

Avaliação 04 – Dupla: Clara Livia e Pedro Julius

Evidenciação:

1) Instalar o Openssh server em uma máquina virtual Linux;

```
administrador@claralivia: ~  
Arquivo  Ações  Editar  Exibir  Ajuda  
administrador@claralivia: ~  
administrador@claralivia:~$ sudo dpkg -l | less | grep ssh  
[sudo] senha para administrador:  
ii  libssh-4:amd64      0.9.3-2ubuntu2.2      amd64      tiny C SSH library (OpenSSL fl  
avor)  
ii  libssh-gcrypt-4:amd64      0.9.3-2ubuntu2.2      amd64      tiny C SSH library (gcrypt fla  
vor)  
ii  libssh2-1:amd64      1.8.0-2.1build1      amd64      SSH2 client-side library  
ii  lxqt-openssh-askpass      0.14.1-1ubuntu1      amd64      OpenSSH user/password GUI dial  
og for LXQt  
ii  lxqt-openssh-askpass-l10n      0.14.1-1ubuntu1      all        Language package for lxqt-open  
ssh-askpass  
ii  openssh-client      1:8.2p1-4ubuntu0.4      amd64      secure shell (SSH) client, for  
secure access to remote machines  
administrador@claralivia:~$ sudo systemctl status ssh  
Unit ssh.service could not be found.  
administrador@claralivia:~$ sudo apt update  
Obter:1 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]  
Atingido:2 http://archive.ubuntu.com/ubuntu focal InRelease  
Obter:3 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]  
Obter:4 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [1.450 kB]  
Obter:5 http://archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]  
Obter:6 http://archive.ubuntu.com/ubuntu focal/main Translation-pt_BR [287 kB]  
Obter:7 http://archive.ubuntu.com/ubuntu focal/main Translation-pt [166 kB]  
Obter:8 http://archive.ubuntu.com/ubuntu focal/restricted Translation-pt [1.300 B]  
Obter:9 http://archive.ubuntu.com/ubuntu focal/restricted Translation-pt_BR [1.308 B]  
Obter:10 http://archive.ubuntu.com/ubuntu focal/universe Translation-pt [794 kB]  
Obter:11 http://security.ubuntu.com/ubuntu focal-security/main i386 Packages [432 kB]  
Obter:12 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [249 kB]  
Obter:13 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metadata [40,8 kB]  
Obter:14 http://security.ubuntu.com/ubuntu focal-security/main amd64 c-n-f Metadata [10,2 kB]  
Obter:15 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [911 kB]  
Obter:16 http://archive.ubuntu.com/ubuntu focal/universe Translation-pt_BR [1.016 kB]  
Obter:17 http://archive.ubuntu.com/ubuntu focal/multiverse Translation-pt [8.348 B]  
Obter:18 http://archive.ubuntu.com/ubuntu focal/multiverse Translation-pt_BR [18,5 kB]  
Obter:19 http://security.ubuntu.com/ubuntu focal-security/restricted Translation-en [130 kB]  
Obter:20 http://security.ubuntu.com/ubuntu focal-security/universe i386 Packages [550 kB]  
Obter:21 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Packages [702 kB]  
Obter:22 http://security.ubuntu.com/ubuntu focal-security/universe Translation-en [125 kB]  
Obter:23 http://security.ubuntu.com/ubuntu focal-security/universe amd64 DEP-11 Metadata [66,5 kB]  
Obter:24 http://security.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [14,4 kB]  
Obter:25 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 DEP-11 Metadata [2.464 B]  
Obter:26 http://archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [650 kB]  
Obter:27 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [1.789 kB]  
Obter:28 http://archive.ubuntu.com/ubuntu focal-updates/main Translation-en [329 kB]  
Obter:29 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [278 kB]  
Obter:30 http://archive.ubuntu.com/ubuntu focal-updates/main DEP-11 48x48 Icons [60,8 kB]  
Obter:31 http://archive.ubuntu.com/ubuntu focal-updates/main DEP-11 64x64 Icons [98,3 kB]
```

```
administrador@claralivia: ~
Arquivo  Ações  Editar  Exibir  Ajuda
administrador@claralivia: ~
Construindo árvore de dependências
Lendo informação de estado... Pronto
157 pacotes podem ser atualizados. Corra 'apt list --upgradable' para vê-los.
administrador@claralivia:~$ sudo apt upgrade
Lendo listas de pacotes... Pronto
Construindo árvore de dependências
Lendo informação de estado... Pronto
Calculando atualização... Pronto
0 seguinte pacote foi instalado automaticamente e já não é necessário:
  libfwupdplugin1
Utilize 'sudo apt autoremove' para o remover.
Os NOVOS pacotes a seguir serão instalados:
  libfwupdplugin5 libopenl0 linux-headers-5.13.0-41-generic linux-hwe-5.13.0-41 linux-image-5.13.0-41-generic
  linux-modules-5.13.0-41-generic linux-modules-extra-5.13.0-41-generic
Os pacotes a seguir serão atualizados:
  alsa-ucm-conf apport bash bind9-dnsutils bind9-libs bolt command-not-found cpp-9 dbus dbus-user-session dbus-x11
  distro-info-data dnsmasq-base firefox fonts-opensymbol fwupd fwupd-signed gcc-9-base gir1.2-gtk-3.0 gir1.2-polkit-1.0 git
  git-man grub-common grub-pc-bin grub2-common gtk-update-icon-cache gvfs gvfs-backends gvfs-common gvfs-daemons
  gvfs-fuse gvfs-libs gzip iio-sensor-proxy klibc-utils libarchive13 libc-bin libc6 libcurl3-gnutls libcurl4 libdbus-1-3
  libdrm-andgpus1 libdrm-common libdrm-intel1 libdrm-nouveau2 libdrm-radeon1 libdrm2 libegl-mesa0 libegl1 libevdev2 libexpat1
  libfribidi0 libfwupd2 libgbm1 libgl1 libgl1-mesa-dri libglapi-mesa libgles2 libglvnd0 libglx-mesa0 libglx0 libgtk-3-0
  libgtk-3-bin libgtk-3-common libinput-bin libinput10 libjavascriptcoregtk-4.0-18 libjcat1 libjuh-java libjurt-java libklibc
  libllvml2 liblzma5 libmysqldbclient21 libnetplan0 libnss-systemd libnss3 libpam-systemd libpolkit-agent-1-0 libpolkit-gobject-1-0
  libpython3.8 libpython3.8-minimal libpython3.8-stdlib libreoffice-base-core libreoffice-calc libreoffice-common
  libreoffice-core libreoffice-draw libreoffice-gtk3 libreoffice-impress libreoffice-math libreoffice-qt5
  libreoffice-style-breeze libreoffice-style-colibre libreoffice-style-tango libreoffice-writer librid1-java libsensors-config
  libsensors5 libsepol1 libsmclient libsqlite3-0 libssl1.1 libsystemd0 libudev1 libuno-cppu3 libuno-cppuhelpergcc3-3
  libuno-purpenhhelpergcc3-3 libuno-sal3 libuno-salhelpergcc3-3 libunoloader-java libwbclient0 libwebkit2gtk-4.0-37 libxatracker2
  libxml2 linux-firmware linux-generic-hwe-20.04 linux-headers-generic-hwe-20.04 linux-image-generic-hwe-20.04 locales
  mesa-va-drivers mesa-vaapi-drivers mesa-vulkan-drivers netplan.io networkd-dispatcher openssh-client openssl policykit-1
  python3-apport python3-commandnotfound python3-distupgrader python3-problem-report python3-uno python3.8 python3.8-minimal rsync
  rsyslog samba-libs sbsigntool snapd systemd systemd-sysv systemd-timesyncd tar tcpdump tzdata ubuntu-advantage-tools
  ubuntu-drivers-common ubuntu-release-upgrader-core ubuntu-release-upgrader-qt udev uno-libs-private ure xz-utils zlib1g
157 pacotes atualizados, 7 pacotes novos instalados, 0 a serem removidos e 0 não atualizados.
103 standard security updates
É preciso baixar 524 MB de arquivos.
Depois desta operação, 549 MB adicionais de espaço em disco serão usados.
Você quer continuar? [S/n] s
Obter:1 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 bash amd64 5.0-6ubuntu1.2 [639 kB]
Obter:2 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 gzip amd64 1.10-0ubuntu4.1 [95,2 kB]
Obter:3 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 tar amd64 1.30+dfsg-7ubuntu0.20.04.2 [240 kB]
Obter:4 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libc6 amd64 2.31-0ubuntu9.9 [2.722 kB]
Obter:5 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 locales all 2.31-0ubuntu9.9 [3.869 kB]
Obter:6 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libc-bin amd64 2.31-0ubuntu9.9 [633 kB]
Obter:7 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libnss-systemd amd64 245.4-4ubuntu3.17 [96,0 kB]
Obter:8 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 udev amd64 245.4-4ubuntu3.17 [1.364 kB]
Obter:9 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libudev1 amd64 245.4-4ubuntu3.17 [76,5 kB]
```

```
administrador@claralivia: ~
Arquivo  Ações  Editar  Exibir  Ajuda
administrador@claralivia: ~
administrador@claralivia:~$ sudo apt install openssh-server
[sudo] senha para administrador:
Lendo listas de pacotes... Pronto
Construindo árvore de dependências
Lendo informação de estado... Pronto
O seguinte pacote foi instalado automaticamente e já não é necessário:
  libfwupdplugin1
Utilize 'sudo apt autoremove' para o remover.
Os pacotes adicionais seguintes serão instalados:
  ncurses-term openssh-sftp-server ssh-import-id
Pacotes sugeridos:
  molly-guard monkeysphere
Os NOVOS pacotes a seguir serão instalados:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
0 pacotes atualizados, 4 pacotes novos instalados, 0 a serem removidos e 0 não atualizados.
É preciso baixar 688 kB de arquivos.
Depois desta operação, 6.010 kB adicionais de espaço em disco serão usados.
Você quer continuar? [S/n] s
Obter:1 http://archive.ubuntu.com/ubuntu focal/main amd64 ncurses-term all 6.2-0ubuntu2 [249 kB]
Obter:2 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 openssh-sftp-server amd64 1:8.2p1-4ubuntu0.5 [51,5 kB]
Obter:3 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 openssh-server amd64 1:8.2p1-4ubuntu0.5 [377 kB]
Obter:4 http://archive.ubuntu.com/ubuntu focal/main amd64 ssh-import-id all 5.10-0ubuntu1 [10,0 kB]
Baixados 688 kB em 2s (315 kB/s)
Pré-configurando pacotes ...
A seleccionar pacote anteriormente não seleccionado ncurses-term.
(Lendo banco de dados ... 266412 ficheiros e directórios actualmente instalados.)
A preparar para desempacotar .../ncurses-term_6.2-0ubuntu2_all.deb ...
A descompactar ncurses-term (6.2-0ubuntu2) ...
A seleccionar pacote anteriormente não seleccionado openssh-sftp-server.
A preparar para desempacotar .../openssh-sftp-server_1%3a8.2p1-4ubuntu0.5_amd64.deb ...
A descompactar openssh-sftp-server (1:8.2p1-4ubuntu0.5) ...
A seleccionar pacote anteriormente não seleccionado openssh-server.
A preparar para desempacotar .../openssh-server_1%3a8.2p1-4ubuntu0.5_amd64.deb ...
A descompactar openssh-server (1:8.2p1-4ubuntu0.5) ...
A seleccionar pacote anteriormente não seleccionado ssh-import-id.
A preparar para desempacotar .../ssh-import-id_5.10-0ubuntu1_all.deb ...
A descompactar ssh-import-id (5.10-0ubuntu1) ...
Configurando openssh-sftp-server (1:8.2p1-4ubuntu0.5) ...
Configurando openssh-server (1:8.2p1-4ubuntu0.5) ...

Creating config file /etc/ssh/sshd_config with new version
Creating SSH2 RSA key; this may take some time ...
3072 SHA256:uyUjYpFPJNigFc0rDIPqxc8AivCwib0iPDybg04LE6s root@claralivia (RSA)
Creating SSH2 ECDSA key; this may take some time ...
256 SHA256:0MTsG6jxtU+XscCs8mi6N40FgHhQFF8ithGLNW4Ch1E root@claralivia (ECDSA)
Creating SSH2 ED25519 key; this may take some time ...
256 SHA256:wCh5Wiltcyzog00lD6oG/cibq3dyn78K9BKeSCZZLE root@claralivia (ED25519)
Created symlink /etc/systemd/system/ssh.service → /lib/systemd/system/ssh.service.
Created symlink /etc/systemd/system/multi-user.target.wants/ssh.service → /lib/systemd/system/ssh.service.
rescue-ssh.target is a disabled or a static unit, not starting it.
Configurando ssh-import-id (5.10-0ubuntu1) ...
Attempting to convert /etc/ssh/ssh_import_id
Configurando ncurses-term (6.2-0ubuntu2) ...
A processar 'triggers' para systemd (245.4-4ubuntu3.17) ...
A processar 'triggers' para man-db (2.9.1-1) ...
A processar 'triggers' para ufw (0.36-6ubuntu1) ...
administrador@claralivia:~$
```

```
administrador@claralivia: ~
Arquivo  Ações  Editar  Exibir  Ajuda
administrador@claralivia: ~
administrador@claralivia:~$ sudo systemctl start ssh.service
administrador@claralivia:~$ sudo systemctl status ssh.service
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/lib/systemd/systemd/ssh.service; enabled; vendor preset: enabled)
   Active: active (running) since Sun 2022-05-15 12:02:07 -03; 14s ago
     Docs: man:sshd(8)
           man:sshd_config(5)
  Process: 43311 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
    Main PID: 43312 (sshd)
       Tasks: 1 (limit: 2242)
      Memory: 1.0M
    CGroup: /system.slice/ssh.service
            └─43312 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups

mai 15 12:02:07 claralivia systemd[1]: Starting OpenBSD Secure Shell server...
mai 15 12:02:07 claralivia systemd[1]: Started OpenBSD Secure Shell server.
mai 15 12:02:07 claralivia sshd[43312]: Server listening on 0.0.0.0 port 22.
mai 15 12:02:07 claralivia sshd[43312]: Server listening on :: port 22.
administrador@claralivia:~$ sudo systemctl enable ssh.service
Synchronizing state of ssh.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable ssh
administrador@claralivia:~$ sudo systemctl is-enable ssh.service
Unknown operation is-enable.
administrador@claralivia:~$ sudo systemctl is-enabled ssh.service
enabled
administrador@claralivia:~$
```

2) Criar um par de chaves (Publica/Privada);

```
Lubuntu 1 [Executando] - Oracle VM VirtualBox
Arquivo  Máquina  Visualizar  Entrada  Dispositivos  Ajuda
administrador@pedrojulius: ~
Arquivo  Ações  Editar  Exibir  Ajuda
administrador@pedrojulius: ~
administrador@pedrojulius:~$ ssh-keygen -b 2048
Generating public/private rsa key pair.
Enter file in which to save the key (/home/administrador/.ssh/id_rsa):
Created directory '/home/administrador/.ssh'.
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:mm/TVf/u+RkdQ4ITU5Gw11NmthfBY6FBCqYbk2hNky8 administrador@pedrojulius
The key's randomart image is:
+---[RSA 2048]---+
|  o.o  ++=++B|
|  +.=  . *.+B+|
|  o *.   = +.=o|
|  . E+.  o + o|
|  .S    . + |
|  o     . =|
|  o . .  .o|
|  .o .   =|
|  ...    ==|
+---[SHA256]-----+
administrador@pedrojulius:~$ ls -l .ssh
total 8
-rw----- 1 administrador administrador 1831 mai 17 22:12 id_rsa
-rw-r--r-- 1 administrador administrador 407 mai 17 22:12 id_rsa.pub
+-----+
administrador@pedrojulius:~$
```

3) Copiar a chave pública em uma máquina virtual que está executando o Openssh Server;

```

Ubuntu 1 [Executando] - Oracle VM VirtualBox
Arquivo  Máquina  Visualizar  Entrada  Dispositivos  Ajuda

administrador@pedrojulus: ~

administrador@pedrojulus:~$ cat .ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQDCCEG6fnc6Gc3nhQMEv8M2PNbABKcAxI7DGAp4umtXnERot+VHfRkKMo
5q/hQmmn0R2Si7b3Dn+zmP25x/jc/9Io4HDLT7S+++7BXUzjbyU1hdV9SxwFKIzq3FudET8QSp0t0Gvzt+trEysFfmmGrQ
QB9Mc5ZNECIPSRxwVCHrf1uq1FQEonC37NW4jFCHWg/NhezjIYf5jfMVxT/lrt3r3U+7KergZC6bVFG3hyMhJZTBufoI
M8xOWF5SwCxE2eHjWtGVNg+hAP6HmgClMvk05Vz97WMQRP8y3Bt0lopYlxZUFUEaadyFDpmg14CnyJy07IAI+JLBN0PV adm
inistrador@pedrojulus

administrador@pedrojulus:~$ ping 192.168.30.110
PING 192.168.30.110 (192.168.30.110) 56(84) bytes of data.
64 bytes de 192.168.30.110: icmp_seq=1 ttl=64 tempo=2.46 ms
64 bytes de 192.168.30.110: icmp_seq=2 ttl=64 tempo=1.01 ms
64 bytes de 192.168.30.110: icmp_seq=3 ttl=64 tempo=1.18 ms
64 bytes de 192.168.30.110: icmp_seq=4 ttl=64 tempo=1.11 ms
^C
--- 192.168.30.110 estatísticas de ping ---
4 pacotes transmitidos, 4 recebidos, 0% perda de pacote, tempo 3006ms
rtt min/méd/máx/medv = 1.005/1.437/2.458/0.592 ms
administrador@pedrojulus:~$ ssh-copy-id 192.168.30.110
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/administrador/.ssh/id_rsa.p
ub"
The authenticity of host '192.168.30.110 (192.168.30.110)' can't be established.
ECDSA key fingerprint is SHA256:rdP0JQk1pfGLHTSownn5MPBoi+7E4PgnD3UAY/iPfgM.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are
already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to
install the new keys
administrador@192.168.30.110's password:
Permission denied, please try again.
administrador@192.168.30.110's password:

Number of key(s) added: 1

```

4) Testar a conexão entre a máquina cliente e a servidora.

A screenshot of a terminal window titled "Ubuntu 1 [Executando] - Oracle VM VirtualBox". The terminal shows a user named "administrador@claralivia" at a prompt "~". They enter their password and are prompted to add a new SSH key. They confirm adding the key, then run "ssh administrator@192.168.30.110" to log in. The remote host is identified as "Welcome to Ubuntu 20.04.4 LTS (GNU/Linux 5.13.0-30-generic x86_64)". It lists documentation, management, and support links for Ubuntu. It states that hardware enablement stack (HWE) is supported until April 2025 and that a system restart is required. Finally, it shows the last login time as Tue May 17 20:00:49 2022 from IP 192.168.30.111. The user then runs several commands, all returning root prompts. The terminal interface includes a top menu bar with options like "Arquivo", "Máquina", "Visualizar", etc., and a bottom status bar showing the current directory and system clock.