

Instituto Federal de Educação, Ciência e Tecnologia do Ceará

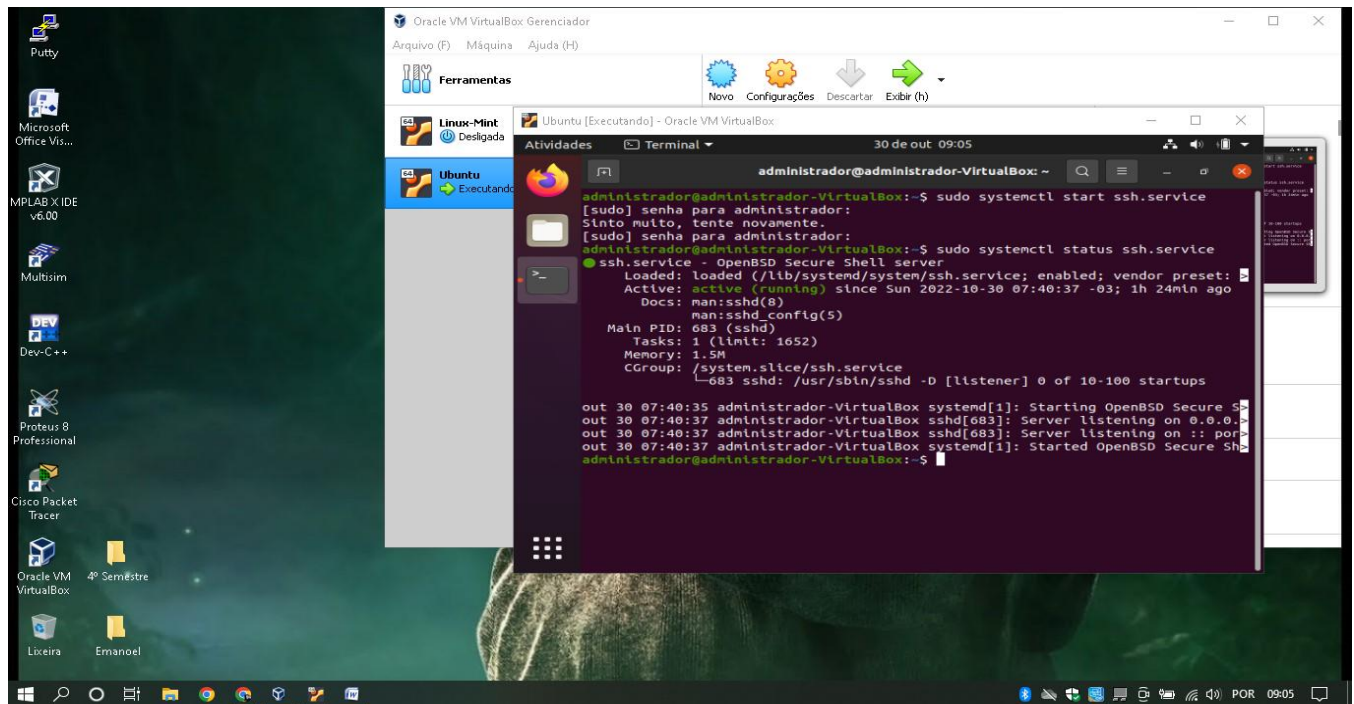
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Disciplina: Sistemas Operacionais de Rede – Telemática S4

Atividade 6 – SSH

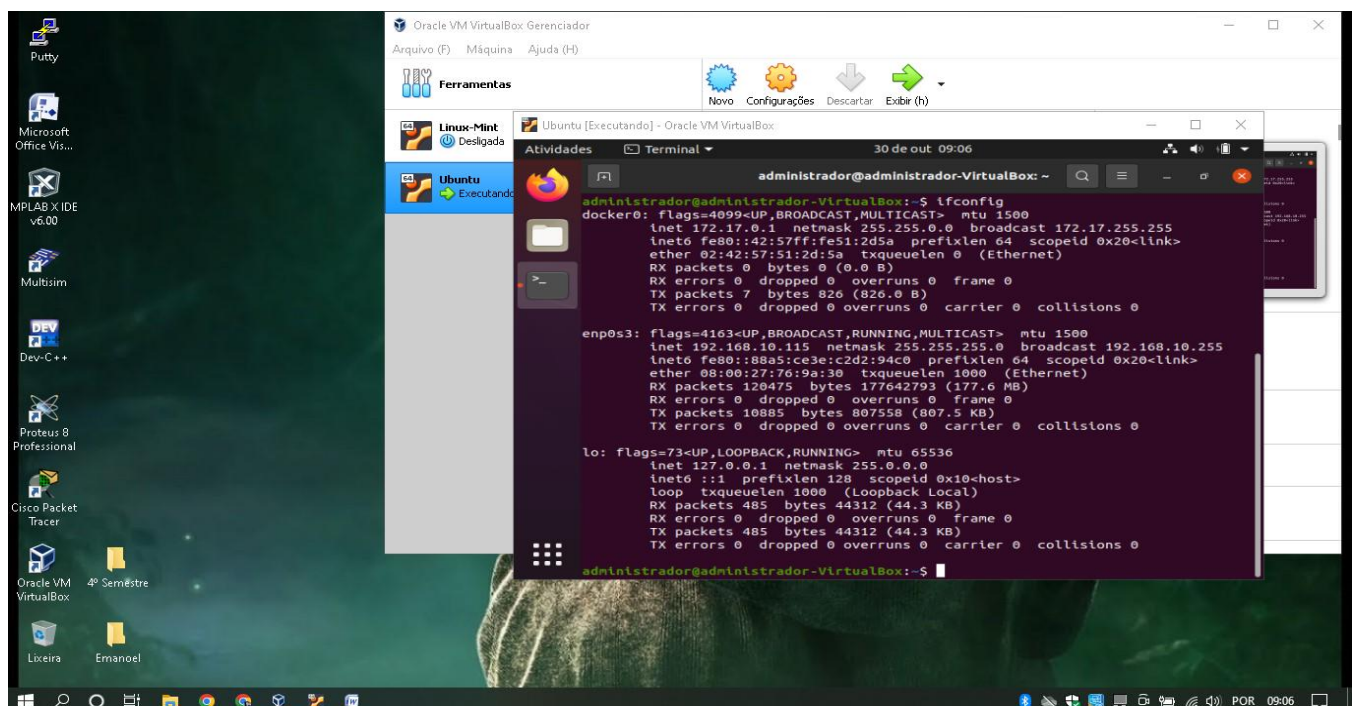
SSH em execução



The screenshot shows a virtual machine window titled "Oracle VM VirtualBox Gerenciador". Inside, there is a terminal window for "Ubuntu [Executando] - Oracle VM VirtualBox". The terminal shows the following commands and output:

```
administrador@administrador-VirtualBox: ~  
[sudo] senha para administrador:  
Sinto muito, tente novamente.  
[sudo] senha para administrador:  
administrador@administrador-VirtualBox:~$ sudo systemctl start ssh.service  
● ssh.service - OpenBSD Secure Shell server  
   Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: enabled)  
   Active: active (running) since Sun 2022-10-30 07:40:37 -03; 1h 24min ago  
     Docs: man:sshd(8)  
           man:sshd_config(5)  
    Main PID: 683 (sshd)  
      Tasks: 1 (limit: 1652)  
     Memory: 1.5M  
    CGroup: /system.slice/ssh.service  
           └─683 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups  
  
out 30 07:40:35 administrador-VirtualBox systemd[1]: Starting OpenBSD Secure Shell server:  
out 30 07:40:37 administrador-VirtualBox sshd[683]: Server listening on 0.0.0.0 port 22.  
out 30 07:40:37 administrador-VirtualBox sshd[683]: Server listening on :: port 22.  
out 30 07:40:37 administrador-VirtualBox systemd[1]: Started OpenBSD Secure Shell server:  
administrador@administrador-VirtualBox:~$
```

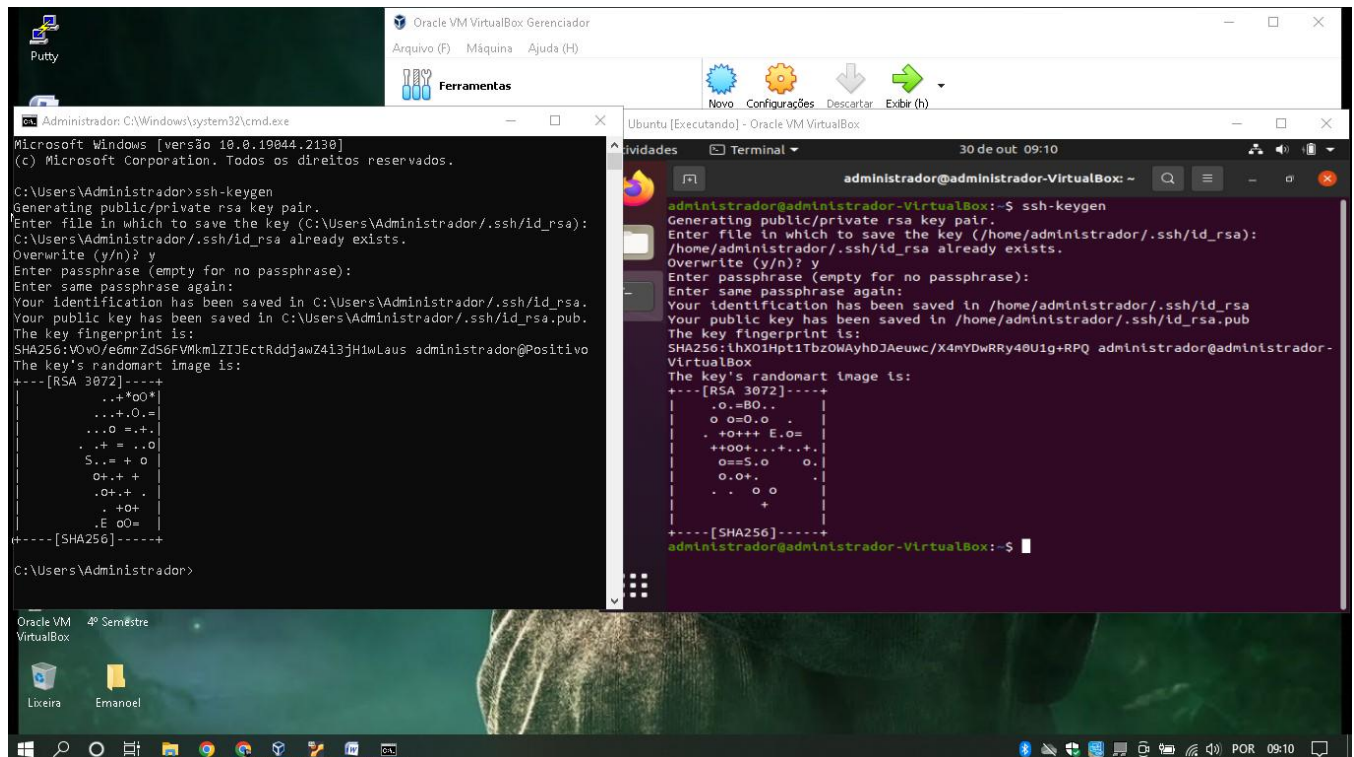
IP do SSH Server



The screenshot shows the same virtual machine window. The terminal window now displays the output of the command `ifconfig`:

```
administrador@administrador-VirtualBox: ~  
administrador@administrador-VirtualBox:~$ ifconfig  
docker0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500  
    inet 172.17.0.1 netmask 255.255.0.0 broadcast 172.17.255.255  
    inet6 fe80::42:57ff:fe51:2d5a prefixlen 64 scopeid 0x20<link>  
    ether 02:42:57:51:2d:5a txqueuelen 0 (Ethernet)  
    RX packets 0 bytes 0 (0.0 B)  
    TX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 7 bytes 826 (826.0 B)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 192.168.10.115 netmask 255.255.255.0 broadcast 192.168.10.255  
    inet6 fe80::885:ccc3:e2d2:94e0 prefixlen 64 scopeid 0x20<link>  
    ether 08:00:27:76:9a:30 txqueuelen 1000 (Ethernet)  
    RX packets 120475 bytes 177642793 (177.6 MB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 10885 bytes 807558 (807.5 KB)  
    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 (Loopback Local)  
    RX packets 485 bytes 44312 (44.3 KB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 485 bytes 44312 (44.3 KB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
administrador@administrador-VirtualBox:~$
```

Criando as chaves publica e privada



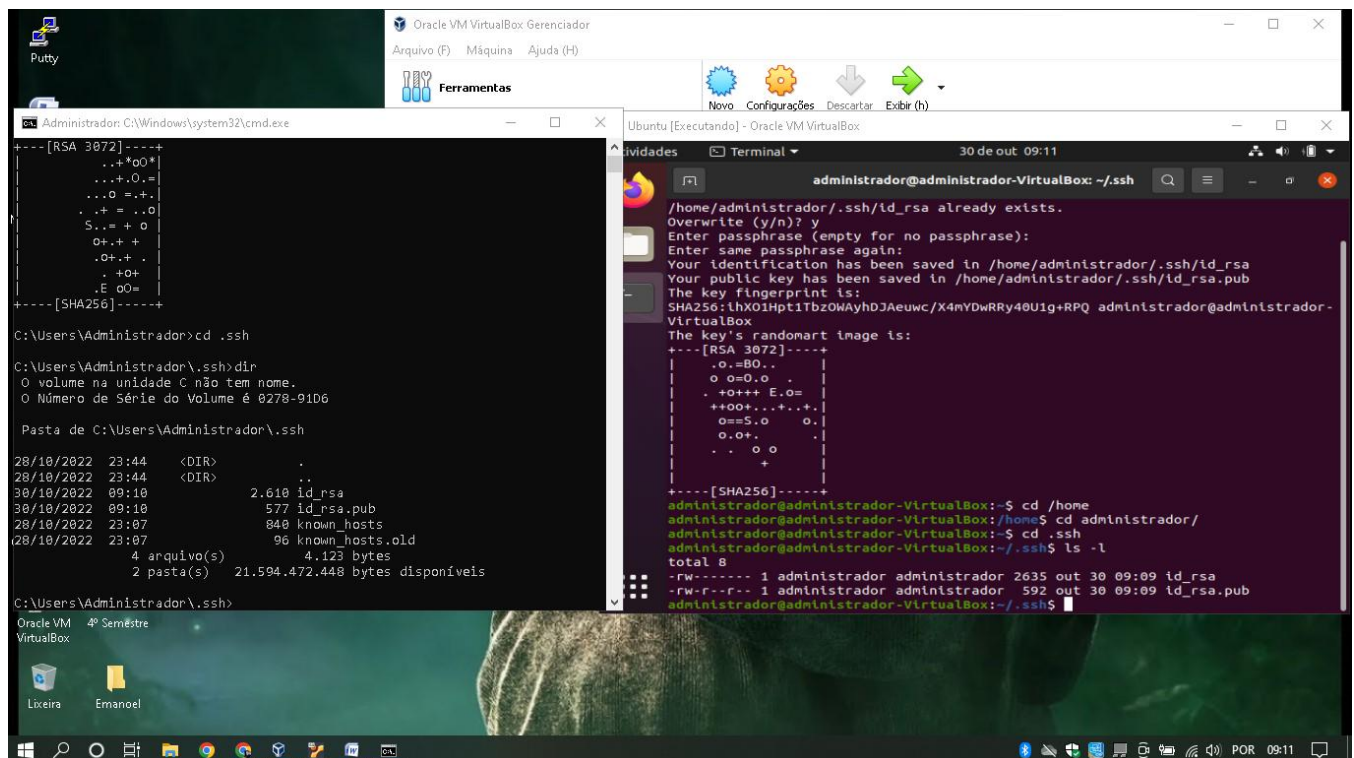
The screenshot shows a Windows desktop with a taskbar at the bottom. Two windows are open: a Windows Command Prompt and a terminal window titled 'Ubuntu [Executando] - Oracle VM VirtualBox'. Both windows are running the 'ssh-keygen' command to generate an RSA key pair. The Command Prompt shows the key being saved to 'C:\Users\Administrador\.ssh\id_rsa' and the terminal shows it being saved to '/home/administrador/.ssh/id_rsa'. Both windows display the key fingerprint and a randomart image.

```
Microsoft Windows [versão 10.0.19044.2130]
(c) Microsoft Corporation. Todos os direitos reservados.

C:\Users\Administrador>ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (C:\Users\Administrador\.ssh\id_rsa):
C:\Users\Administrador\.ssh\id_rsa already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in C:\Users\Administrador\.ssh\id_rsa.
Your public key has been saved in C:\Users\Administrador\.ssh\id_rsa.pub.
The key fingerprint is:
SHA256:VOVo/eOmRZdS6FVMkmlZIJectRddjZ413jH1wLaus administrador@Positivo
The key's randomart image is:
+---[RSA 3072]-----+
  ..+*oO*
  ...+..O.=
  ...O.=+..
  ..+ =..O
  S..+ o
  O+..+
  .O+..+
  ..+O+
  .E oO=
+-----[SHA256]-----+

C:\Users\Administrador>
```

```
administrador@administrador-VirtualBox: ~$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/administrador/.ssh/id_rsa):
/home/administrador/.ssh/id_rsa already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/administrador/.ssh/id_rsa
Your public key has been saved in /home/administrador/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:lhX01Hpt1Tbz0WAYhDJAEuwc/X4mYDwRRy40Uig+RPQ administrador@administrador-VirtualBox
The key's randomart image is:
+---[RSA 3072]-----+
  .o.=BO..
  O o=O.O .
  .+o+++ E.O=
  ++Oo+...+..+
  o==S.O O.
  O.O+
  . . O O
  +
+-----[SHA256]-----+
administrador@administrador-VirtualBox: ~$
```



The screenshot shows the same Windows desktop as before. The Windows Command Prompt and the terminal window are now showing the location of the generated SSH keys. The Command Prompt shows the directory 'C:\Users\Administrador\.ssh' and the files 'id_rsa' and 'id_rsa.pub'. The terminal window shows the directory '/home/administrador/.ssh' and the files 'id_rsa' and 'id_rsa.pub'.

```
administrador@administrador-VirtualBox: ~$ cd .ssh
administrador@administrador-VirtualBox: ~/.ssh$ ls -l
total 8
-rw-r--r-- 1 administrador administrador 2635 out 30 09:09 id_rsa
-rw-r--r-- 1 administrador administrador 592 out 30 09:09 id_rsa.pub
administrador@administrador-VirtualBox: ~/.ssh$
```

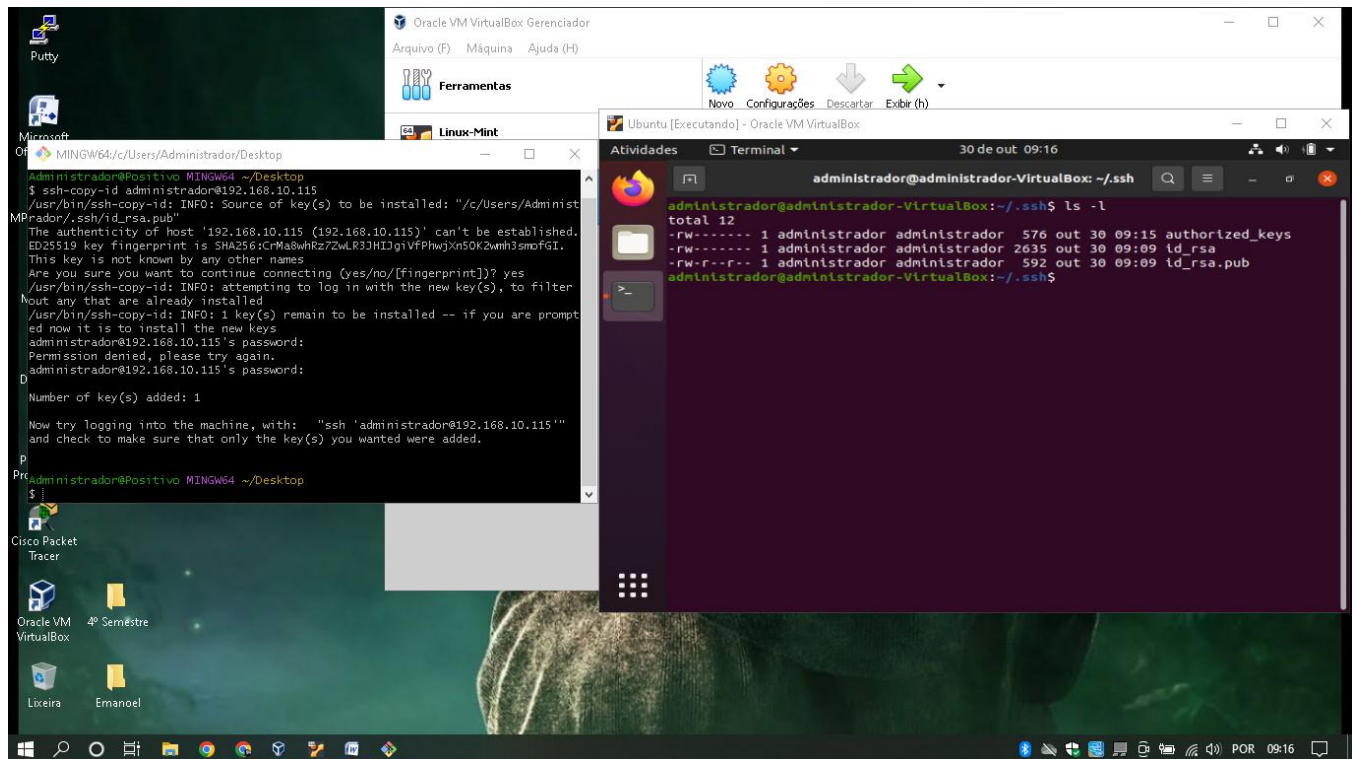
```
C:\Users\Administrador>cd .ssh
C:\Users\Administrador\.ssh>dir
O volume na unidade C não tem nome.
O Número de Série do Volume é 0278-91D6

Pasta de C:\Users\Administrador\.ssh

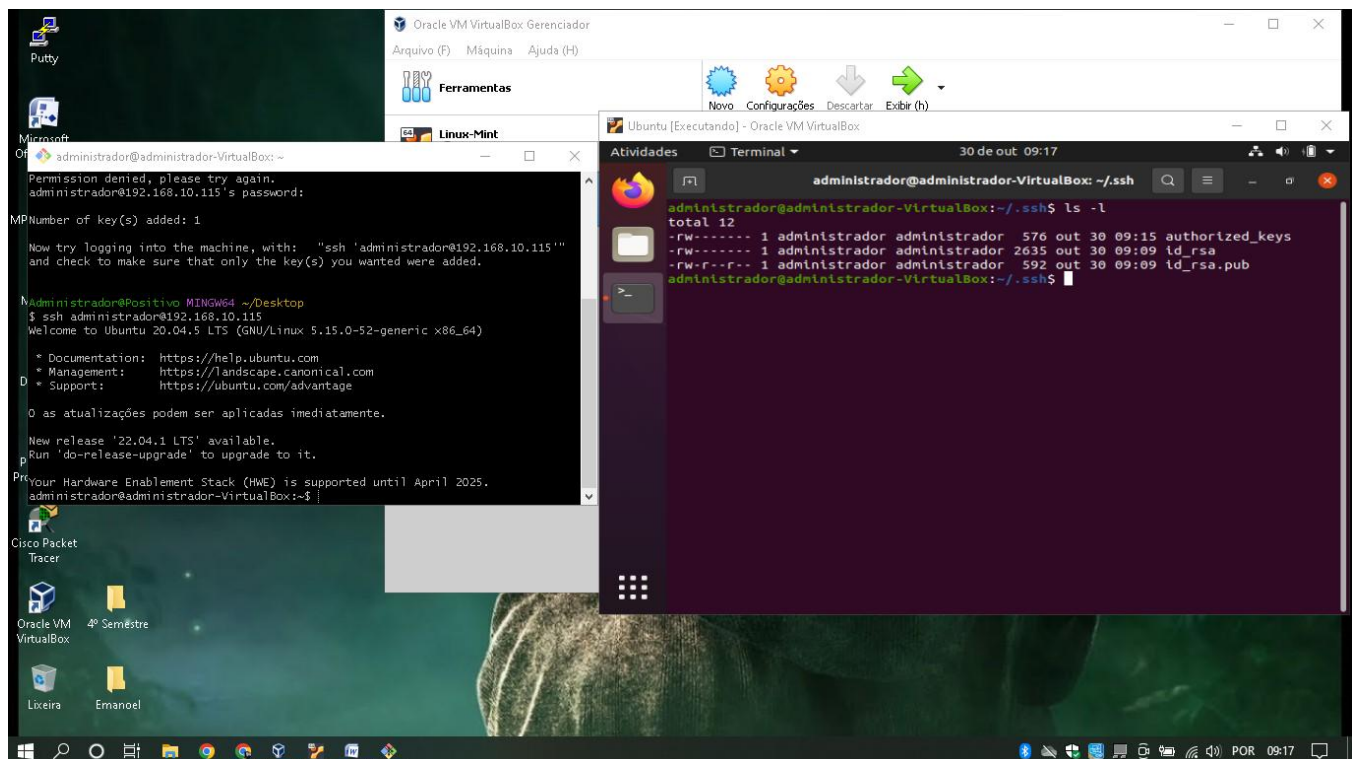
28/10/2022 23:44 <DIR> .
28/10/2022 23:44 <DIR> ..
30/10/2022 09:10 2.610 id_rsa
30/10/2022 09:10 577 id_rsa.pub
28/10/2022 23:07 840 known_hosts
28/10/2022 23:07 96 known_hosts.old
28/10/2022 23:07 4 arquivo(s) 4.123 bytes
28/10/2022 23:07 2 pasta(s) 21.594.472.448 bytes disponíveis

C:\Users\Administrador\.ssh>
```

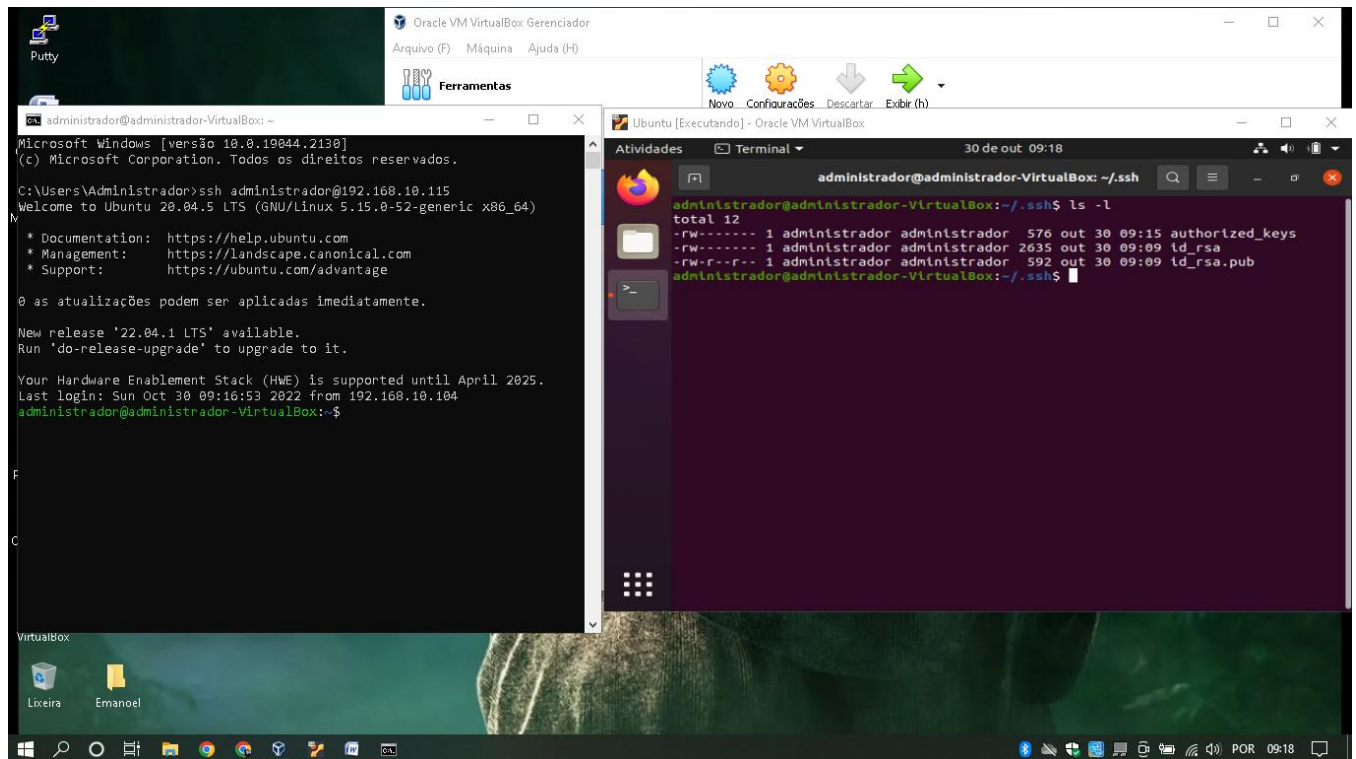

Copiando a chave publica para o SSH Server



Fazendo a conexão com o GITBash



Fazendo a conexão com o CMD



Fazendo a conexão com o PUTTY

