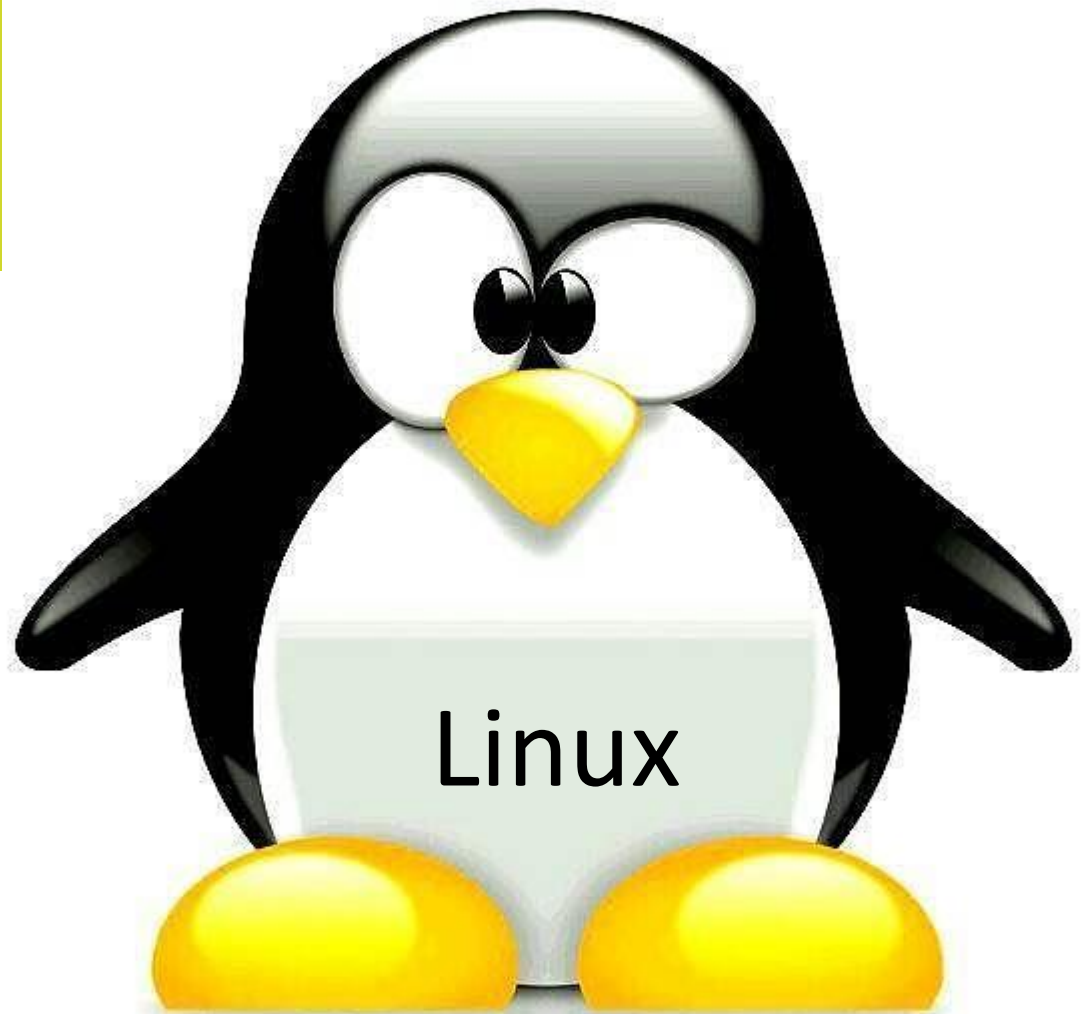


VirtualBox Guest Additions



Instalação

Este processo não é um requisito funcional, é mais do que tudo uma forma simples de permitir copiar entre o sistema da máquina virtual e o host, nossa máquina.

Visto ser um módulo feito pela Oracle (fabricante da VirtualBox) para uma grande quantidade de distribuições Linux, optaram por apresentar o package por compilar, podendo desta forma o utilizador compilar no sistema / distribuição / versão que desejar.





Sistema update

Devemos iniciar o nosso trabalho com um sistema actualizado:

```
[amatias@localhost ~]$ su -  
Password:  
Last login: Fri Aug 14 19:06:54 WEST 2020 on pts/1  
[root@localhost ~]# yum update  
Loaded plugins: fastestmirror, langpacks  
Loading mirror speeds from cached hostfile  
* base: ftp.dei.uc.pt  
* extras: ftp.dei.uc.pt  
* updates: ftp.dei.uc.pt  
No packages marked for update  
[root@localhost ~]#
```

É importante começar actualizado porque irão ser instalados packages de software e isso poderá criar incompatibilidades de versões.

Instalar o package epel-release

Indicando y para
aceitar a
instalação do
módulo!

```
[root@localhost ~]# yum install epel-release
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: ftp.dei.uc.pt
 * extras: ftp.dei.uc.pt
 * updates: ftp.dei.uc.pt
Resolving Dependencies
--> Running transaction check
---> Package epel-release.noarch 0:7-11 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                        Arch      Version      Repository    Size
=====
Installing:
epel-release                   noarch    7-11         extras        15 k
=====

Transaction Summary
=====
Install 1 Package

Total download size: 15 k
Installed size: 24 k
Is this ok [y/d/N]:
```

Instalar o package dkms

Também aqui
vamos
indicando y para
aceitar a
instalação do
módulo!

```
[root@localhost ~]# yum install dkms
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
epel/x86_64/metalink | 32 kB 00:00:00
* base: ftp.dei.uc.pt
* epel: mirrors.ptisp.pt
* extras: ftp.dei.uc.pt
* updates: ftp.dei.uc.pt
epel | 4.7 kB 00:00:00
(1/3): epel/x86_64/group_gz | 95 kB 00:00:00
(2/3): epel/x86_64/updateinfo | 1.0 MB 00:00:00
(3/3): epel/x86_64/primary_db | 6.9 MB 00:00:00
Resolving Dependencies
--> Running transaction check
--> Package dkms.noarch 0:2.8.3-2.el7 will be installed
--> Processing Dependency: elfutils-libelf-devel for package: dkms-2.8.3-2.el7.noarch
--> Processing Dependency: gcc for package: dkms-2.8.3-2.el7.noarch
--> Processing Dependency: kernel-devel-uname-r for package: dkms-2.8.3-2.el7.noarch
--> Running transaction check
--> Package elfutils-libelf-devel.x86_64 0:0.176-4.el7 will be installed
--> Processing Dependency: pkgconfig(zlib) for package: elfutils-libelf-devel-0.176-4.e
l7.x86_64
--> Package gcc.x86_64 0:4.8.5-39.el7 will be installed
--> Processing Dependency: cpp = 4.8.5-39.el7 for package: gcc-4.8.5-39.el7.x86_64
--> Processing Dependency: glibc-devel >= 2.2.90-12 for package: gcc-4.8.5-39.el7.x86_6
```

Instalar o grupo de packages

Também aqui vamos indicando y para aceitar a instalação dos módulos que pertencem a um grupo de packages de desenvolvimento.

```
[root@localhost ~]# yum groupinstall "Development Tools"
Loaded plugins: fastestmirror, langpacks
There is no installed groups file.
Maybe run: yum groups mark convert (see man yum)
Loading mirror speeds from cached hostfile
 * base: ftp.dei.uc.pt
 * epel: mirrors.ptisp.pt
 * extras: ftp.dei.uc.pt
 * updates: ftp.dei.uc.pt
Resolving Dependencies
--> Running transaction check
---> Package autoconf.noarch 0:2.69-11.el7 will be installed
--> Processing Dependency: m4 >= 1.4.14 for package: autoconf-2.69-11.el7.noarch
--> Processing Dependency: perl(Data::Dumper) for package: autoconf-2.69-11.el7.noarch
---> Package automake.noarch 0:1.13.4-3.el7 will be installed
--> Processing Dependency: perl(Thread::Queue) for package: automake-1.13.4-3.el7.noarch
h
--> Processing Dependency: perl(TAP::Parser) for package: automake-1.13.4-3.el7.noarch
---> Package bison.x86_64 0:3.0.4-2.el7 will be installed
---> Package byacc.x86_64 0:1.9.20130304-3.el7 will be installed
---> Package cscope.x86_64 0:15.8-10.el7 will be installed
---> Package ctags.x86_64 0:5.8-13.el7 will be installed
---> Package diffstat.x86_64 0:1.57-4.el7 will be installed
---> Package doxygen.x86_64 1:1.8.5-4.el7 will be installed
---> Package flex.x86_64 0:2.5.37-6.el7 will be installed
---> Package gcc-c++.x86_64 0:4.8.5-39.el7 will be installed
```

Finalizar com kernel-devel

Por fim instalamos as fontes do kernel que irão ser compiladas com os software da Oracle VirtualBox Guest Additions.

```
[root@localhost ~]# yum install kernel-devel
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: ftp.dei.uc.pt
 * epel: mirrors.pt
 * extras: ftp.dei.uc.pt
 * updates: ftp.dei.uc.pt
Resolving Dependencies
--> Running transaction check
--> Package kernel-devel.x86_64 0:3.10.0-1127.18.2.el7 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

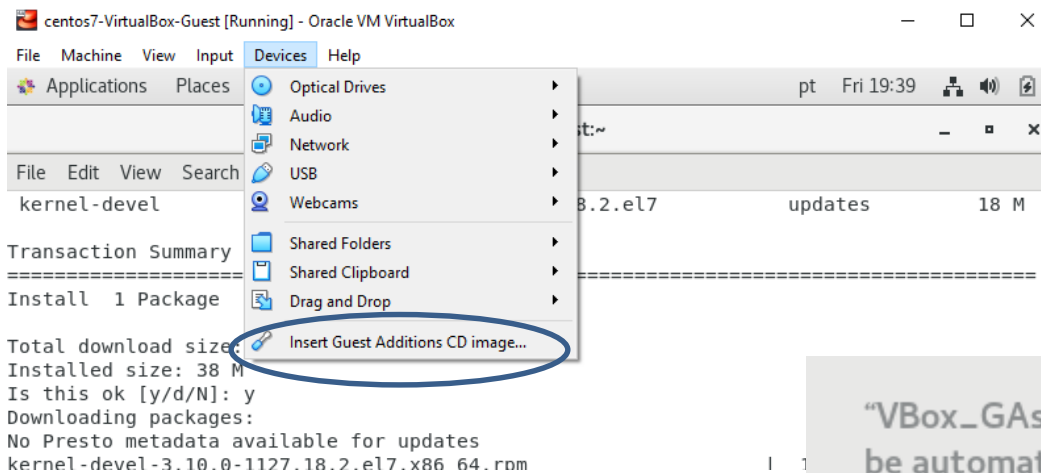
=====
Package                Arch          Version                               Repository    Size
=====
Installing:
kernel-devel            x86_64        3.10.0-1127.18.2.el7                 updates      18 M
=====

Transaction Summary
=====
Install 1 Package

Total download size: 18 M
Installed size: 38 M
```

Inserimos a imagem do SW

Na própria VirtualBox da máquina virtual, em Devices e
“Insert Guest Additions CD image”



Aparecendo a indicação de que
“introduzimos” um CD com
software e que podemos correr

“VBox_GAs_6.1.12” contains software intended to
be automatically started. Would you like to run it?

If you don't trust this location or aren't sure, press Cancel.

Cancel

Run

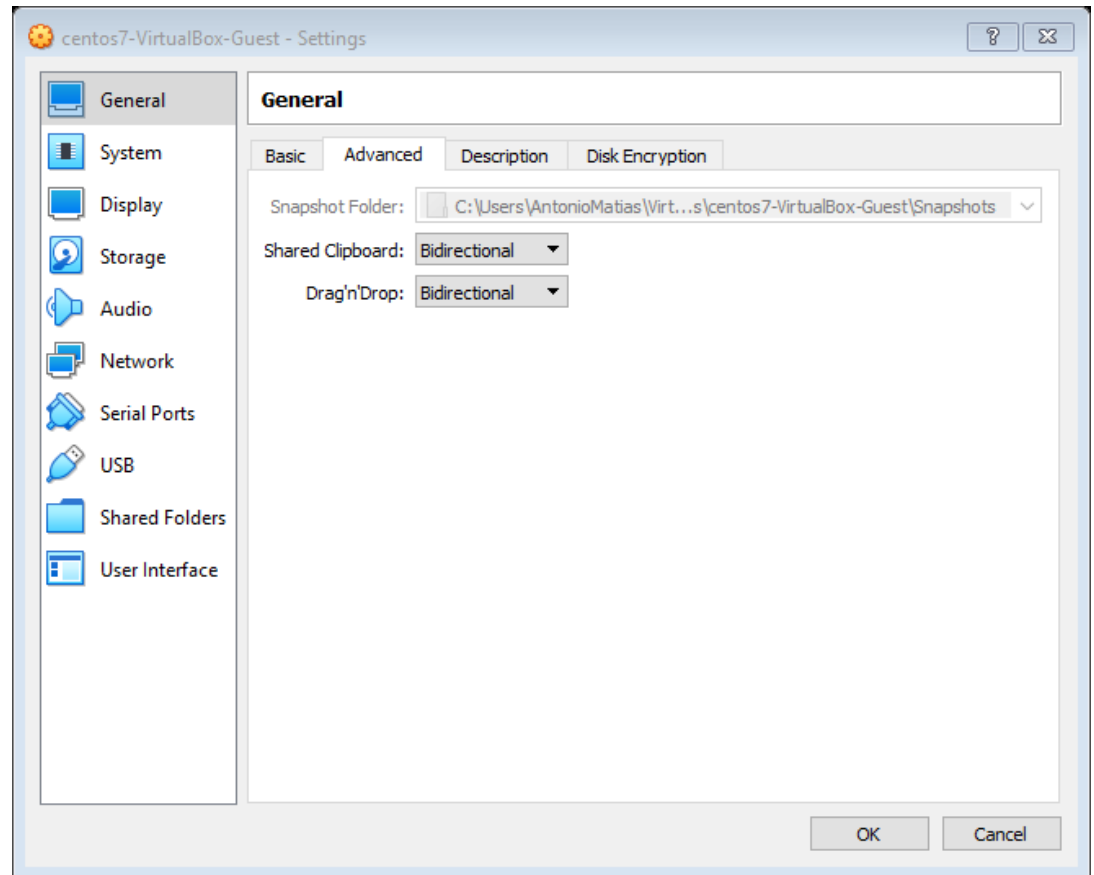
Executamos o SW

Este processo demora um pouco visto que mais do que instalar, o package de software vai ser compilado com o kernel do sistema que estamos a usar.

```
Verifying archive integrity... All good.  
Uncompressing VirtualBox 6.1.12 Guest Additions for Linux.....  
VirtualBox Guest Additions installer  
Copying additional installer modules ...  
Installing additional modules ...  
VirtualBox Guest Additions: Starting.  
VirtualBox Guest Additions: Building the VirtualBox Guest Additions kernel  
modules. This may take a while.  
VirtualBox Guest Additions: To build modules for other installed kernels, run  
VirtualBox Guest Additions: /sbin/rcvboxadd quicksetup <version>  
VirtualBox Guest Additions: or  
VirtualBox Guest Additions: /sbin/rcvboxadd quicksetup all  
VirtualBox Guest Additions: Building the modules for kernel  
3.10.0-1127.18.2.el7.x86_64.  
Press Return to close this window...
```

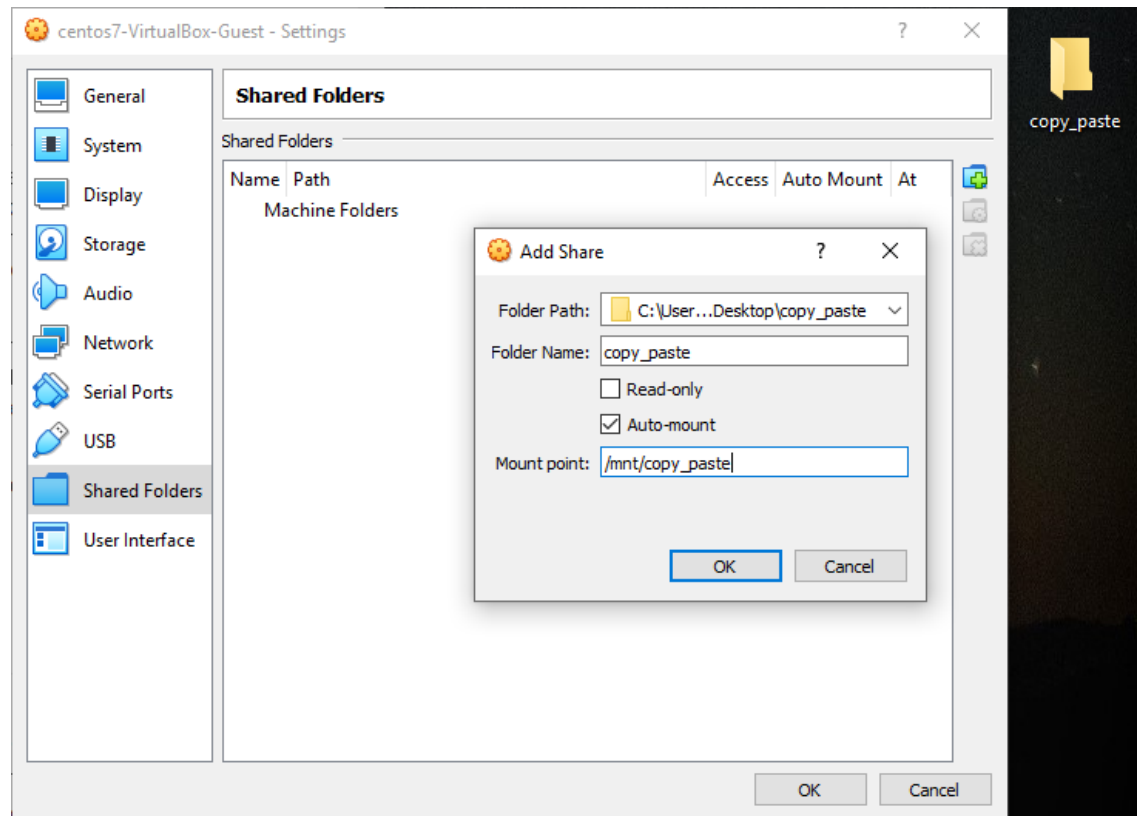
Configuração na VirtualBox

Na própria VirtualBox da máquina virtual, em General -> Advanced iremos indicar que vamos partilhar o clipboard e dessa forma permitir drag&drop



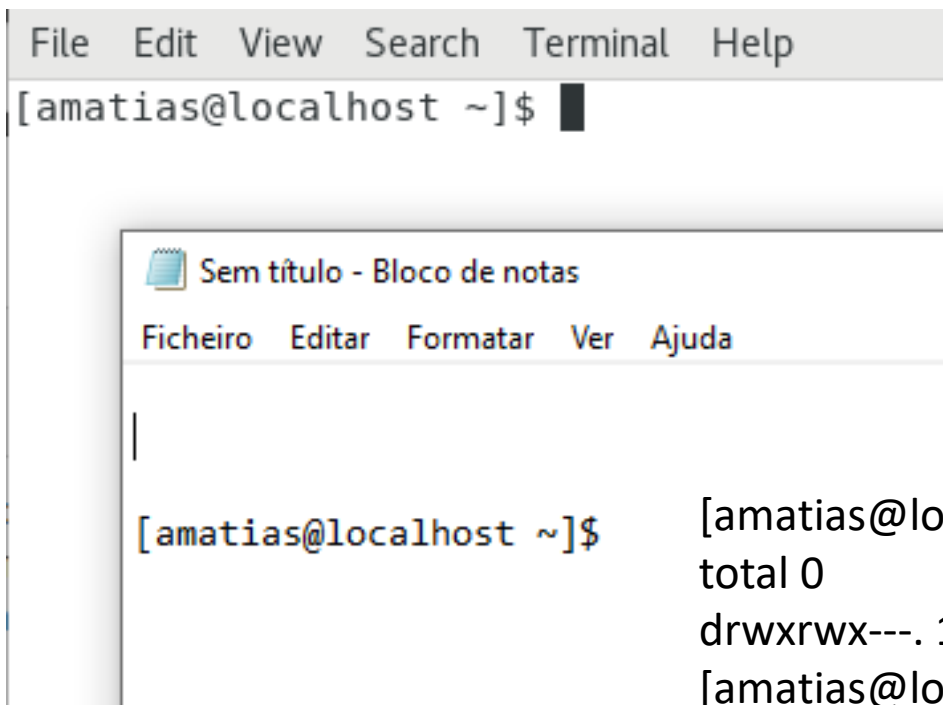
Partilhar directoria com o host

Podemos também partilhar uma directoria que criamos no nosso sistema host (neste caso chamada copy_paste no desktop) e montar na máquina virtual em /mnt/copy_paste



e ... fica ...

Com a possibilidade de partilhar ficheiros e fazer copy & paste entre o host e a máquina virtual.



The image shows a terminal window and a text editor window. The terminal window has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The command prompt is '[amatias@localhost ~]\$'. The text editor window has a title bar 'Sem título - Bloco de notas' and a menu bar with 'Ficheiro', 'Editar', 'Formatar', 'Ver', and 'Ajuda'. The text editor is empty. Below the text editor, the terminal shows the command '[amatias@localhost ~]\$ ls -l /mnt' and its output: 'total 0', 'drwxrwx---. 1 root vboxsf 0 Aug 14 19:59 copy_paste', and '[amatias@localhost ~]\$'.

```
[amatias@localhost ~]$
```

```
Sem título - Bloco de notas
```

```
Ficheiro  Editar  Formatar  Ver  Ajuda
```

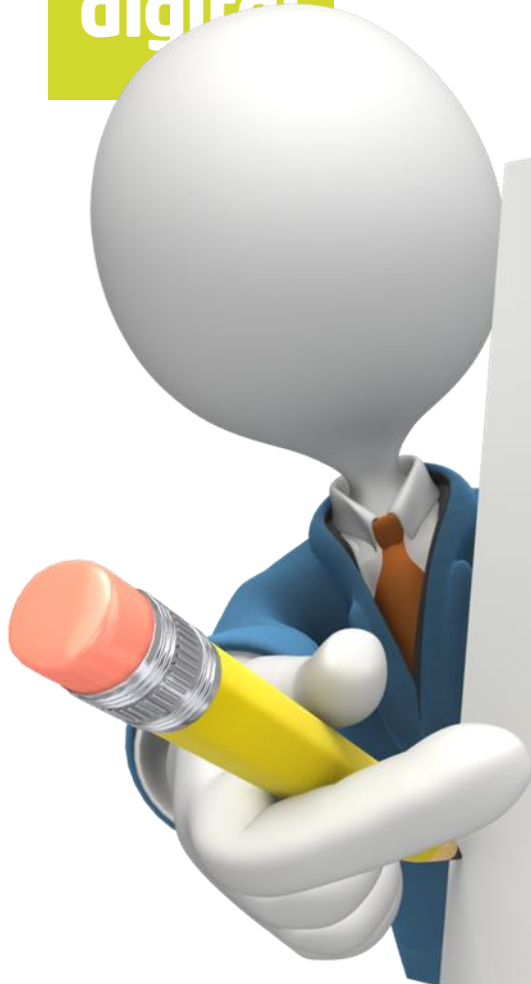
```
[amatias@localhost ~]$
```

```
[amatias@localhost ~]$ ls -l /mnt
```

```
total 0
```

```
drwxrwx---. 1 root vboxsf 0 Aug 14 19:59 copy_paste
```

```
[amatias@localhost ~]$
```



Perguntas

1. Qual a necessidade de instalar os packages iniciais de desenvolvimento?
2. Além dos packages, por exemplo compilador, é adicionado um outro módulo. Qual a sua função?
3. A instalação requer que duas componentes / fases. Indica-as e explica o que faz cada uma.
4. Quais as duas funções que ficam disponíveis?