



ATIVIDADE 03 – ASR

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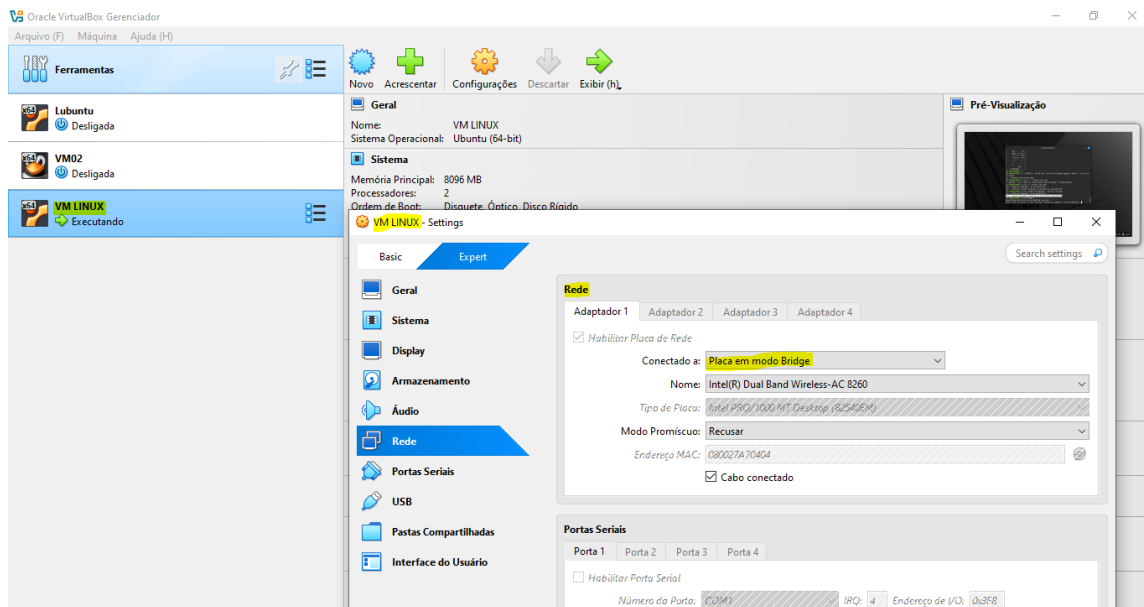
ATIVIDADE:

Faça um tutorial onde é evidenciado o passo a passo para criar uma conexão SSH entre um cliente Linux ou Windows e um Server rodando no Virtual Box.

Evidenciar a criação das chaves Publica e Privada, a copia da chave Publica para o servidor no Virtual Box e o teste da conexão SSH.

Fazer print de cada etapa. Reunir os prints em um documento identificando a execução de cada etapa. O documento final será convertido em PDF e alocado na atividade-03 do repositório no Github.

SETUPS:





VM LINUX [Executando] - Oracle VirtualBox

Arquivo Máquina Visualizar Entrada Dispositivos Ajuda

carlabea22@VM: ~

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

```
carlabea22@VM:~$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid lft forever preferred lft forever
    inet6 ::1/128 scope host noprefixroute
        valid lft forever preferred lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:a7:04:04 brd ff:ff:ff:ff:ff:ff
    inet 192.168.18.84/24 brd 192.168.18.255 scope global dynamic noprefixroute enp0s3
        valid lft 2436sec preferred lft 2436sec
    inet6 2804:248:f85a:ba00:f5ef:5fcc:f88a:12d0/64 scope global temporary dynamic
        valid lft 85771sec preferred lft 84760sec
    inet6 2804:248:f85a:ba00:fb2a:2b32:7008:9757/64 scope global dynamic mngtmpaddr noprefixroute
        valid lft 85771sec preferred lft 85771sec
    inet6 fe80::8735:7c66:ad2d:7bf0/64 scope link noprefixroute
        valid lft forever preferred lft forever
```

VM LINUX [Executando] - Oracle VirtualBox

Arquivo Máquina Visualizar Entrada Dispositivos Ajuda

carlabea22@VM: ~

```
valid lft forever preferred lft forever
carlabea22@VM:~$ sudo apt update
[sudo] senha para carlabea22:
Ign:1 http://packages.linuxmint.com xia InRelease
Atingido:2 http://packages.linuxmint.com xia Release
Atingido:3 http://security.ubuntu.com/ubuntu noble-security InRelease
Atingido:4 http://archive.ubuntu.com/ubuntu noble InRelease
Atingido:5 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Atingido:6 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Lendo listas de pacotes... Pronto
Construindo árvore de dependências... Pronto
Lendo informação de estado... Pronto
268 pacotes podem ser atualizados. Corra 'apt list --upgradable' para vê-los.
carlabea22@VM:~$ sudo apt update
Ign:1 http://packages.linuxmint.com xia InRelease
Atingido:2 http://security.ubuntu.com/ubuntu noble-security InRelease
Atingido:3 http://packages.linuxmint.com xia Release
Atingido:4 http://archive.ubuntu.com/ubuntu noble InRelease
Atingido:5 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Atingido:6 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Lendo listas de pacotes... Pronto
Construindo árvore de dependências... Pronto
Lendo informação de estado... Pronto
268 pacotes podem ser atualizados. Corra 'apt list --upgradable' para vê-los.
```



VM LINUX [Executando] - Oracle VirtualBox

Arquivo Máquina Visualizar Entrada Dispositivos Ajuda

```
carlabea22@VM: ~
200 pacotes podem ser atualizados. Corra apt list --upgradable para ver-los.
carlabea22@VM:~$ sudo apt install openssh-server
Lendo listas de pacotes... Pronto
Construindo árvore de dependências... Pronto
Lendo informação de estado... Pronto
Os pacotes adicionais seguintes serão instalados:
  ncurses-term openssh-client openssh-sftp-server ssh-import-id
Pacotes sugeridos:
  keychain libpam-ssh monkeysphere ssh-askpass molly-guard
Os NOVOS pacotes a seguir serão instalados:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
Os pacotes a seguir serão atualizados:
  openssh-client
1 pacotes atualizados, 4 pacotes novos instalados, 0 a serem removidos e 267 não atualizados.
E preciso baixar 1.737 kB de arquivos.
Depois desta operação, 6.744 kB adicionais de espaço em disco serão usados.
Você quer continuar? [S/n] s
Obter:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-client amd64 1:9.6p1-3ubuntu13.11 [905 kB]
Obter:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-sftp-server amd64 1:9.6p1-3ubuntu13.11 [37,3 kB]
Obter:3 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-server amd64 1:9.6p1-3ubuntu13.11 [509 kB]
Obter:4 http://archive.ubuntu.com/ubuntu noble/main amd64 ncurses-term all 6.4+20240113-1ubuntu2 [275 kB]
Obter:5 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 ssh-import-id all 5.11-0ubuntu2.24.04.1 [10,1 kB]
Baixados 1.737 kB em 1s (1.199 kB/s)
Pré-configurando pacotes ...
(Lendo banco de dados ... 461618 ficheiros e diretórios atualmente instalados.)
A preparar para desempacotar .../openssh-client_1%3a9.6p1-3ubuntu13.11_amd64.deb
...
A descompactar openssh-client (1:9.6p1-3ubuntu13.11) sobre (1:9.6p1-3ubuntu13.5)
...
A seleccionar pacote anteriormente não seleccionado openssh-sftp-server.
A preparar para desempacotar .../openssh-sftp-server_1%3a9.6p1-3ubuntu13.11_amd64.deb ...
A descompactar openssh-sftp-server (1:9.6p1-3ubuntu13.11) ...
A seleccionar pacote anteriormente não seleccionado openssh-server.
A preparar para desempacotar .../openssh-server_1%3a9.6p1-3ubuntu13.11_amd64.deb
...
A descompactar openssh-server (1:9.6p1-3ubuntu13.11) ...
A seleccionar pacote anteriormente não seleccionado ncurses-term
```

VM LINUX [Executando] - Oracle VirtualBox

Arquivo Máquina Visualizar Entrada Dispositivos Ajuda

```
carlabea22@VM: ~
...
A descompactar openssh-server (1:9.6p1-3ubuntu13.11) ...
A seleccionar pacote anteriormente não seleccionado ncurses-term.
A preparar para desempacotar .../ncurses-term_6.4+20240113-1ubuntu2_all.deb ...
A descompactar ncurses-term (6.4+20240113-1ubuntu2) ...
A seleccionar pacote anteriormente não seleccionado ssh-import-id.
A preparar para desempacotar .../ssh-import-id_5.11-0ubuntu2.24.04.1_all.deb ...
A descompactar ssh-import-id (5.11-0ubuntu2.24.04.1) ...
Configurando openssh-client (1:9.6p1-3ubuntu13.11) ...
Configurando ssh-import-id (5.11-0ubuntu2.24.04.1) ...
Configurando ncurses-term (6.4+20240113-1ubuntu2) ...
Configurando openssh-sftp-server (1:9.6p1-3ubuntu13.11) ...
Configurando openssh-server (1:9.6p1-3ubuntu13.11) ...

Creating config file /etc/ssh/sshd config with new version
Creating SSH2 RSA key; this may take some time ...
3072 SHA256:4/o2MCDkYo+8Tft2ENmP+ORgTjd4EYcniHGqX7/UrA root@VM (RSA)
Creating SSH2 ECDSA key; this may take some time ...
256 SHA256:xg9KV74L4Ze6sg0tfj9TK9xwzITJ5bBg0hkZjcDujEg root@VM (ECDSA)
Creating SSH2 ED25519 key; this may take some time ...
256 SHA256:20LqkklJqJnuQC0t4opD6zqYKYG8Pqo4KW/0bC6Uo4I root@VM (ED25519)
Created symlink /etc/systemd/system/sockets.target.wants/ssh.socket → /usr/lib/s
ystemd/system/ssh.socket.
Created symlink /etc/systemd/system/ssh.service.requires/ssh.socket → /usr/lib/s
ystemd/system/ssh.socket.
A processar 'triggers' para man-db (2.12.0-4build2) ...
A processar 'triggers' para ufw (0.36.2-6) ...
```



VM LINUX [Executando] - Oracle VirtualBox

Arquivo Máquina Visualizar Entrada Dispositivos Ajuda

```
carlabea22@VM: ~  
carlabea22@VM:~$ sudo systemctl enable ssh  
Synchronizing state of ssh.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.  
Executing: /usr/lib/systemd/systemd-sysv-install enable ssh  
Created symlink /etc/systemd/system/ssh.service → /usr/lib/systemd/system/ssh.service.  
Created symlink /etc/systemd/system/multi-user.target.wants/ssh.service → /usr/lib/systemd/system/ssh.service.  
carlabea22@VM:~$ sudo systemctl start ssh  
carlabea22@VM:~$ bash  
carlabea22@VM:~$ ip a  
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000  
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00  
    inet 127.0.0.1/8 scope host lo  
        valid lft forever preferred lft forever  
    inet6 ::1/128 scope host noprefixroute  
        valid lft forever preferred lft forever  
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000  
    link/ether 08:00:27:a7:04:04 brd ff:ff:ff:ff:ff:ff  
    inet 192.168.18.84/24 brd 192.168.18.255 scope global dynamic noprefixroute enp0s3  
        valid lft 2024sec preferred lft 2024sec  
    inet6 2804:248:f85a:ba00:f5ef:5fcc:f88a:12d0/64 scope global temporary dynamic  
        valid lft 86210sec preferred lft 84348sec  
    inet6 2804:248:f85a:ba00:fb2a:2b32:7008:9757/64 scope global dynamic mngtmpaddr noprefixroute  
        valid lft 86210sec preferred lft 86210sec  
    inet6 fe80::8735:7c66:ad2d:7bf0/64 scope link noprefixroute  
        valid lft forever preferred lft forever
```

VM LINUX [Executando] - Oracle VirtualBox

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```
carlabea22@VM:~$ ssh keygen  
ssh: Could not resolve hostname keygen: Name or service not known  
carlabea22@VM:~$ ssh-copy-id carlabea22@192.168.18.84  
/usr/bin/ssh-copy-id: ERROR: No identities found  
carlabea22@VM:~$ bash  
carlabea22@VM:~$ ssh keygen  
ssh: Could not resolve hostname keygen: Name or service not known  
carlabea22@VM:~$ ^C  
carlabea22@VM:~$ ssh-keygen  
Generating public/private ed25519 key pair.  
Enter file in which to save the key (/home/carlabea22/.ssh/id_ed25519):  
Created directory '/home/carlabea22/.ssh'.  
Enter passphrase (empty for no passphrase):  
Enter same passphrase again:  
Your identification has been saved in /home/carlabea22/.ssh/id_ed25519  
Your public key has been saved in /home/carlabea22/.ssh/id_ed25519.pub  
The key fingerprint is:  
SHA256:RmlaaotJ3QxcIRZ0z0+HufJrDwmX6uK1flkdQLPxM carlabea22@VM  
The key's randomart image is:  
+--[ED25519 256]--+  
| 0=. . |  
| 000 .. . E. |  
| 000+ ++ 0+ + |  
| .0*.+= * 0B. |  
| . 0.S0 0 + ++ |  
| + =. . + . |  
| . = + |  
| 0 . . . |  
| 000 |  
+----[SHA256]-----+  
carlabea22@VM:~$
```

```
carlabea22@VM:~$ ssh carlabea22@192.168.18.84  
The authenticity of host '192.168.18.84 (192.168.18.84)' can't be established.  
ED25519 key fingerprint is SHA256:20LqkklJqJnuQC0t4opD6zqYKYG8Pqo4KW/0bC6Uo4I.  
This key is not known by any other names.  
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes  
Warning: Permanently added '192.168.18.84' (ED25519) to the list of known hosts.  
carlabea22@192.168.18.84's password:  
carlabea22@VM:~$
```