

Relatório de Configuração de Ambiente de Computação em Nuvem

1. Introdução

Neste relatório, documenta-se a criação e configuração de uma máquina virtual (VM) na plataforma Google Cloud, com instalação do sistema operacional Ubuntu 22.04 LTS. O objetivo foi aprender a manipular arquivos e utilizar comandos básicos no terminal Linux, bem como registrar todo o processo com capturas de tela detalhadas.

2. Descrição do Ambiente Criado

- Plataforma: Google Cloud
- Tipo de VM: e2-medium (6 vCPU, 4 GB RAM)
- Disco: 12 GB SSD
- Sistema Operacional: Ubuntu 22.04 LTS
- Configuração de rede: Porta 22 aberta para SSH
- Usuário configurado: marcello

```
Arquivo  Máquina  Visualizar  Entrada  Dispositivos  Ajuda
finish: subiquity/Late/apply_autoinstall_config:
start: subiquity/Shutdown/apply_autoinstall_config:
finish: subiquity/Shutdown/apply_autoinstall_config:
finish: subiquity/apply_autoinstall_config:
start: subiquity/Install/install/configure_apt: configuring apt
start: subiquity/Meta/status_GET:
start: subiquity/Meta/status_GET:
start: subiquity/Mirror/cmd-apt-config: curtin command apt-config
finish: subiquity/Mirror/cmd-apt-config: curtin command apt-config
start: subiquity/Install/install/configure_apt/cmd-in-target: curtin command in-target
finish: subiquity/Install/install/configure_apt/cmd-in-target: curtin command in-target
finish: subiquity/Install/install/configure_apt: configuring apt
start: subiquity/Install/install/curtin_install: installing system
start: subiquity/Install/install/curtin_install/run_curtin_step: executing curtin install initial step
finish: subiquity/Drivers/_list_drivers/wait_apt:
finish: subiquity/Install/install/curtin_install/run_curtin_step: executing curtin install initial step
start: subiquity/Install/install/curtin_install/run_curtin_step: executing curtin install partitioning step
start: subiquity/Drivers/_list_drivers/cmd-in-target: curtin command in-target
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install: curtin command install
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning: configuring storage
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin: running 'curtin block-meta simple'
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta: curtin command block-meta
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta/clear-holders: removing previous storage devices
finish: subiquity/Drivers/_list_drivers/cmd-in-target: curtin command in-target
finish: subiquity/Drivers/_list_drivers:
finish: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta/clear-holders: removing previous storage devices
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta/: configuring disk: disk-sda
finish: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta/: configuring disk: disk-sda
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta: configuring partition: partition-0
finish: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta: configuring partition: partition-0
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta: configuring partition: partition-0
finish: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta: configuring partition: partition-0
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta: configuring format: format-0
finish: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta: configuring format: format-0
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta: configuring mount: mount-0
finish: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin/cmd-block-meta: configuring mount: mount-0
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning/builtin: running 'curtin block-meta simple'
finish: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-partitioning: configuring storage
finish: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install: curtin command install
finish: subiquity/Install/install/curtin_install/run_curtin_step: executing curtin install partitioning step
start: subiquity/Install/install/curtin_install/run_curtin_step: executing curtin install extract step
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install: curtin command install
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-extract: writing install sources to disk
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-extract/builtin: running 'curtin extract'
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-extract/builtin/cmd-extract: curtin command extract
start: subiquity/Install/install/curtin_install/run_curtin_step/cmd-install/stage-extract/builtin/cmd-extract/: acquiring and extracting image from cp:/tmp/tmp4qtJ6gty/mount
```

3. Instalação do Sistema Operacional

- Seleção da imagem Ubuntu 22.04 LTS.
- Configuração do usuário e senha.
- Inicialização da VM.

```
Arquivo  Máquina  Visualizar  Entrada  Dispositivos  Ajuda

Ubuntu 24.04.3 LTS marcello tty1

marcello login: [ 19.761095] cloud-init[985]: en_US.UTF-8... done
[ 19.765647] cloud-init[985]: Generation complete.
[ 102.164361] cloud-init[7553]: Cloud-init v. 25.1.4-0ubuntu0~24.04.1 running 'modules:final' at Tue, 23 Sep 2025 19:52:55 +0000. Up 102.13 seconds.
ci-info: no authorized SSH keys fingerprints found for user root.
ci-info: no authorized SSH keys fingerprints found for user vboxuser.
[14>Sep 23 19:52:55 cloud-init: #####
[14>Sep 23 19:52:55 cloud-init: -----BEGIN SSH HOST KEY FINGERPRINTS-----
[14>Sep 23 19:52:55 cloud-init: 256 SHA256:NFi6BD1UEuNR0bHzx1Igtxf8HJFSR+s+Tx10pwp7tYQ root@marcello (ECDSA)
[14>Sep 23 19:52:55 cloud-init: 256 SHA256:1o10Mj5t1JkKs500pzzzJa20RaXWt1Prpu0REGAukg root@marcello (ED25519)
[14>Sep 23 19:52:55 cloud-init: 3072 SHA256:4fTC6o1cgnUwBcPbuSTfCGaB0UaF3UgRDGsbLmS3c root@marcello (RSA)
[14>Sep 23 19:52:55 cloud-init: -----END SSH HOST KEY FINGERPRINTS-----
[14>Sep 23 19:52:55 cloud-init: #####
-----BEGIN SSH HOST KEY KEYS-----
ecdsa-sha2-nistp256 AAAAE2VjZHNhLXNoYTItbmlzdHh0NTY5AAABBBB1aFEYFxmH4jku0KsCB7y0cD/3y9nJJ4gR1STuyJ7dr4SopZqGDJ7S0CPpUXgubi6QWtNz0dzneAK5gkS4uOk=
root@marcello
ssh-ed25519 AAAAC3NzaC1l2D11NTE5AAAAIHMxQlxaI9nsnGjXjQnF0jkZa13muJjXozymRVinzNOA root@marcello
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGDYqYisV4eE4zZE1SPK0f0sEUCFkaA7p6lmp0z3rppufZ2Q/Y5/9prVU0u9f5NsrGOEtufL4HhYnkNwJHLXFEGBWxtcDzWNshfchZuoTONiKbuueAK5Gw/rj8
pKIBX7oigubhMTUJINQzYTF5g78ZHMxL+Njb1aUGgpr/RK10pJ2uURPuyCEyaRLnP1aHfcdJfffnXrI+raLQ44C1LQRMxcu1E5uSLiUcFng+pXuukFF0zknPFFfF6G0Ws4f86C10dfkMsB6iXthIsUHL9FS3nAM
adq3wFor548z9QyJUKKXIKKp0nLnKzRC0iiekUVTuoEhyT12UrToEXFTuTJYhyUttGQqPYUL1jKs3Cmrnd0ZSxVIPGaiARRNaLoqip1tSkE/xfeHjuwd+djtcaBy+tbfuKD7iTd12uKykygR6pkafExcU8xrza
TPNg9kFhdGnhJaBARPcoLZU24YCGUkLnYbshf08YjesG2yUIn21qx4cnfJjIg0YTP1UCH= root@marcello
-----END SSH HOST KEY KEYS-----
[ 102.246347] cloud-init[7553]: Cloud-init v. 25.1.4-0ubuntu0~24.04.1 finished at Tue, 23 Sep 2025 19:52:55 +0000. Datasource DataSourceNone. Up 102.24 seconds
```

4 - Foram utilizados 10 comandos diferentes, conforme solicitado, para a manipulação de arquivos e diretórios:

1. pwd – Exibe o diretório atual.
2. ls – Lista os arquivos do diretório.
3. ls -la – Lista arquivos detalhadamente, incluindo ocultos.
4. mkdir – Cria um diretório.
5. cd – Acessa o diretório.
6. touch – Cria um arquivo vazio.
7. ls – Verificação do arquivo criado.

8. cp – Cópia arquivos.

9. echo "mensagem" > – Insere conteúdo em arquivo.

10. cat – Exibe o conteúdo do arquivo.

```
root@ip-172-31-21-223:/home/ubuntu# pwd
/home/ubuntu
root@ip-172-31-21-223:/home/ubuntu# ls
root@ip-172-31-21-223:/home/ubuntu# ls -la
total 28
drwxr-x--- 4 ubuntu ubuntu 4096 Sep 19 14:22 .
drwxr-xr-x 3 root    root   4096 Sep 19 14:12 ..
-rw-r--r-- 1 ubuntu ubuntu  220 Mar 31  2024 .bash_logout
-rw-r--r-- 1 ubuntu ubuntu 3771 Mar 31  2024 .bashrc
drwx----- 2 ubuntu ubuntu 4096 Sep 19 14:20 .cache
-rw-r--r-- 1 ubuntu ubuntu  807 Mar 31  2024 .profile
drwx----- 2 ubuntu ubuntu 4096 Sep 19 14:12 .ssh
-rw-r--r-- 1 ubuntu ubuntu    0 Sep 19 14:22 .sudo_as_admin_successful
root@ip-172-31-21-223:/home/ubuntu#
```

```
root@ip-172-31-21-223:/home/ubuntu# mkdir projeto
root@ip-172-31-21-223:/home/ubuntu# cd projeto
root@ip-172-31-21-223:/home/ubuntu/projeto# touch arquivo.txt
root@ip-172-31-21-223:/home/ubuntu/projeto# ls
arquivo.txt
root@ip-172-31-21-223:/home/ubuntu/projeto# cp arquivo.txt backup.txt
root@ip-172-31-21-223:/home/ubuntu/projeto# ls
arquivo.txt  backup.txt
root@ip-172-31-21-223:/home/ubuntu/projeto# echo "Teste para apresentação" >> arquivo.txt
root@ip-172-31-21-223:/home/ubuntu/projeto# cat arquivo.txt
Teste para apresentação
```

6 - Dificuldades Encontradas e Soluções

Problema: Não conseguia acessar a VM via SSH.

Solução: Ajustei as permissões da chave privada com `chmod 600 chave.pem`.

7. Conclusão

A atividade permitiu compreender melhor a criação e configuração de máquinas virtuais na nuvem, além de praticar comandos básicos de Linux, manipulação de arquivos, permissões e navegação no terminal. O processo trouxe aprendizado prático de soluções para problemas comuns encontrados em ambientes de computação em nuvem.