

ACSO

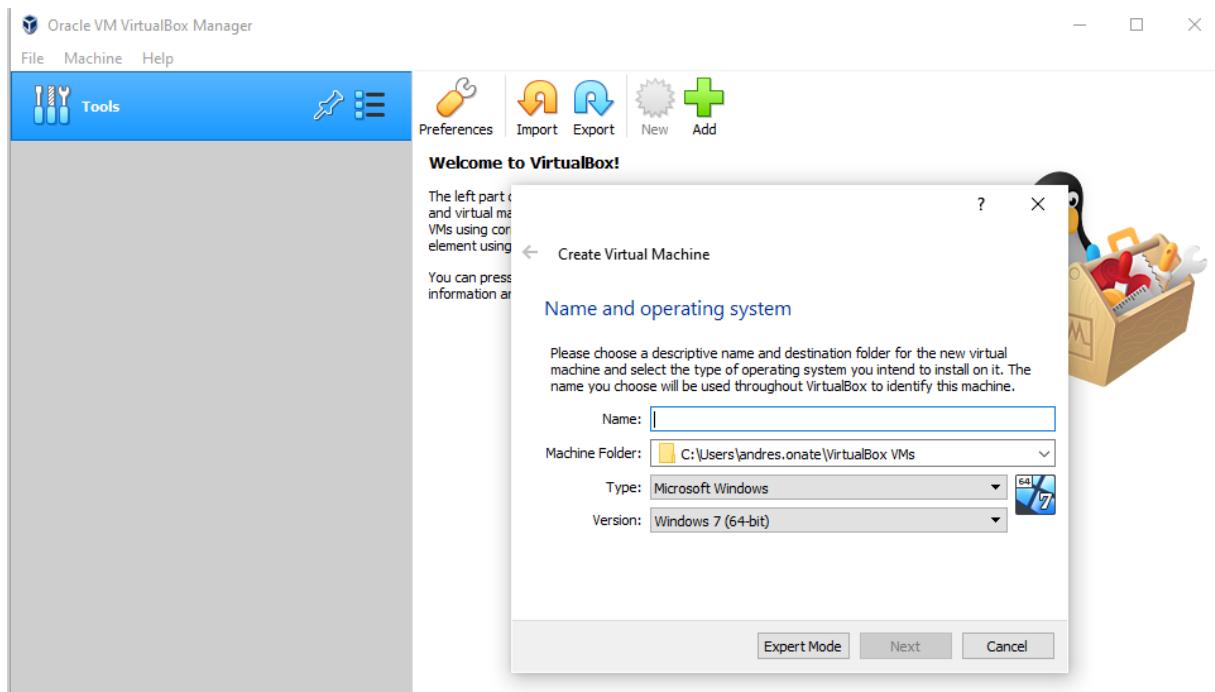
Laboratorio 1

Andrés Camilo Oñate Quimbayo

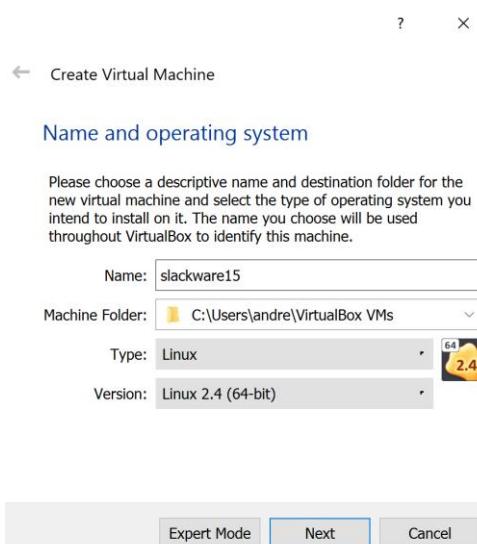
BITACORA

0. Crear Máquina Virtual

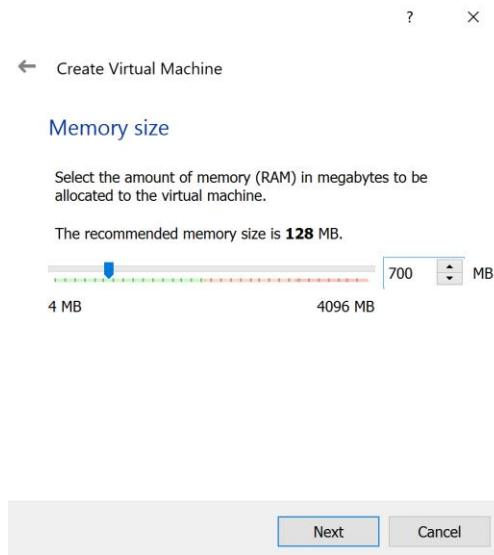
1. Se inicia la aplicación VirtualBox y se crea una nueva máquina virtual:



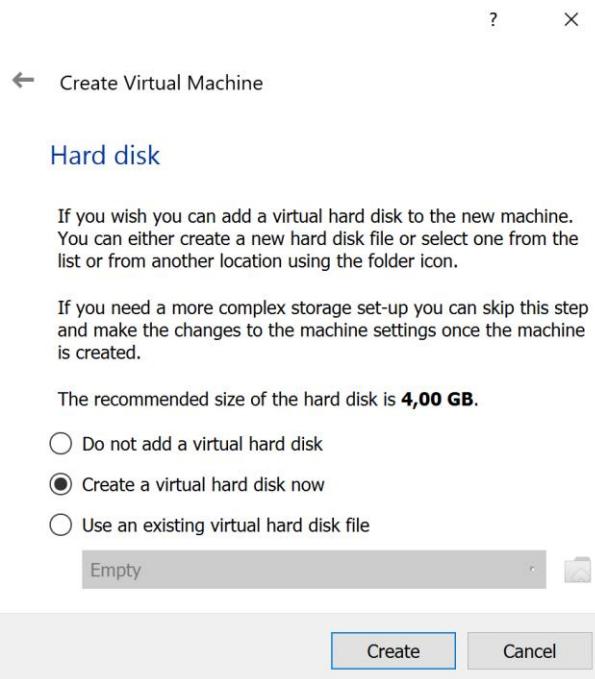
2. Se nombra la máquina como slackware15 y se selecciona el tipo, para efectos de este laboratorio se usará Linux versión 2.4 (64.bit). Se da clic en Next.



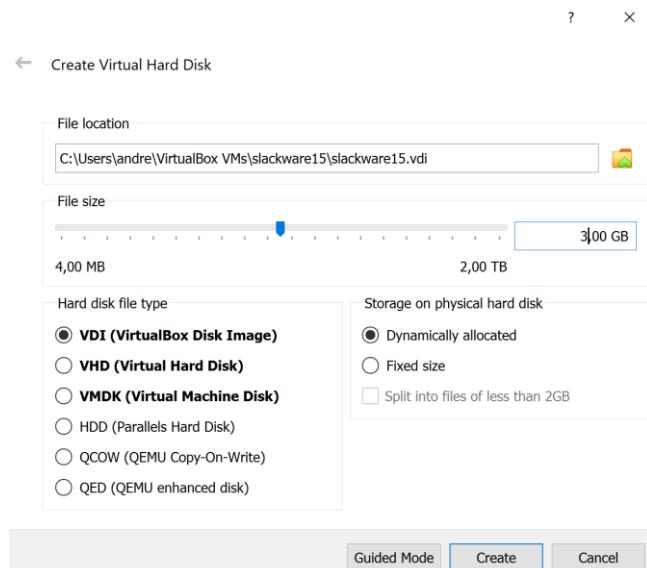
3. Se cambia el tamaño de la memoria, se usará 700 MB.



4. En las especificaciones de la maquina se pide un disco con capacidad de 3GB.



En la ventana de **Hard disk** se da clic en **Create** y se pasa al modo expert para cambiar el tamaño del disco:



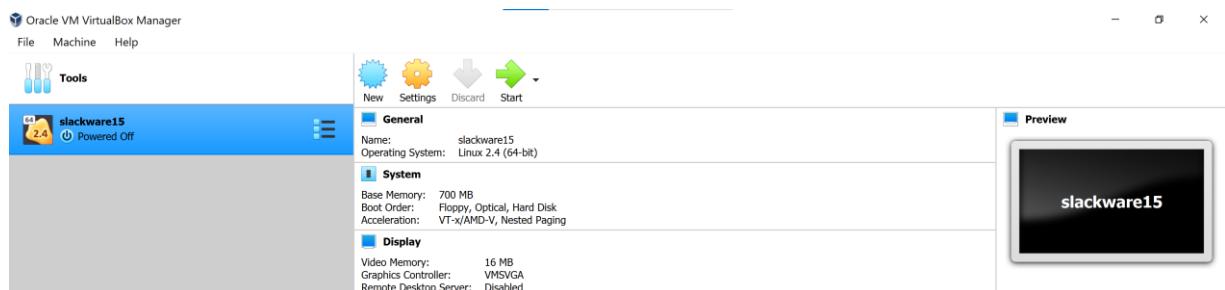
5. Se da clic en **Create** y se inicia la máquina virtual en la ventana principal.



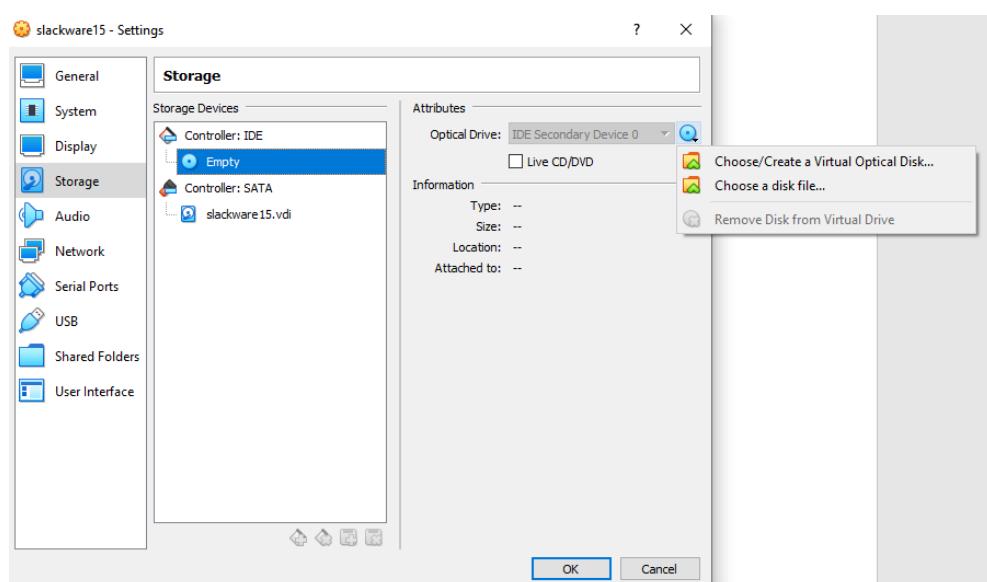
09/10/2022

1. Sistema Operativo en Ejecución

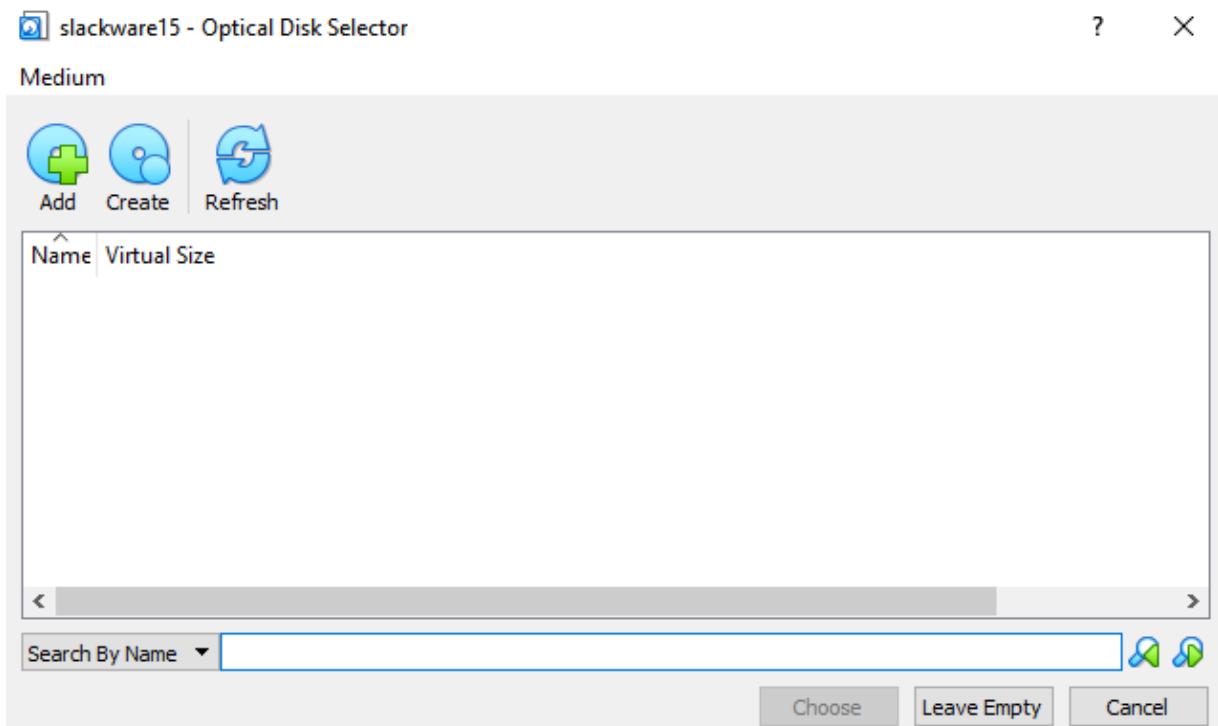
1. Se hace clic sobre la máquina virtual con la que deseas trabajar en el costado izquierdo de la ventana. Se presiona el botón "Settings" en la parte superior de la ventana.



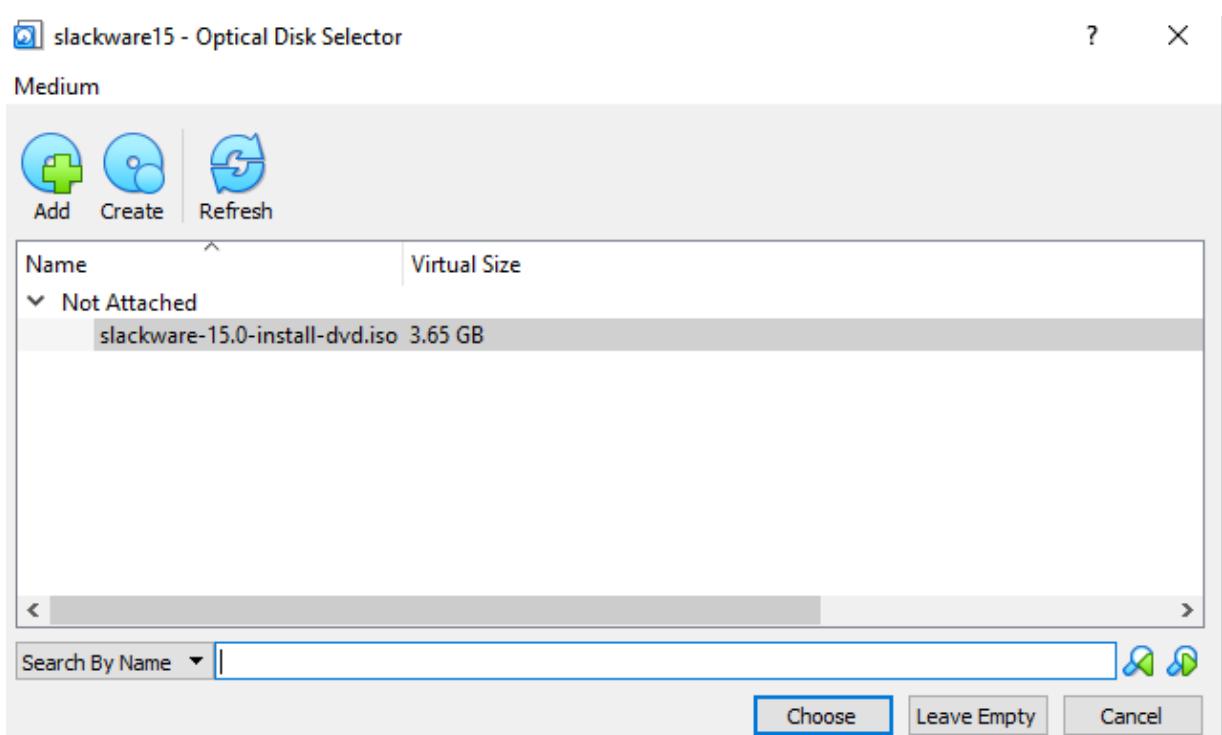
2. Clic sobre el icono "Storage" en la parte superior de la ventana. Clic sobre el icono del CD en la lista "Storage Devices". Clic en el icono del CD en la sección "Attributes" del costado izquierdo de la ventana. El icono está localizado junto al menú desplegable "Unidad CD/DVD".



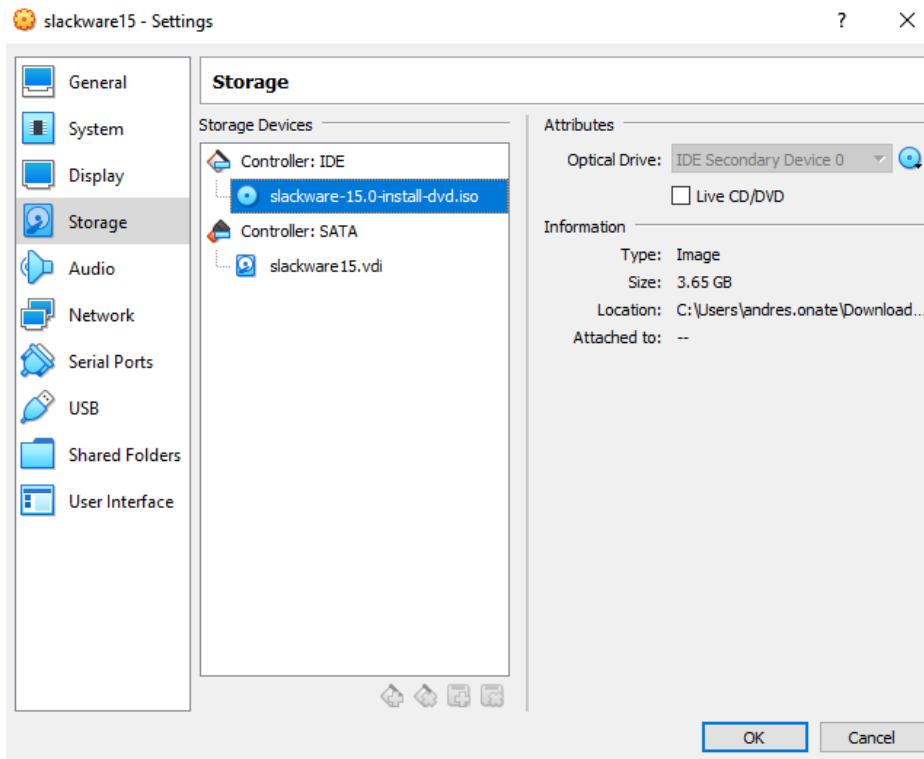
3. Haz clic sobre el elemento "Escoger un archivo de disco CD/DVD virtual" en el menú que aparece. Navega hasta la imagen ISO en la ventana que se abre. Haz clic en "Abrir" después de hacer clic sobre el archivo ISO. Presiona "Aceptar" para cerrar la ventana "Configuración" y aplicar los cambios. Si la máquina virtual se está ejecutando, la imagen ISO CD/DVD aparecerá inmediatamente en la unidad óptica predeterminada. De lo contrario, la imagen ISO estará disponible la próxima vez que inicies la máquina virtual.



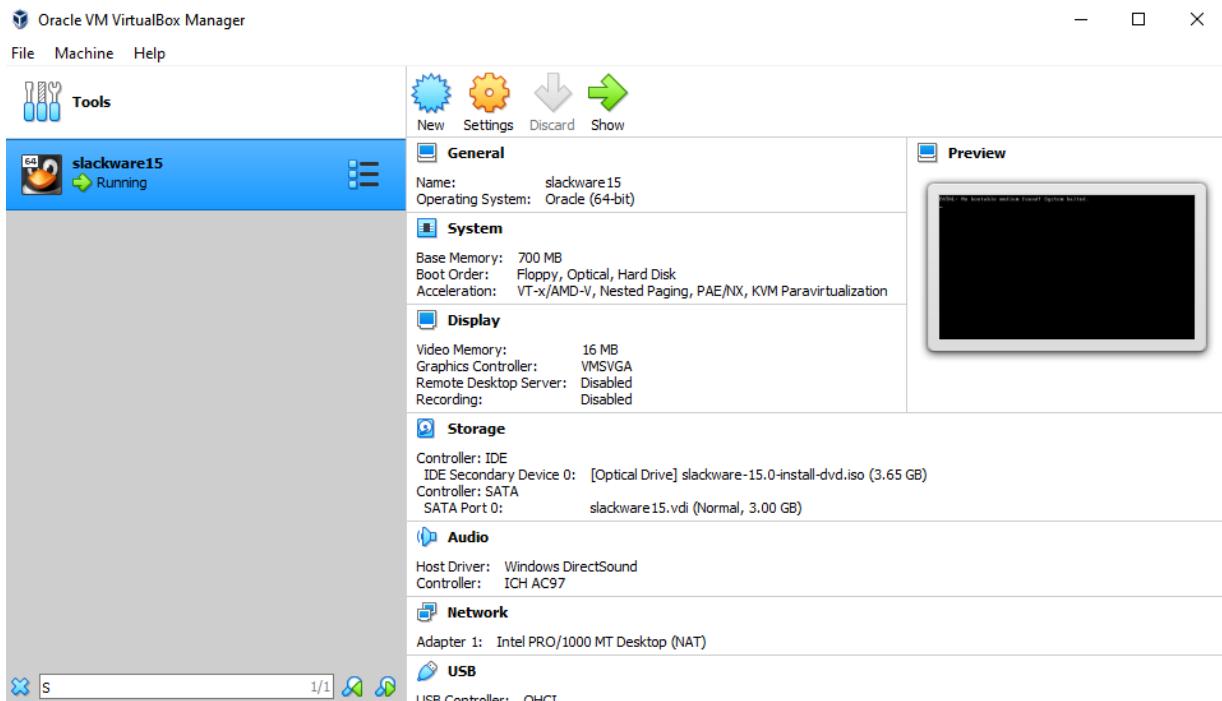
4. Se carga el ISO se da clic en choose (No se encontraba el ISO en la carpeta mencionada, se descarga de [ftp.escuelaing.edu.co](ftp://ftp.escuelaing.edu.co)) pub/unix/Linux/slackware64-15.0-install-dvd.iso



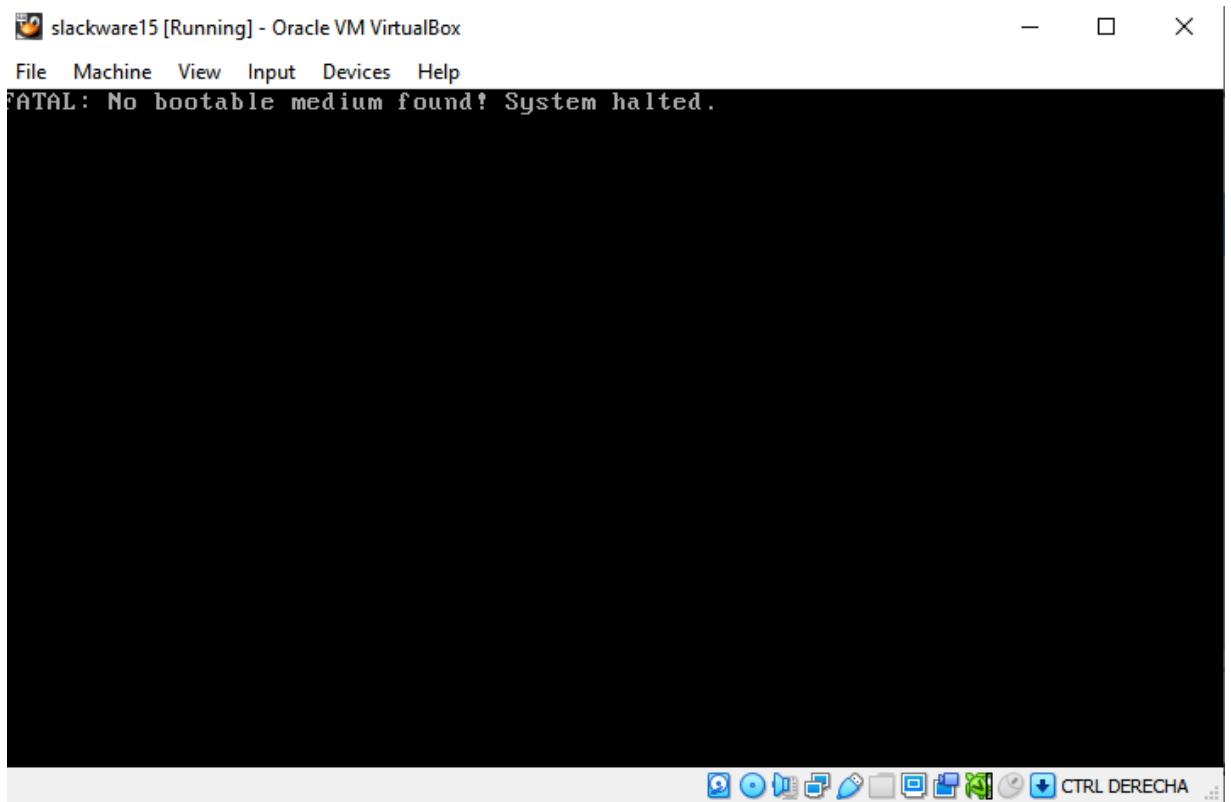
5. Se evidencia el estado el IDE y se da clic en ok



6. La imagen ISO CD/DVD aparecerá inmediatamente en la unidad óptica predeterminada.



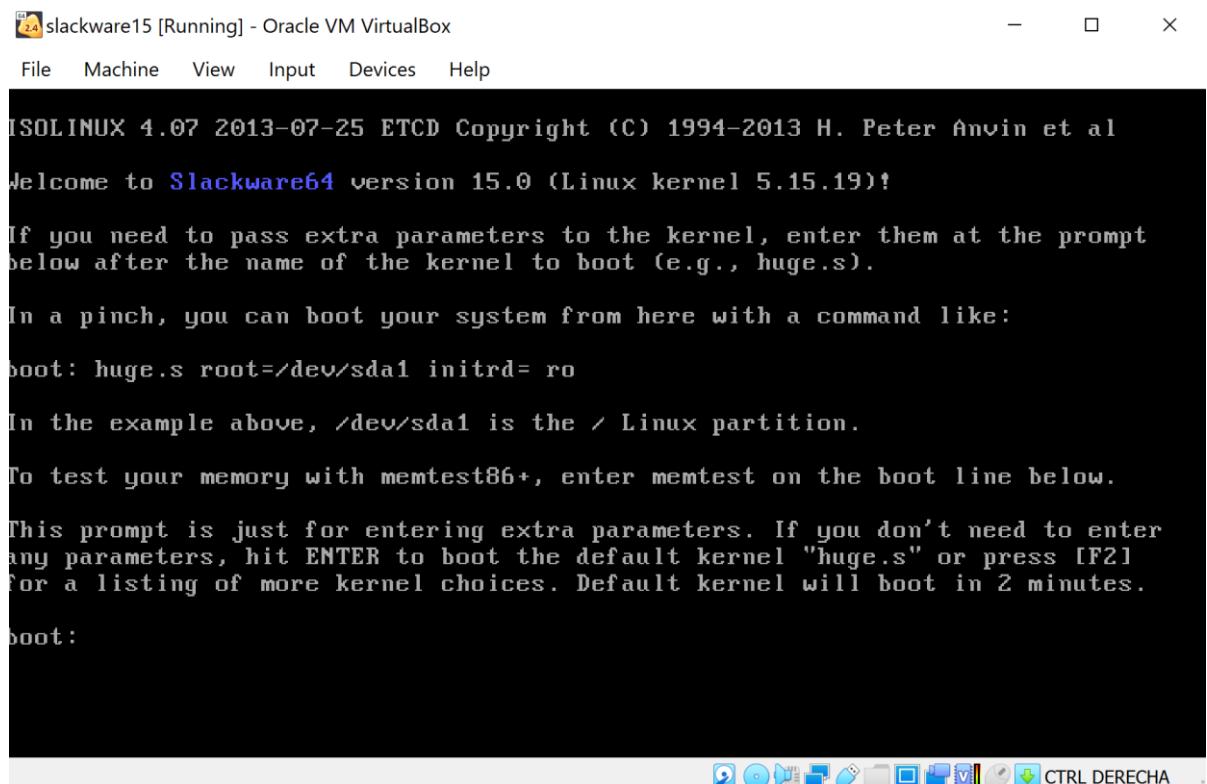
7. Se ejecuta la maquina



Como se puede observar arroja un error.

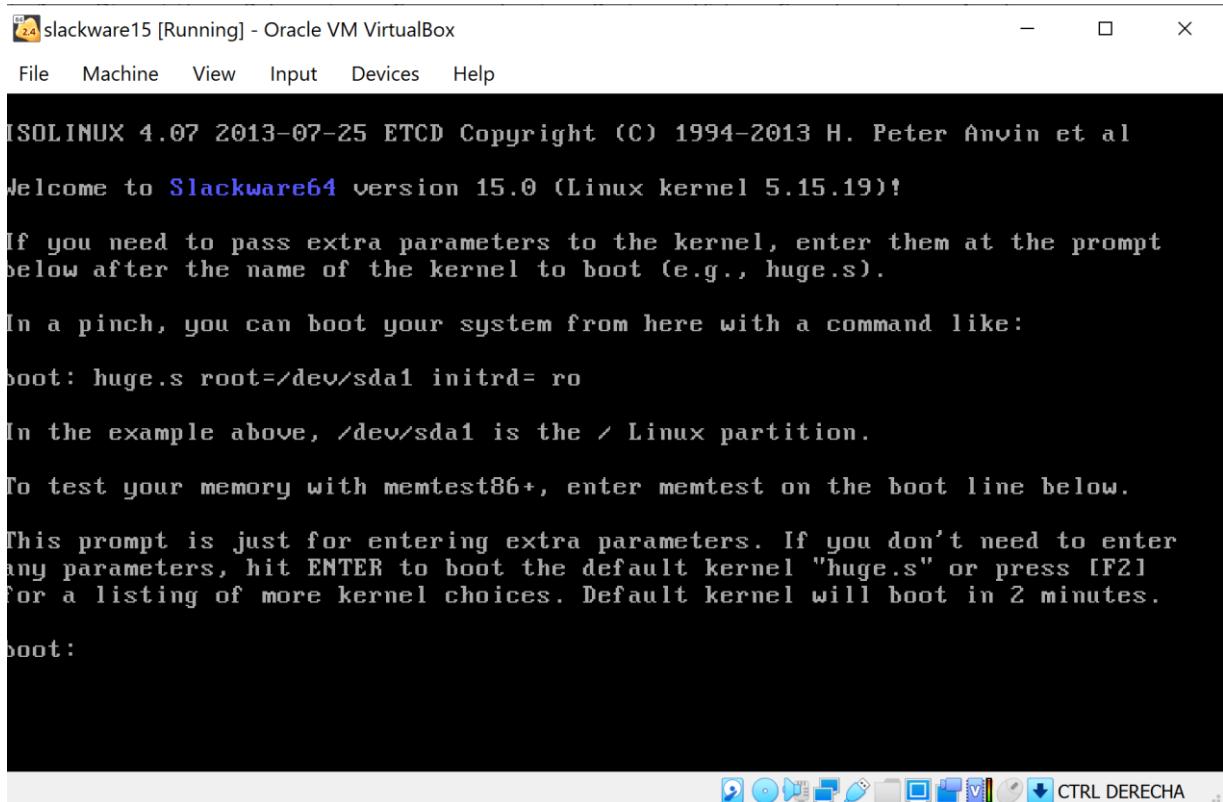
Solucionando errores:

1. Se cambia la versión del ISO seleccionada (Paso 4) por otra dada en el laboratorio.

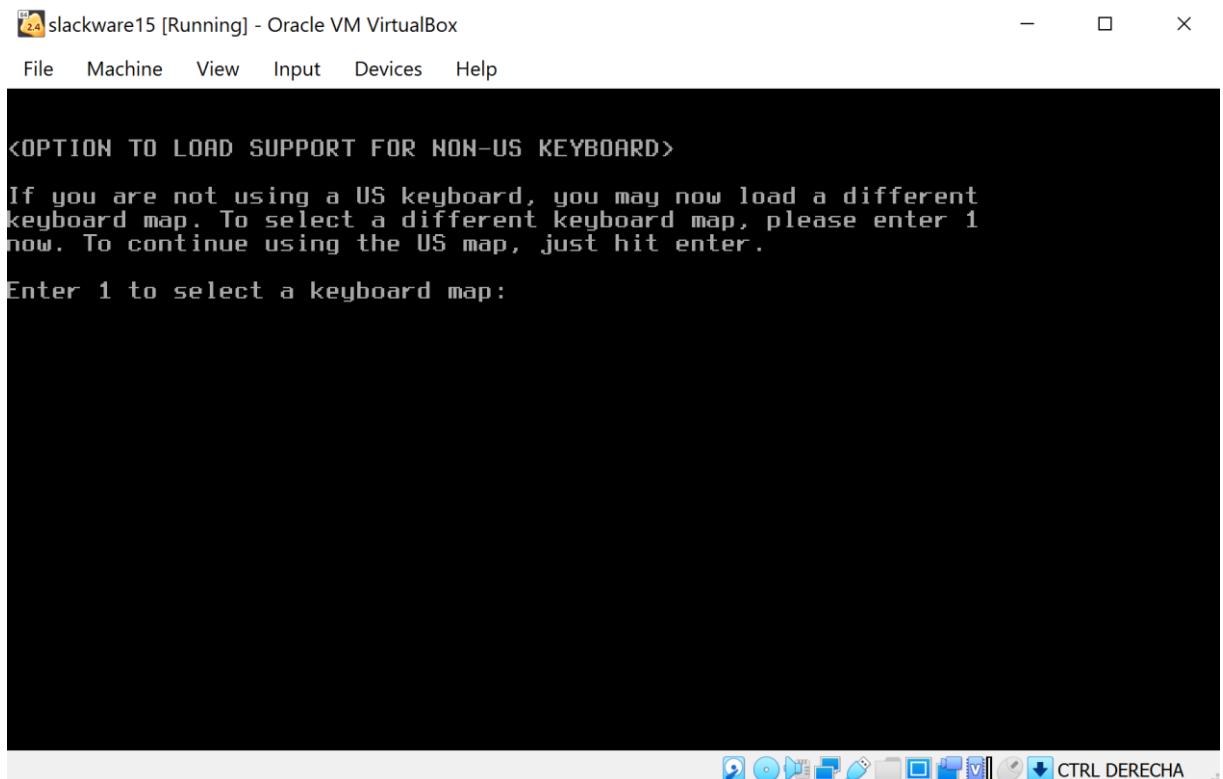


8. Se inicia el sistema operativo.

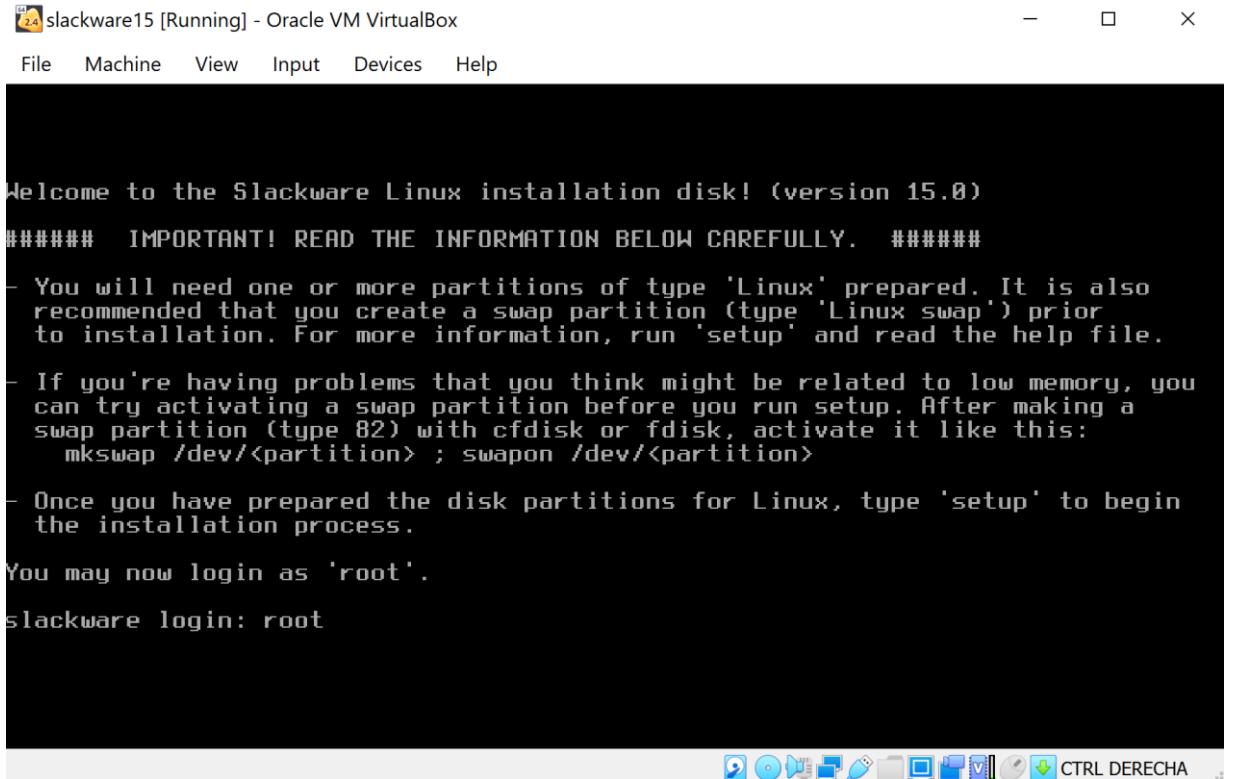
En esta primera ventana se puede dar ENTER para iniciar el arranque o después de dos minutos este iniciara automáticamente.



Solicita el tipo de teclado que vamos a utilizar, se deja el que esta por defecto, damos ENTER de nuevo.

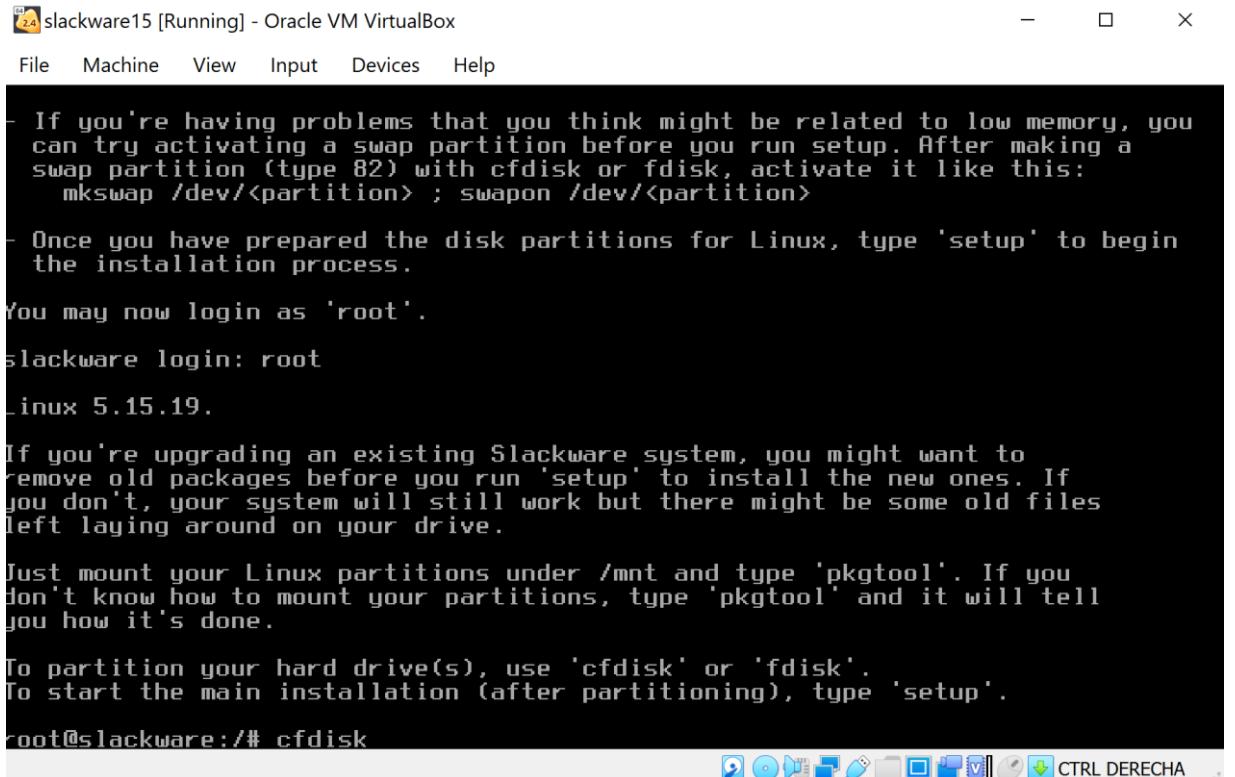


Solicita que entremos como “root” (Usuario Principal del Sistema):



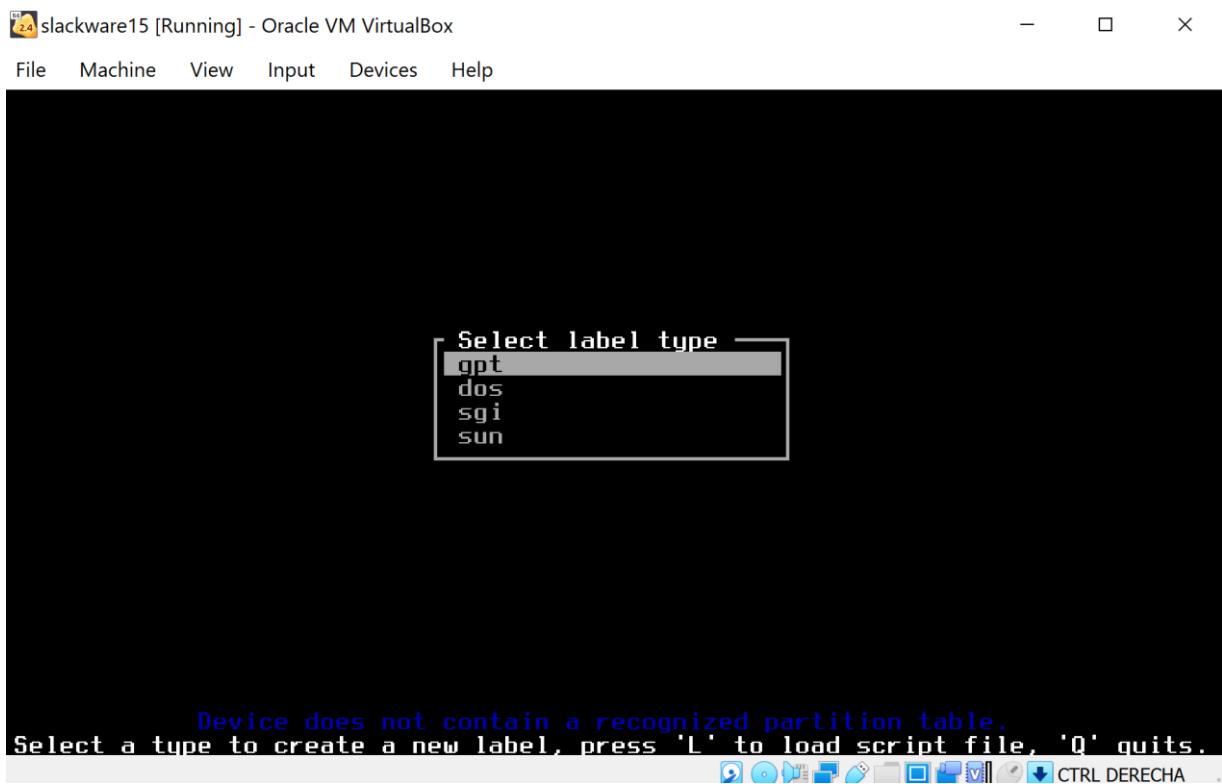
Welcome to the Slackware Linux installation disk! (version 15.0)
IMPORTANT! READ THE INFORMATION BELOW CAREFULLY. #####
- You will need one or more partitions of type 'Linux' prepared. It is also recommended that you create a swap partition (type 'Linux swap') prior to installation. For more information, run 'setup' and read the help file.
- If you're having problems that you think might be related to low memory, you can try activating a swap partition before you run setup. After making a swap partition (type 82) with cfdisk or fdisk, activate it like this:
 mkswap /dev/<partition> ; swapon /dev/<partition>
- Once you have prepared the disk partitions for Linux, type 'setup' to begin the installation process.
You may now login as 'root'.
slackware login: root

Particionamos el disco cfdisk, después ENTER.

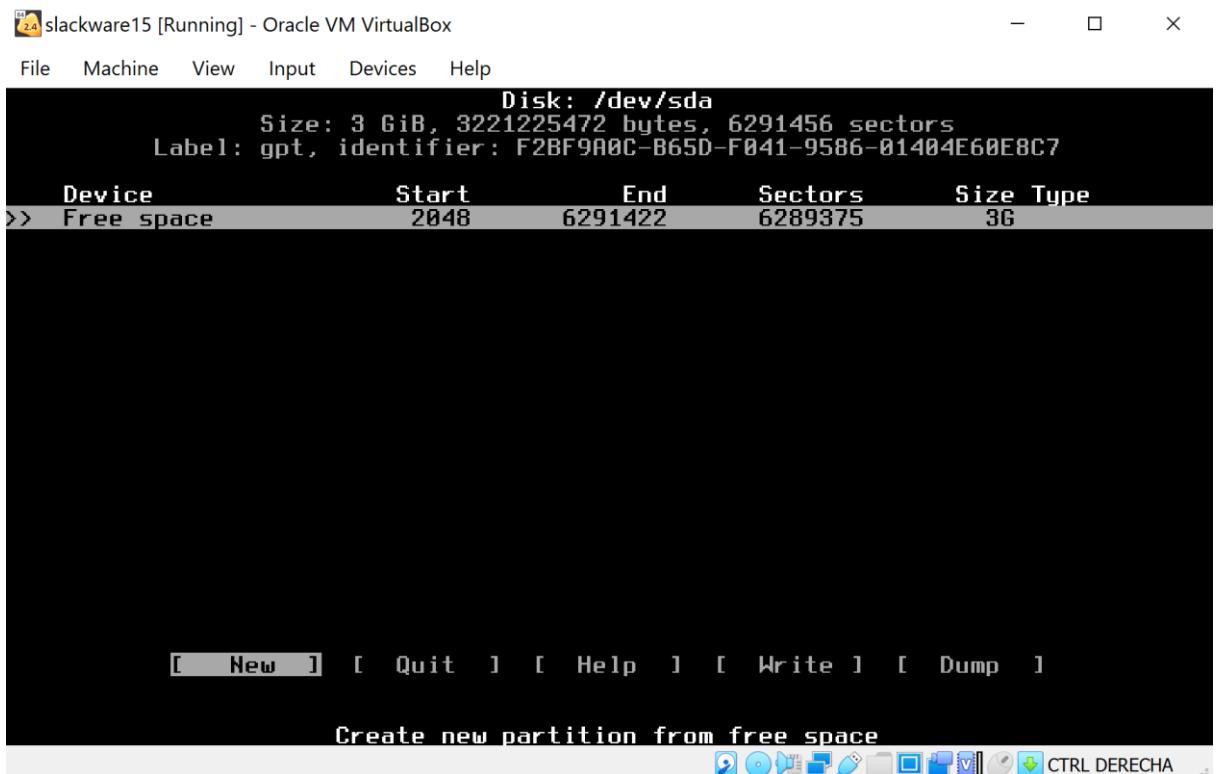


If you're having problems that you think might be related to low memory, you can try activating a swap partition before you run setup. After making a swap partition (type 82) with cfdisk or fdisk, activate it like this:
 mkswap /dev/<partition> ; swapon /dev/<partition>
Once you have prepared the disk partitions for Linux, type 'setup' to begin the installation process.
You may now login as 'root'.
slackware login: root
Linux 5.15.19.
If you're upgrading an existing Slackware system, you might want to remove old packages before you run 'setup' to install the new ones. If you don't, your system will still work but there might be some old files left laying around on your drive.
Just mount your Linux partitions under /mnt and type 'pkgtool'. If you don't know how to mount your partitions, type 'pkgtool' and it will tell you how it's done.
To partition your hard drive(s), use 'cfdisk' or 'fdisk'.
To start the main installation (after partitioning), type 'setup'.
root@slackware:/# cfdisk

Se elige en la tabla de particiones gpt



Podemos observar la dirección del disco



Creamos las particiones solicitadas:

slackware15 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

```
Disk: /dev/sda
Size: 3 GiB, 3221225472 bytes, 6291456 sectors
Label: gpt, identifier: F2BF9A0C-B65D-F041-9586-01404E60E8C7

Device Start End Sectors Size Type
>> Free space 2048 6291422 6289375 3G
```

Partition size: 1.5G

May be followed by M for MiB, G for GiB, T for TiB, or S for sectors.

Cambiamos el tipo de la primera partición a Linux filesystem

slackware15 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

```
Disk: /dev/sda
Size: 3 GiB, 3221225472 bytes, 6291456 sectors
Label: gpt, identifier: F2BF9A0C-B65D-F041-9586-01404E60E8C7

Device Start End Sectors Size Type
>> /dev/sda1 2048 3147775 3145728 1.5G Linux filesystem
```

Cambiamos el tipo de la segunda partición a Linux SWAP

slackware15 [Running] - Oracle VM VirtualBox

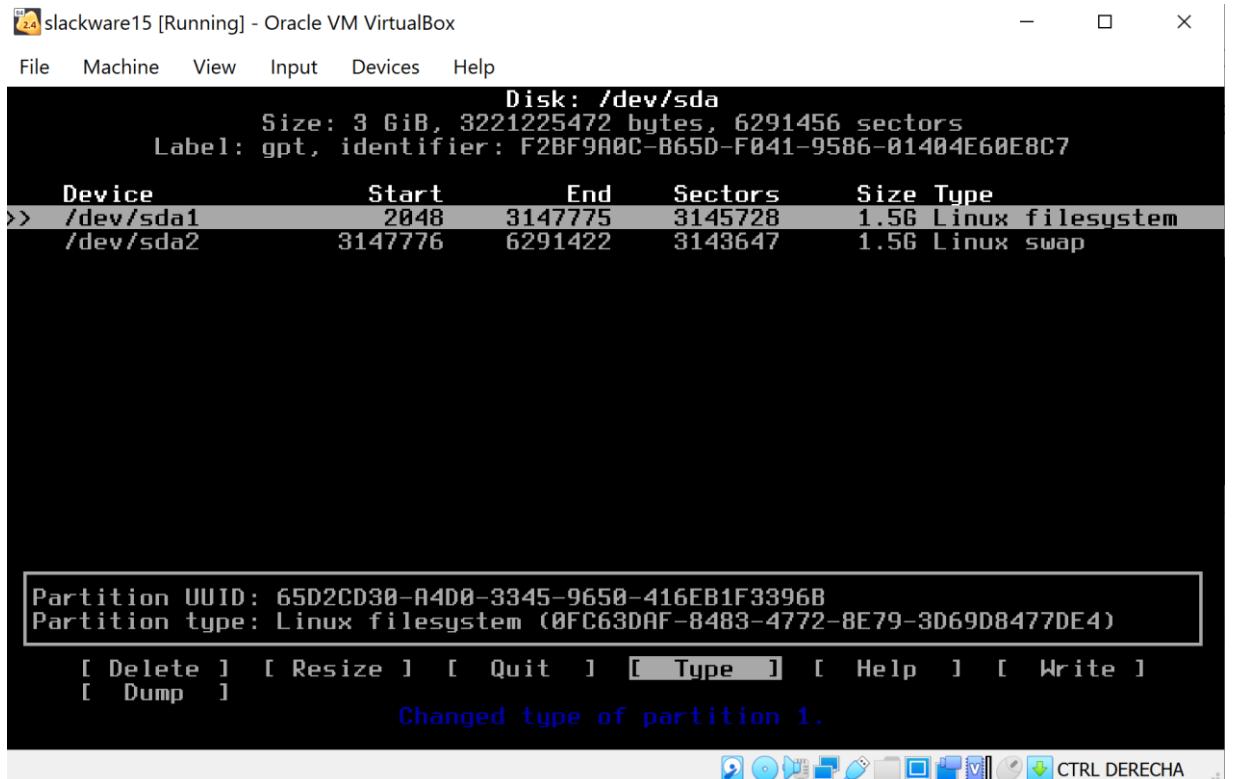
File Machine View Input Devices Help

Select partition type

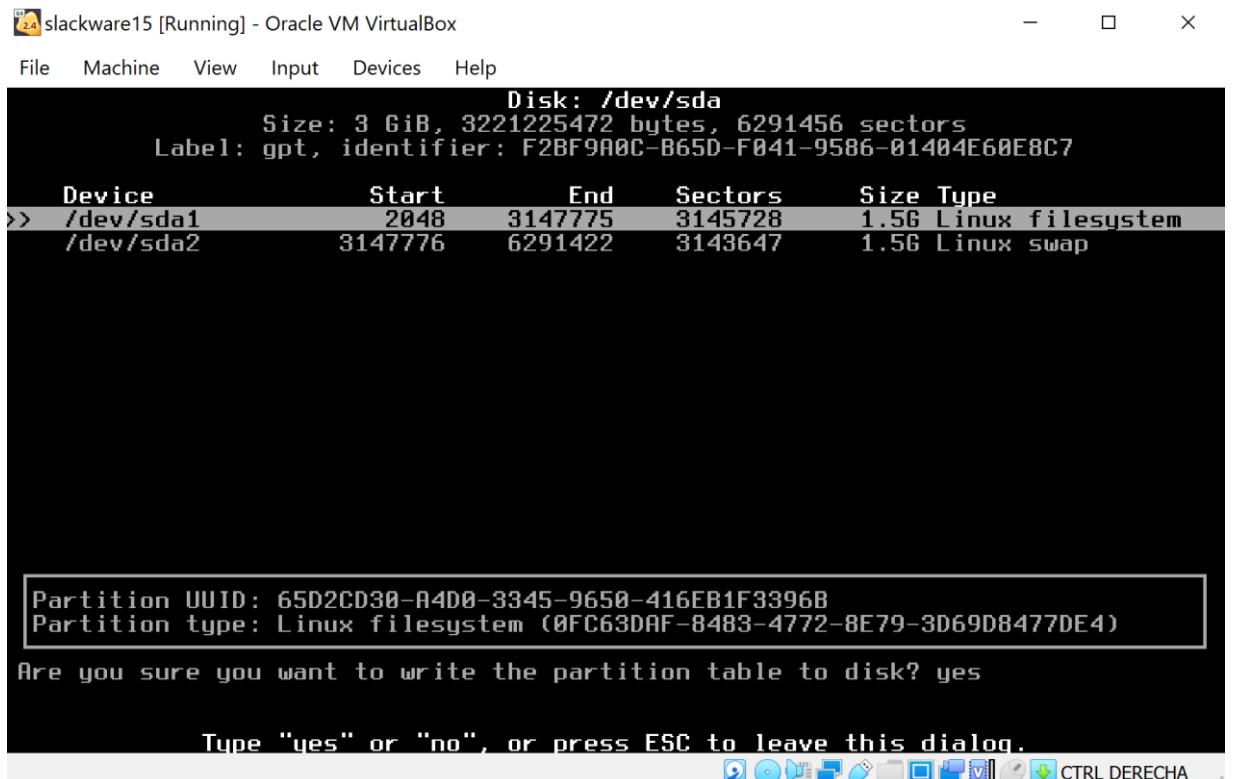
- EFI System
- MBR partition scheme
- Intel Fast Flash
- BIOS boot
- Sony boot partition
- Lenovo boot partition
- PowerPC PReP boot
- ONIE boot
- ONIE config
- Microsoft reserved
- Microsoft basic data
- Microsoft LDM metadata
- Microsoft LDM data
- Windows recovery environment
- IBM General Parallel Fs
- Microsoft Storage Spaces
- HP-UX data
- HP-UX service
- Linux swap
- Linux filesystem
- Linux server data
- Linux root (x86)
- Linux root (x86-64)
- Linux root (ARM)

0657FD6D-A4AB-43C4-84E5-0933C84B4F4F

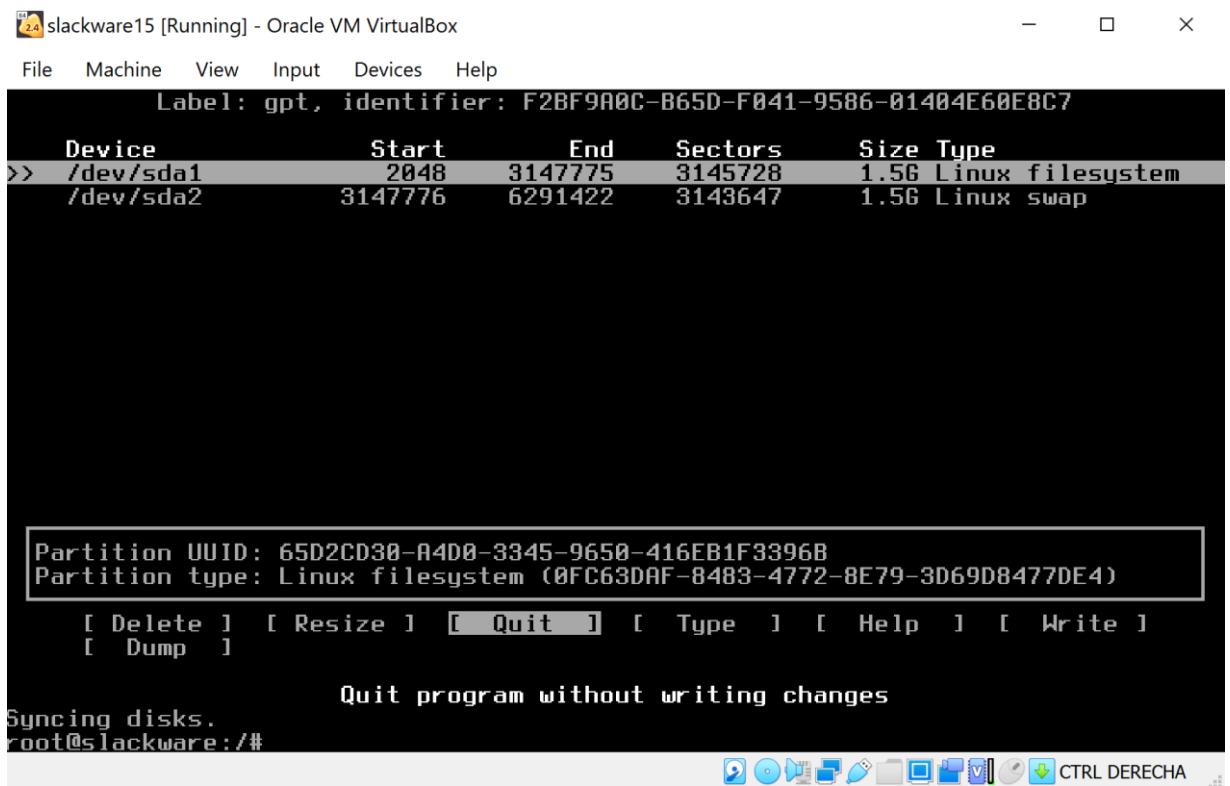
La partición del disco se define de la siguiente manera:



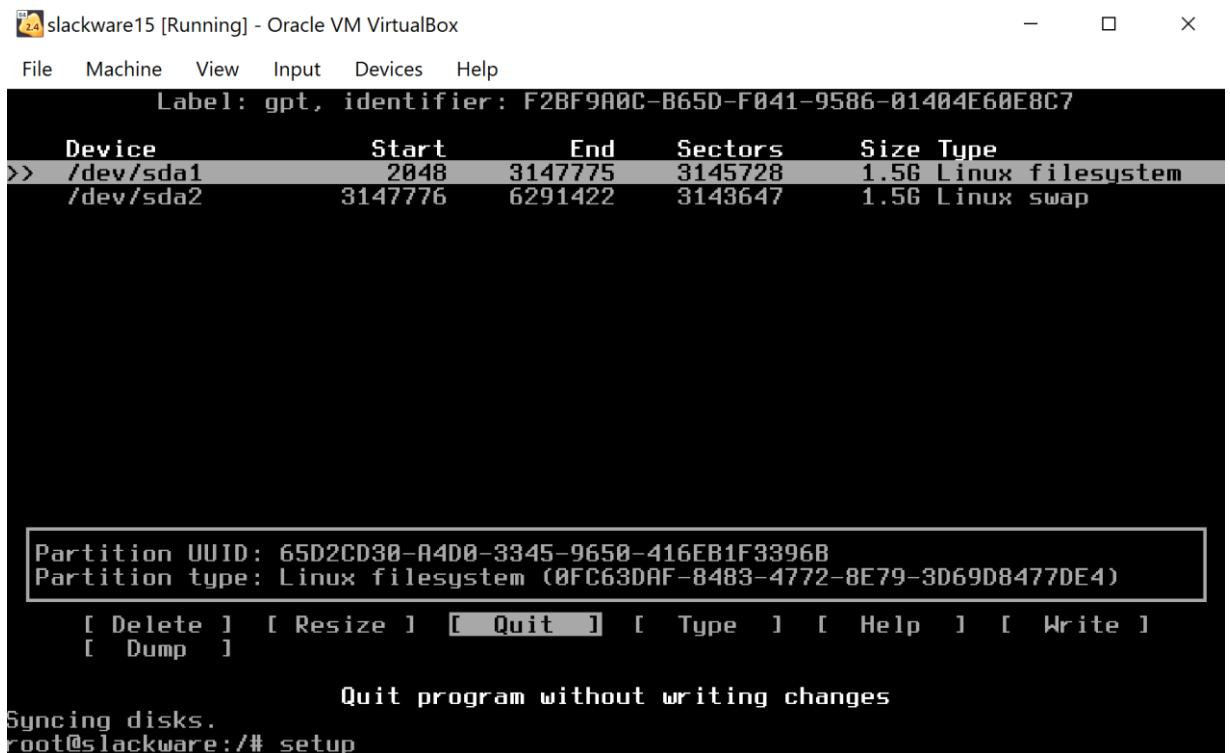
Pasamos al botón Write, damos ENTER y escribimos “yes”.



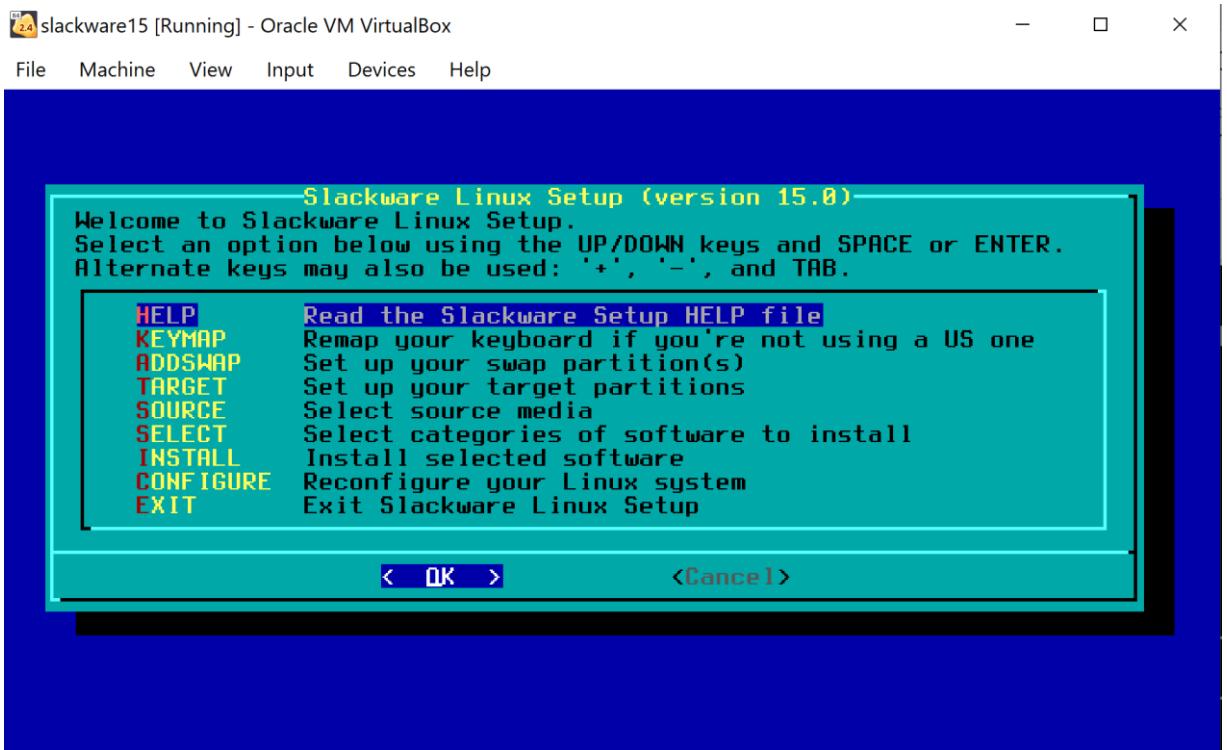
Vamos a la opción quit y damos ENTER.



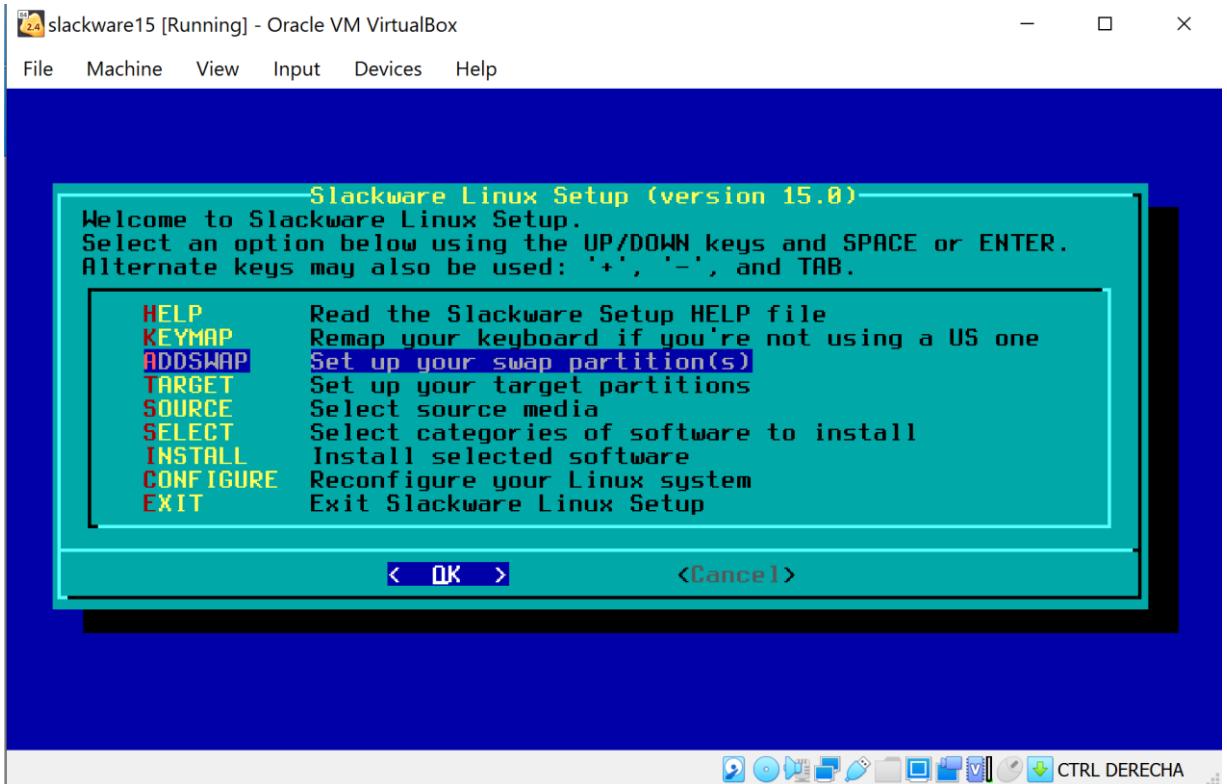
Después de salir de la partición del disco, continúe e inicialice la instalación mediante el comando: setup

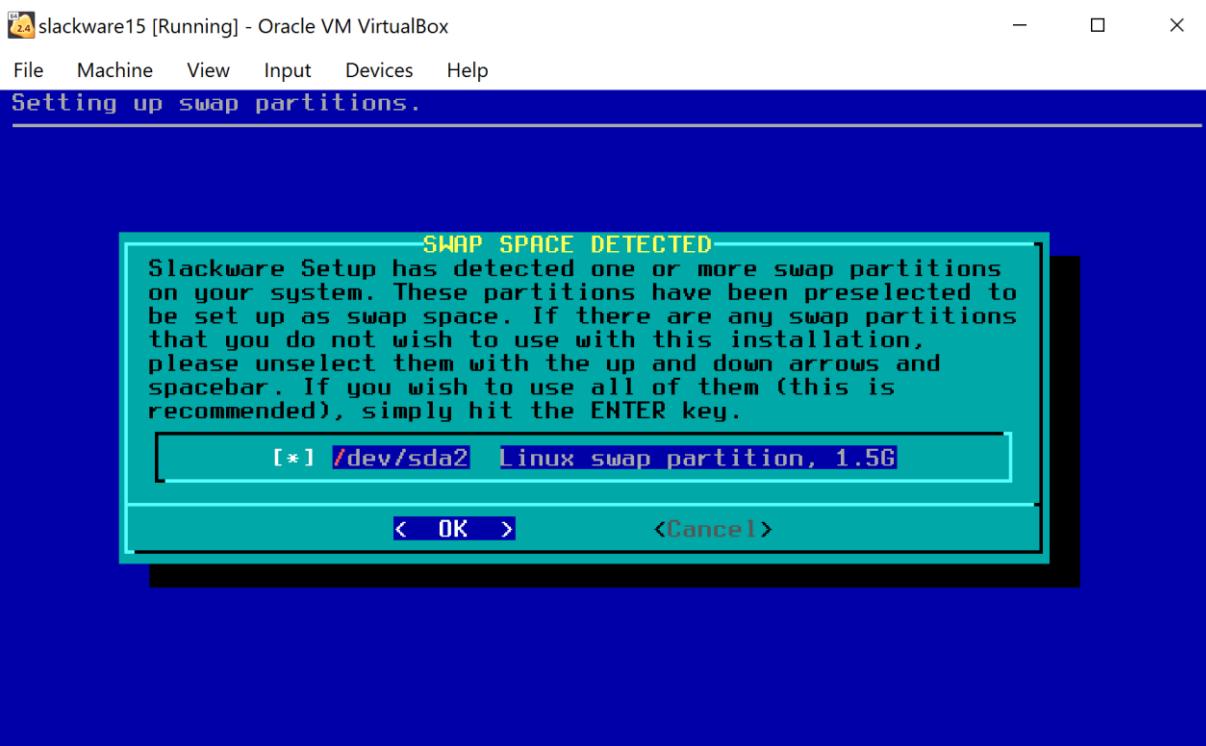


Esto iniciará un asistente de instalación interactiva basado en texto.

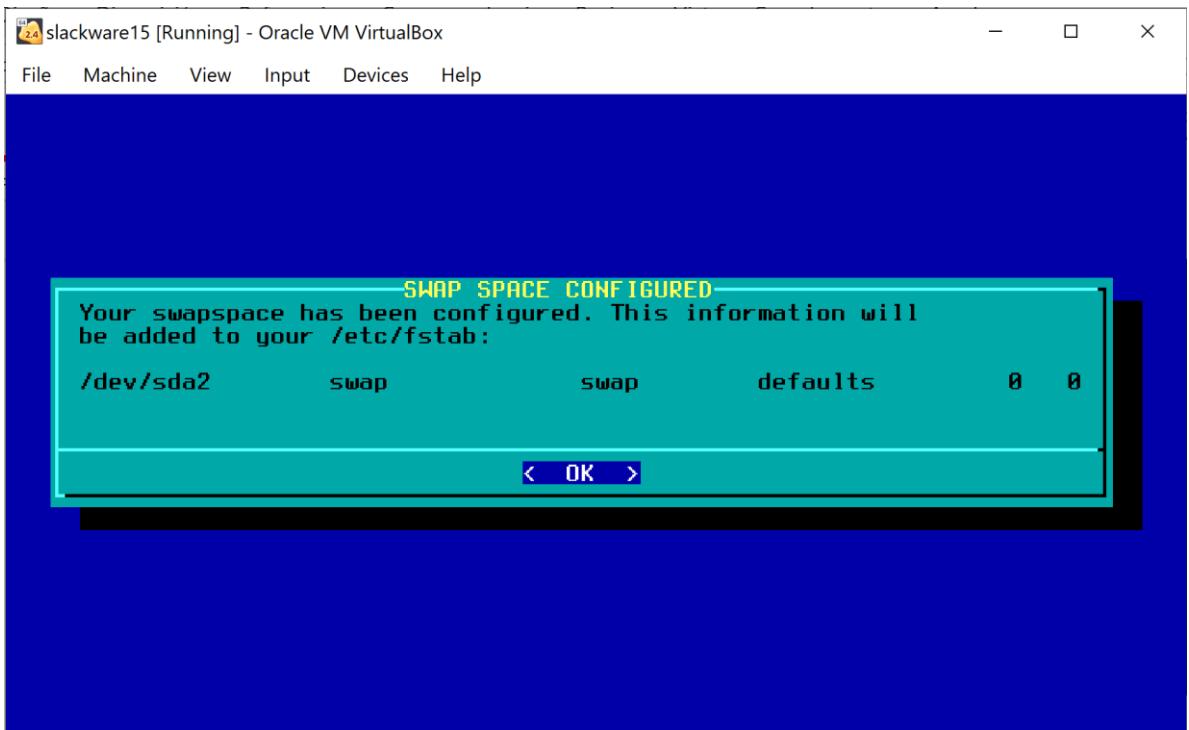


Establezca la partición SWAP en AddSWAP, proporcione la partición SWAP creada.

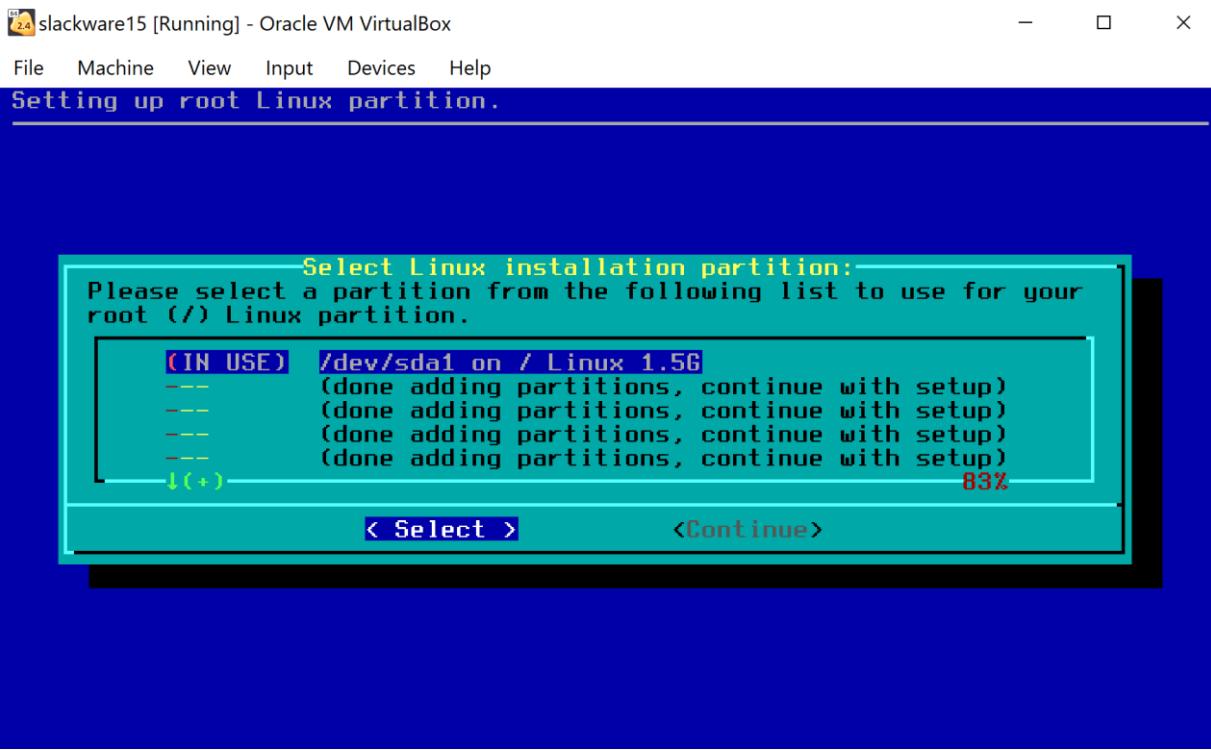




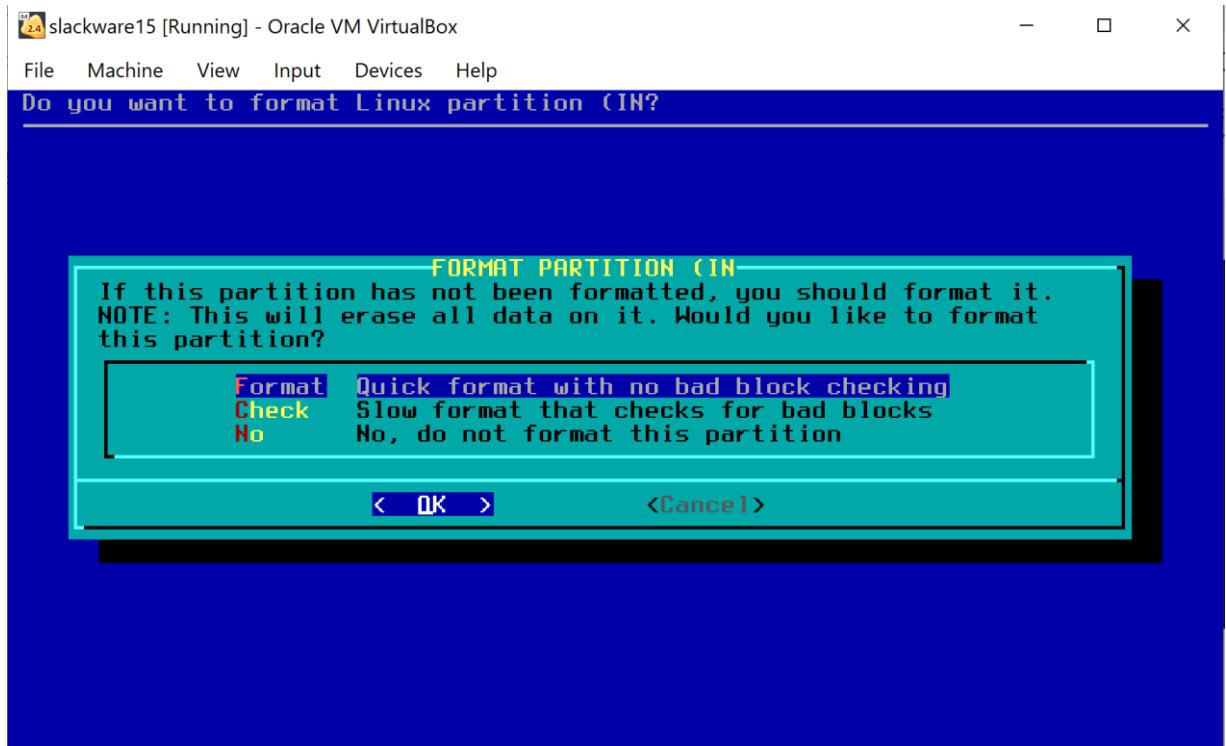
No se Formatea la partición, La partición se montará en el fstab.



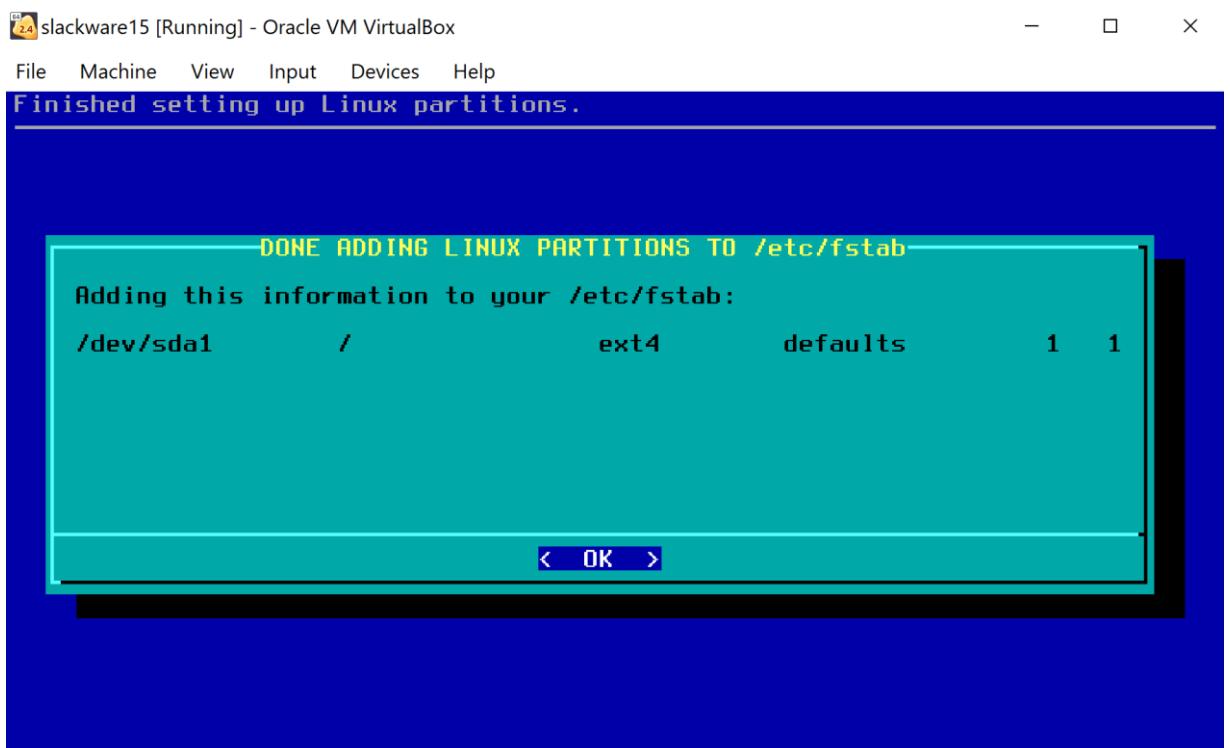
Proceda y establezca la partición raíz



Formatee la partición.

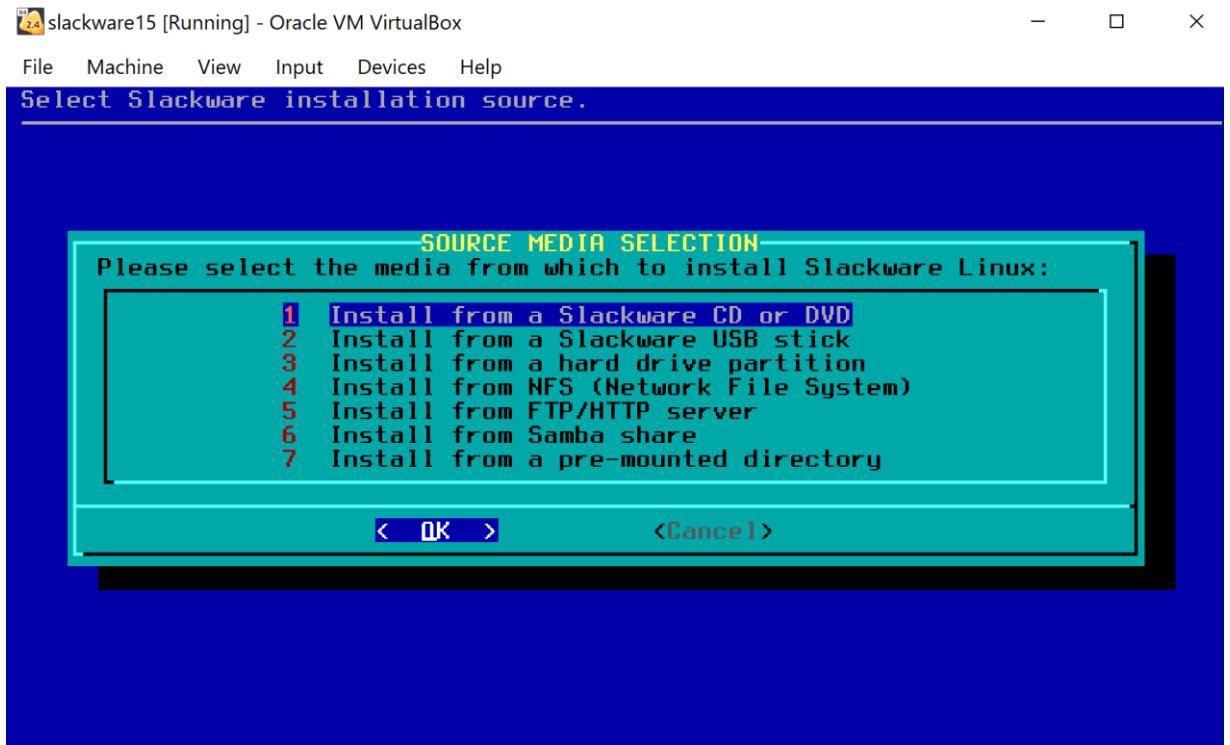


Seleccione el formato EXT4. Ahora configure la partición de inicio

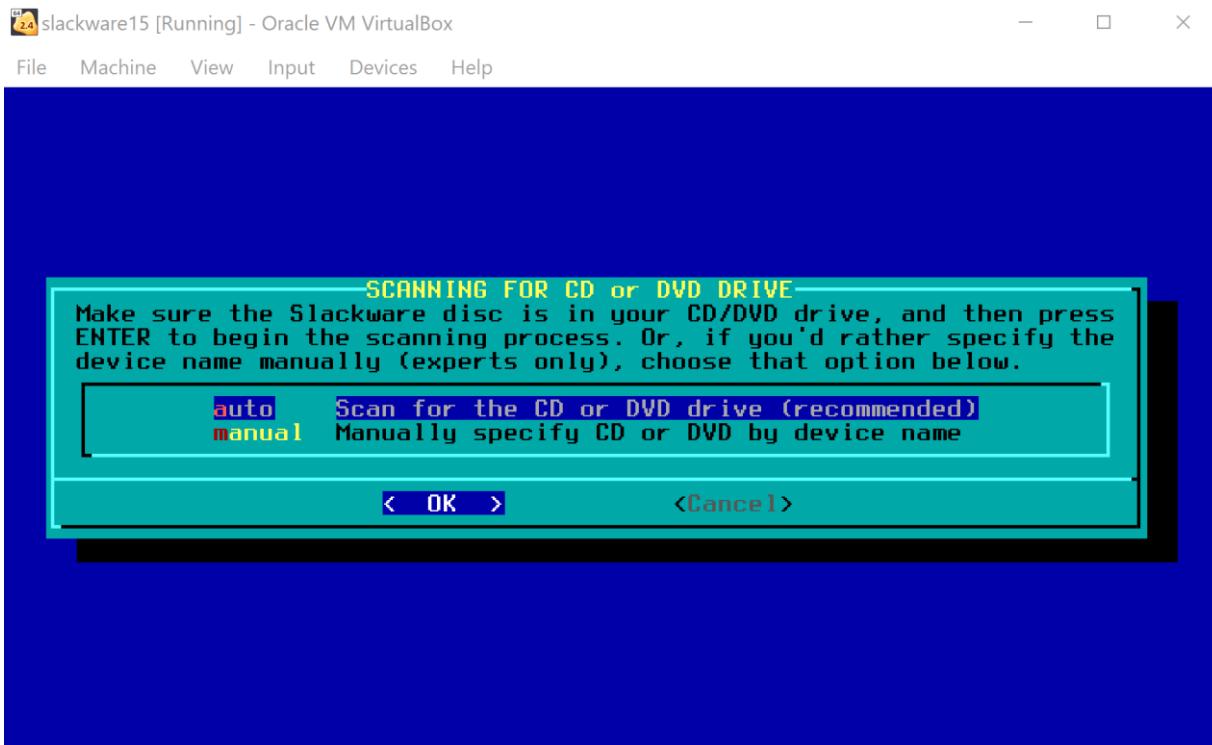


Seleccione Aceptar y continúe con la instalación.

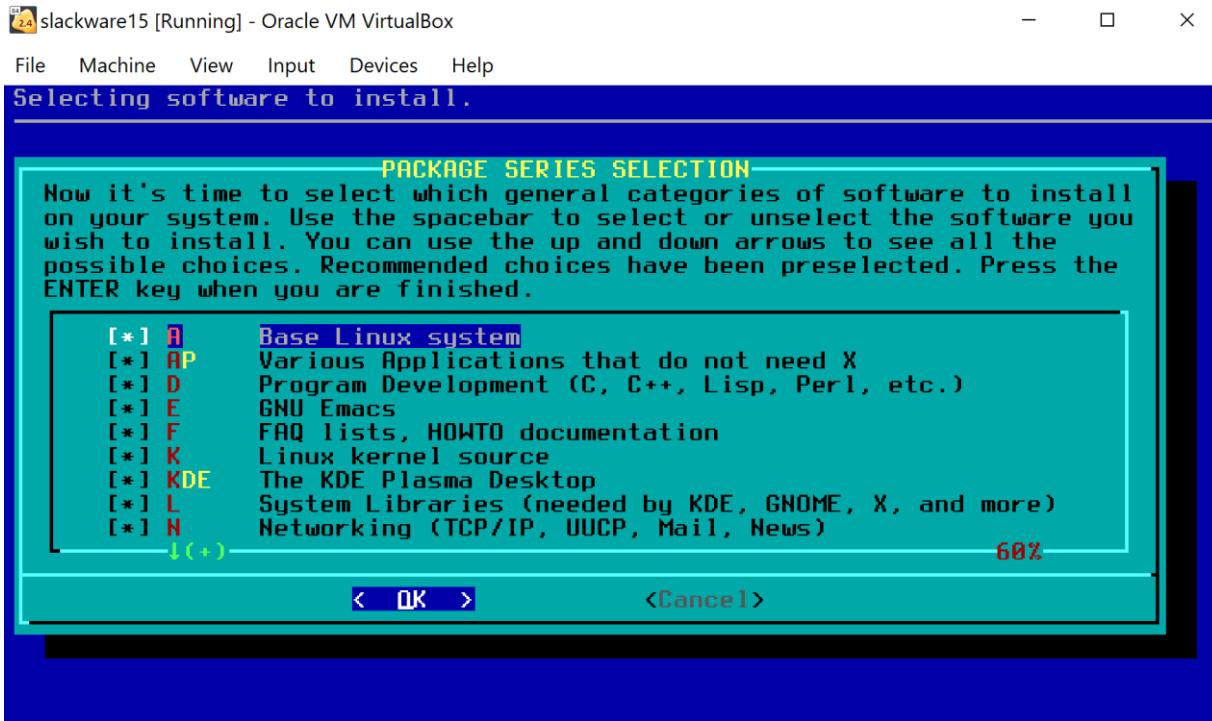
Seleccione el medio de instalación, en este caso es un ISO, seleccionamos la primera opción:



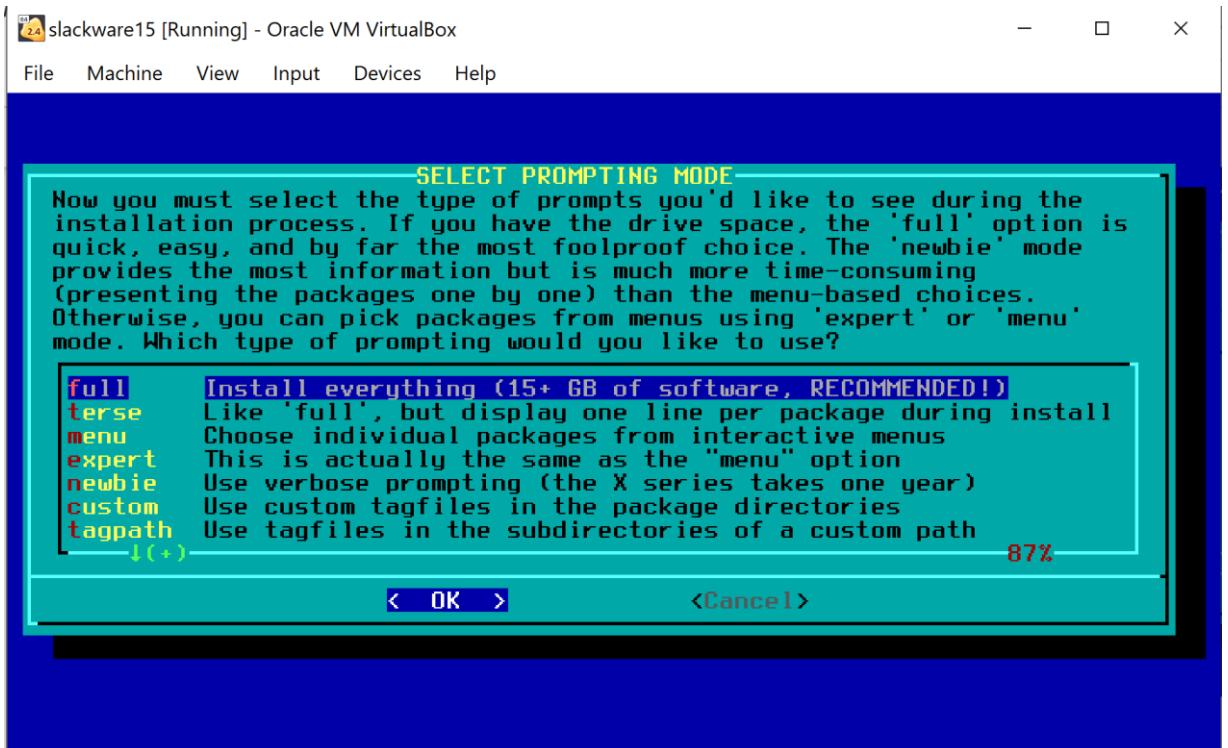
Aquí, seleccione escaneo automático



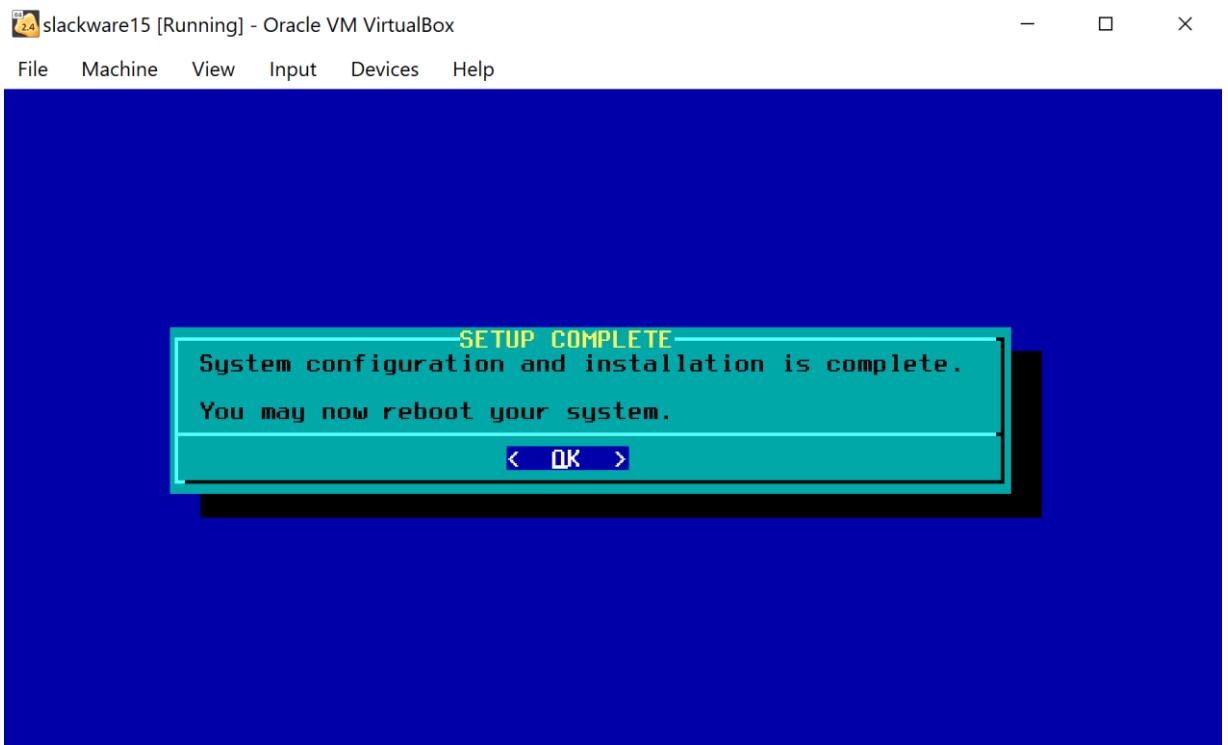
Necesitamos instalar los paquetes deseados para Slackware, estos incluyen, el sistema base, el entorno de escritorio, las herramientas de desarrollo, las bibliotecas del sistema e.t.c



Seleccione el tipo de instalación. Aquí iré para la instalación completa del sistema



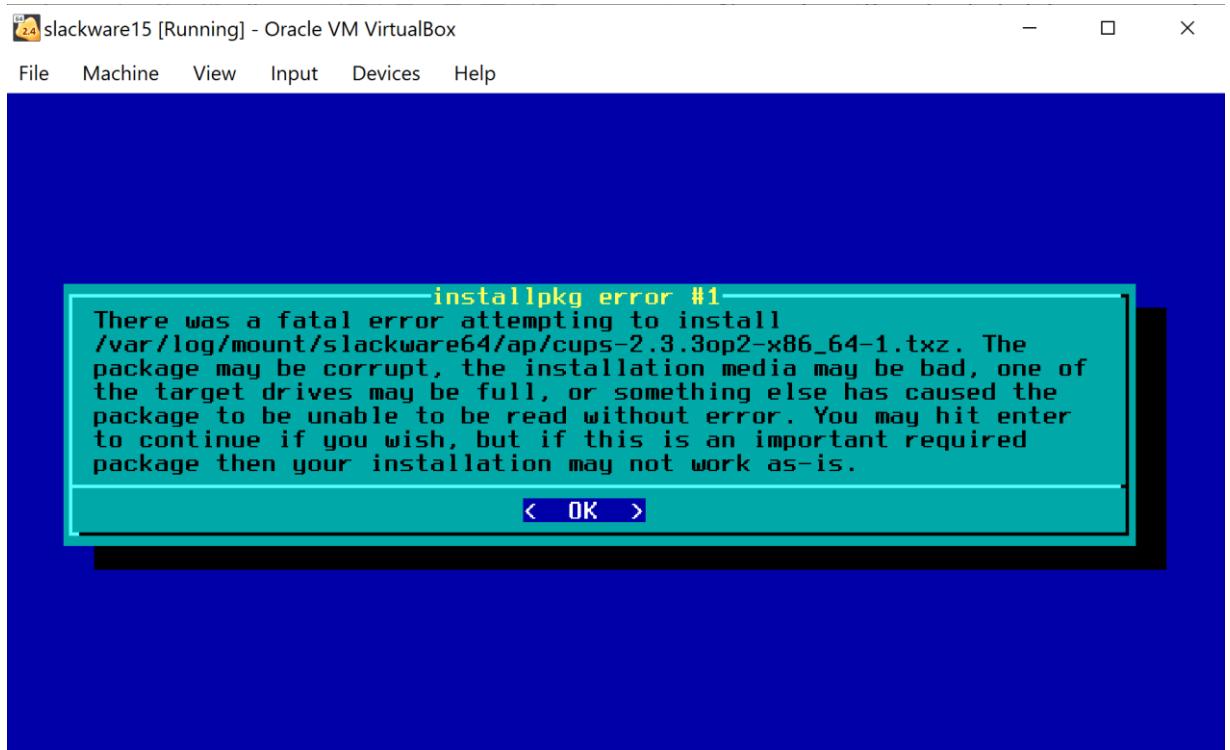
En un cuadro se informa que no existe una contraseña en el administrador, se ignora este mensaje. Se da ENTER



Problema: Presenta un error mencionando que no encuentra el disco y no permite continuar con la instalación, se reiniciara el proceso

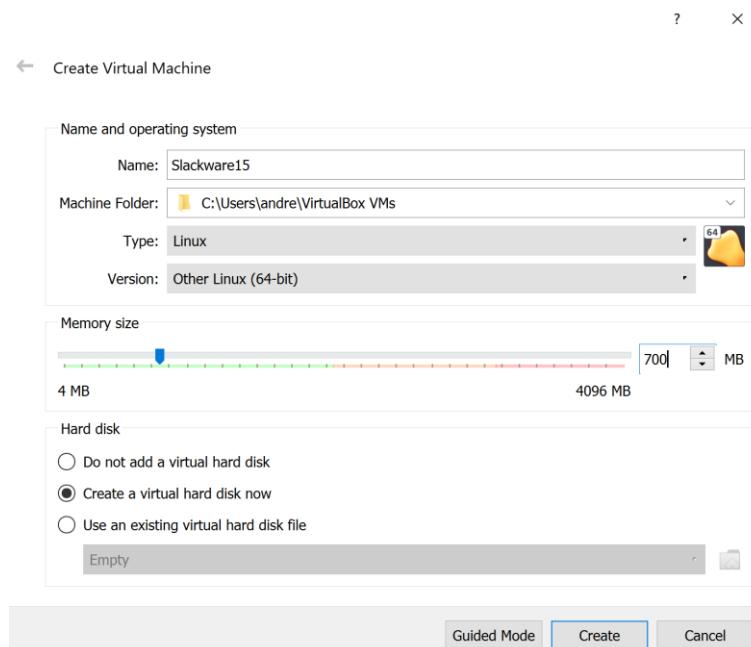
Al volver a realizar los pasos el sistema esta vez si instala los paquetes, al establecer la raíz en lugar de format se da clic sobre check.

Problema: A pesar de visualizar lo que parecía la instalación de los paquetes, se presenta el siguiente error.

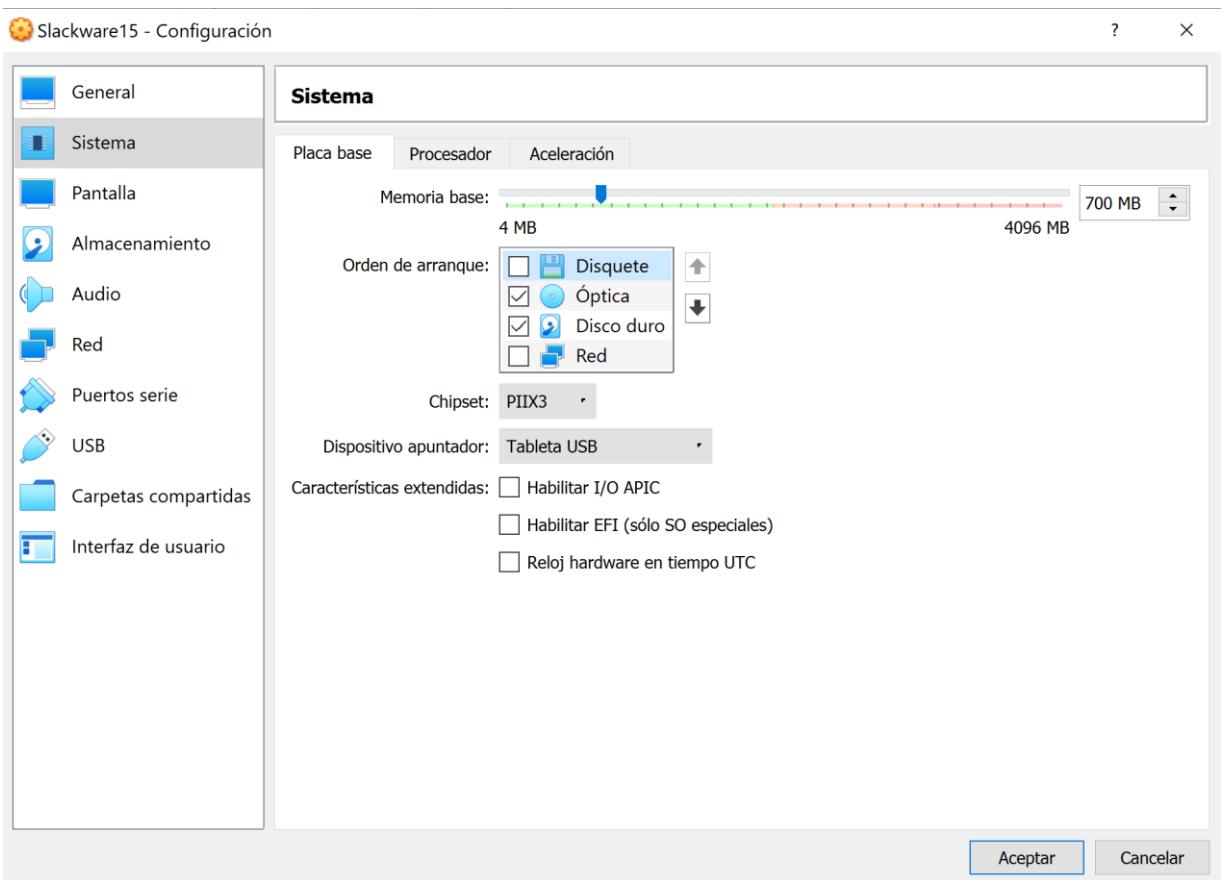


10/08/2022

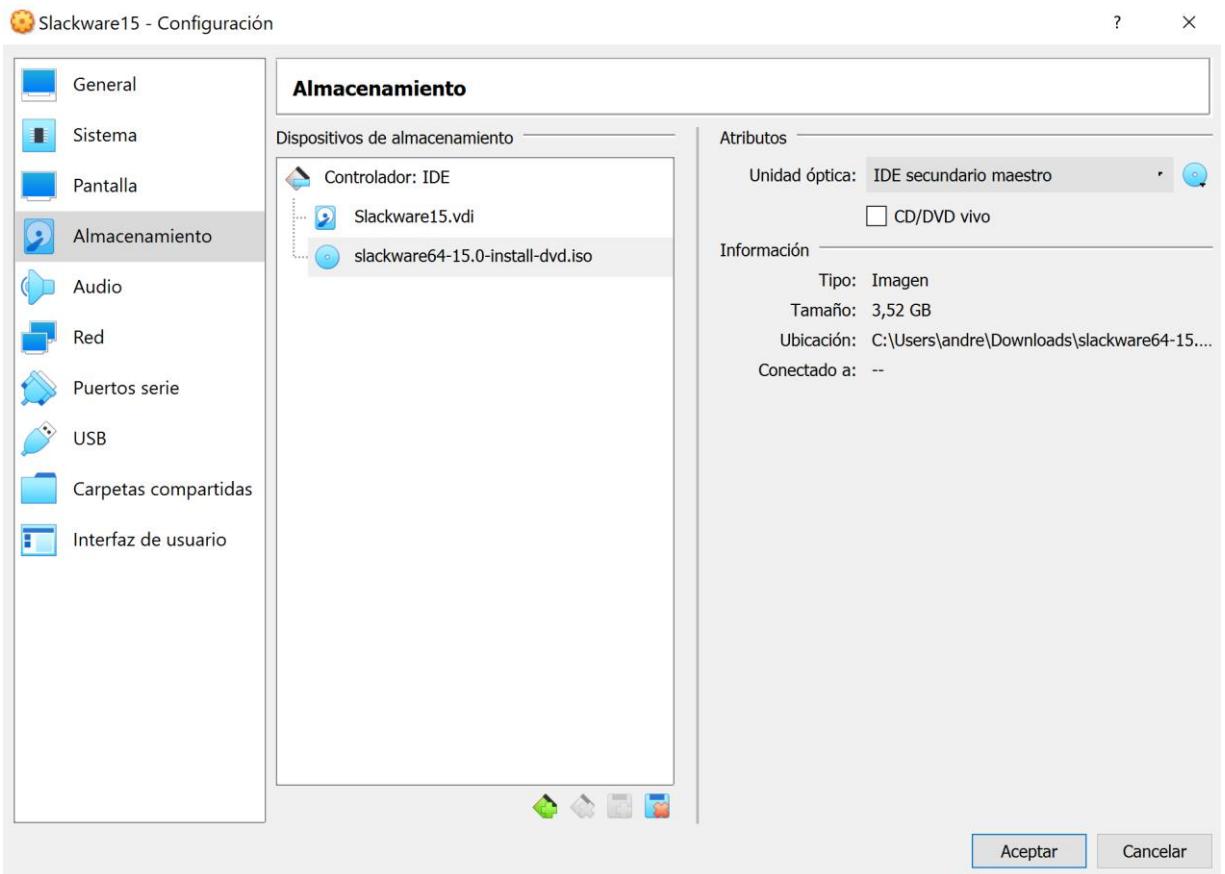
1. Se inicia la aplicación VirtualBox, se crea una nueva máquina virtual, al revisar información acerca de la instalación se cambia el tipo de maquina a Other Linux (64-bit). Dejando los otros valores del disco como fueron especificados.



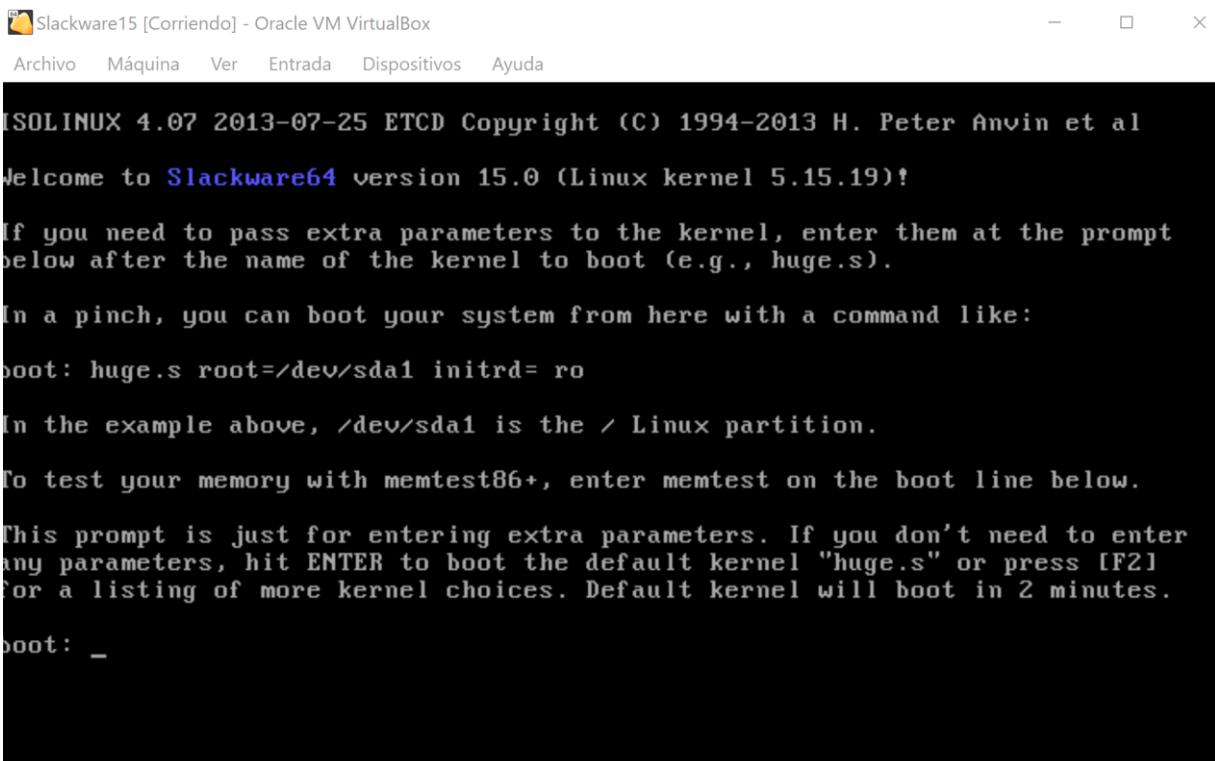
2. Deshabilitamos algunas opciones que no son necesarias en **características extendida**, se desmarca la opción disquete del **Orden de arranque**.



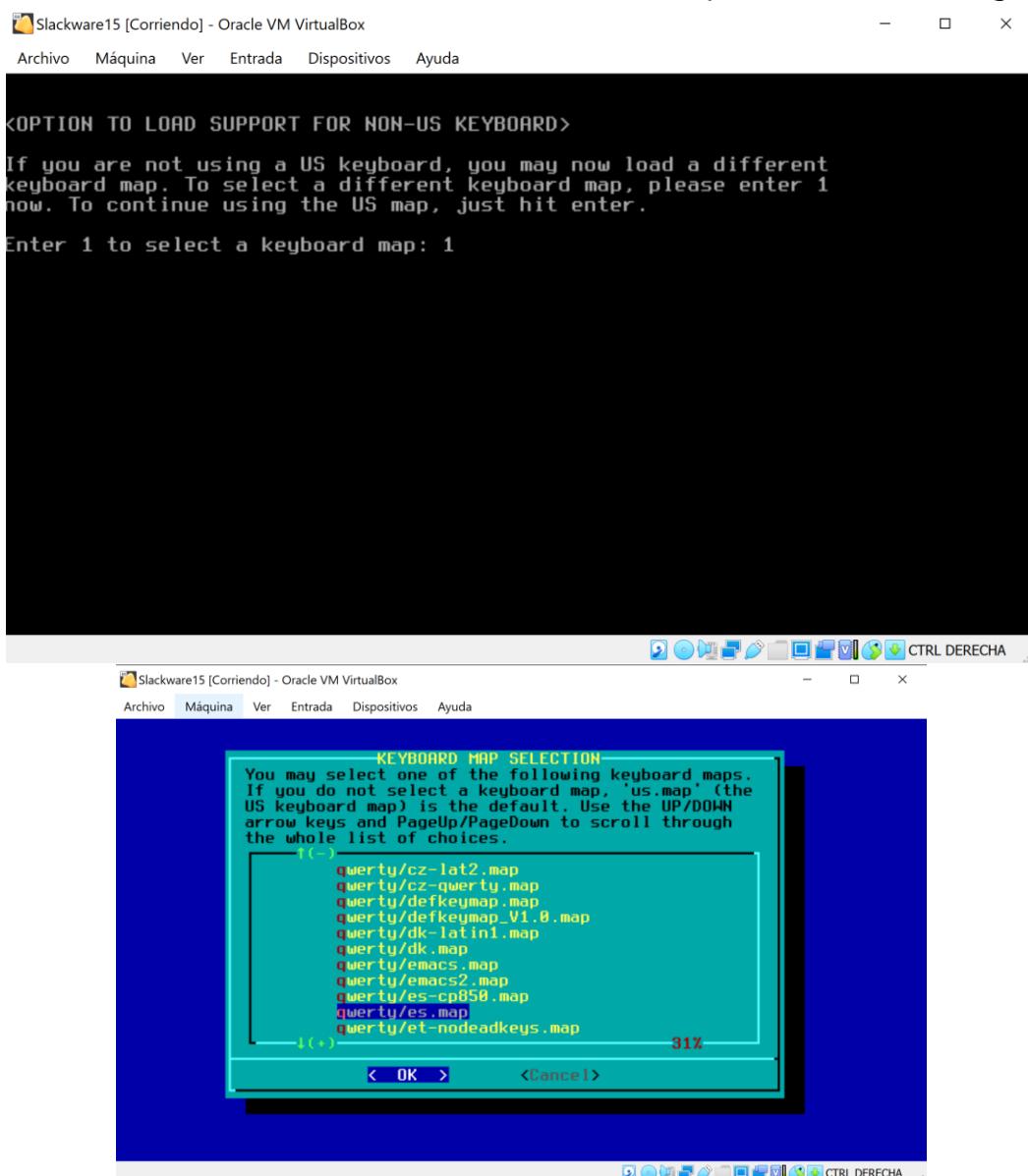
3. Se carga el ISO como mostrado en el paso 2 de la primera preinstalación.



4. Ejecutamos la máquina virtual. Damos ENTER para iniciar



5. En esta instalación cambiaremos el teclado a uno que se aadecue a la región.



6. Inicie sesión como root, simplemente escriba root y ENTER.

```
Welcome to the Slackware Linux installation disk! (version 15.0)
#####
# IMPORTANT! READ THE INFORMATION BELOW CAREFULLY. #####
-
- You will need one or more partitions of type 'Linux' prepared. It is also
  recommended that you create a swap partition (type 'Linux swap') prior
  to installation. For more information, run 'setup' and read the help file.

- If you're having problems that you think might be related to low memory, you
  can try activating a swap partition before you run setup. After making a
  swap partition (type 82) with cfdisk or fdisk, activate it like this:
    mkswap /dev/<partition> ; swapon /dev/<partition>

- Once you have prepared the disk partitions for Linux, type 'setup' to begin
  the installation process.

You may now login as 'root'.

slackware login: root
```

7. Particionamos el disco cfdisk, después ENTER.

```
slackware15 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
-
- If you're having problems that you think might be related to low memory, you
  can try activating a swap partition before you run setup. After making a
  swap partition (type 82) with cfdisk or fdisk, activate it like this:
    mkswap /dev/<partition> ; swapon /dev/<partition>

- Once you have prepared the disk partitions for Linux, type 'setup' to begin
  the installation process.

You may now login as 'root'.

slackware login: root
linux 5.15.19.

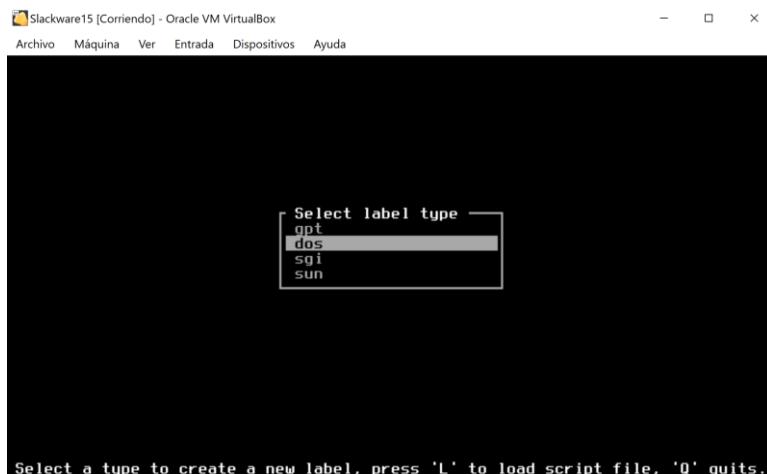
If you're upgrading an existing Slackware system, you might want to
remove old packages before you run 'setup' to install the new ones. If
you don't, your system will still work but there might be some old files
left laying around on your drive.

Just mount your Linux partitions under /mnt and type 'pkgtool'. If you
don't know how to mount your partitions, type 'pkgtool' and it will tell
you how it's done.

To partition your hard drive(s), use 'cfdisk' or 'fdisk'.
To start the main installation (after partitioning), type 'setup'.

root@slackware:/# cfdisk
```

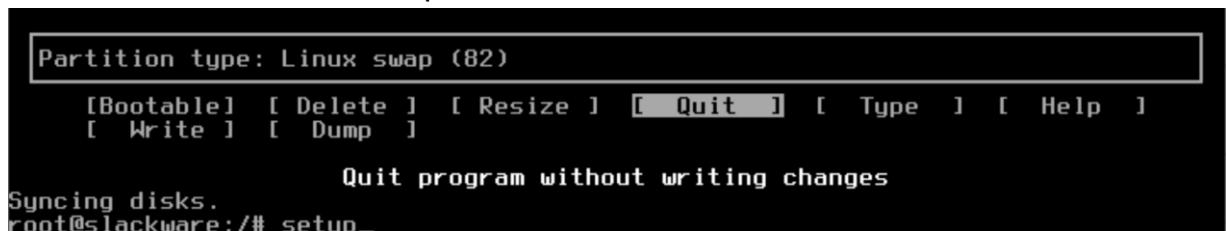
8. Se elige en la tabla de particiones dos.



9. Se crean las dos particiones solicitadas y se establecen como particiones primarias. Se establece que la partición raíz se pueda arrancar con la opción bootable. Después se escribe los cambios en el disco, Quit de la partición del disco para continuar con la instalación.



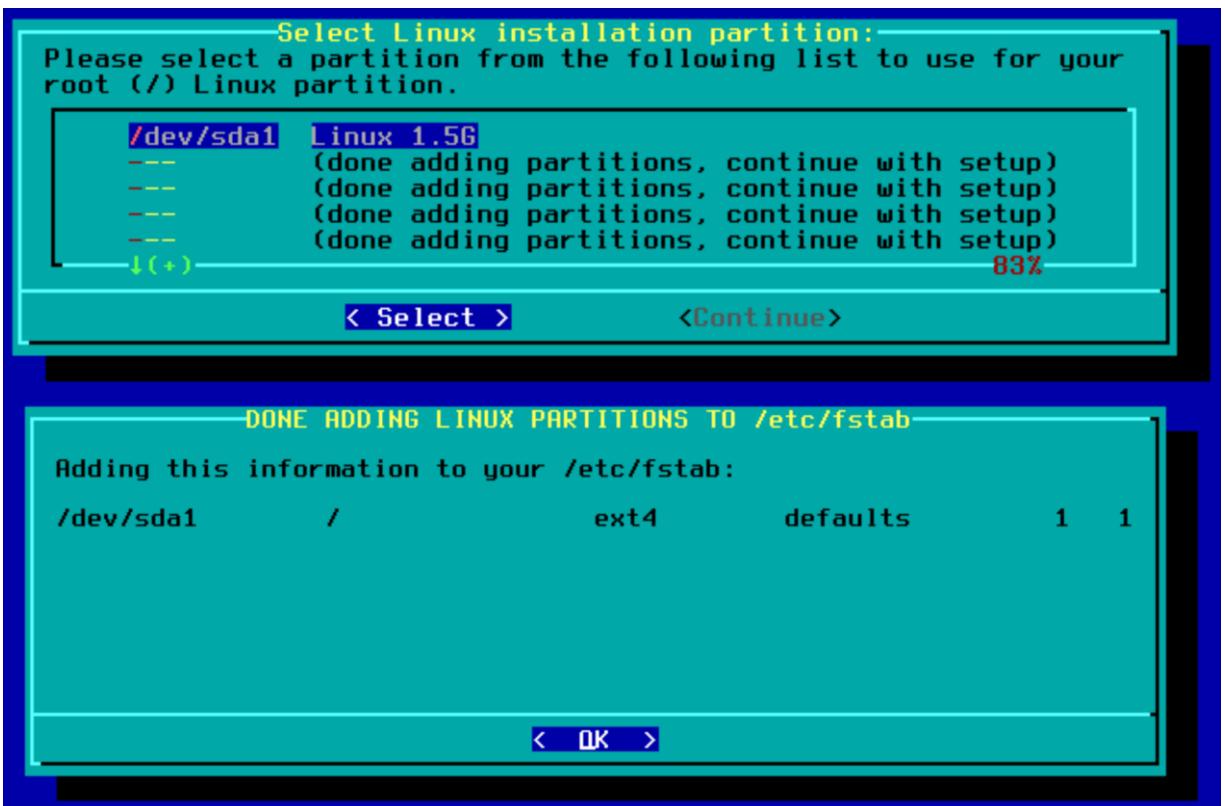
10. Despues de salir de la partición del disco, continúe e inicialice la instalación mediante el comando: Setup



11. Establezca la partición SWAP en AddSWAP, proporcione la partición SWAP creada y formatearla (Opcional).



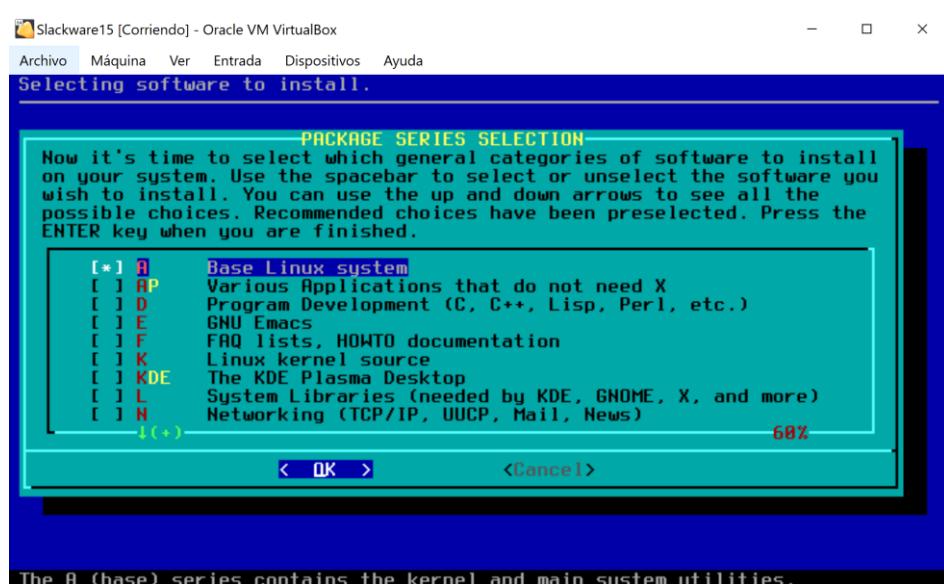
12. Establecer la partición raíz y formatear. Seleccione el formato EXT4.



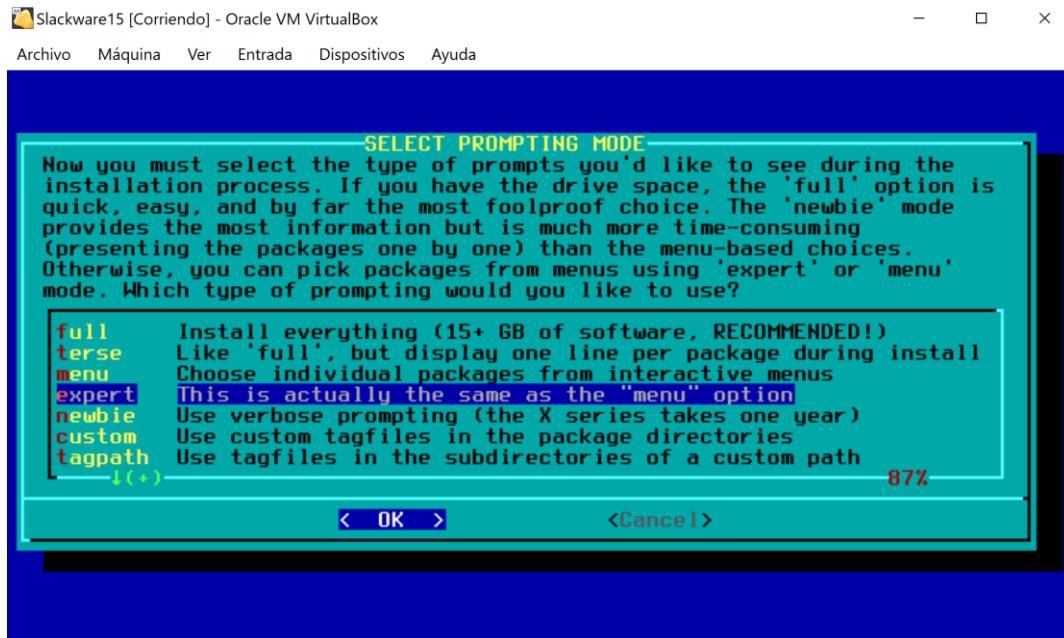
13. Seleccione el medio de instalación (El que está por defecto) y elija el escaneo automático.



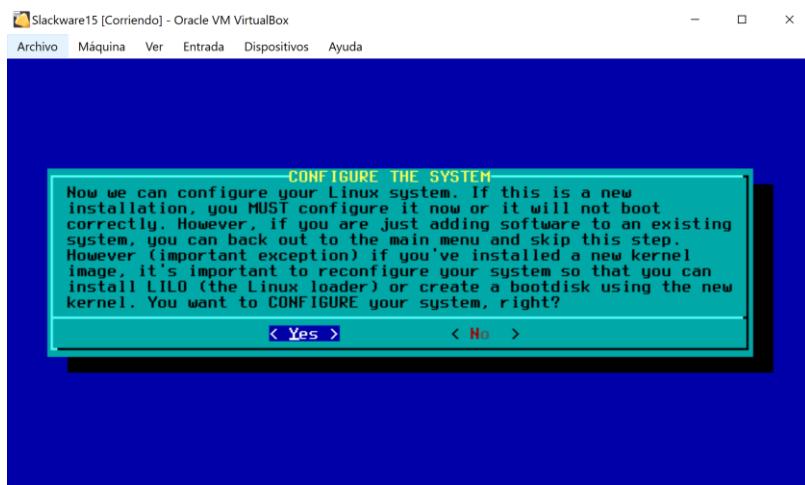
14. Seleccionamos solo los paquetes que ofrezcan la instalación mínima de slackware, en este caso solo dejaremos marcado el paquete A.

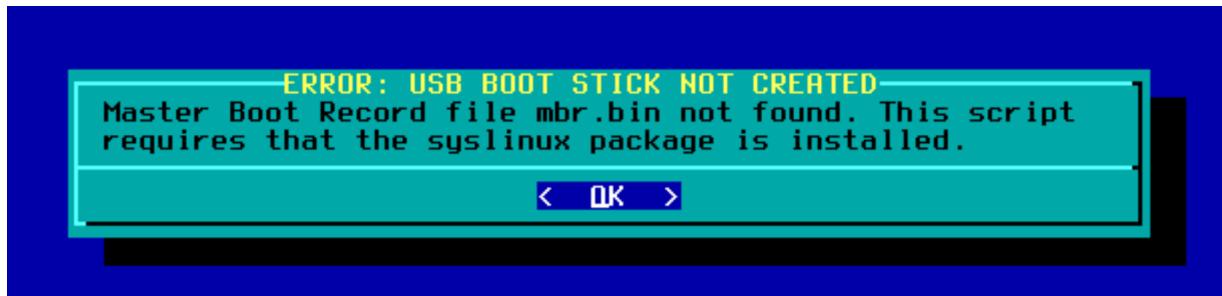


15. Seleccionamos el modo experto de instalación de paquetes para garantizar que sean tomados los paquetes necesarios. En el menú de paquetes solo dejamos marcados aquellos que están señalados como REQUIRED



Error:

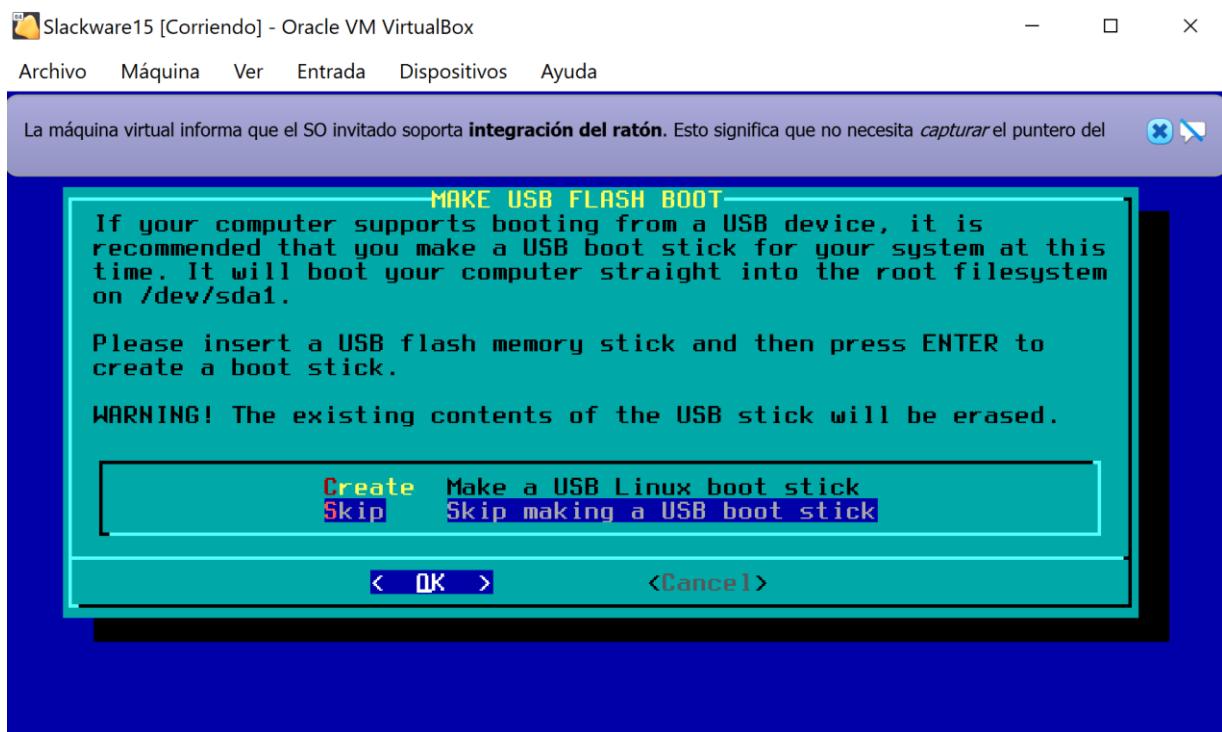




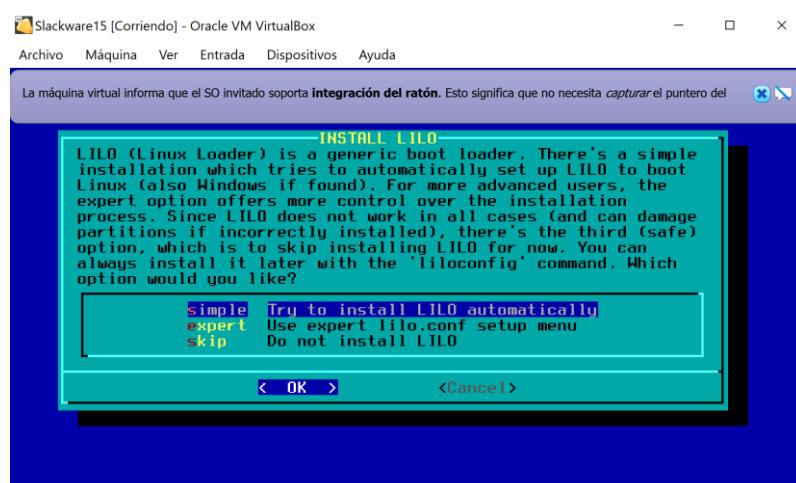
16. Solución: Además de los paquetes marcados con REQUIRED se seleccionan:

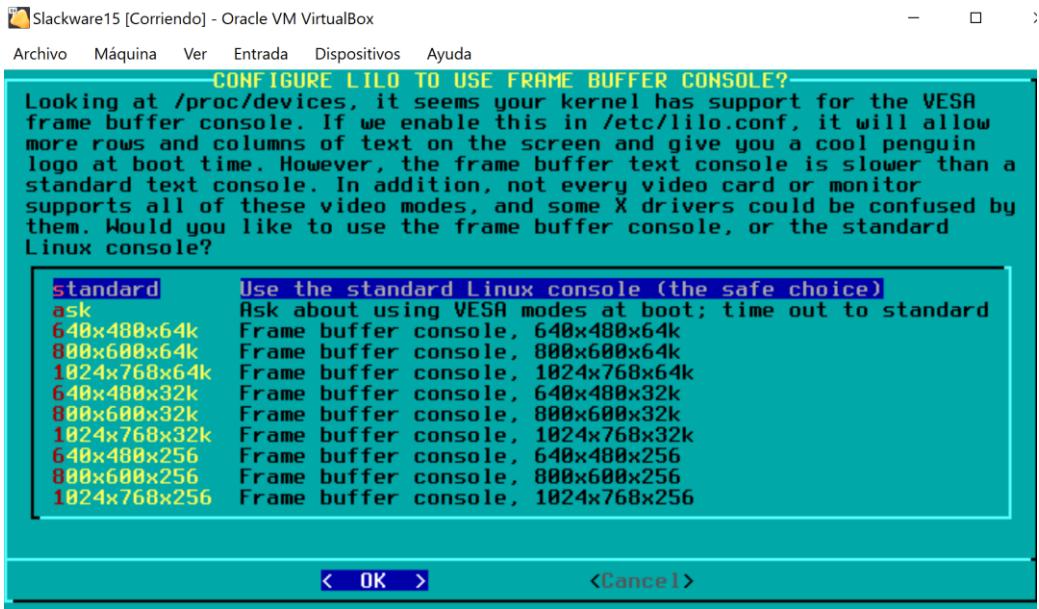
- aaa_terminfo
- aaa_glibc-solids
- lilo
- dialog
- kernel-huge
- syslinux

17. Podemos saltar la configuración

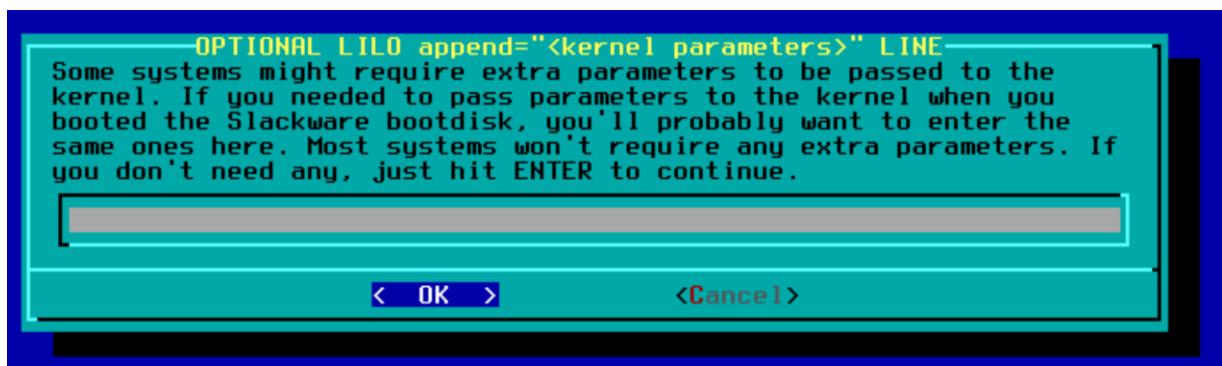


18. Instalar LILO automáticamente





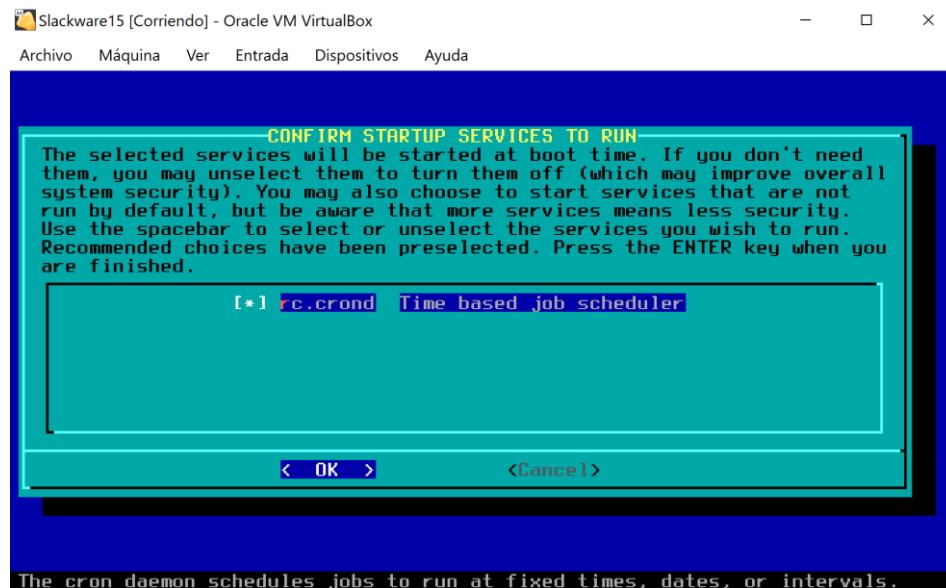
19.Podemos saltar estas configuraciones.



20.Seleccione el destino para LILO en este caso dejaremos por defecto la opción MBR.

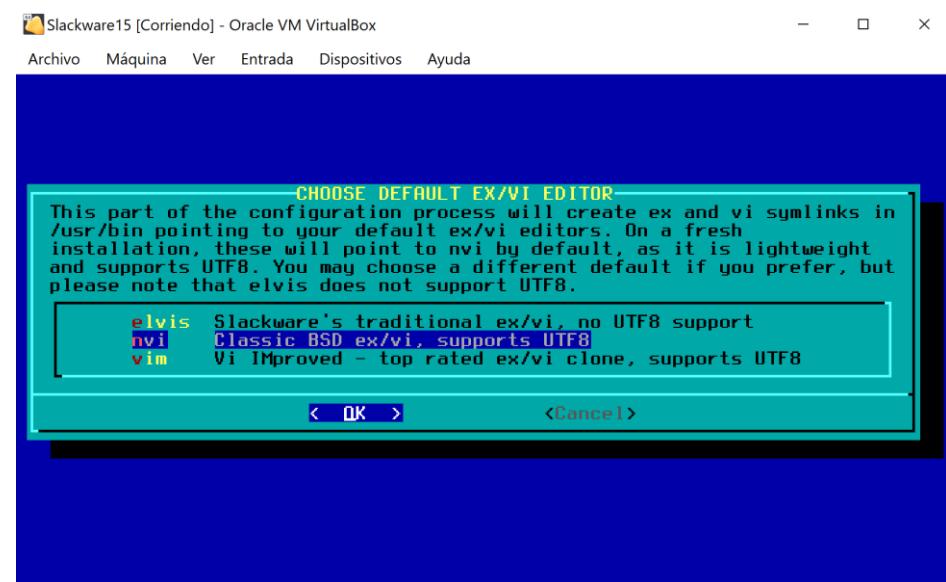


21. Confirmar los servicios de puesta en marcha, en este caso dejamos la que está por defecto.

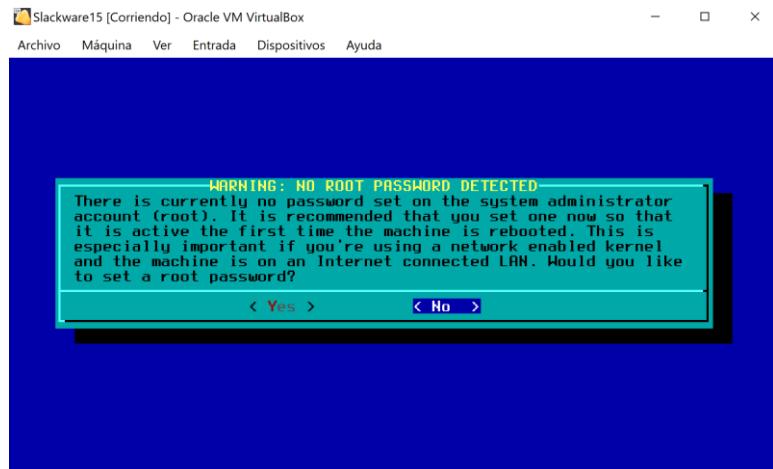


The cron daemon schedules jobs to run at fixed times, dates, or intervals.

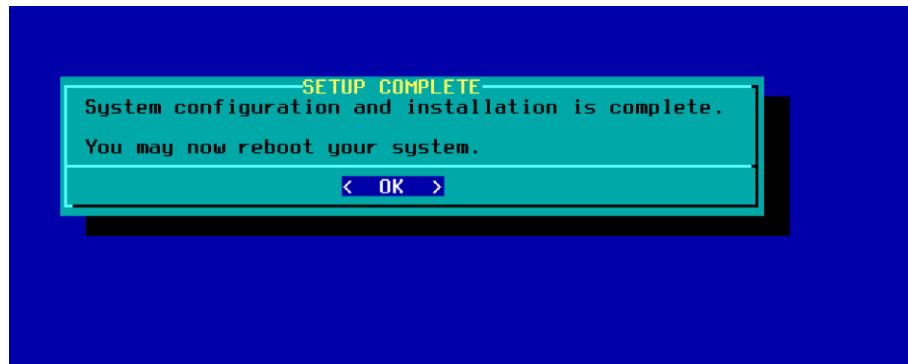
22. Establecer el editor de texto predeterminado



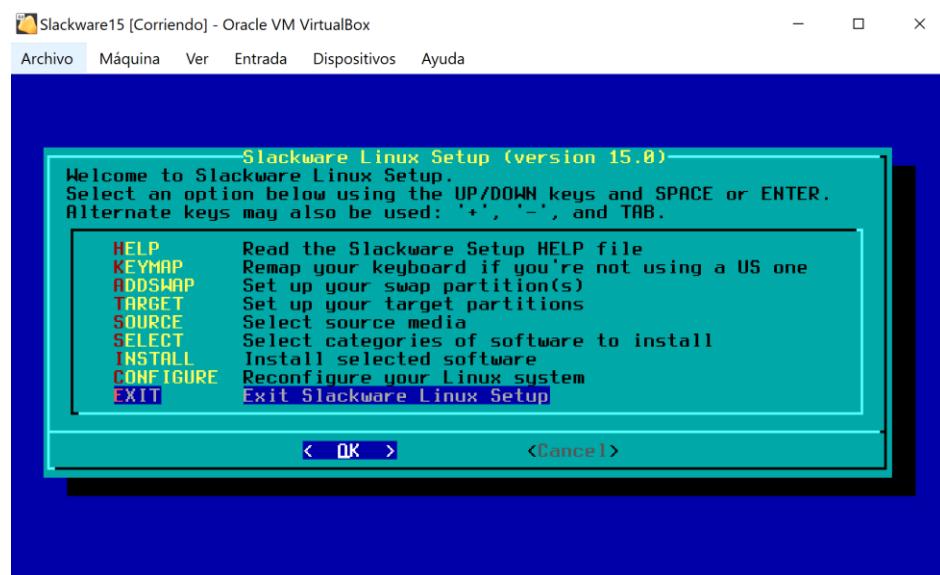
23. Establecer la contraseña de root, es opcional.



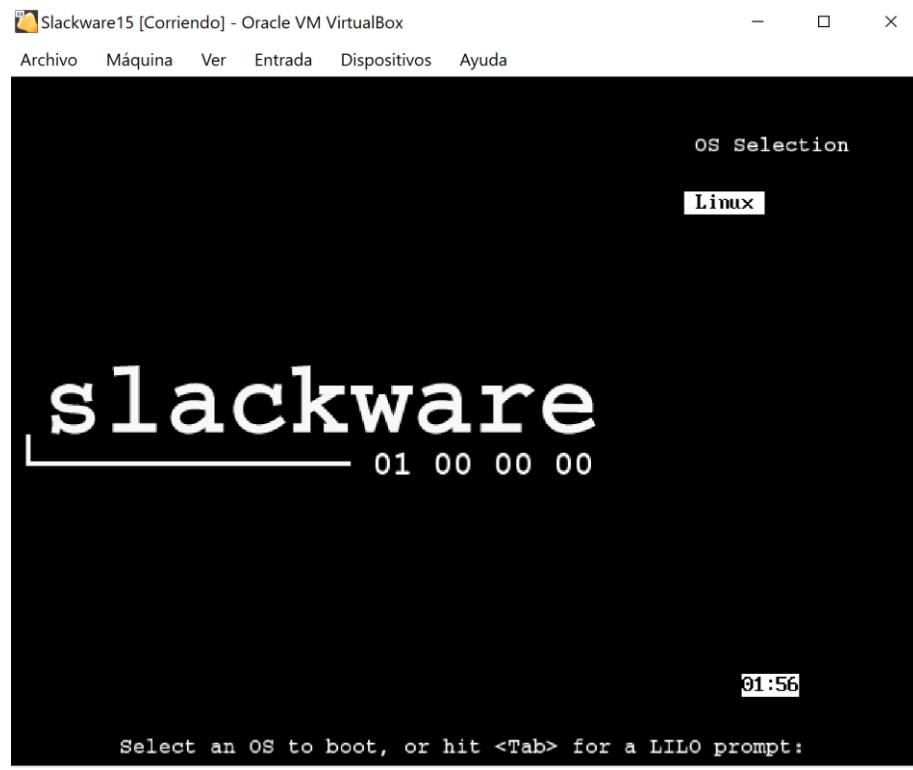
24. La configuración del sistema está completa.



25. Volvemos al menú de configuración, vamos a la opción exit, nos pide que expulsemos el disco, y reiniciamos.



26. Cuando el sistema se reinicie, debería poder verse la siguiente pantalla.

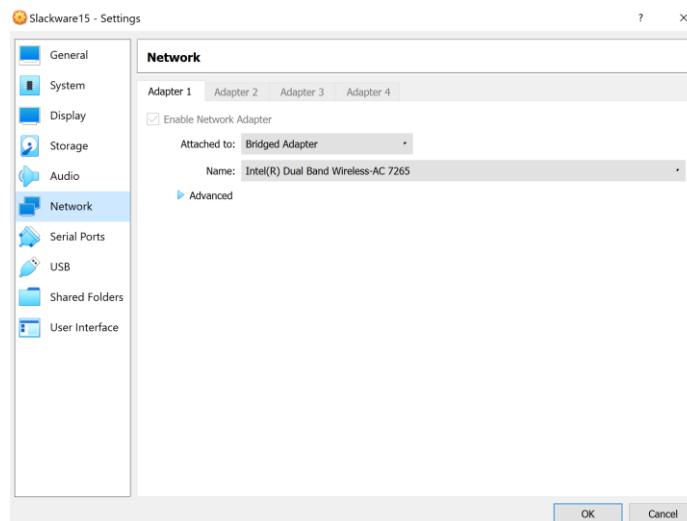


27. Pulse Tab para continuar con el arranque, podemos iniciar con root.

```
Welcome to Linux 5.15.19 x86_64 (tty1)
darkstar login: [ 9.8800091 e1000 0000:00:03.0 eth1: renamed from eth0
Welcome to Linux 5.15.19 x86_64 (tty1)
darkstar login: [ 9.8800091 e1000 0000:00:03.0 eth1: renamed from eth0
darkstar login: root
```

2. Tarjeta de red en modo Bridged

1. El modo bridge hace que la máquina virtual se comporte como una nueva máquina física. Si está en modo DHCP o de IP automática, el router le asignará una o también podemos asignarle una IP fija dentro de ese “pool” o almacen de IPs que usamos. En ajustes de la máquina virtual previamente creada, se selecciona la opción “Network”.



3. Configuración de la red

1. Haciendo uso del libro disponible en la página oficial se determinan los componentes o “series” para este requisito.

N Networking programs. Daemons, mail programs, telnet, news readers, and so on.

2. Antes de entrar a instalar los paquetes, debemos montar el DVD.

Primero, intente usar el comando blkid para ver qué archivo de dispositivo está usando su CD. Por lo general, será /dev/sr0, pero es posible que el tuyo sea algo diferente. Sabrás que es el correcto porque debería decir ISO9660.

```
root@darkstar:~# blkid  
/dev/sr0: UUID="2048" UUID="2022-02-03-19-48-25-00" LABEL="SlackDVD" TYPE="iso9660" PTUUID="50  
902039" PTTYPE="dos"  
/dev/sda2: UUID="39de3921-d4c1-44bb-ac7a-69d1ef5e6af9" TYPE="swap" PARTUUID="3b3a0202-02"  
/dev/sda1: UUID="71f0ac64-e2b0-4b56-a439-3da0182a3cdd" BLOCK_SIZE="4096" TYPE="ext4" PARTUUID="3b3a0  
202-01"  
root@darkstar:~# _
```

El comando blkid para ver el contenido de los dispositivos de bloqueo. Los dispositivos de bloqueo son dispositivos de almacenamiento como CD ROM, discos duros y disquetes.

Usamos el comando mount para asignar el archivo en el directorio /mnt/cdrom

```
root@darkstar:~# mount /dev/sr0 /mnt/cdrom  
mount: /mnt/cdrom: WARNING: source write-protected, mounted read-only.  
root@darkstar:~# _
```

Al usar el comando blkid después de insertar el CD, la salida tendrá un dispositivo adicional en la lista de dispositivos de bloqueo:

```
root@darkstar:~# blkid  
/dev/sr0: UUID="2048" UUID="2022-02-03-19-48-25-00" LABEL="SlackDVD" TYPE="iso9660" PTUUID="50  
902039" PTTYPE="dos"  
/dev/sda2: UUID="39de3921-d4c1-44bb-ac7a-69d1ef5e6af9" TYPE="swap" PARTUUID="3b3a0202-02"  
/dev/sda1: UUID="71f0ac64-e2b0-4b56-a439-3da0182a3cdd" BLOCK_SIZE="4096" TYPE="ext4" PARTUUID="3b3a0  
202-01"  
root@darkstar:~# ls /mnt/cdrom  
ANNOUNCE.15.0      ChangeLog.txt      README_LVM.TXT      extra/  
CHANGES_AND_HINTS.TXT  EFI/          README_RAID.TXT    isolinux/  
CHECKSUMS.md5      FILELIST.TXT     README_UEFI.TXT   kernels/  
CHECKSUMS.md5.asc   GPG-KEY        RELEASE_NOTES     pasture/  
COPYING           PACKAGES.TXT     SPEAKUP_DOCS.TXT  patches/  
COPYING3          README.TXT      SPEAK_INSTALL.TXT slackware64/  
COPYRIGHT.TXT     README.initrd    Slackware-HOWTO   testing/  
CRYPTO_NOTICE.TXT  README_CRYPT.TXT UPGRADE.TXT      usb-and-pxe-installers/  
root@darkstar:~# _
```

3. Usando el comando ls se muestra el contenido de la serie N, para determinar cuáles instalar, los paquetes tienen extensión txz. Los paquetes a instalar son los siguientes:

- Iputils
- Net-tools
- Network-scripts

Palabras clave: basic, network tools, networking utilities

```

PACKAGE NAME: iutils-20211215-x86_64-1.txz
PACKAGE LOCATION: ./slackware64/n
PACKAGE SIZE (compressed): 84 K
PACKAGE SIZE (uncompressed): 280 K
PACKAGE DESCRIPTION:
iutils: iutils (a collection of common network tools)
iutils:
iutils: The iutils package contains network tools found on nearly all *NIX
iutils: systems, along with an extra or two. Some of the utilities found
iutils: here include arping, clockdiff, ping, ping6, rarpd, rdisc, tracepath,
iutils: and tracepath6.
iutils:
iutils: iutils is maintained by YOSHIFUJI Hideaki.
iutils:

PACKAGE NAME: net-tools-20181103_0eebece-x86_64-3.txz
PACKAGE LOCATION: ./slackware64/n
PACKAGE SIZE (compressed): 128 K
PACKAGE SIZE (uncompressed): 560 K
PACKAGE DESCRIPTION:
net-tools: net-tools (Linux networking utilities)
net-tools:
net-tools: This is a collection of traditional tools such as "ifconfig" and
net-tools: "route" that were used to configure networking on Linux. While you can
net-tools: still make use of these tools today, they have been largely superseded
net-tools: by newer tools such as "ip", "lifrename", and "ethtool".
net-tools:
net-tools: The net-tools package was maintained for many years by Phil Blundell
net-tools: and Bernd Eckenfels.
net-tools:

PACKAGE NAME: network-scripts-15.0-noarch-18.txz
PACKAGE LOCATION: ./slackware64/n
PACKAGE SIZE (compressed): 40 K
PACKAGE SIZE (uncompressed): 180 K
PACKAGE DESCRIPTION:
network-scripts: network-scripts (Scripts to configure a network)
network-scripts:
network-scripts: These are the basic scripts and files used to define a network and
network-scripts: configure network interfaces on Linux. Most of the original
network-scripts: /etc files were written by Fred N. van Kempen, or borrowed from BSD.
network-scripts: The rc.inet1 and rc.inet2 scripts were mostly written by Patrick
network-scripts: Volkerding, with suggestions and fixes from hundreds of contributors
network-scripts: over the years.
network-scripts:

```

4. Instalamos los paquetes con el comando installpkg.

```

Package net-tools-20181103_0eebece-x86_64-3.txz installed.
root@darkstar:~# installpkg /mnt/cdrom/slackware64/n/network-scripts-15.0-noarch-18.txz
Verifying package network-scripts-15.0-noarch-18.txz.
Installing package network-scripts-15.0-noarch-18.txz [ADD]:
PACKAGE DESCRIPTION:
# network-scripts (Scripts to configure a network)
#
# These are the basic scripts and files used to define a network and
# configure network interfaces on Linux. Most of the original
# /etc files were written by Fred N. van Kempen, or borrowed from BSD.
# The rc.inet1 and rc.inet2 scripts were mostly written by Patrick
# Volkerding, with suggestions and fixes from hundreds of contributors
# over the years.
#
Executing install script for network-scripts-15.0-noarch-18.txz.
Package network-scripts-15.0-noarch-18.txz installed.
root@darkstar:~# S_

```

```

root@darkstar:~# ls /mnt/cdrom/slackware64/n/ip*.txz
/mnt/cdrom/slackware64/n/iproute2-5.16.0-x86_64-1.txz
/mnt/cdrom/slackware64/n/iptset-7.15-x86_64-1.txz
/mnt/cdrom/slackware64/n/iptables-1.8.7-x86_64-3.txz
/mnt/cdrom/slackware64/n/iptraf-ng-1.2.1-x86_64-3.txz
/mnt/cdrom/slackware64/n/iutils-20211215-x86_64-1.txz
/mnt/cdrom/slackware64/n/ipv2100-fw-1.3-fw-3.txz
/mnt/cdrom/slackware64/n/ipv2200-fw-3.1-fw-3.txz
root@darkstar:~# installpkg /mnt/cdrom/slackware64/n/iutils-20211215-x86_64-1.txz
Verifying package iutils-20211215-x86_64-1.txz.
Installing package iutils-20211215-x86_64-1.txz [ADD]:
PACKAGE DESCRIPTION:
# iutils (a collection of common network tools)
#
# The iutils package contains network tools found on nearly all *NIX
# systems, along with an extra or two. Some of the utilities found
# here include arping, clockdiff, ping, ping6, rarpd, rdisc, tracepath,
# and tracepath6.
#
# iutils is maintained by YOSHIFUJI Hideaki.
#
Executing install script for iutils-20211215-x86_64-1.txz.
Package iutils-20211215-x86_64-1.txz installed.
root@darkstar:~#

```

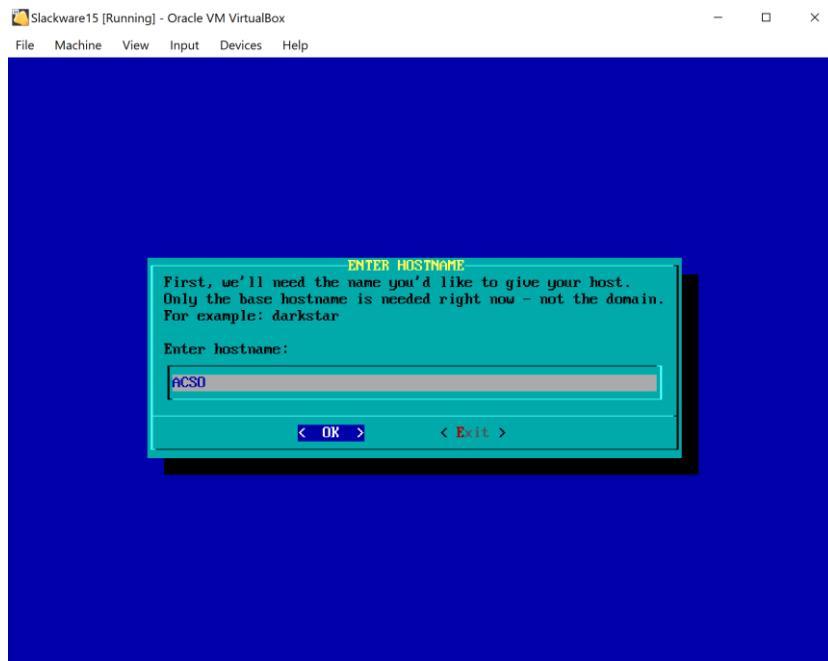
```

Package net-tools-20181103_0eebece-x86_64-3.txz installed.
root@darkstar:~# installpkg /mnt/cdrom/slackware64/n/network-scripts-15.0-noarch-18.txz
Verifying package network-scripts-15.0-noarch-18.txz.
Installing package network-scripts-15.0-noarch-18.txz [ADD]:
PACKAGE DESCRIPTION:
# network-scripts (Scripts to configure a network)
#
# These are the basic scripts and files used to define a network and
# configure network interfaces on Linux. Most of the original
# /etc files were written by Fred N. van Kempen, or borrowed from BSD.
# The rc.inet1 and rc.inet2 scripts were mostly written by Patrick
# Volkerding, with suggestions and fixes from hundreds of contributors
# over the years.
#
Executing install script for network-scripts-15.0-noarch-18.txz.
Package network-scripts-15.0-noarch-18.txz installed.
root@darkstar:~# S_

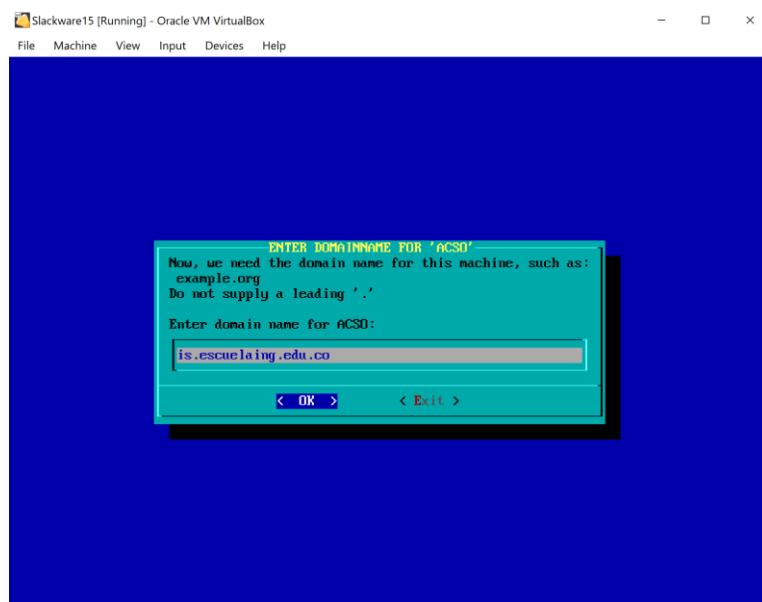
```

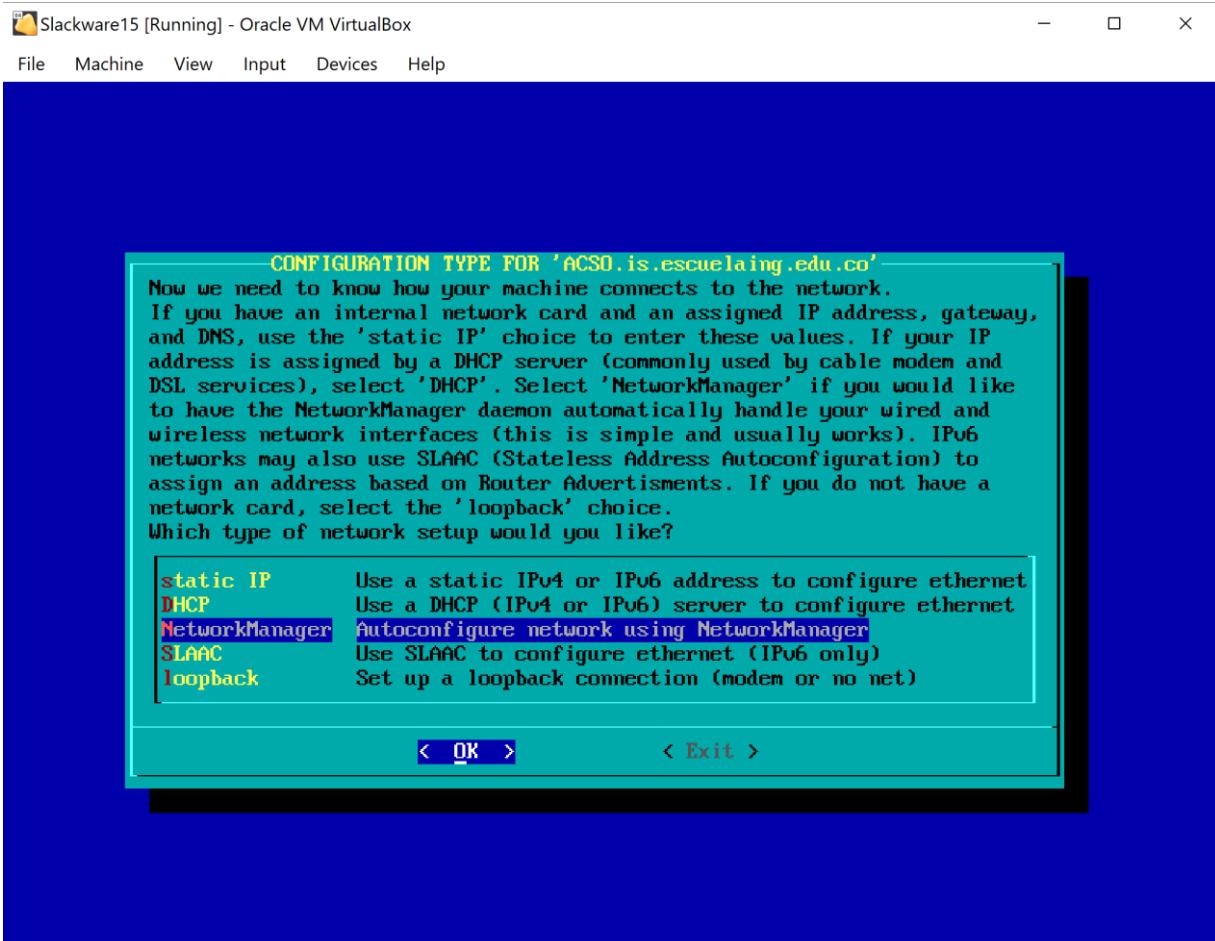
5. Usamos el comando netconfig para iniciar la configuración de la red.

Configuraremos el HOSTNAME, para el ejercicio le asigne ACSO.

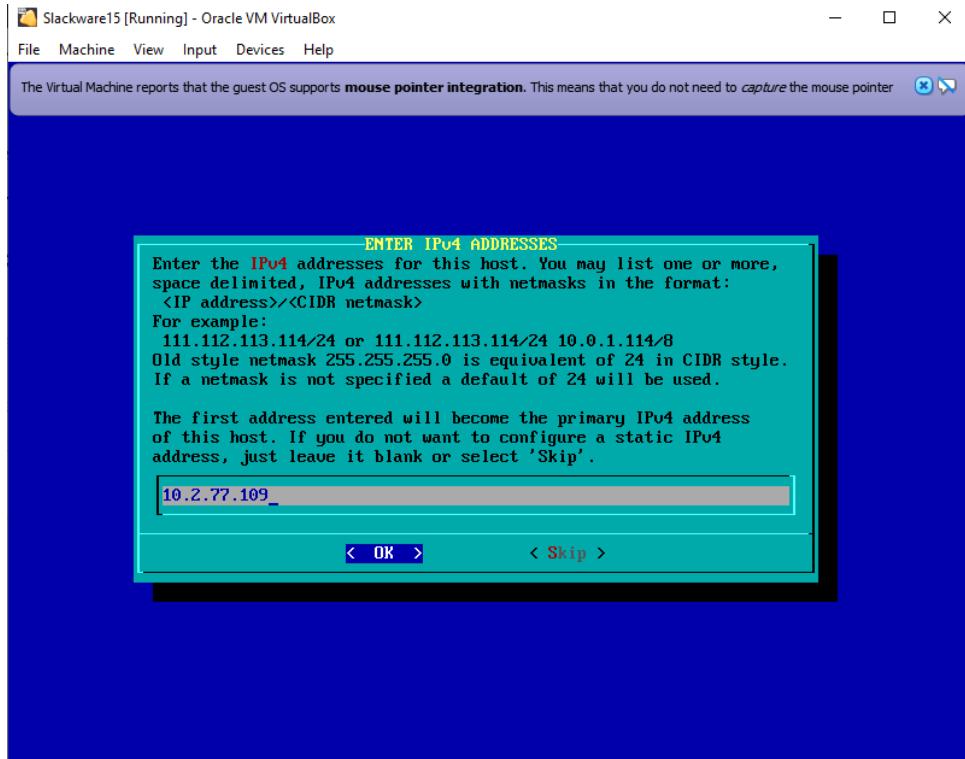


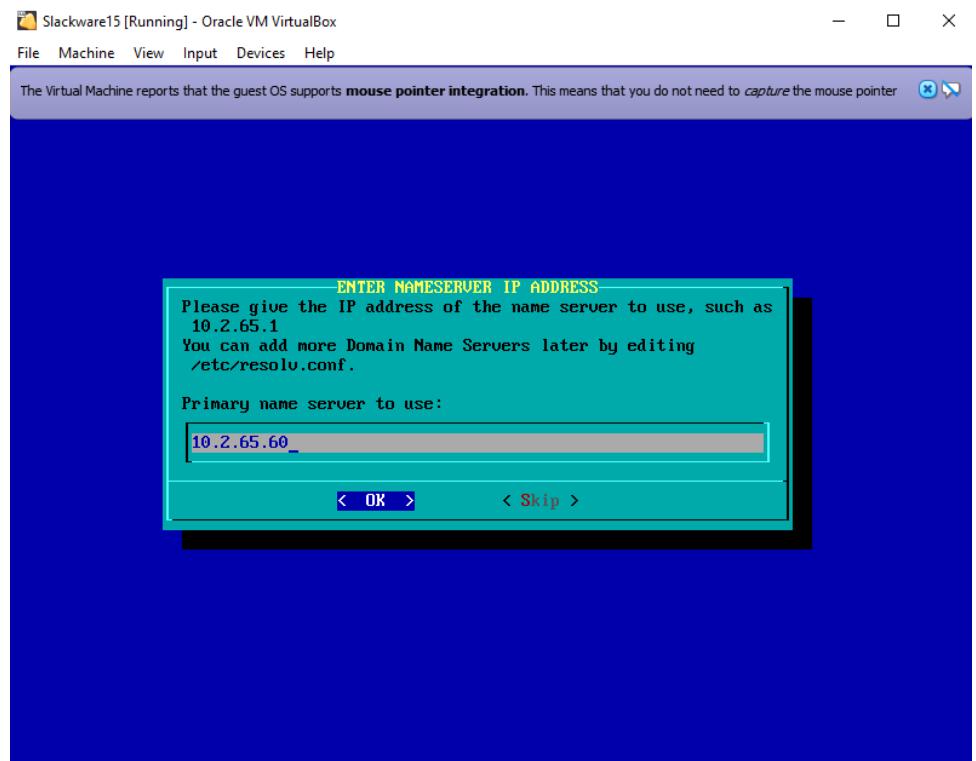
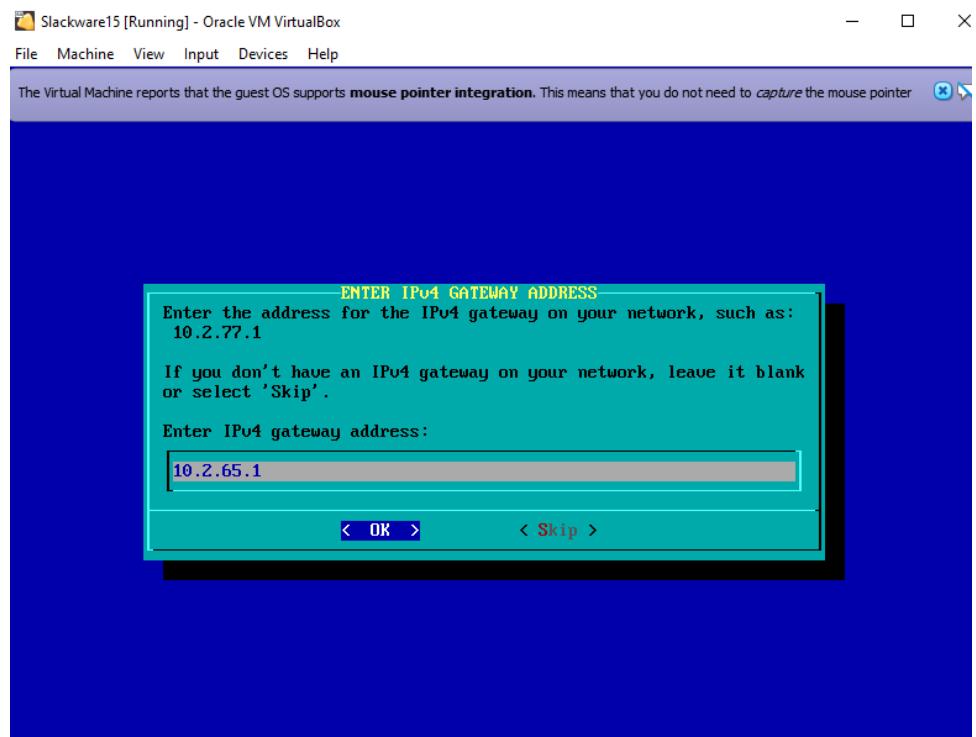
El dominio tradicional de la escuela:





Configuramos los datos con los del enunciado del laboratorio.





Al realizar las pruebas se arroja una serie de errores que lleva a la instalación de algunos paquetes, se instalan los paquetes correspondientes al editor Vim, para configurar la máscara en el archivo

```
root@darkstar:/# ls /mnt/cdrom/slackware/ap/vim*.txz
/mnt/cdrom/slackware/ap/vim-8.2.4256-i586-1.txz
root@darkstar:/# installpkg _/mnt/cdrom/slackware/ap/vim*.txz
```

21/08/2022

Para asignar una dirección IP a Slackware, puede hacerlo a través del script netconfig o puede editar /etc/rc.d/rc.inet1.conf. En /etc/rc.d/rc.inet1.conf, notará

```
# End of /etc/rc.d/rc.inet1
root@darkstar:/etc/rc.d# vim rc.inet1.conf_
```

Al intentar editar el archivo se generan una serie de errores, para corregirlo se instalan los paquetes asociados al mensaje.

```
/mnt/cdrom/slackware64/l/libopx-1.11.0-x86_64-1.txz
/mnt/cdrom/slackware64/l/libwebp-1.2.2-x86_64-1.txz
/mnt/cdrom/slackware64/l/libwmf-0.2.12-x86_64-3.txz
/mnt/cdrom/slackware64/l/libunck-2.31.0-x86_64-5.txz
/mnt/cdrom/slackware64/l/libunck3-3.36.0-x86_64-3.txz
/mnt/cdrom/slackware64/l/libupd-0.10.3-x86_64-3.txz
/mnt/cdrom/slackware64/l/libupnp-0.3.3-x86_64-3.txz
/mnt/cdrom/slackware64/l/libxbcommon-1.3.1-x86_64-1.txz
/mnt/cdrom/slackware64/l/libxklavier-5.4-x86_64-4.txz
/mnt/cdrom/slackware64/l/libxml2-2.9.12-x86_64-5.txz
/mnt/cdrom/slackware64/l/libxmlt-1.1.34-x86_64-3.txz
/mnt/cdrom/slackware64/l/libyaml-0.2.5-x86_64-3.txz
/mnt/cdrom/slackware64/l/libzip-1.8.0-x86_64-1.txz
root@darkstar:# installpkg /mnt/cdrom/slackware64/l/libsodium-1.0.18-x86_64-2.txz
```

CTRL DERECHA ↵

```
root@aonate:~# ls /mnt/cdrom/slackware64/l/libunistring-0.9.10-x86_64-3.txz
/mnt/cdrom/slackware64/l/libunistring-0.9.10-x86_64-3.txz
root@aonate:~# installpkg /mnt/cdrom/slackware64/l/libunistring-0.9.10-x86_64-3.txz
```

```
PACKAGE DESCRIPTION:
# iproute2 (IP routing utilities)
#
# These are tools used to administer many advanced IP routing features
# in the kernel. See Configure.help in the kernel documentation
# (search for iproute2) for more information on which kernel options
# these tools are used with.
#
# These utilities were written by Alexey Kuznetsov. The current
# maintainer of iproute2 is Stephen Hemminger.
#
Executing install script for iproute2-5.16.0-x86_64-1.txz.
Package iproute2-5.16.0-x86_64-1.txz installed.
root@aoonate:/etc# ip a
ip: error while loading shared libraries: libmnl.so.0: cannot open shared object file:
or directory
root@aoonate:/etc# ls /mnt/cdrom/slackware64/n/libmnl*.txz
/mnt/cdrom/slackware64/n/libmnl-1.0.4-x86_64-5.txz
root@aoonate:/etc# ls /mnt/cdrom/slackware64/n/libmnl-1.0.4-x86_64-5.txz
/mnt/cdrom/slackware64/n/libmnl-1.0.4-x86_64-5.txz
```

Con el editor funcionando apropiadamente se agregan los compoennetes faltantes, NETMASK.

```
# =====
# IPv4 config options for eth0:
IPADDRS[0] = "192.168.0.15/24"
NETMASK[0] = "255.255.255.0"
USE_DHCP[0] = ""
# IPv6 config options for eth0:
IP6ADDRS[0] = ""
USE_SLAAC[0] = ""
USE_DHCP6[0] = ""
# Generic options for eth0:
DHCP_HOSTNAME[0] = ""
```

Se reinicia el sistema, tener en cuenta que estos datos corresponden a la red local de trajo (Desde casa), en la cual también se modifica la dirección MAC en la maquina virtual.

Al ejecutar la prueba la red se conecta sin errores.

```
root@aonate:~# ping www.google.com
PING www.google.com (142.250.78.36) 56(84) bytes of data.
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=1 ttl=118 time=13.9 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=2 ttl=118 time=11.2 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=3 ttl=118 time=22.4 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=4 ttl=118 time=14.1 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=5 ttl=118 time=14.2 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=6 ttl=118 time=21.8 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=7 ttl=118 time=26.7 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=8 ttl=118 time=23.2 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=9 ttl=118 time=12.2 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=10 ttl=118 time=17.0 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=11 ttl=118 time=10.4 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=12 ttl=118 time=16.1 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=13 ttl=118 time=115 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=17 ttl=118 time=40.1 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=18 ttl=118 time=9.16 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=19 ttl=118 time=24.7 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=20 ttl=118 time=17.7 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=21 ttl=118 time=134 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=22 ttl=118 time=15.1 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=23 ttl=118 time=11.2 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=24 ttl=118 time=11.1 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=25 ttl=118 time=120 ms
64 bytes from bog02s15-in-f4.1e100.net (142.250.78.36): icmp_seq=26 ttl=118 time=14.1 ms
^C
--- www.google.com ping statistics ---
26 packets transmitted, 23 received, 11.5385% packet loss, time 25092ms
rtt min/avg/max/mdev = 9.160/31.123/133.953/36.370 ms
root@aonate:~#
```

22/08/2022

Se realiza el proceso descrito anteriormente en el laboratorio de plataformas, siguiendo los siguientes pasos:

1. Con ifconfig -a consultamos las interfaces que están disponibles. En este caso tenemos eth1 y lo.

```
Welcome to Linux 5.15.19 i686 (tty1)

aonate login: root
Last login: Fri Aug 19 15:18:04 on tty1
Linux 5.15.19.
root@aonate:~# ifconfig
root@aonate:~# ifconfig -a
eth1: flags=4098<BROADCAST,MULTICAST> mtu 1500
        ether 08:00:27:ad:52:f9  txqueuelen 1000  (Ethernet)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

lo: flags=8<LOOPBACK>  mtu 65536
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

root@aonate:~# _
```

2. Cargamos estas interfaces con el comando up: **ifconfig** (nombre de la interface) **up**.

```
root@aonate:~# ifconfig eth1 up
[ 377.067433] e1000: eth1 NIC Link is Up 1000 Mbps Full Duplex, Flow Control: RX
[ 377.070164] IPv6: ADDRCONF(NETDEV_CHANGE): eth1: link becomes ready
root@aonate:~# ifconfig lo up
root@aonate:~# ifconfig
eth1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet6 fe80::a00:27ff:fead:52f9 prefixlen 64 scopeid 0x20<link>
        ether 08:00:27:ad:52:f9 txqueuelen 1000 (Ethernet)
        RX packets 576 bytes 46600 (45.5 KiB)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 5 bytes 446 (446.0 B)
        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 0 bytes 0 (0.0 B)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 0 bytes 0 (0.0 B)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@aonate:~#
```

Error: Despues del reinicio las interfaces no parecen permanecer cargadas

Solucion:

```
root@aonate:~# ip a
-bash: ip: command not found
root@aonate:~# -
```

En documentacion de internet parece que este comando deberia mostrar las interfaces cargadas actualmente, dado que genera error se instalan los paquetes:

```
root@aonate:~# ip a
-bash: ip: command not found
root@aonate:~# ls /mnt/cdrom/slackware64/n/ip*.txz
/bin/ls: cannot access '/mnt/cdrom/slackware64/n/ip*.txz': No such file or directory
root@aonate:~# ls /mnt/cdrom/slackware/n/ip*.txz
/mnt/cdrom/slackware/n/iprofile2-5.16.0-i586-1.txz
/mnt/cdrom/slackware/n/iptset-7.15-i586-1.txz
/mnt/cdrom/slackware/n/iptables-1.8.7-i586-3.txz
/mnt/cdrom/slackware/n/iptraf-ng-1.2.1-i586-3.txz
/mnt/cdrom/slackware/n/iputils-20211215-i586-1.txz
/mnt/cdrom/slackware/n/ipv2100-fw-1.3-fw-3.txz
/mnt/cdrom/slackware/n/ipv2200-fw-3.1-fw-3.txz
root@aonate:~# installpkg /mnt/cdrom/slackware64/n/iputils-20211215-i586-1.txz
```

Reiniciar maquina: El comando no funcionaba ip a
Instalamos el siguiente paquete

```
PACKAGE NAME: iproute2-5.16.0-i586-1.txz
PACKAGE LOCATION: ./slackware/n
PACKAGE SIZE (compressed): 992 K
PACKAGE SIZE (uncompressed): 3380 K
PACKAGE DESCRIPTION:
iproute2: iproute2 (IP routing utilities)
iproute2:
iproute2: These are tools used to administer many advanced IP routing features
iproute2: in the kernel. See Configure.help in the kernel documentation
iproute2: (search for iproute2) for more information on which kernel options
iproute2: these tools are used with.
iproute2:
iproute2: These utilities were written by Alexey Kuznetsov. The current
iproute2: maintainer of iproute2 is Stephen Hemminger.
iproute2:
```

Error:

```
Executing install script for iproute2-5.16.0-i586-1.txz.
Package iproute2-5.16.0-i586-1.txz installed.
root@aonate:~# ip a
ip: error while loading shared libraries: libmnl.so.0: cannot open shared object file: No such file
or directory
root@aonate:~# _
```

Instamos el siguiente paquete

```
root@aonate:~# installpkg /mnt/cdrom/slackware/n/libmnl-1.0.4-i586-5.txz
-bash: installpkg: command not found
root@aonate:~# installpkg /mnt/cdrom/slackware/n/libmnl-1.0.4-i586-5.txz
Verifying package libmnl-1.0.4-i586-5.txz.
Installing package libmnl-1.0.4-i586-5.txz [REC]:
PACKAGE DESCRIPTION:
# libmnl (user-space library oriented to Netlink developers)
#
# libmnl is a minimalistic user-space library oriented to Netlink
# developers. There are a lot of common tasks in parsing, validating,
# constructing of both the Netlink header and TLVs that are repetitive
# and easy to get wrong. This library aims to provide simple helpers
# that allows you to re-use code and to avoid re-inventing the wheel.
#
# Homepage: http://www.netfilter.org/projects/libmnl/
#
Executing install script for libmnl-1.0.4-i586-5.txz.
Package libmnl-1.0.4-i586-5.txz installed.
root@aonate:~# _
```

Ejecutamos ip a

```
Executing install script for libmnl-1.0.4-i586-5.txz.
Package libmnl-1.0.4-i586-5.txz installed.
root@aonate:~# ip a
1: lo: <LOOPBACK> mtu 65536 qdisc noop state DOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: eth1: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether 08:00:27:ad:52:f9 brd ff:ff:ff:ff:ff:ff
root@aonate:~#
```

Volvemos a subirlas

```
root@aonate:~# ifconfig lo up
root@aonate:~# ifconfig
eth1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet6 fe80::a00:27ff:fead:52f9 prefixlen 64 scopeid 0x20<link>
        ether 08:00:27:ad:52:f9 txqueuelen 1000 (Ethernet)
        RX packets 707 bytes 49683 (48.5 KiB)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 5 bytes 446 (446.0 B)
        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 0 bytes 0 (0.0 B)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 0 bytes 0 (0.0 B)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@aonate:~#
```

Al reiniciar la maquina solo es visible la interface lo.

Al tratar de realizar las pruebas de ping sale el siguiente error:

```
root@aonate:~# ping 10.2.65.60
ping: error while loading shared libraries: libunistring.so.2: cannot open shared object file: No such file or directory
root@aonate:~#
```

Instalamos ese paquete:

```
PACKAGE NAME: libunistring-0.9.10-i586-3.txz
PACKAGE LOCATION: ./slackware/l
PACKAGE SIZE (compressed): 516 K
PACKAGE SIZE (uncompressed): 2460 K
PACKAGE DESCRIPTION:
libunistring: libunistring (GNU Unicode string library)
libunistring:
libunistring: This library provides functions for manipulating Unicode strings and
libunistring: for manipulating C strings according to the Unicode standard.
libunistring:
libunistring: Homepage: http://www.gnu.org/s/libunistring
libunistring:
```

Error:

```
root@aonate:~# ping 10.2.65.1
ping: connect: Network is unreachable
root@aonate:~#
```

Configuramos el archivo en la ruta:

```
root@aonate:~# cd /etc/rc.d/
root@aonate:/etc/rc.d# ls
rc.00*  rc.M*      rc.cpufreq*   rc.inet2*      rc.loop*       rc.setterm*
rc.4*   rc.S*      rc.crond*    rc.ip_forward  rc.modules*    rc.snmpd
rc.6*   rc.acpid*  rc.inet1*    rc.keymap*    rc.modules.local* rc.sysvinit*
rc.K*   rc.atalk   rc.inet1.conf rc.local*     rc.serial     rc.udev*
```

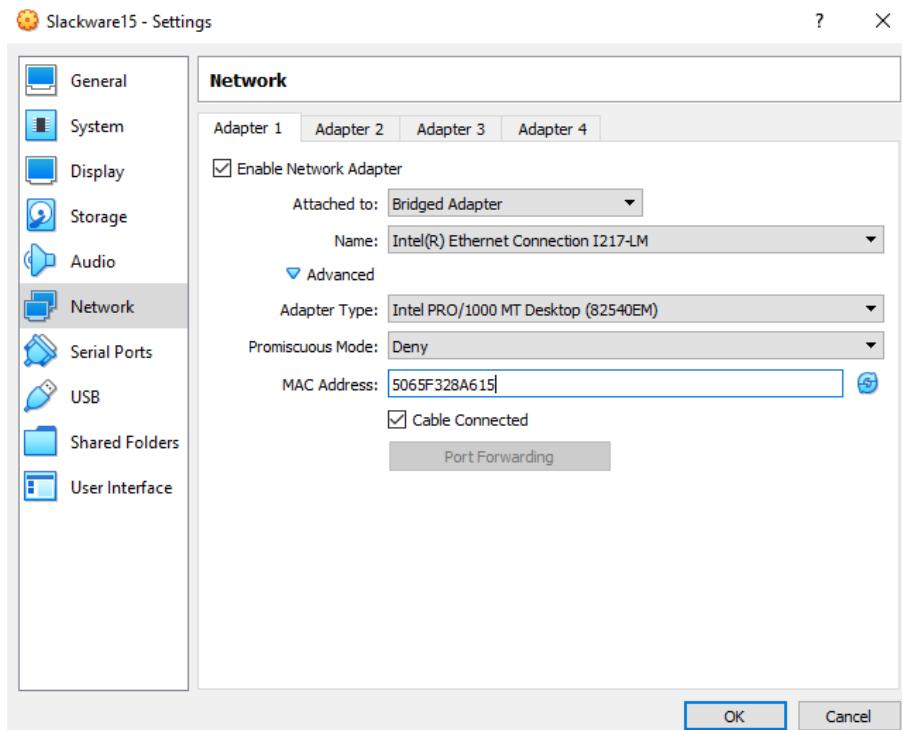
Instalamos el paquete:

```
root@aonate:/etc/rc.d# vim rc.inet1.conf
vim: error while loading shared libraries: libsodium.so.23: cannot open shared object file: No such
file or directory
root@aonate:/etc/rc.d# _
```

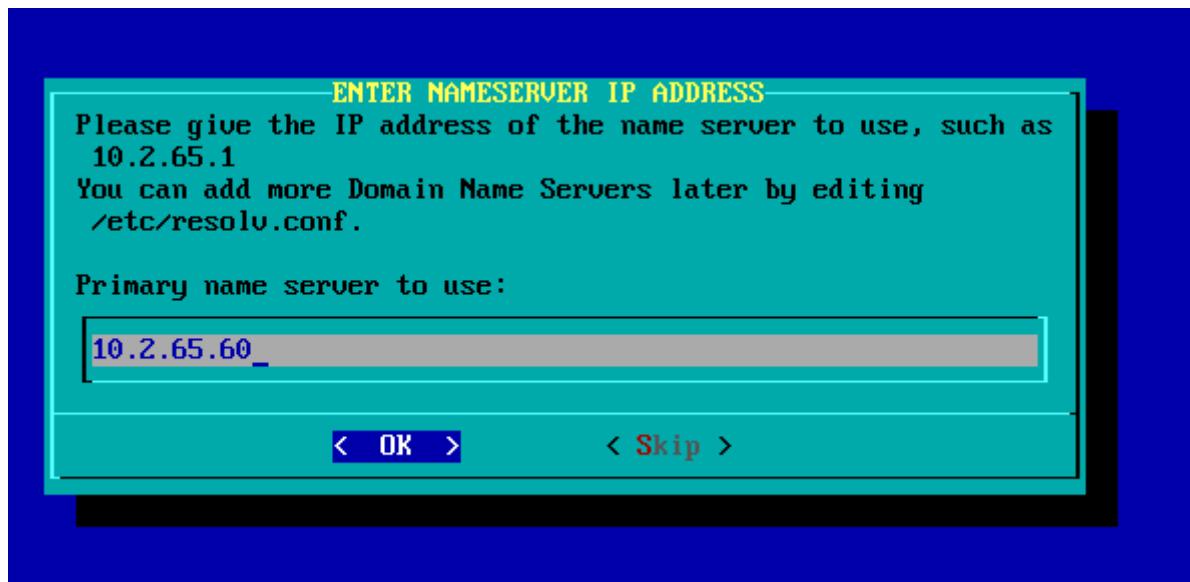
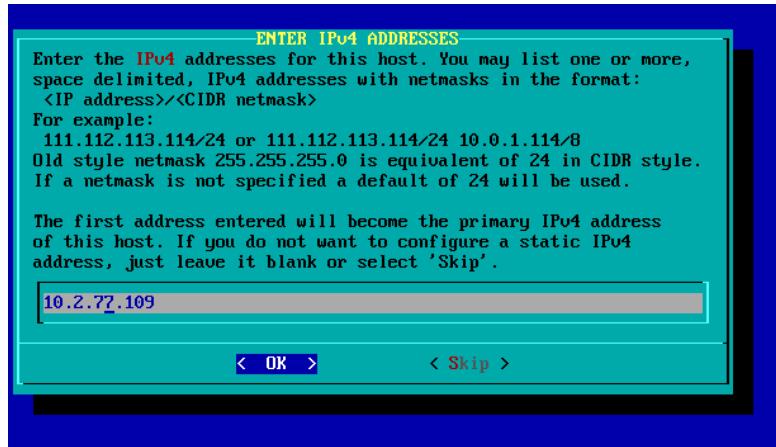
```
PACKAGE NAME: libsodium-1.0.18-i586-3.txz
PACKAGE LOCATION: ./slackware/l
PACKAGE SIZE (compressed): 188 K
PACKAGE SIZE (uncompressed): 700 K
PACKAGE DESCRIPTION:
libsodium: libsodium (Sodium crypto library)
libsodium:
libsodium: Sodium is a library for encryption, decryption, signatures, password
libsodium: hashing and more. It is a portable, cross-compilable, installable,
libsodium: packageable fork of NaCl, with a compatible API, and an extended API
libsodium: to improve usability even further.
libsodium:
libsodium: Its goal is to provide all of the core operations needed to build
libsodium: higher-level cryptographic tools.
libsodium:
libsodium: Homepage: https://libsodium.org
```

```
# Homepage: https://libsodium.org
Executing install script for libsodium-1.0.18-i586-3.txz.
Package libsodium-1.0.18-i586-3.txz installed.
root@aonate:/etc/rc.d# vim rc.inet1.conf
vim: error while loading shared libraries: libruby.so.3.0: cannot open shared object file: No such f
ile or directory
root@aonate:/etc/rc.d#
```

Al reiniciar la maquina virtual esta parece no editar el archivo de interés para modificar la NETMASK, en base a información encontrada en un foro de internet cambiamos la dirección MAC de la máquina virtual a la del pc físico en el laboratorio de plataformas.



Dado que el error continuo, se importa la maquina configurada en casa. Se realiza la configuración correspondiente de NETCONFIG.



Configuramos en eth1 en el archivo rc.inet1.conf

```
# IPv4 config options for eth1:
IPADDRS[1]="10.2.77.109"
NETMASK[1]="255.255.0.0"
USE_DHCP[1]="no"
# IPv6 config options for eth1:
IP6ADDRS[1]=""
USE_SLAAC[1]=""
USE_DHCP6[1]=""
# Generic options for eth1:
DHCP_HOSTNAME[1]=""
```

Además de la zona de este archivo para la configuración del bridge:

```
# Example of how to configure a bridge:
# Note the added "BRNICS" variable which contains a space-separated list
# of the physical or virtual network interfaces you want to add to the bridge.
# IFOPTS is a pipe (|) delimited list of bridge module specific settings to be
# applied to the interface. See the ip-link(8) man page (search for "BRIDGE
# Type Support") for details of the options available. This option is not
# required for a standard bridge to be configured.
IFNAME[0]="eth0"
BRNICS[0]="eth1"
IFOPTS[0]=""
IPADDRS[0]="10.2.77.109"
USE_DHCP[0]=""
DHCP_HOSTNAME[0]=""

# =====

# Virtual interfaces to create - these are created before any address
# configuration or bridge setup is done, so you may use these interfaces
-- INSERT --
```

Guardamos y reiniciamos la máquina.

Esta vez parece que se logró realizar una conexión estable, en eth1 bajo el nombre de inet son desplegados todos los datos correspondientes a la red.

```
aonate login: root
Last login: Mon Aug 22 16:22:37 on tty1
Linux 5.15.19.
root@aonate:~# ifconfig
eth1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.2.77.109 netmask 255.255.0.0 broadcast 10.2.255.255
        ether 50:65:f3:28:a6:16 txqueuelen 1000 (Ethernet)
        RX packets 216 bytes 21545 (21.0 KiB)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 4 bytes 420 (420.0 B)
        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 0 bytes 0 (0.0 B)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 0 bytes 0 (0.0 B)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@aonate:~# _
```

Realizamos las pruebas:

```
root@aonate:~# ping 10.2.65.1
PING 10.2.65.1 (10.2.65.1) 56(84) bytes of data.
64 bytes from 10.2.65.1: icmp_seq=1 ttl=64 time=0.577 ms
64 bytes from 10.2.65.1: icmp_seq=2 ttl=64 time=0.655 ms
64 bytes from 10.2.65.1: icmp_seq=3 ttl=64 time=0.693 ms
64 bytes from 10.2.65.1: icmp_seq=4 ttl=64 time=0.680 ms
64 bytes from 10.2.65.1: icmp_seq=5 ttl=64 time=0.675 ms
64 bytes from 10.2.65.1: icmp_seq=6 ttl=64 time=0.476 ms
64 bytes from 10.2.65.1: icmp_seq=7 ttl=64 time=0.675 ms
64 bytes from 10.2.65.1: icmp_seq=8 ttl=64 time=0.673 ms
64 bytes from 10.2.65.1: icmp_seq=9 ttl=64 time=0.661 ms
64 bytes from 10.2.65.1: icmp_seq=10 ttl=64 time=0.456 ms
^C
--- 10.2.65.1 ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9011ms
rtt min/avg/max/mdev = 0.456/0.622/0.693/0.083 ms
root@aonate:~#
```

```
root@aonate:~# ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=111 time=43.7 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=111 time=42.4 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=111 time=43.2 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=111 time=43.1 ms
64 bytes from 8.8.8.8: icmp_seq=5 ttl=111 time=43.3 ms
64 bytes from 8.8.8.8: icmp_seq=6 ttl=111 time=43.2 ms
64 bytes from 8.8.8.8: icmp_seq=7 ttl=111 time=42.8 ms
64 bytes from 8.8.8.8: icmp_seq=8 ttl=111 time=43.2 ms
^C
--- 8.8.8.8 ping statistics ---
8 packets transmitted, 8 received, 0% packet loss, time 7009ms
rtt min/avg/max/mdev = 42.427/43.101/43.705/0.340 ms
root@aonate:~#
```

```

root@aonate:/etc# ping www.google.com
PING www.google.com (142.250.189.132) 56(84) bytes of data.
64 bytes from mia09s26-in-f4.1e100.net (142.250.189.132): icmp_seq=1 ttl=112 time=44.2 ms
64 bytes from mia09s26-in-f4.1e100.net (142.250.189.132): icmp_seq=2 ttl=112 time=43.8 ms
64 bytes from mia09s26-in-f4.1e100.net (142.250.189.132): icmp_seq=3 ttl=112 time=44.2 ms
64 bytes from mia09s26-in-f4.1e100.net (142.250.189.132): icmp_seq=4 ttl=112 time=44.1 ms
^C
--- www.google.com ping statistics ---
5 packets transmitted, 4 received, 20% packet loss, time 4003ms
rtt min/avg/max/mdev = 43.845/44.108/44.242/0.161 ms
root@aonate:/etc#

```

El estado final del archivo relacionado con la IP es:

```

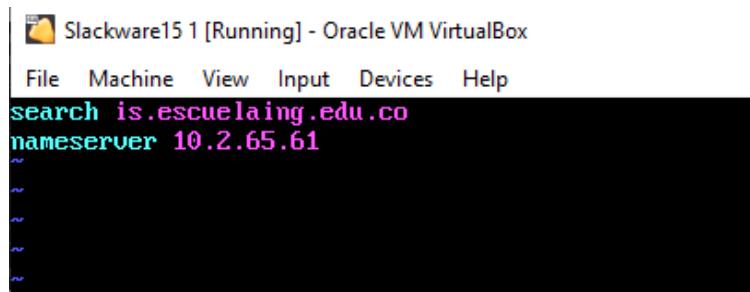
root@aonate:~# vim /etc/rc.d/rc.inet1.conf_
# IPv4 config options for eth0:
IPADDRS[0]="10.2.77.109/16"
NETMASK[0]="255.255.0.0"
USE_DHCP[0]="no"
# IPv6 config options for eth0:
IP6ADDRS[0]=""
USE_SLAAC[0]=""
USE_DHCP6[0]=""
# Generic options for eth0:
DHCP_HOSTNAME[0]=""

# IPv4 config options for eth1:
IPADDRS[1]="10.2.77.109/16"
NETMASK[1]="255.255.0.0"
USE_DHCP[1]="no"
# IPv6 config options for eth1:
IP6ADDRS[1]=""
USE_SLAAC[1]=""
USE_DHCP6[1]=""
# Generic options for eth1:
DHCP_HOSTNAME[1]=""

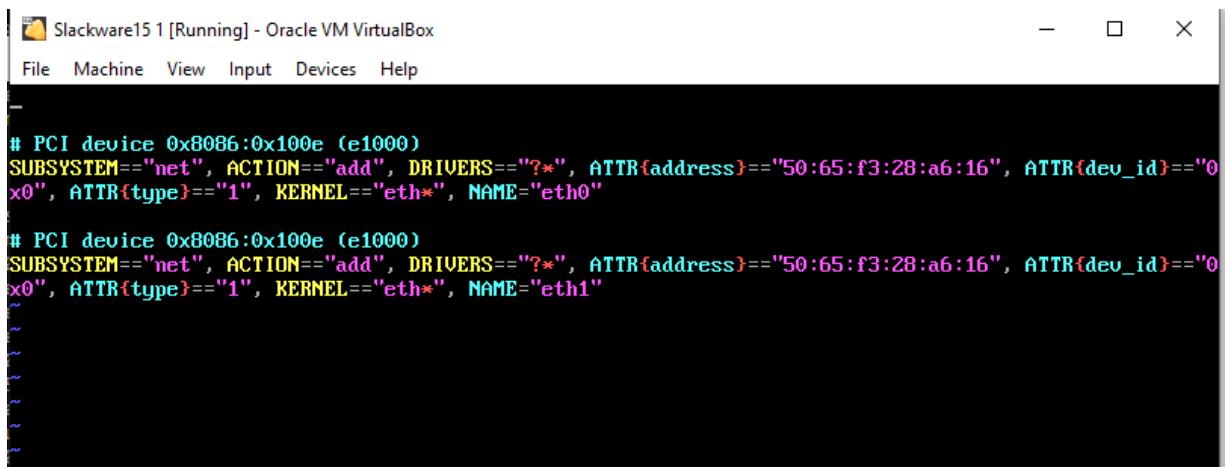
# Example of how to configure a bridge:
# Note the added "BRNICS" variable which contains a space-separated list
# of the physical or virtual network interfaces you want to add to the bridge.
# IFOPTS is a pipe (!) delimited list of bridge module specific settings to be
# applied to the interface. See the ip-link(8) man page (search for "BRIDGE
# Type Support") for details of the options available. This option is not
# required for a standard bridge to be configured.
IFNAME[0]="eth0"
BRNICS[0]="eth1"
IFOPTS[0]=""
IPADDRS[0]="10.2.67.109/16"
USE_DHCP[0]=""
DHCP_HOSTNAME[0]=""

```

Algo importante de mencionar es que no se usa el DNS que se menciona en el archivo con el enunciado de este laboratorio, se usa el comando ipconfig /all para desplegar otra opción.



```
root@aonate:/etc/udev/rules.d# ls
70-persistent-net.rules  70-persistent-net.rules~
root@aonate:/etc/udev/rules.d# _
```



The screenshot shows a terminal window titled "Slackware15.1 [Running] - Oracle VM VirtualBox". The window contains the following text:

```
# PCI device 0x8086:0x100e (e1000)
SUBSYSTEM=="net", ACTION=="add", DRIVERS=="?*", ATTR{address}=="50:65:f3:28:a6:16", ATTR{dev_id}=="0x0", ATTR{type}=="1", KERNEL=="eth*", NAME="eth0"

# PCI device 0x8086:0x100e (e1000)
SUBSYSTEM=="net", ACTION=="add", DRIVERS=="?*", ATTR{address}=="50:65:f3:28:a6:16", ATTR{dev_id}=="0x0", ATTR{type}=="1", KERNEL=="eth*", NAME="eth1"
```

23/08/2022

1. Se descubre que no es necesario realizar la configuración del archivo rc.inet1.conf. Al entrar a modificar la IP con el comando NETCONFIG se puede especificar cual es la NETMASK usando /16 (255.255.0.0) o /24 (255.255.255.0). Se crea una maquina virtual nueva con las mismas características, para evitar una posible interferencia con el proceso previamente realizado.

Tener en cuenta a la hora de instalar:

- De la serie A, seleccionar todos los paquetes con la etiqueta REQUIRED y los mencionados en la parte superior.

```
aaa_terminfo    kbd
acpid          kernel-huge
bzip2           lilo
dialog          sysklogd
file            syslinux
findutils
gawk
```

2. Antes de pasar a configurar la red, se instalan los siguientes paquetes:

- Iputils
- Net-tools
- Network-scripts
- Iproute2
- Libmnl
- Libunistring
- Libsodium

- Vim
- Net-*

3. Ejecutamos el comando netconfig.

ENTER HOSTNAME

First, we'll need the name you'd like to give your host.
Only the base hostname is needed right now – not the domain.
For example: darkstar

Enter hostname:

< OK > < Exit >

ENTER DOMAINNAME FOR 'aonate'

Now, we need the domain name for this machine, such as:
example.org
Do not supply a leading '.'.

Enter domain name for aonate:

< OK > < Exit >

CONNECT VIA VLAN

Some advanced networking set ups require a VLAN ID in order to connect to the network. Do you wish to configure a VLAN ID now?

Unless you are sure you require a VLAN ID, select 'No'.

< Yes > < No >

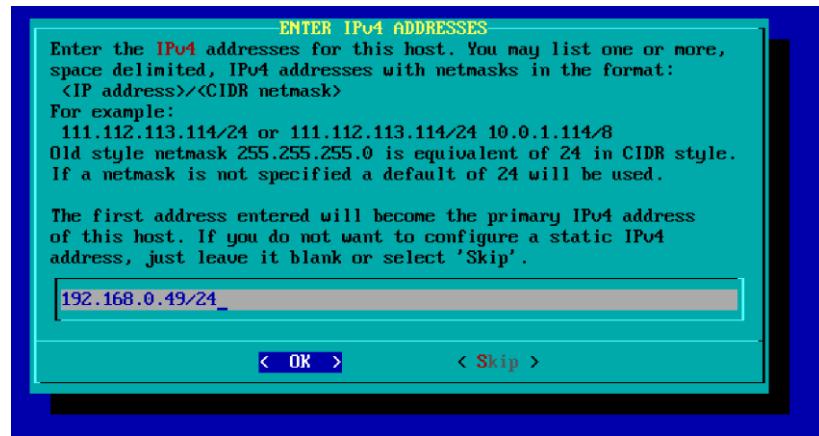
CONFIGURATION TYPE FOR 'aonate.is.escuelaing.edu.co'

Now we need to know how your machine connects to the network.
If you have an internal network card and an assigned IP address, gateway, and DNS, use the 'static IP' choice to enter these values. If your IP address is assigned by a DHCP server (commonly used by cable modem and DSL services), select 'DHCP'. Select 'NetworkManager' if you would like to have the NetworkManager daemon automatically handle your wired and wireless network interfaces (this is simple and usually works). IPv6 networks may also use SLAAC (Stateless Address Autoconfiguration) to assign an address based on Router Advertisements. If you do not have a network card, select the 'loopback' choice.
Which type of network setup would you like?

static IP	Use a static IPv4 or IPv6 address to configure ethernet
DHCP	Use a DHCP (IPv4 or IPv6) server to configure ethernet
NetworkManager	Autoconfigure network using NetworkManager
SLAAC	Use SLAAC to configure ethernet (IPv6 only)
loopback	Set up a loopback connection (modem or no net)

< OK > < Exit >

IP



GATEWAY

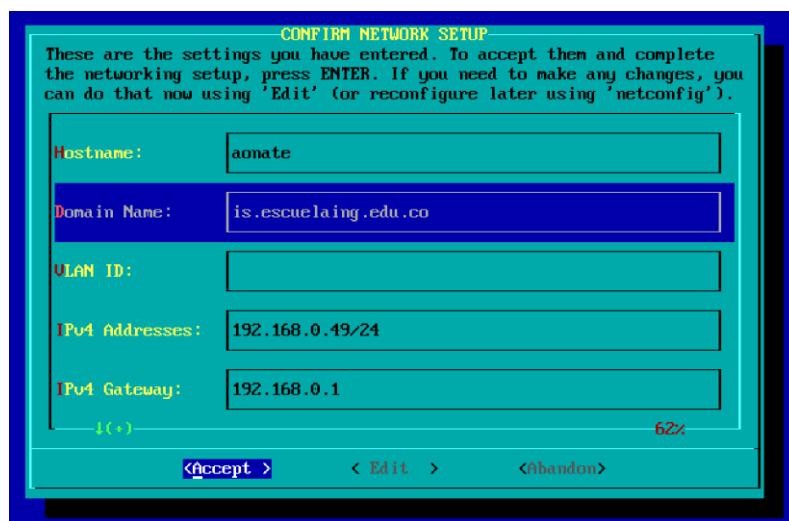


DNS





Aceptamos la configuración (No se trabaja en el laboratorio, los datos pueden variar. Revisar: cmd ipconfig /all):



Con el comando ifconfig verificamos el estado de las interfaces de red:

```
root@darkstar:~# ifconfig
root@darkstar:~# ifconfig -a
eth1: flags=4098<Broadcast,Multicast> mtu 1500
    ether 08:00:27:d2:b5:55 txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=8<Loopback> mtu 65536
    loop txqueuelen 1000 (Local Loopback)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@darkstar:~#
```

4. Se suben las interfaces en ifconfig up

```

root@darkstar:~# ifconfig eth1 up
root@darkstar:~# ifconfig lo up
root@darkstar:~# ifconfig
eth1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet6 fe80::a00:27ff:fed2:b555 prefixlen 64 scopeid 0x20<link>
          ether 08:00:27:d2:b5:55 txqueuelen 1000 (Ethernet)
            RX packets 298 bytes 29228 (28.5 KiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 7 bytes 586 (586.0 B)
            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 0 bytes 0 (0.0 B)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 0 bytes 0 (0.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@darkstar:~# _

```

5. Editamos rc.inet1.conf

```

# IPv4 config options for eth0:
IPADDRS[0] = "192.168.0.49/24"
NETMASK[0] = "255.255.255.0"
USE_DHCP[0] = "no"
# IPv6 config options for eth0:
IP6ADDRS[0] = ""
USE_SLAAC[0] = ""
USE_DHCP6[0] = ""
# Generic options for eth0:
DHCP_HOSTNAME[0] = ""

# IPv4 config options for eth1:
IPADDRS[1] = "192.168.0.49/24"
NETMASK[1] = "255.255.255.0"
USE_DHCP[1] = "no"
# IPv6 config options for eth1:
IP6ADDRS[1] = ""
USE_SLAAC[1] = ""
USE_DHCP6[1] = ""
# Generic options for eth1:
DHCP_HOSTNAME[1] = ""

```

```

# Example of how to configure a bridge:
# Note the added "BRNICS" variable which contains a space-separated list
# of the physical or virtual network interfaces you want to add to the bridge.
# IFOPTS is a pipe (|) delimited list of bridge module specific settings to be
# applied to the interface. See the ip-link(8) man page (search for "BRIDGE
# Type Support") for details of the options available. This option is not
# required for a standard bridge to be configured.
IFNAME[0] = "eth0"
BRNICS[0] = "eth1"
IFOPTS[0] = ""
IPADDRS[0] = "192.168.0.49/24"
USE_DHCP[0] = ""
DHCP_HOSTNAME[0] = ""

```

6. Guardamos y reiniciamos, ejecutamos ifconfig. Podemos ver que esta vez los datos se registran en una línea inet. En esta versión del proceso no se modificó la dirección MAC de la maquina virtual.

```
aonate login: root
Last login: Tue Aug 23 18:05:05 on ttym1
Linux 5.15.19.
root@aonate:~# ifconfig
eth1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet 192.168.9.49 netmask 255.255.255.0 broadcast 192.168.9.255
          ether 08:00:27:d2:b5:55 txqueuelen 1000 (Ethernet)
            RX packets 19 bytes 1352 (1.3 KiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 3 bytes 270 (270.0 B)
            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 0 bytes 0 (0.0 B)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 0 bytes 0 (0.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@aonate:~#
```

7. Realizamos pruebas.

```
root@aonate:~# ping www.google.com
PING www.google.com (142.250.78.68) 56(84) bytes of data.
64 bytes from bog02s16-in-f4.1e100.net (142.250.78.68): icmp_seq=1 ttl=118 time=11.4 ms
64 bytes from bog02s16-in-f4.1e100.net (142.250.78.68): icmp_seq=2 ttl=118 time=82.8 ms
64 bytes from bog02s16-in-f4.1e100.net (142.250.78.68): icmp_seq=3 ttl=118 time=17.4 ms
64 bytes from bog02s16-in-f4.1e100.net (142.250.78.68): icmp_seq=4 ttl=118 time=13.4 ms
64 bytes from bog02s16-in-f4.1e100.net (142.250.78.68): icmp_seq=5 ttl=118 time=22.2 ms
64 bytes from bog02s16-in-f4.1e100.net (142.250.78.68): icmp_seq=6 ttl=118 time=74.8 ms
^C
--- www.google.com ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5007ms
rtt min/avg/max/mdev = 11.394/36.997/82.805/29.831 ms
root@aonate:~#
```

```
root@aonate:~# ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=118 time=68.2 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=118 time=16.7 ms
^C
--- 8.8.8.8 ping statistics ---
7 packets transmitted, 2 received, 71.4286% packet loss, time 6082ms
rtt min/avg/max/mdev = 16.705/42.474/68.244/25.769 ms
root@aonate:~#
```

Conclusiones: Con respecto a la configuración de la red, esta última explicación registrada el día 23/08/2022 en la bitácora, es mucho más sencilla que la mostrada anteriormente, que requería modificar múltiples archivos y que por lo visto no era necesario.

Pruebas realizadas en el laboratorio de Plataformas:

```
root@aonate:~# ping 10.2.65.1
PING 10.2.65.1 (10.2.65.1) 56(84) bytes of data.
64 bytes from 10.2.65.1: icmp_seq=1 ttl=64 time=0.577 ms
64 bytes from 10.2.65.1: icmp_seq=2 ttl=64 time=0.655 ms
64 bytes from 10.2.65.1: icmp_seq=3 ttl=64 time=0.693 ms
64 bytes from 10.2.65.1: icmp_seq=4 ttl=64 time=0.680 ms
64 bytes from 10.2.65.1: icmp_seq=5 ttl=64 time=0.675 ms
64 bytes from 10.2.65.1: icmp_seq=6 ttl=64 time=0.476 ms
64 bytes from 10.2.65.1: icmp_seq=7 ttl=64 time=0.675 ms
64 bytes from 10.2.65.1: icmp_seq=8 ttl=64 time=0.673 ms
64 bytes from 10.2.65.1: icmp_seq=9 ttl=64 time=0.661 ms
64 bytes from 10.2.65.1: icmp_seq=10 ttl=64 time=0.456 ms
^C
--- 10.2.65.1 ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9011ms
rtt min/avg/max/mdev = 0.456/0.622/0.693/0.083 ms
root@aonate:~#
```

```
root@aonate:~# ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=111 time=43.7 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=111 time=42.4 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=111 time=43.2 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=111 time=43.1 ms
64 bytes from 8.8.8.8: icmp_seq=5 ttl=111 time=43.3 ms
64 bytes from 8.8.8.8: icmp_seq=6 ttl=111 time=43.2 ms
64 bytes from 8.8.8.8: icmp_seq=7 ttl=111 time=42.8 ms
64 bytes from 8.8.8.8: icmp_seq=8 ttl=111 time=43.2 ms
^C
--- 8.8.8.8 ping statistics ---
8 packets transmitted, 8 received, 0% packet loss, time 7009ms
rtt min/avg/max/mdev = 42.427/43.101/43.705/0.340 ms
root@aonate:~#
```

```
root@aonate:/etc# ping www.google.com
PING www.google.com (142.250.189.132) 56(84) bytes of data.
64 bytes from mia09s26-in-f4.1e100.net (142.250.189.132): icmp_seq=1 ttl=112 time=44.2 ms
64 bytes from mia09s26-in-f4.1e100.net (142.250.189.132): icmp_seq=2 ttl=112 time=43.8 ms
64 bytes from mia09s26-in-f4.1e100.net (142.250.189.132): icmp_seq=3 ttl=112 time=44.2 ms
64 bytes from mia09s26-in-f4.1e100.net (142.250.189.132): icmp_seq=4 ttl=112 time=44.1 ms
^C
--- www.google.com ping statistics ---
5 packets transmitted, 4 received, 20% packet loss, time 4003ms
rtt min/avg/max/mdev = 43.845/44.108/44.242/0.161 ms
root@aonate:/etc#
```