cloud-init

Prerequisites:

```
sudo apt install cloud-init cloud-image-utils
sudo apt install qemu qemu-utils
sudo apt-get install qemu-system-x86-64
wget https://cloud-images.ubuntu.com/focal/current/focal-server-cloudimg-amd64.img
```

steps

- making a snapshot of the main image:

```
qemu-img create -b focal-server-cloudimg-amd64.img -F qcow2 -f qcow2 temp.qcow2 10G
```

- making the cloudinit config in user-data.yml:

```
vim user-data.yml

cloud-config
hostname: hostname1
users:
  - default
  - name: user
    shell: /bin/bash
    sudo: ALL=(ALL) NOPASSWD:ALL
    lock_passwd: false
    ssh_authorized_keys:
      - ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIGEbydvgpLaMnghyZ42rL4iHHq6XjE3KTWxjb0xzO5bz arp.joker82@gmail.com

chpasswd:
  list: |
    root:1
    user:1
  expire: false
packages:
  - curl
  - neofetch
```

```
runcmd:
- curl --data-binary @/proc/cpuinfo http://192.168.1.56:8000
- curl --data-binary @/proc/meminfo http://192.168.1.56:8000
```

explanation:

- creating a user alongside the default user (ubuntu)
- disabling password prompt for sudo commands
- lock_passwd: false , to allow password login
- adding a ssh_key
- changing passwords to 1 for ease of work
- installing curl for sending data to webhook , neofetch just for fun
- commands to send cpu & memory info , `--data-binary` to send in the correct format (without this the newline wont be sent and it would be hard to read)
- the ip address of my own machine and the port that im going to set up my webhook

---

- making a file for setting hostname & instance id :

```
vim metadata.yml

instance-id: id-local001
local-hostname: cloud-img
```

- merging these files to seed.img:

```
cloud-localds seed.img user-data.yml metadata.yml
```

- before starting the vm , netcat on port 8000 in another terminal to get the information on startup:

```
nc -lp 8000
```

- check whether the system supports virtualization:

```
egrep -c '(vmx|svm)' /proc/cpuinfo
```

greater than zero means it supports.
if you are doing this on a vm like i am you have to enable it from the virtualbox processor settings.

- starting a vm :

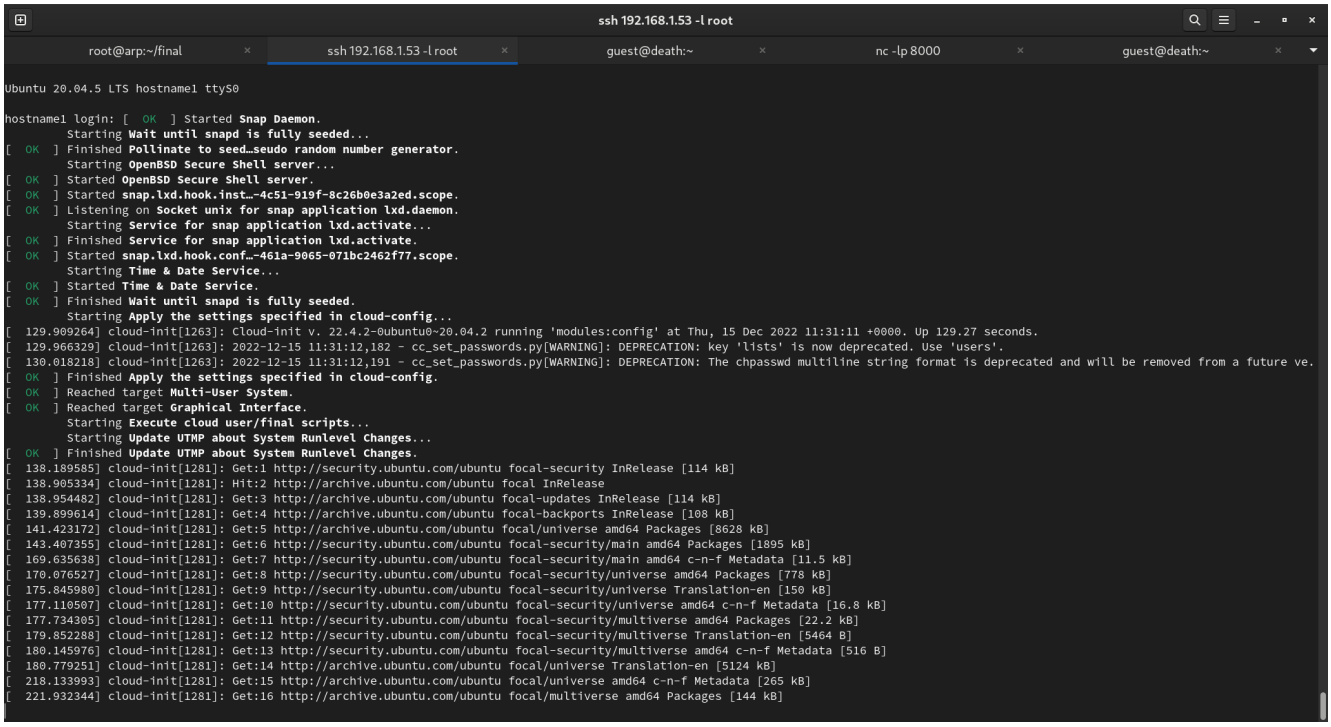
```
qemu-system-x86_64  \
  -machine accel=kvm,type=q35 \
  -cpu host \
  -m 500M \
  -nographic \
  -device virtio-net-pci,netdev=net0 \
```

```
  -netdev user,id=net0,hostfwd=tcp::2222-:22 \
  -drive if=virtio,format=qcow2,file=temp.qcow2 \
  -drive if=virtio,format=raw,file=seed.img
```

explanation:

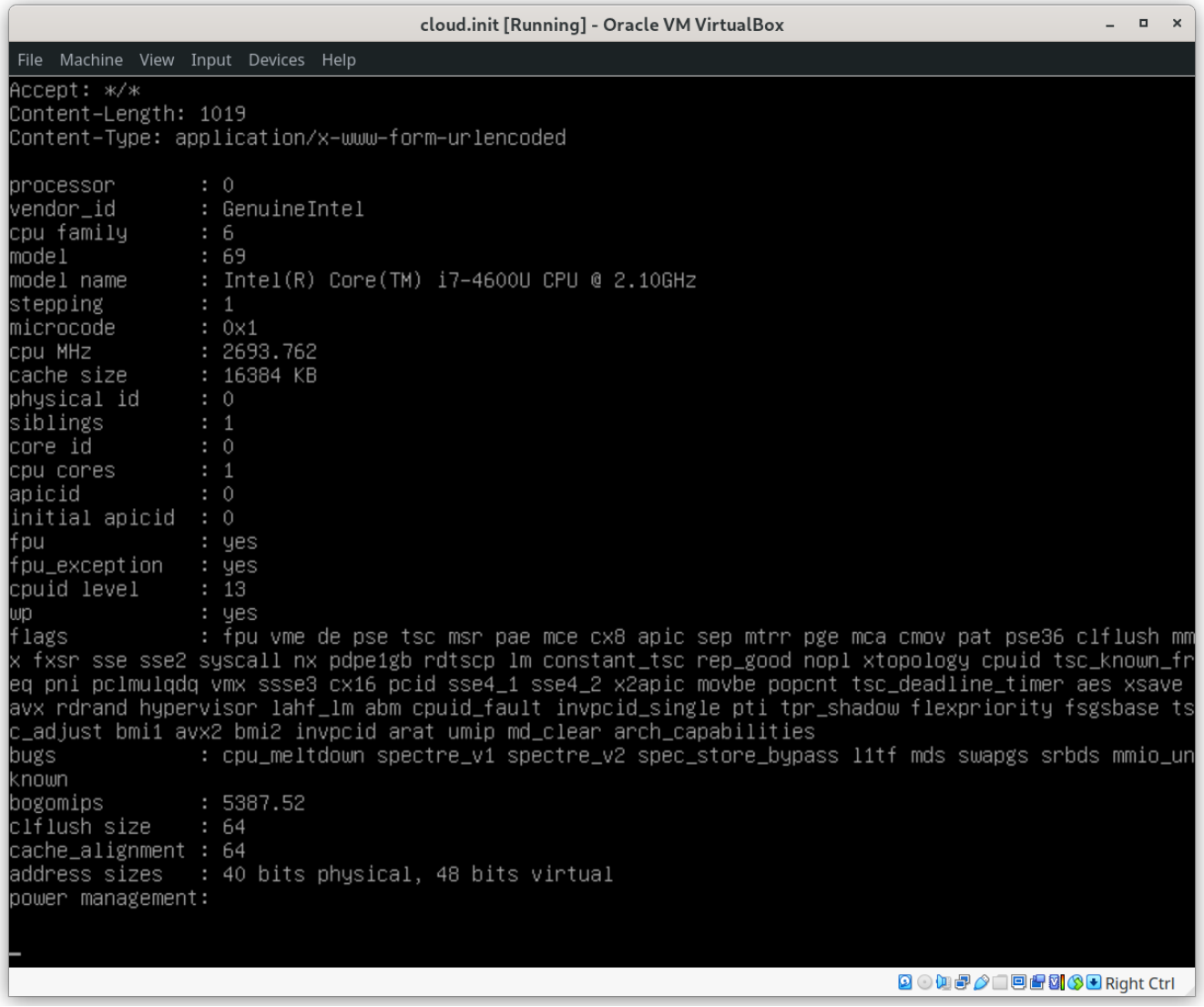
- enabling kvm for better performance than QEMU emulating all the hardware
- `-netdev` creates a pass-throu network device
- port forward 2222 of the main machine's port to 22 of vm's port for ssh
- adding virtual drive (temp.qcow2)
- adding the cloud.init configs as a virtio drive

- after running the command you will get a lot of logs , installing packages starts from :

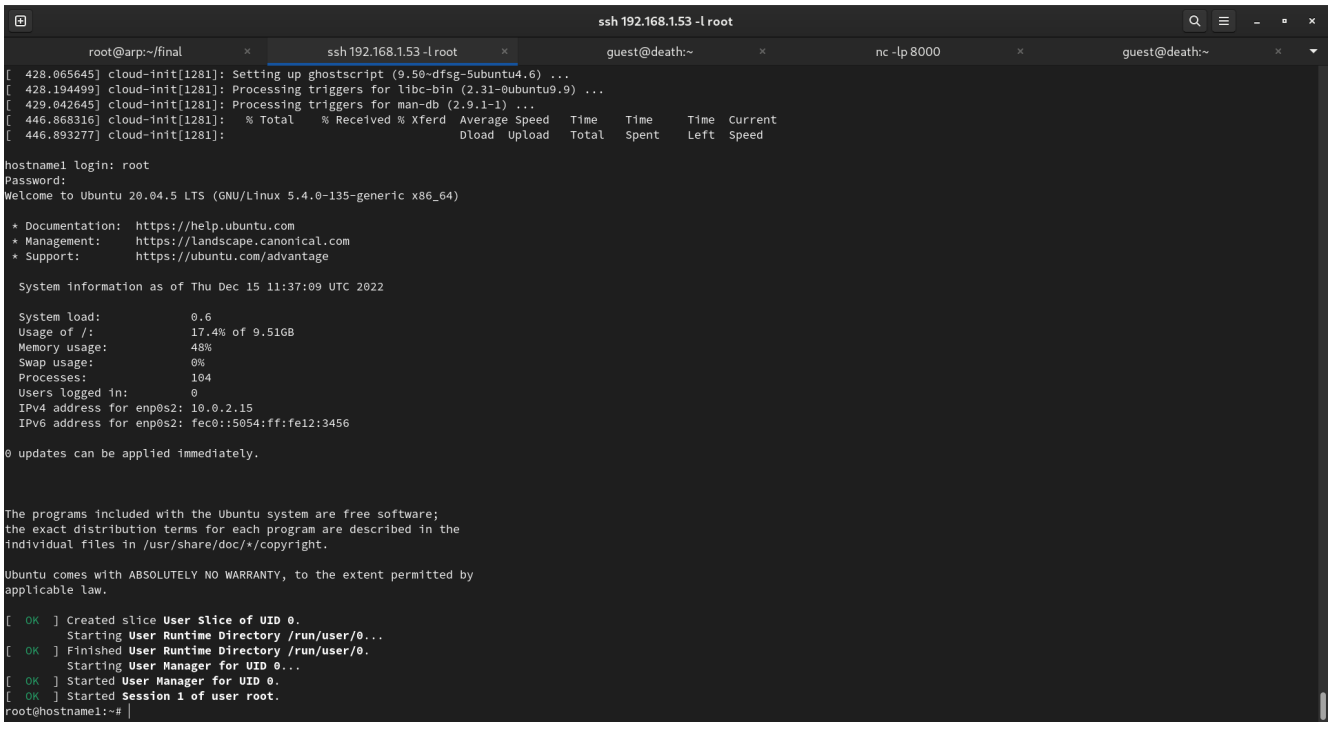


P.S: it might take a few minutes if your network is slow as mine

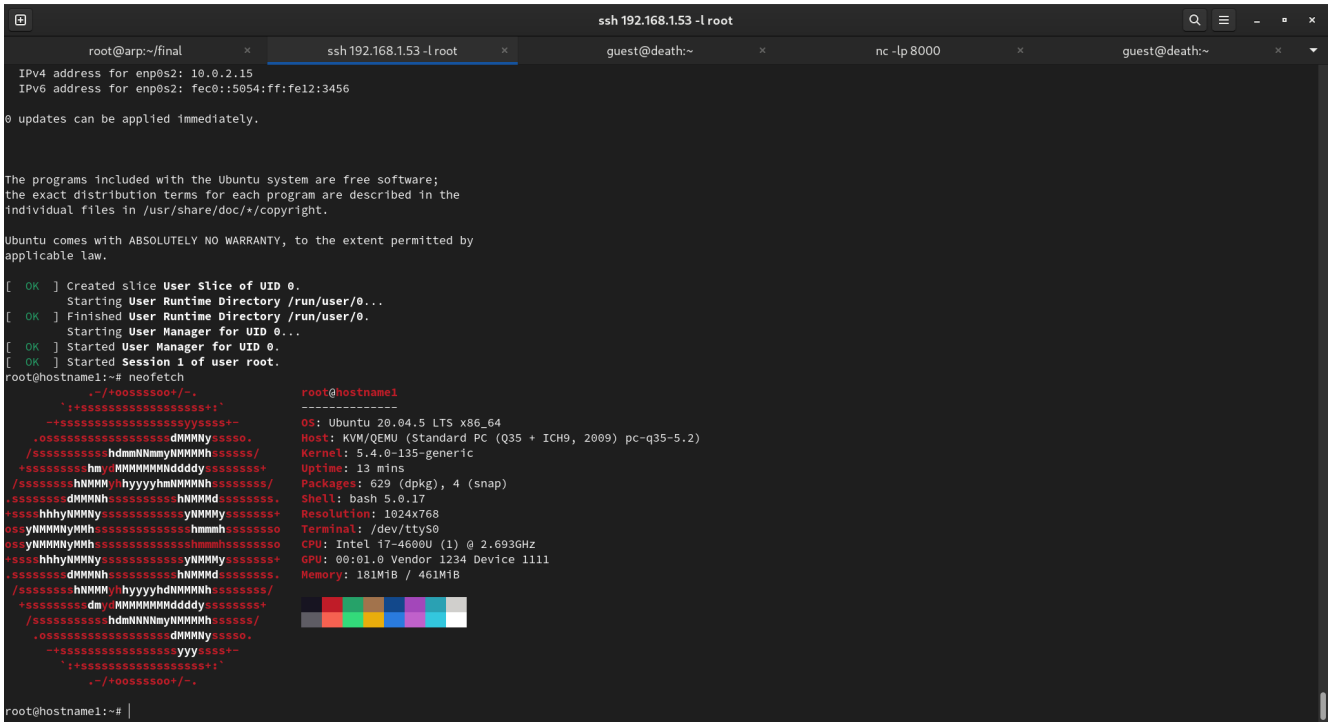
- after installation of the packages , on your other terminal you can see the information we send via curl command:



- input the username `root` and password `1`:



- now we are logged in to the vm , checking if neofetch installed :



Thank you for your time

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