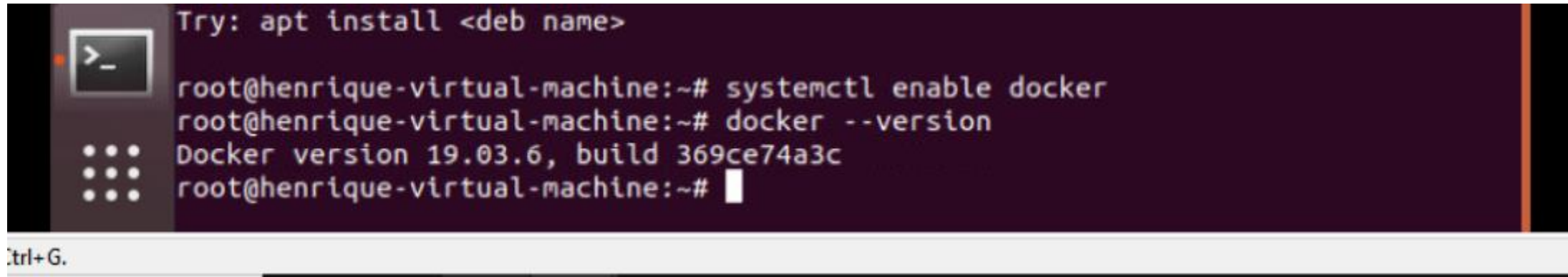


# Sistemas operacionais

## Atividade avaliativa: Containers na prática

Obs: Exercício executado na VM do Henrique Carlos

## Docker --version



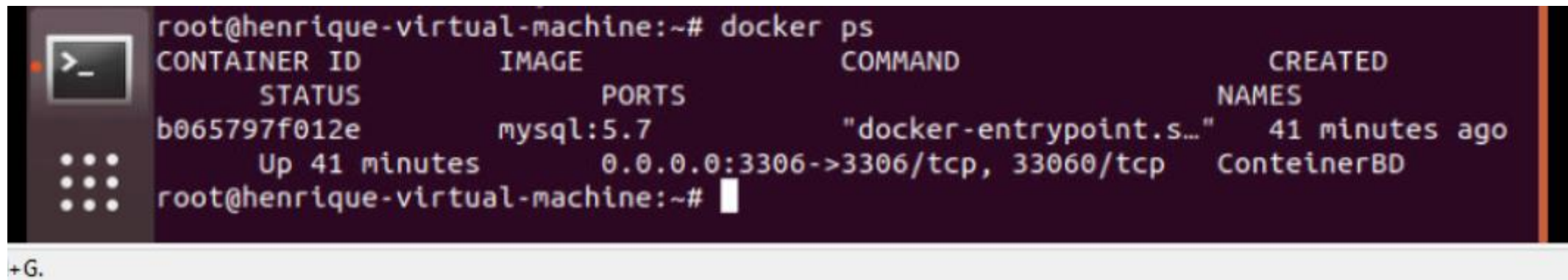
A terminal window with a dark purple background. On the left, there is a sidebar with a terminal icon (a square with a cursor) and a grid of dots. The main area shows the following text:

```
Try: apt install <deb name>

root@henrique-virtual-machine:~# systemctl enable docker
root@henrique-virtual-machine:~# docker --version
Docker version 19.03.6, build 369ce74a3c
root@henrique-virtual-machine:~#
```

At the bottom left of the terminal window, the text "Ctrl+G." is visible.

## Docker ps

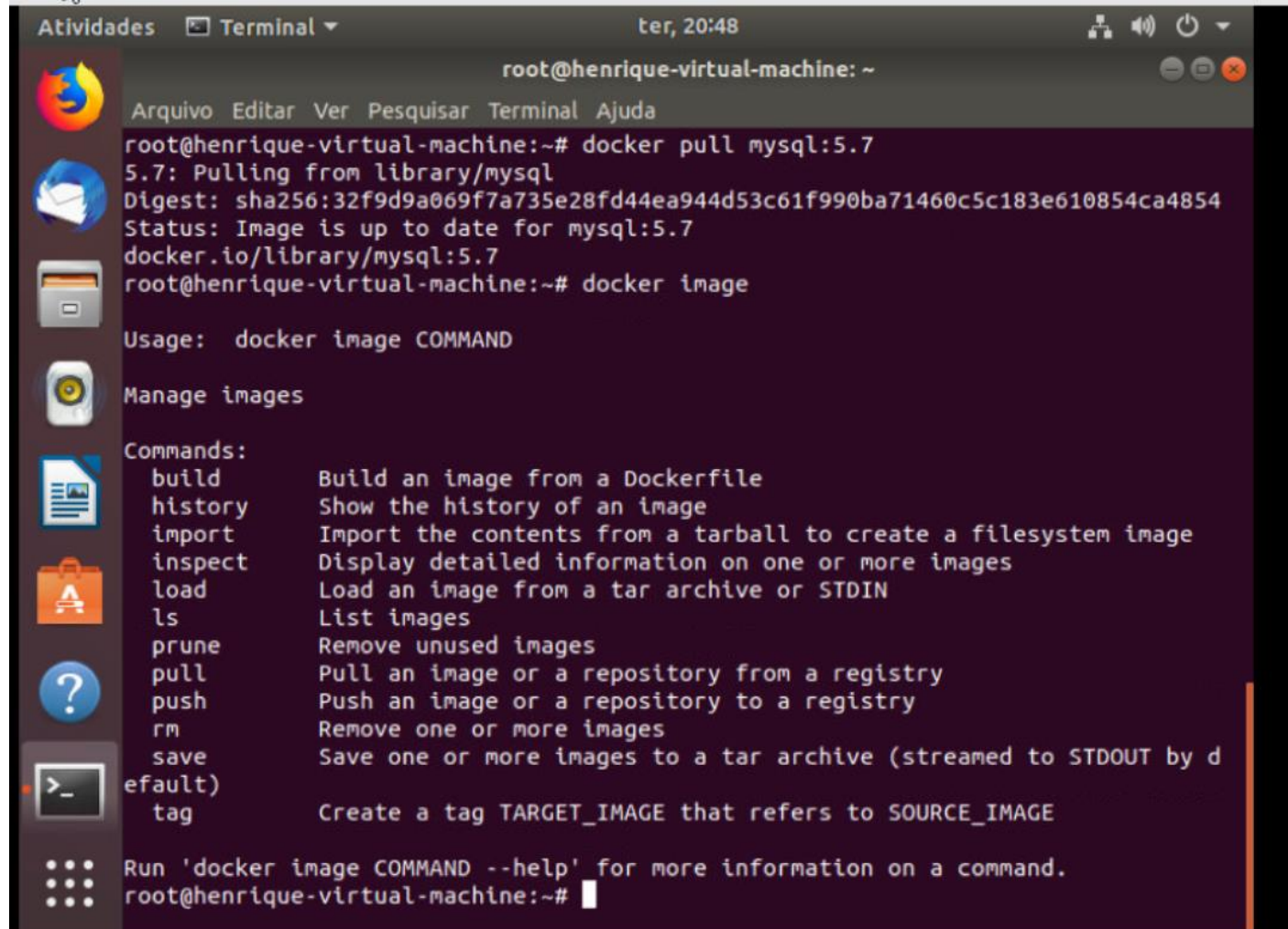


A terminal window with a dark purple background. On the left, there is a sidebar with a terminal icon (a square with a cursor) and a grid of dots. The main area shows the following text:

```
root@henrique-virtual-machine:~# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED
STATUS             PORTS              NAMES
b065797f012e       mysql:5.7          "docker-entrypoint.s..." 41 minutes ago
Up 41 minutes      0.0.0.0:3306->3306/tcp, 33060/tcp  ContainerBD
root@henrique-virtual-machine:~#
```

At the bottom left of the terminal window, the text "+G." is visible.

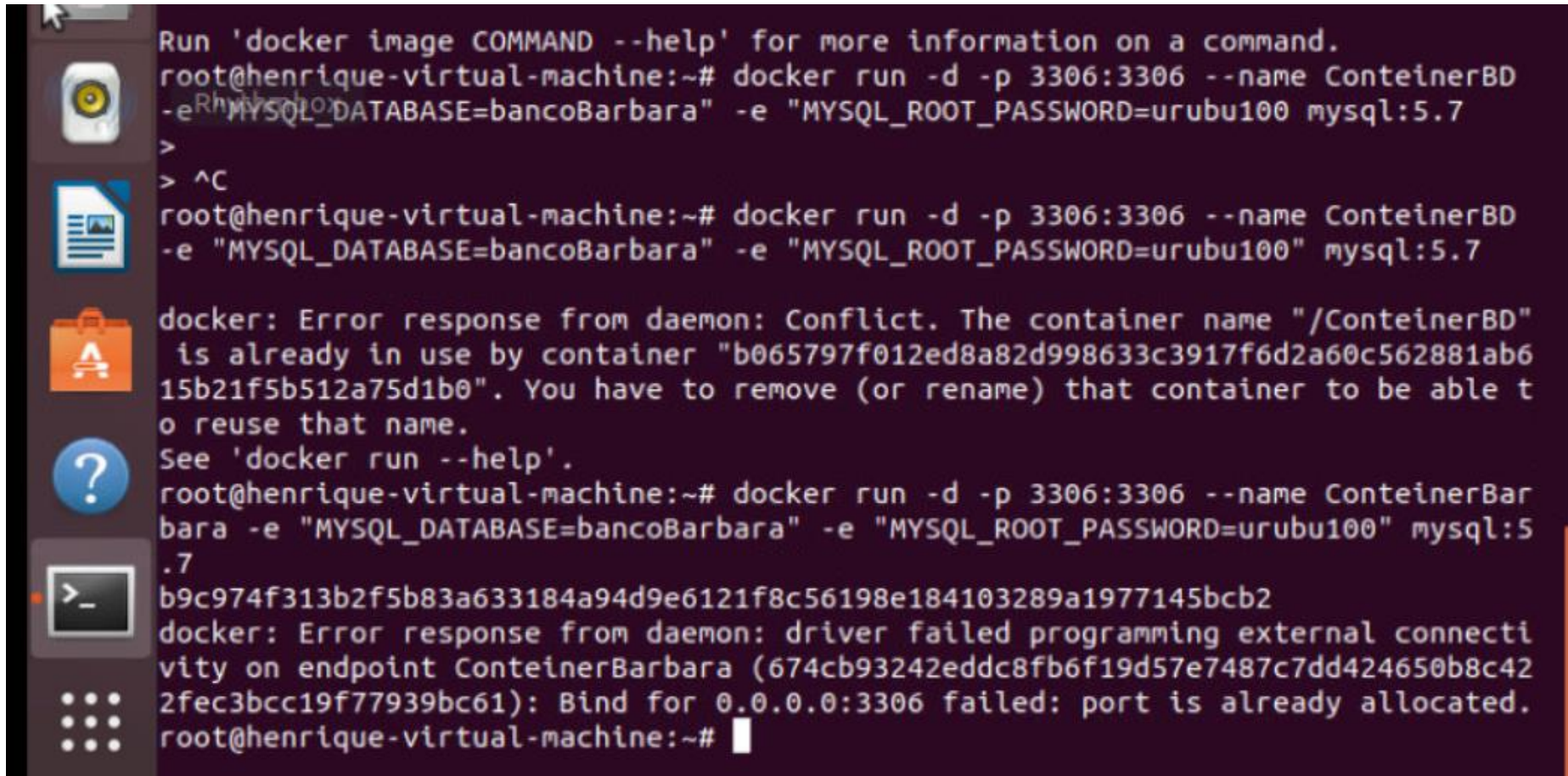
# Docker pull



A terminal window titled "Atividades Terminal" with a subtitle "ter, 20:48". The window shows the command `docker pull mysql:5.7` being executed. The output indicates the image is up to date. Below this, the `docker image` command is entered, which displays a list of Docker image management commands and their descriptions. The terminal window has a sidebar with various application icons and a top bar with system status icons.

```
root@henrique-virtual-machine: ~  
Arquivo Editar Ver Pesquisar Terminal Ajuda  
root@henrique-virtual-machine:~# docker pull mysql:5.7  
5.7: Pulling from library/mysql  
Digest: sha256:32f9d9a069f7a735e28fd44ea944d53c61f990ba71460c5c183e610854ca4854  
Status: Image is up to date for mysql:5.7  
docker.io/library/mysql:5.7  
root@henrique-virtual-machine:~# docker image  
Usage:  docker image COMMAND  
  
Manage images  
  
Commands:  
build      Build an image from a Dockerfile  
history    Show the history of an image  
import     Import the contents from a tarball to create a filesystem image  
inspect    Display detailed information on one or more images  
load       Load an image from a tar archive or STDIN  
ls         List images  
prune      Remove unused images  
pull       Pull an image or a repository from a registry  
push       Push an image or a repository to a registry  
rm         Remove one or more images  
save       Save one or more images to a tar archive (streamed to STDOUT by default)  
tag        Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE  
  
Run 'docker image COMMAND --help' for more information on a command.  
root@henrique-virtual-machine:~#
```

# Docker run -d -p



A terminal window with a dark background and light-colored text. On the left side, there is a vertical sidebar with several icons: a yellow circle with a black dot, a blue document icon, an orange shopping bag icon, a blue circle with a white question mark, a black terminal icon, and a grid of six dots. The terminal text shows a sequence of commands and error responses. The first command is `docker run -d -p 3306:3306 --name ContainerBD -e "MYSQL_DATABASE=bancoBarbara" -e "MYSQL_ROOT_PASSWORD=urubu100" mysql:5.7`. This is followed by a Ctrl-C interrupt (^C). The second command is identical to the first. The output shows a conflict error because the container name `ContainerBD` is already in use. The user then runs `docker run -d -p 3306:3306 --name ContainerBarbara -e "MYSQL_DATABASE=bancoBarbara" -e "MYSQL_ROOT_PASSWORD=urubu100" mysql:5.7`. The output shows a different error: `driver failed programming external connectivity on endpoint ContainerBarbara (674cb93242eddc8fb6f19d57e7487c7dd424650b8c422fec3bcc19f77939bc61): Bind for 0.0.0.0:3306 failed: port is already allocated.`

```
Run 'docker image COMMAND --help' for more information on a command.
root@henrique-virtual-machine:~# docker run -d -p 3306:3306 --name ContainerBD
-e "MYSQL_DATABASE=bancoBarbara" -e "MYSQL_ROOT_PASSWORD=urubu100" mysql:5.7
>
> ^C
root@henrique-virtual-machine:~# docker run -d -p 3306:3306 --name ContainerBD
-e "MYSQL_DATABASE=bancoBarbara" -e "MYSQL_ROOT_PASSWORD=urubu100" mysql:5.7

docker: Error response from daemon: Conflict. The container name "/ContainerBD"
is already in use by container "b065797f012ed8a82d998633c3917f6d2a60c562881ab6
15b21f5b512a75d1b0". You have to remove (or rename) that container to be able t
o reuse that name.
See 'docker run --help'.
root@henrique-virtual-machine:~# docker run -d -p 3306:3306 --name ContainerBar
bara -e "MYSQL_DATABASE=bancoBarbara" -e "MYSQL_ROOT_PASSWORD=urubu100" mysql:5
.7
b9c974f313b2f5b83a633184a94d9e6121f8c56198e184103289a1977145bcb2
docker: Error response from daemon: driver failed programming external connecti
vity on endpoint ContainerBarbara (674cb93242eddc8fb6f19d57e7487c7dd424650b8c42
2fec3bcc19f77939bc61): Bind for 0.0.0.0:3306 failed: port is already allocated.
root@henrique-virtual-machine:~#
```



status

?

>\_

⋮

STATUS

PORTS

NAMES

COMMAND

CREATED

root@henrique-virtual-machine:~# docker ps -a

CONTAINER ID

IMAGE

STATUS

PORTS

NAMES

Created

7 minutes ago

59 minutes ago

Exited (0) 4 minutes ago

root@henrique-virtual-machine:~#

CONTAINER ID	IMAGE	STATUS	PORTS	NAMES	CREATED
b9c974f313b2	mysql:5.7	Created		"docker-entrypoint.s..." ContainerBarbara	7 minutes ago
b065797f012e	mysql:5.7	Exited (0) 4 minutes ago		"docker-entrypoint.s..." ContainerBD	59 minutes ago

Atividades Terminal

ter, 21:06

root@henrique-virtual-machine: ~

Arquivo Editar Ver Pesquisar Terminal Ajuda

CONTAINER ID	NAME	CPU %	MEM USAGE / LIMIT
b9c974f313b2	ContainerBarbara	0.00%	0B / 0B

MEM %

NET I/O

BLOCK I/O

PIDS

0.00%

0B / 0B

0B / 0B

0

root@henrique-virtual-machine: ~

Arquivo Editar Ver Pesquisar Terminal Ajuda

CONTAINER ID	NAME	CPU %	MEM USAGE / LIMIT
MEM %	NET I/O	BLOCK I/O	PIDS
304159439e32	Container	0.04%	184.9MiB / 1.857GiB
9.72%	2.98kB / 0B	43.8MB / 254MB	27

^C

root@henrique-virtual-machine:~# docker exec -it 304159439e32 bash

root@304159439e32:/#

```
Atividades Terminal  ter, 21:30
root@henrique-virtual-machine: ~

Arquivo Editar Ver Pesquisar Terminal Ajuda
CONTAINER ID      NAME                CPU %      MEM USAGE / LIMIT
MEM %            NET I/O           BLOCK I/O      PIDS
304159439e32      Container          0.04%      184.9MiB / 1.857GiB
9.72%            2.98kB / 0B       43.8MB / 254MB  27
^C
root@henrique-virtual-machine:~# docker exec -it 304159439e32 bash
root@304159439e32:/# mysql -u
mysql: [ERROR] mysql: option '-u' requires an argument
root@304159439e32:/# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2
Server version: 5.7.30 MySQL Community Server (GPL)

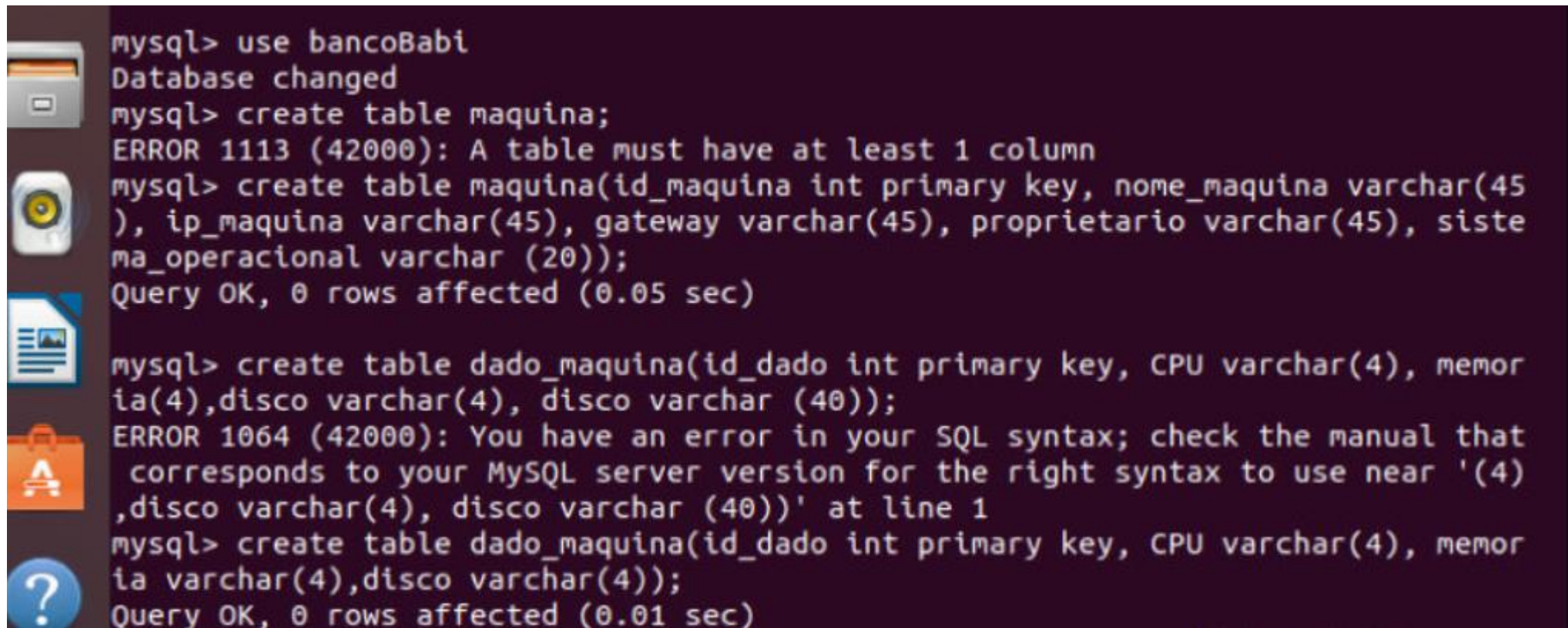
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affiliates. Other names may be trademarks of their respective
owners.

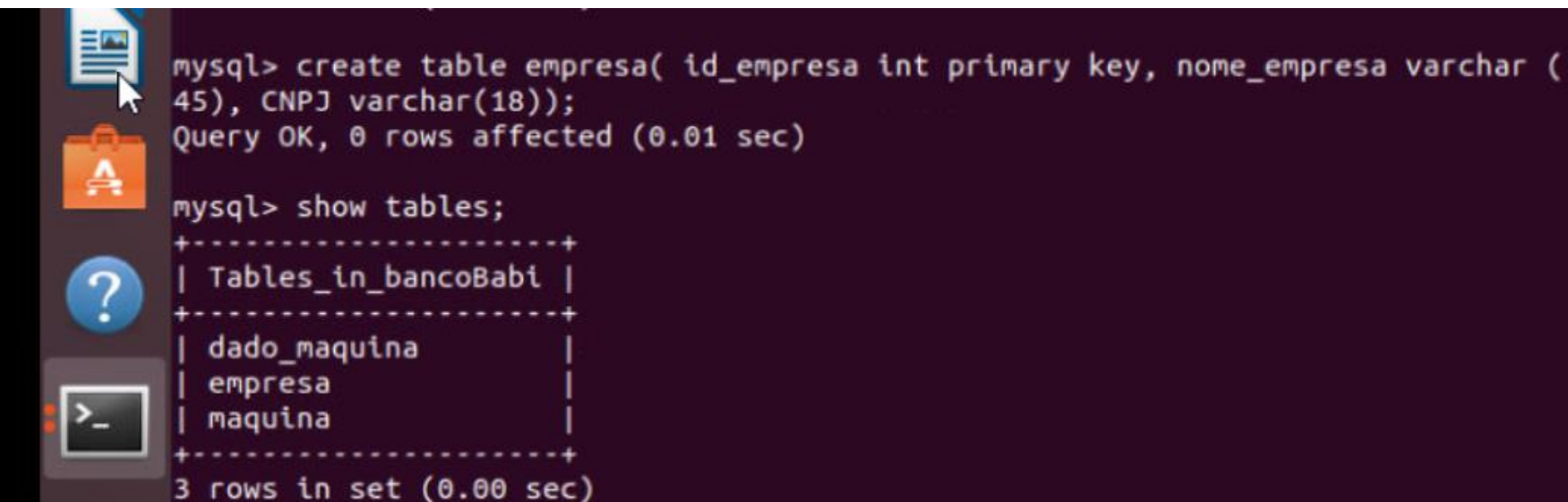
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> |
```





mysql> use bancoBabi  
Database changed  
mysql> create table maquina;  
ERROR 1113 (42000): A table must have at least 1 column  
mysql> create table maquina(id\_maquina int primary key, nome\_maquina varchar(45), ip\_maquina varchar(45), gateway varchar(45), proprietario varchar(45), sistema\_operacional varchar(20));  
Query OK, 0 rows affected (0.05 sec)  
  
mysql> create table dado\_maquina(id\_dado int primary key, CPU varchar(4), memoria(4), disco varchar(4), disco varchar(40));  
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '(4),disco varchar(4), disco varchar(40))' at line 1  
mysql> create table dado\_maquina(id\_dado int primary key, CPU varchar(4), memoria varchar(4), disco varchar(4));  
Query OK, 0 rows affected (0.01 sec)



mysql> create table empresa( id\_empresa int primary key, nome\_empresa varchar(45), CNPJ varchar(18));  
Query OK, 0 rows affected (0.01 sec)  
  
mysql> show tables;  
+-----+  
| Tables\_in\_bancoBabi |  
+-----+  
| dado\_maquina |  
| empresa |  
| maquina |  
+-----+  
3 rows in set (0.00 sec)



3 rows in set (0.00 sec)



myTerminakit

Bye

root@304159439e32:/# exit

exit

root@henrique-virtual-machine:~#