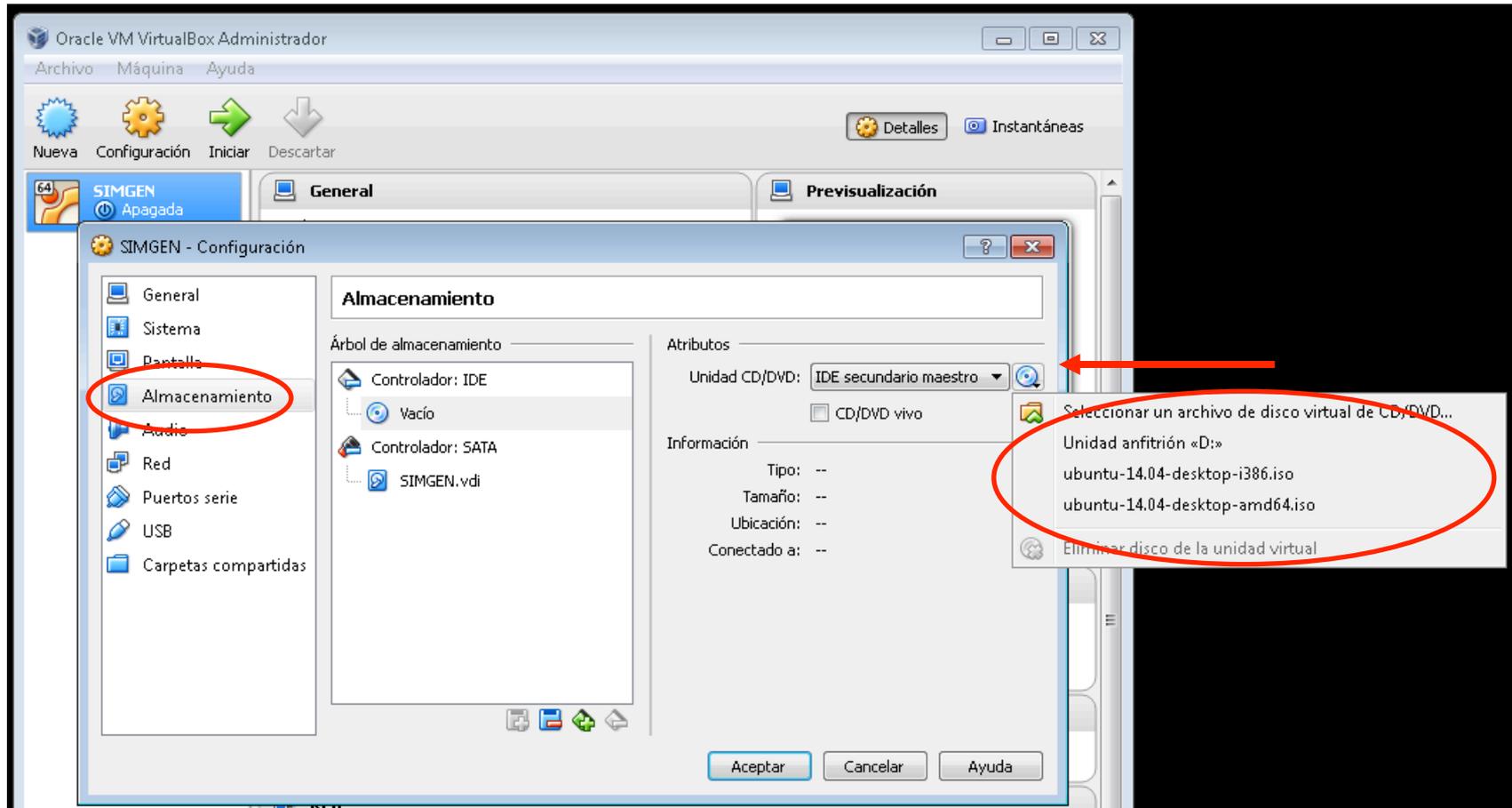
Seteamos que los S.O. compartan el portapapeles.

Esto permite que podamos **Copiar** algo en el Host y **Pegarlo** en el Guest y viceversa

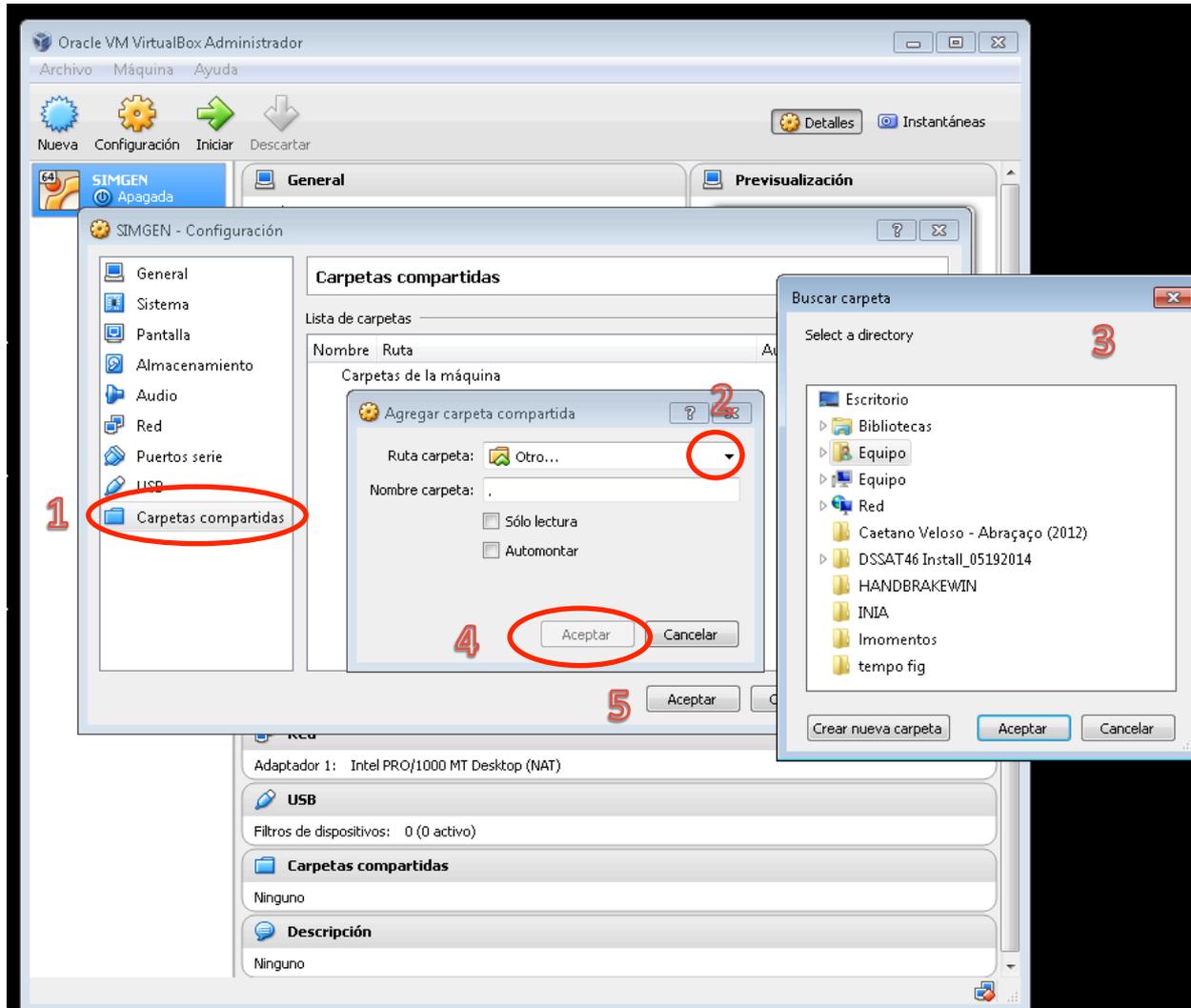




Cargar la imagen de disco de instalación de UBUNTU



Creamos una carpeta compartida entre los SO Guest y Host
Los archivos que estén en esa carpeta estarán disponibles en ambos sistemas operativos





Una vez finalizada la creación de la maquina virtual se debe instalar el sistema operativo GUEST

Oracle VM VirtualBox Administrador

Archivo Máquina Ayuda

Nueva Configuración **Iniciar** Descartar

64 SIMGEN Apagada

Detalles Instantáneas

General

Nombre: SIMGEN
Sistema operativo: Ubuntu (64 bit)

Sistema

Memoria base: 4096 MB
Orden de arranque: Disquete, CD/DVD, Disco duro
Aceleración: VT-x/AMD-V, Paginación anidada

Previsualización

SIMGEN

Pantalla

Memoria de video: 12 MB
Servidor de escritorio remoto: Inhabilitado
Captura de video: Inhabilitado

Almacenamiento

Controlador: IDE
IDE secundario maestro: [CD/DVD] ubuntu-14.04-desktop-amd64.iso (964.00 MB)
Controlador: SATA
Puerto SATA 0: SIMGEN.vdi (Normal, 8.00 GB)

Audio

Controlador de anfitrión: Windows DirectSound
Controlador: ICH AC97

Red

Adaptador 1: Intel PRO/1000 MT Desktop (NAT)

USB

Filtros de dispositivos: 0 (0 activo)

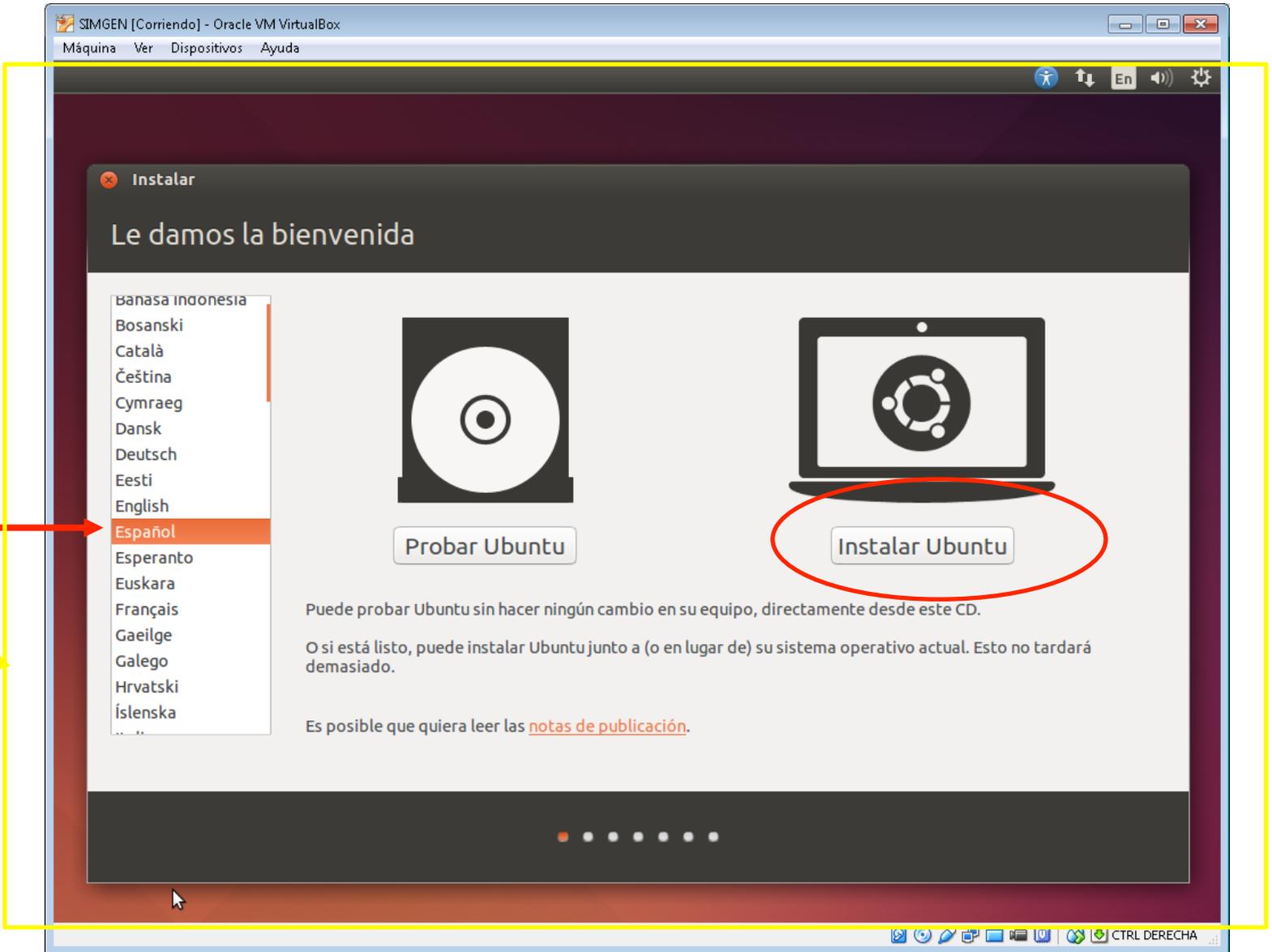
Carpetas compartidas

Carpetas compartidas: 1

Descripción

Ninguno

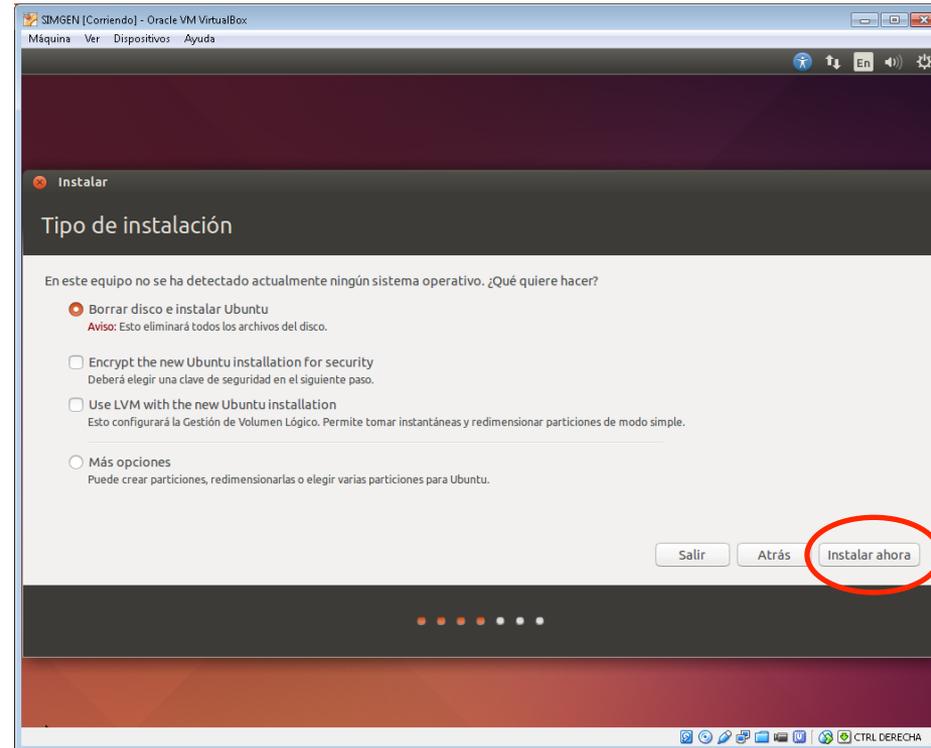
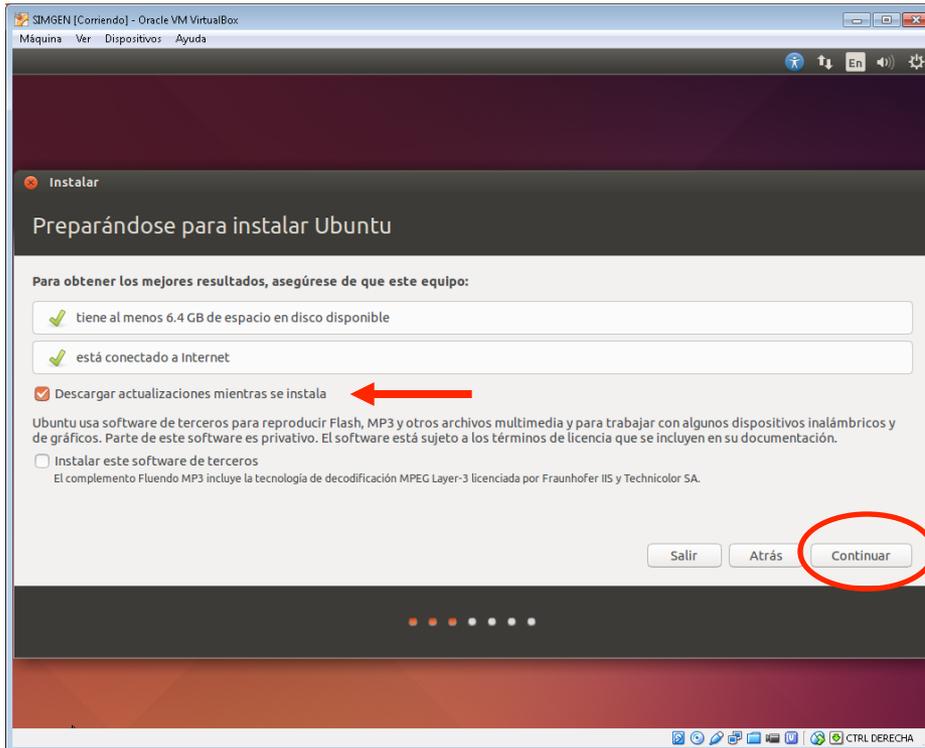
Crear una nueva máquina virtual



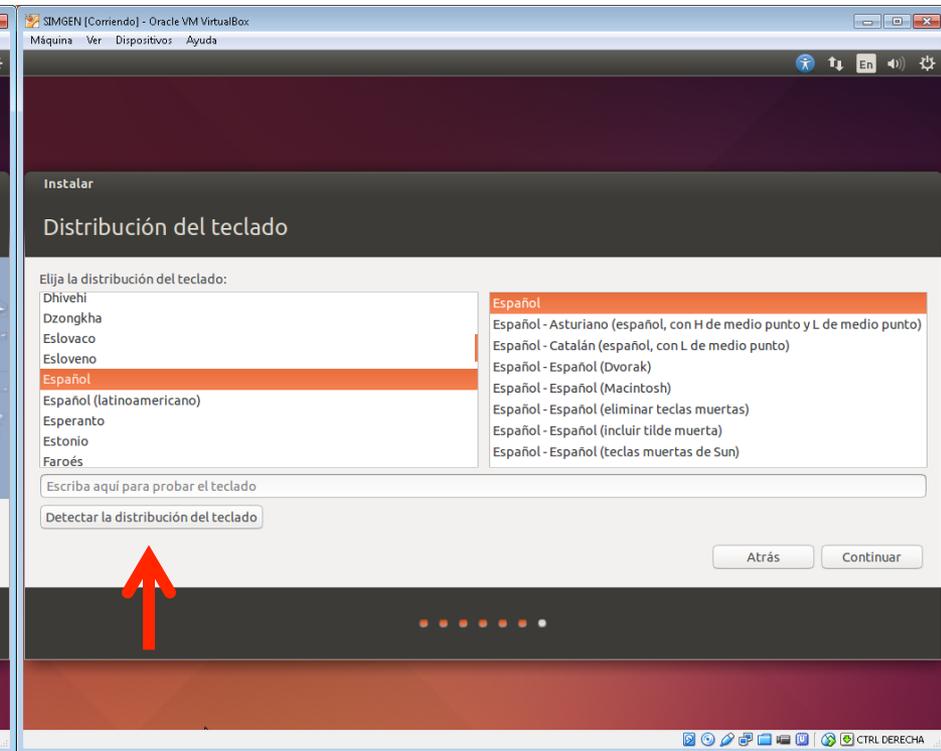
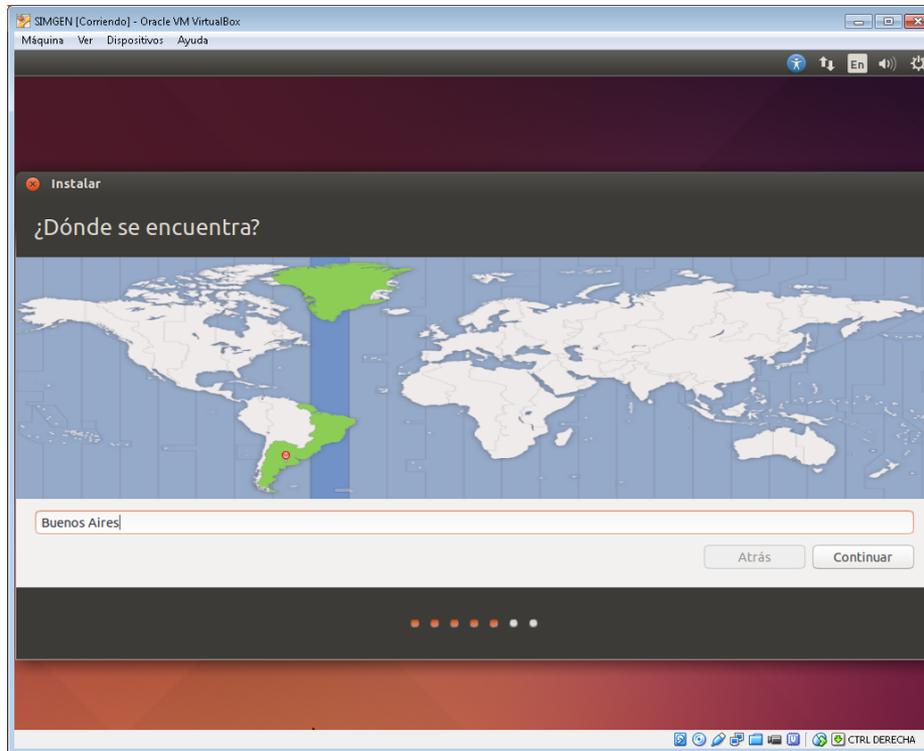
Ventana del S.O. Guest



Instalación de Ubuntu Linux en la VM



Configurar localización y distribución del teclado



Configurar la cuenta de usuario que utilizaremos en la VM

SIMGEN [Corriendo] - Oracle VM VirtualBox

Máquina Ver Dispositivos Ayuda

Instalar

¿Quién es usted?

Su nombre: ✓

El nombre de su equipo: ✓
El nombre que usa cuando habla con otros equipos.

Introduzca un nombre de usuario: ✓

Introduzca una contraseña: **Contraseña débil**

Confirme su contraseña: ✓

Iniciar sesión automáticamente

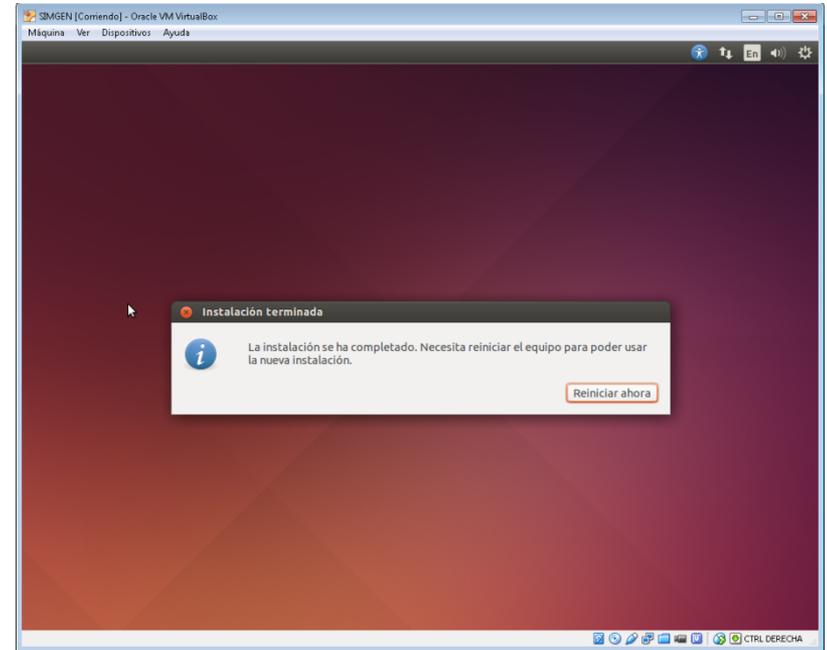
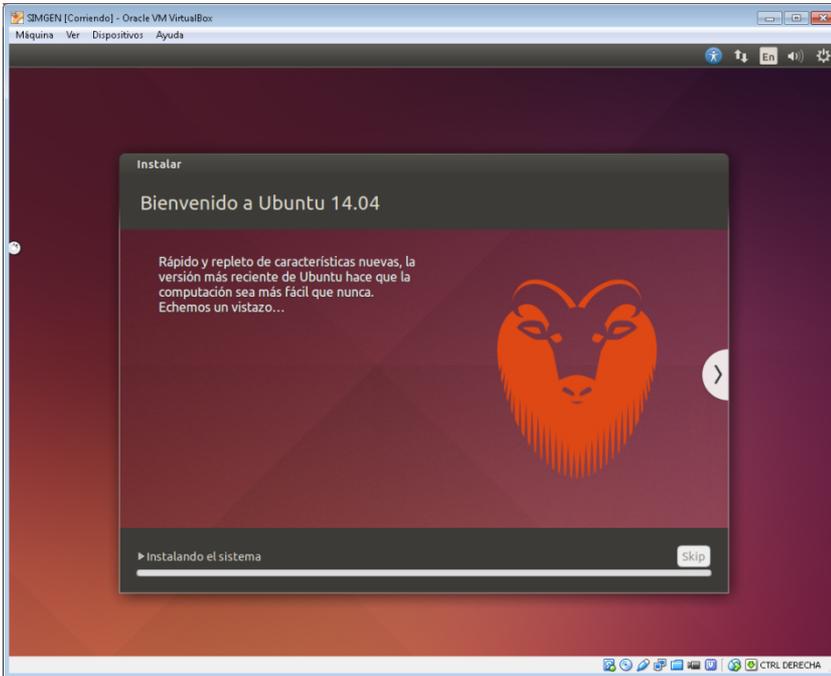
Solicitar mi contraseña para iniciar sesión

Cifrar mi carpeta personal

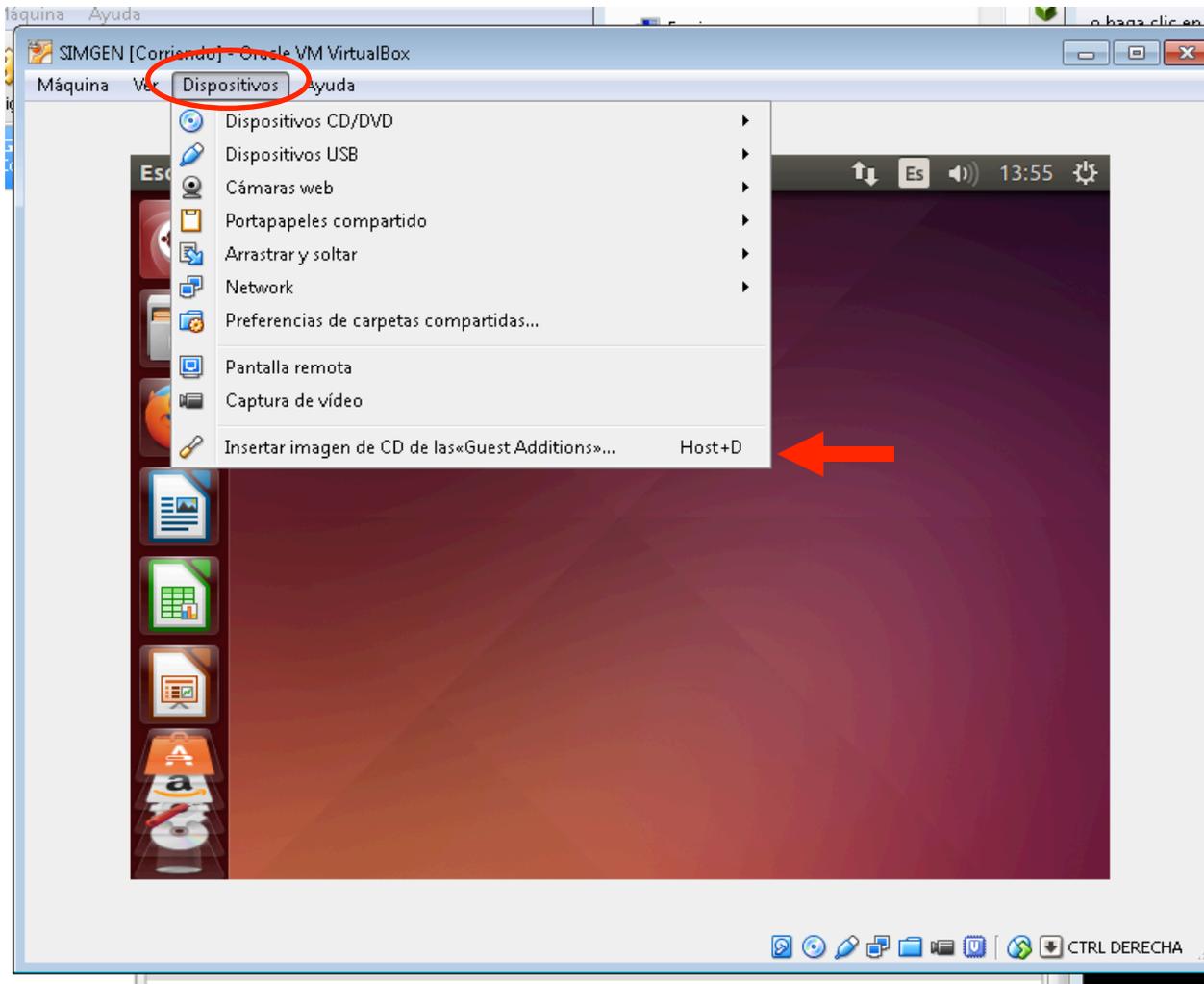
Atrás Continuar

Importante:
No olvidar el
password

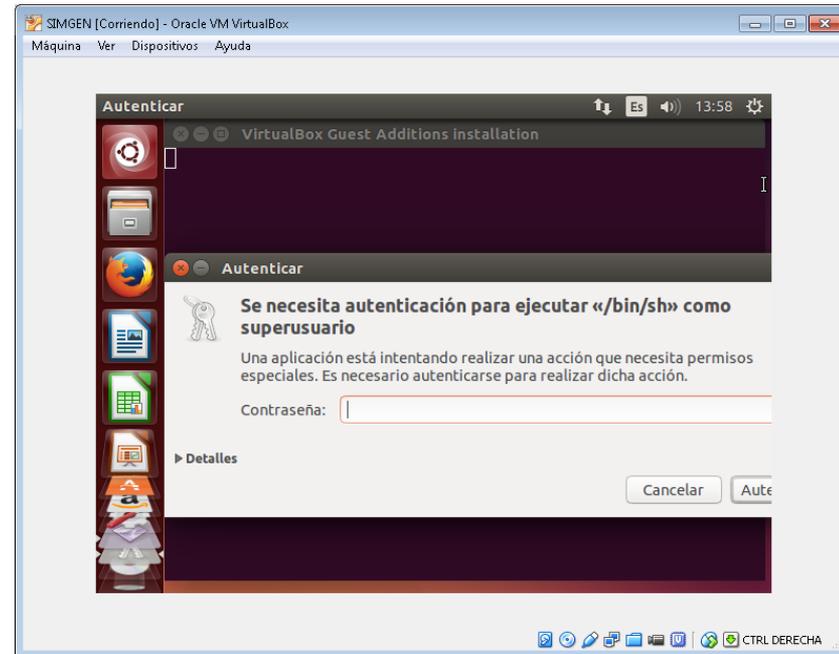
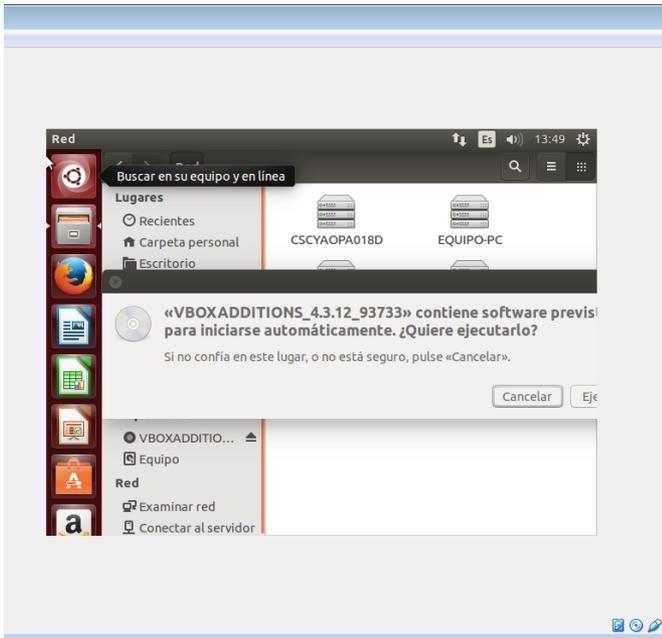
Comienza la Instalación del sistema operativo GUEST



Finaliza la Instalación del sistema operativo GUEST y es necesario reiniciar **(SOLO LA VM)**



Instalar las Addins en la VM



Password de root

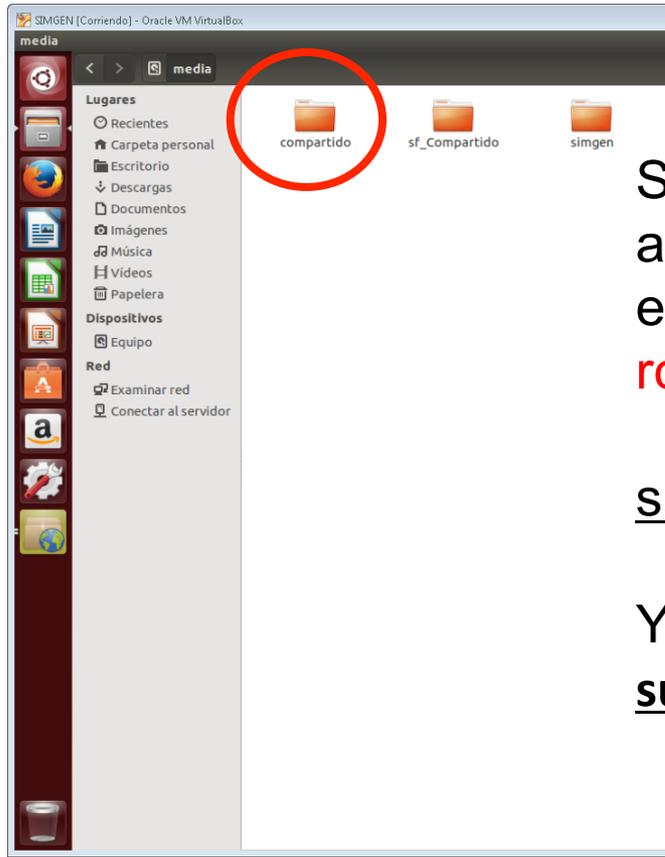
Con el sistema Guest operando hay que configurar el entorno de trabajo para aplicar la metodología de Simgen



Montar la carpeta compartida

```
sudo mkdir /media/compartido
```

```
sudo mount -t vboxsf compartido /media/compartido
```



Si queremos que esta carpeta se monte automáticamente cada vez que iniciamos Ubuntu en VirtualBox, debemos editar el archivo `/etc/init.d/rc.local`.

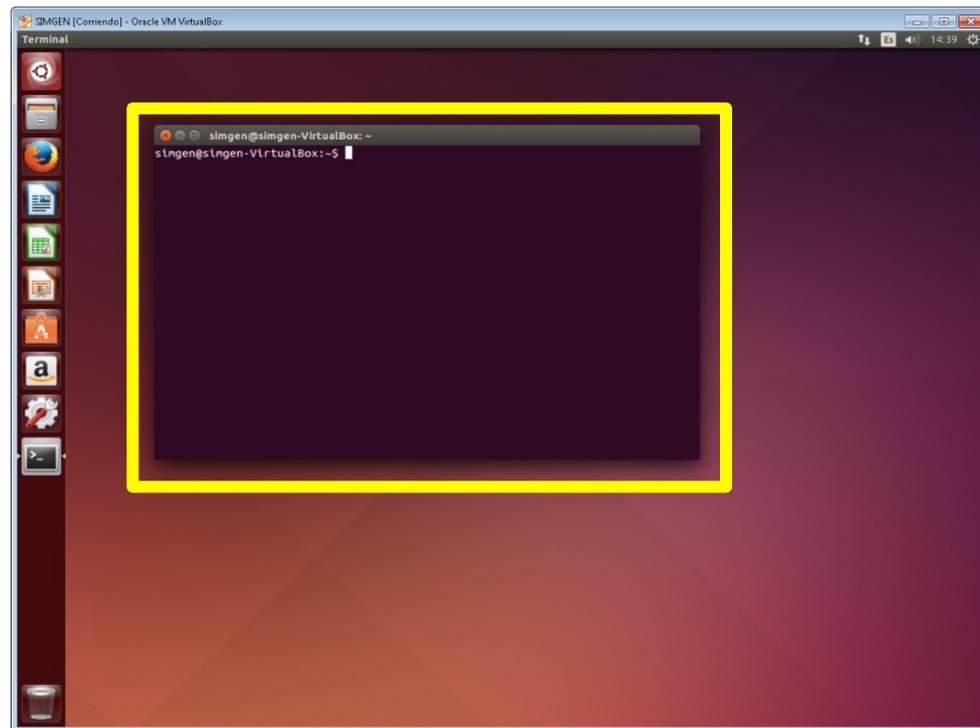
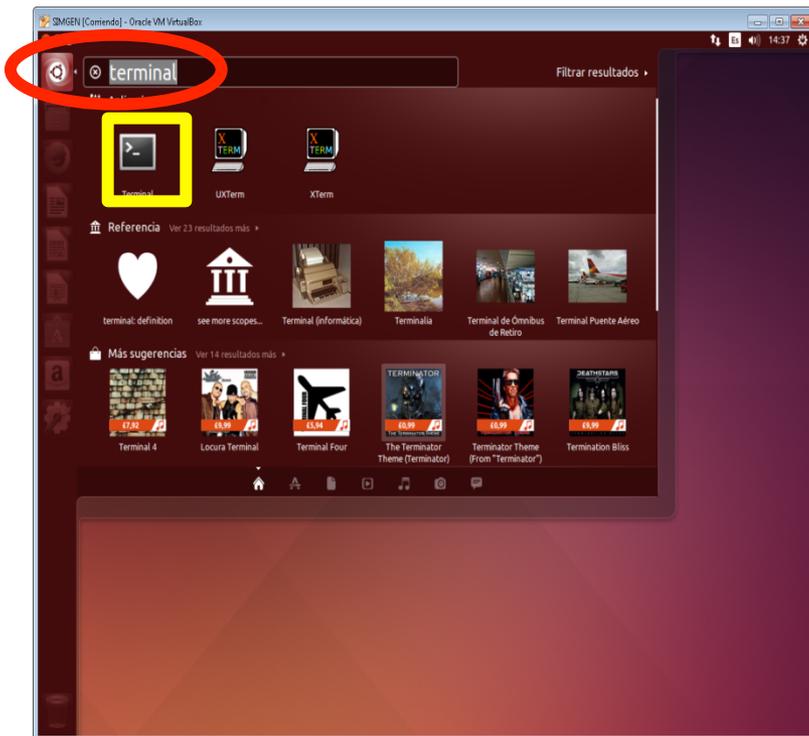
```
sudo gedit /etc/init.d/rc.local
```

Y añadimos la siguiente línea al archivo
`sudo mount -t vboxsf compartido /home/compartido`

Una vez instalado el sistema operativo GUEST hay que instalar el soft requerido



En linux vamos a operar casi todos los comandos en la terminal



Ctrl-L → Limpia la pantalla de terminal

Adición del repositorio de R

En la
ventana de
la terminal

```
*sources.list (/etc/apt) - gedit
Archivo Editar Ver Buscar Herramientas Documentos Ayuda
Guardar
#sources.list x
deb http://ar.archive.ubuntu.com/ubuntu/ trusty universe
deb-src http://ar.archive.ubuntu.com/ubuntu/ trusty universe
deb http://ar.archive.ubuntu.com/ubuntu/ trusty-updates universe
deb-src http://ar.archive.ubuntu.com/ubuntu/ trusty-updates universe

## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu
## team, and may not be under a free licence. Please satisfy yourself as to
## your rights to use the software. Also, please note that software in
## multiverse WILL NOT receive any review or updates from the Ubuntu
## security team.
deb http://ar.archive.ubuntu.com/ubuntu/ trusty multiverse
deb-src http://ar.archive.ubuntu.com/ubuntu/ trusty multiverse
deb http://ar.archive.ubuntu.com/ubuntu/ trusty-updates multiverse
deb-src http://ar.archive.ubuntu.com/ubuntu/ trusty-updates multiverse

## N.B. software from this repository may not have been tested as
## extensively as that contained in the main release, although it includes
## newer versions of some applications which may provide useful features.
## Also, please note that software in backports WILL NOT receive any review
## or updates from the Ubuntu security team.
deb http://ar.archive.ubuntu.com/ubuntu/ trusty-backports main restricted universe multiverse
deb-src http://ar.archive.ubuntu.com/ubuntu/ trusty-backports main restricted universe multiverse

deb http://security.ubuntu.com/ubuntu trusty-security main restricted
deb-src http://security.ubuntu.com/ubuntu trusty-security main restricted
deb http://security.ubuntu.com/ubuntu trusty-security universe
deb-src http://security.ubuntu.com/ubuntu trusty-security universe
deb http://security.ubuntu.com/ubuntu trusty-security multiverse
deb-src http://security.ubuntu.com/ubuntu trusty-security multiverse

## Uncomment the following two lines to add software from Canonical's
## 'partner' repository.
## This software is not part of Ubuntu, but is offered by Canonical and the
## respective vendors as a service to Ubuntu users.
# deb http://archive.canonical.com/ubuntu trusty partner
# deb-src http://archive.canonical.com/ubuntu trusty partner

## This software is not part of Ubuntu, but is offered by third-party
## developers who want to ship their latest software.
deb http://extras.ubuntu.com/ubuntu trusty main
deb-src http://extras.ubuntu.com/ubuntu trusty main
## Agrega repositorio de R
deb http://cran.rstudio.com/bin/linux/ubuntu trusty main
```

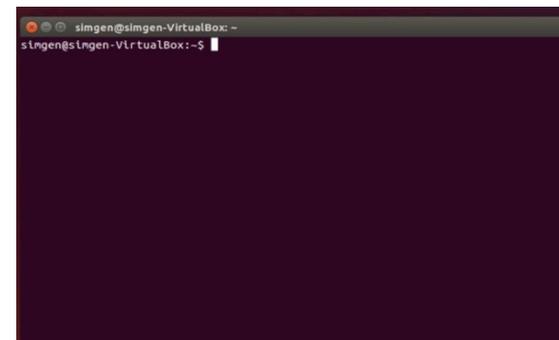
Editar el archivo `/etc/apt/sources.list` y agregar la siguiente línea
sudo gedit /etc/apt/sources.list

#agregar repositorio de R

deb <http://cran.rstudio.com/bin/linux/ubuntu> trusty main



<http://www.r-project.org/>



Agrega Key del repositorio

```
sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys E084DAB9
```

```
sudo apt-get update → Actualiza los paquetes de los repositorios
```

```
sudo apt-get check → Chequea
```

Instala R

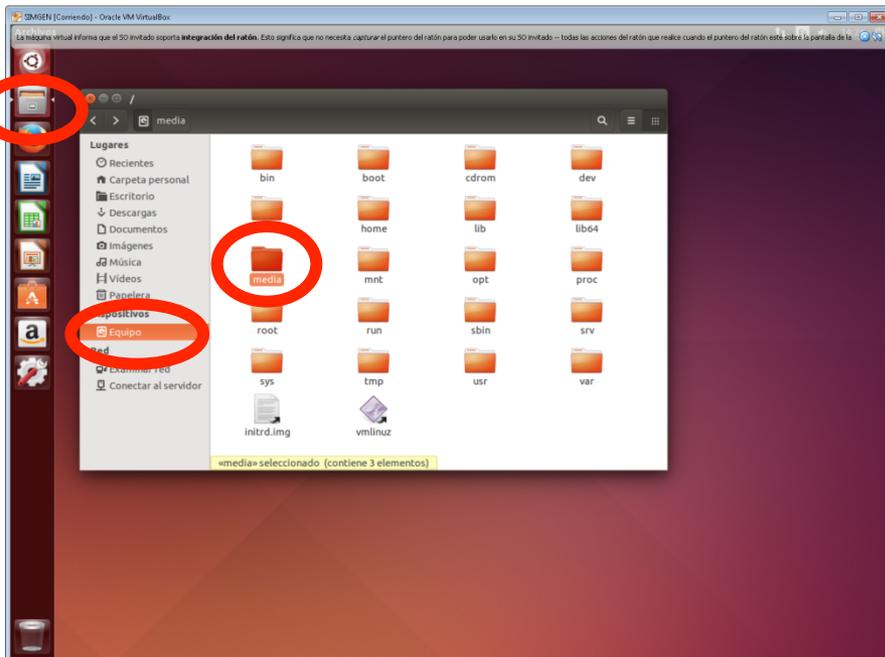
```
sudo apt-get install r-base → Instala R
```

```
sudo apt-get install r-base-dev → Instala R
```

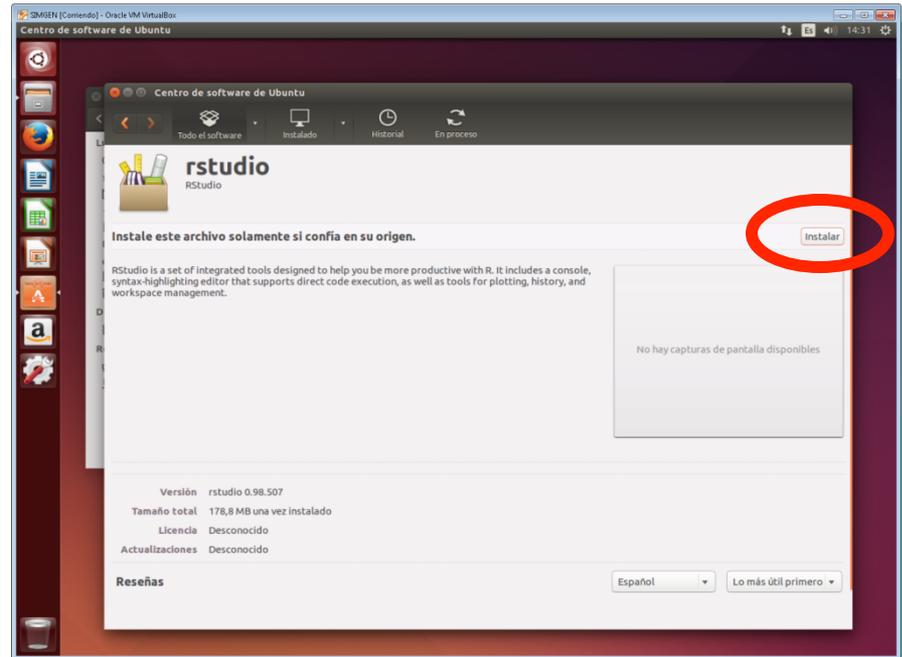


<http://www.rstudio.com/>

Descargar la version que corresponde al sistema operativo instalado



Dentro de la carpeta media seleccionar la carpeta compartido y hacer doble click en el instalador de Rstudio.



rstudio-0.98.507-amd64.deb

Instalación de paquetes necesarios de R

R version 3.0.2 (2013-09-25) -- "Frisbee Sailing"
Copyright (C) 2013 The R Foundation for Statistical Computing
Platform: i686-pc-linux-gnu (32-bit)

R es un software libre y viene sin GARANTIA ALGUNA.
Usted puede redistribuirlo bajo ciertas circunstancias.
Escriba 'license()' o 'licence()' para detalles de distribución.

R es un proyecto colaborativo con muchos contribuyentes.
Escriba 'contributors()' para obtener más información y
'citation()' para saber cómo citar R o paquetes de R en publicaciones.

Escriba 'demo()' para demostraciones, 'help()' para el sistema on-line de ayuda,
o 'help.start()' para abrir el sistema de ayuda HTML con su navegador.
Escriba 'q()' para salir de R.

Install Packages

Install from: [Configuring Repositories](#)
Repository (CRAN)

Packages (separate multiple with space or comma):
signal dse ggplot2

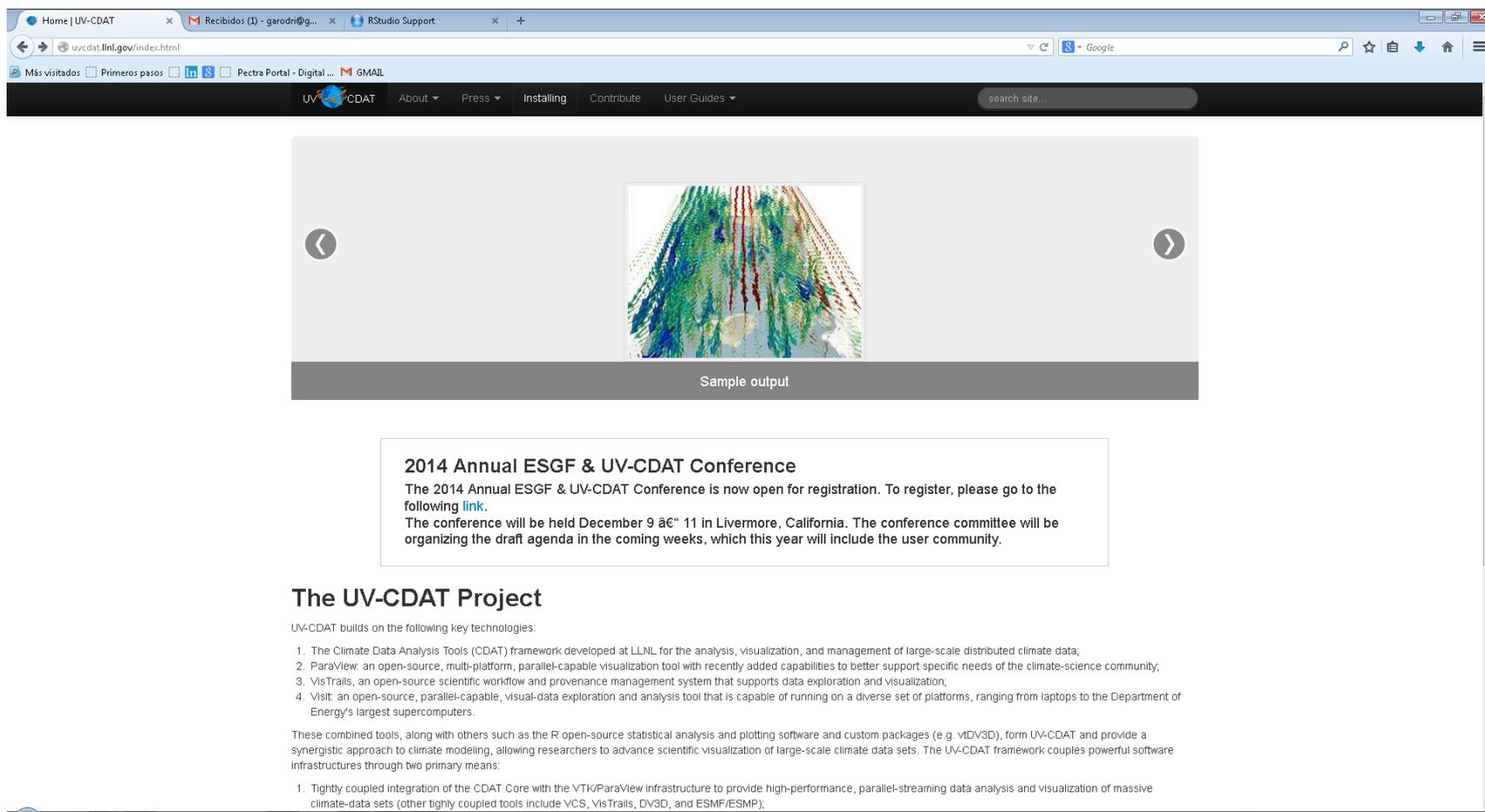
Install to Library:
/home/simgen/R/i686-pc-linux-gnu-library/3.0 [Default]

Install dependencies

Install Cancel

Package	Description	Version
<input type="checkbox"/> boot	Bootstrap Functions (originally by Angelo Canby for S)	1.3-9
<input type="checkbox"/> class	Functions for Classification	7.3-9
<input type="checkbox"/> cluster	Cluster Analysis Extended Rousseeuw et al.	1.14.4
<input type="checkbox"/> codetools	Code Analysis Tools for R	0.2-8
<input type="checkbox"/> compiler	The R Compiler Package	3.0.2
<input checked="" type="checkbox"/> datasets	The R Datasets Package	3.0.2
<input type="checkbox"/> foreign	Read Data Stored by Minitab, S, SAS, SPSS, Stata, Systat, Weka, dBase, ...	0.8-59
<input checked="" type="checkbox"/> graphics	The R Graphics Package	3.0.2
<input checked="" type="checkbox"/> grDevices	The R Graphics Devices and Support for Colours and Fonts	3.0.2
<input type="checkbox"/> grid	The Grid Graphics Package	3.0.2
<input type="checkbox"/> KernSmooth	Functions for kernel smoothing for Wand & Jones (1995)	2.23-10
<input type="checkbox"/> lattice	Lattice Graphics	0.20-24
<input type="checkbox"/> manipulate	Interactive Plots for RStudio	0.98.507
<input type="checkbox"/> MASS	Support Functions and Datasets for	7.3-29

<http://uvcdat.llnl.gov>



The screenshot shows the UV-CDAT website homepage. At the top, there is a navigation bar with links for 'About', 'Press', 'Installing', 'Contribute', and 'User Guides'. Below the navigation bar is a large image showing a 3D visualization of climate data, labeled 'Sample output'. Below the image is a text box containing information about the 2014 Annual ESGF & UV-CDAT Conference, including registration details and the conference location in Livermore, California. The main heading is 'The UV-CDAT Project', followed by a list of key technologies used in the project: CDAT, ParaView, VisTrails, and VisIt.

2014 Annual ESGF & UV-CDAT Conference
 The 2014 Annual ESGF & UV-CDAT Conference is now open for registration. To register, please go to the following [link](#).
 The conference will be held December 9 â€” 11 in Livermore, California. The conference committee will be organizing the draft agenda in the coming weeks, which this year will include the user community.

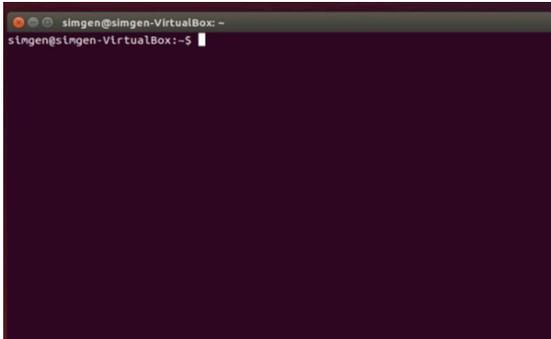
The UV-CDAT Project

UV-CDAT builds on the following key technologies:

1. The Climate Data Analysis Tools (CDAT) framework developed at LLNL for the analysis, visualization, and management of large-scale distributed climate data;
2. ParaView: an open-source, multi-platform, parallel-capable visualization tool with recently added capabilities to better support specific needs of the climate-science community;
3. VisTrails, an open-source scientific workflow and provenance management system that supports data exploration and visualization;
4. VisIt: an open-source, parallel-capable, visual-data exploration and analysis tool that is capable of running on a diverse set of platforms, ranging from laptops to the Department of Energy's largest supercomputers.

These combined tools, along with others such as the R open-source statistical analysis and plotting software and custom packages (e.g. vDV3D), form UV-CDAT and provide a synergistic approach to climate modeling, allowing researchers to advance scientific visualization of large-scale climate data sets. The UV-CDAT framework couples powerful software infrastructures through two primary means:

1. Tightly coupled integration of the CDAT Core with the VTK/ParaView infrastructure to provide high-performance, parallel-streaming data analysis and visualization of massive climate-data sets (other tightly coupled tools include VCS, VisTrails, DV3D, and ESMF/ESMP);



Copiar UVCDAT al Home

```
sudo cp UV-CDAT-1.5.1-Ubuntu-13.10-64bit.tar.bz2 /
```

```
sudo tar xjvf UV-CDAT-1.5.1-Ubuntu-13.10-64bit.tar.bz2
```

Editar el archivo `.bashrc` desde el home del usuario

```
sudo gedit .bashrc
```

Y agregar :

```
source /usr/local/uvcdat/1.5.1/bin/setup_runtime.sh
```

Chequear con `which python` → debe figurar el Python de UVCDAT

```
GUI - /usr/local/uvcdat/1.5.1/bin/uvcdat
```