

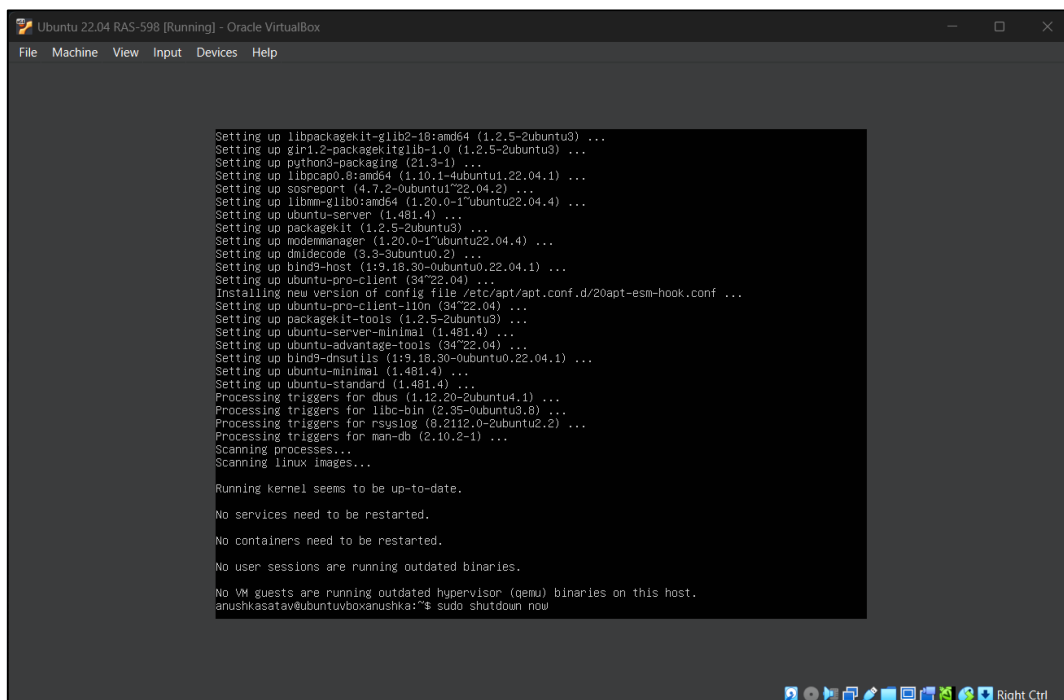
RAS 598 Experimentation and Deployment of Robots

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Assignment 01

Task 01: Installation

- 1) Download and install VirtualBox and the VirtualBox extension pack
- 2) Download Ubuntu 22.04 server edition
- 3) Created Virtual Machine with:
 - a. 8 Gb RAM
 - b. 6 Processors
 - c. USB 3.0 Controller
 - d. Bridged Network adapter
 - e. Shared folder to host OS



```
Setting up libpackagekit-glib2:amd64 (1.2.5-2ubuntu3) ...
Setting up gir1.2-packagekitglib:amd64 (1.2.5-2ubuntu3) ...
Setting up python3-packaging (21.3-1) ...
Setting up libccap0:amd64 (1.10.1-4ubuntu1) ...
Setting up socat (4.7.2-2ubuntu1) ...
Setting up libmm-glib:amd64 (1.20.0-1ubuntu2) ...
Setting up ubuntu-server (1.481.4) ...
Setting up packagekit (1.2.5-2ubuntu3) ...
Setting up modemmanager (1.20.0-1ubuntu2) ...
Setting up dnidecode (3.3-2ubuntu0.2) ...
Setting up bind9-host (1:9.18.30-0ubuntu0.22.04.1) ...
Setting up ubuntu-pro-client (34*22.04) ...
Installing new version of config file /etc/apt/apt.conf.d/20apt-esm-hook.conf ...
Setting up ubuntu-pro-client-l10n (34*22.04) ...
Setting up packagekit-tools (1.2.5-2ubuntu3) ...
Setting up ubuntu-server-minimal (1.481.4) ...
Setting up ubuntu-advantage-tools (34*22.04) ...
Setting up bind9-dnswriter (1:9.18.30-0ubuntu0.22.04.1) ...
Setting up ubuntu-minimal (1.481.4) ...
Setting up ubuntu-standard (1.481.4) ...
Processing triggers for dbus (1.12.20-2ubuntu4.1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.8) ...
Processing triggers for rsyslog (8.2112.0-2ubuntu2.2) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
anushkasatav@ubuntu:~$ sudo shutdown now
```

Figure 1. Ubuntu 22.04 Server edition Installation screenshot

- 4) Install Ubuntu 22.04 desktop and take snapshot of computer terminal open in gnome with machine name updated with ASURITE ID (1233530170).

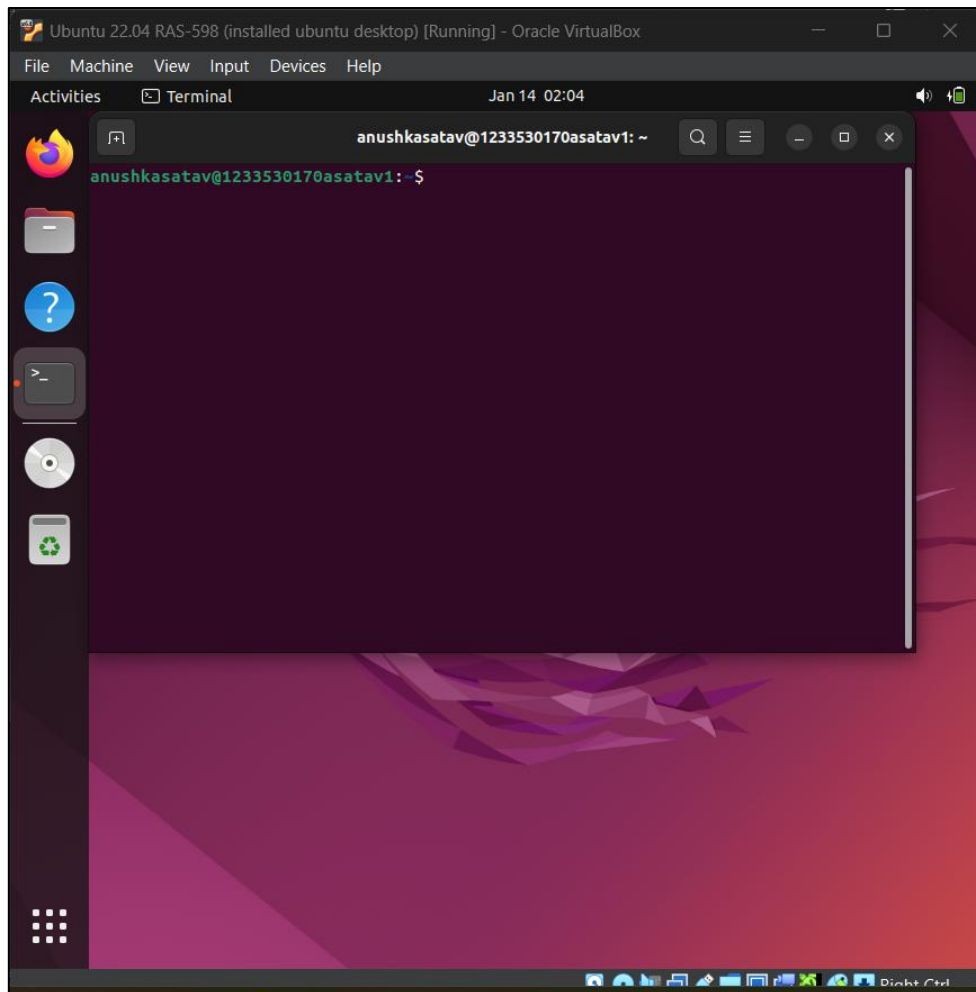


Figure 2. Ubuntu 22.04 Desktop installed and running

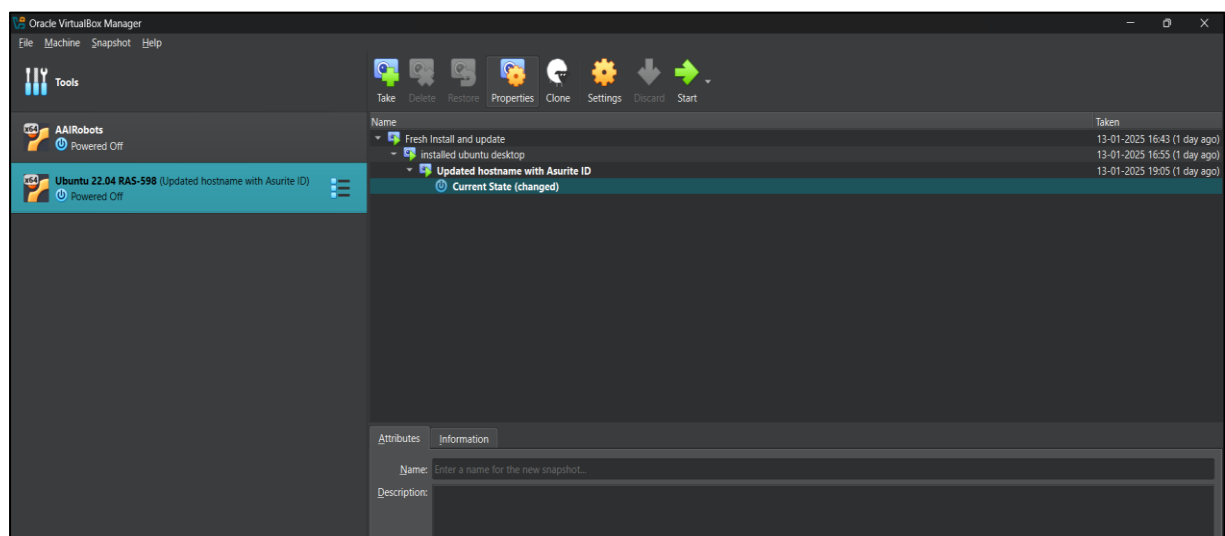


Figure 3. Snapshots created during the setup

Task 02: Creating private key

1. Create a ed25519 private key, and save it to the ~/.ssh folder in the virtual machine

On terminal run: `ssh-keygen -t ed25519 -f ~/key-1233530170`

This creates 2 files: `~key-1233530170` and `~key-1233530170.pub`

2. Copy the public key (`key-1233530170.pub`) to the VirtualBox shared folder so you can extract it on your host machine.

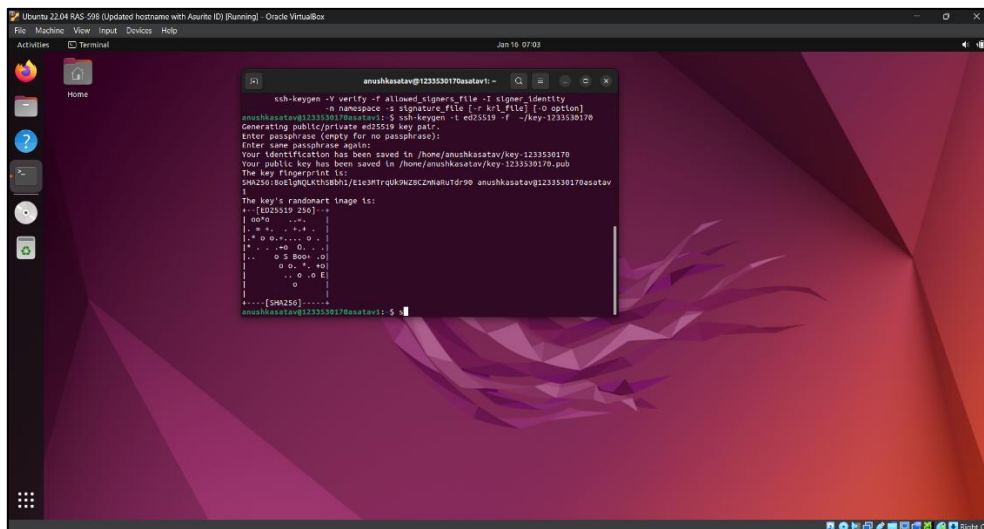


Figure 4. Created a private key named with ASURITE ID (key-1233530170)

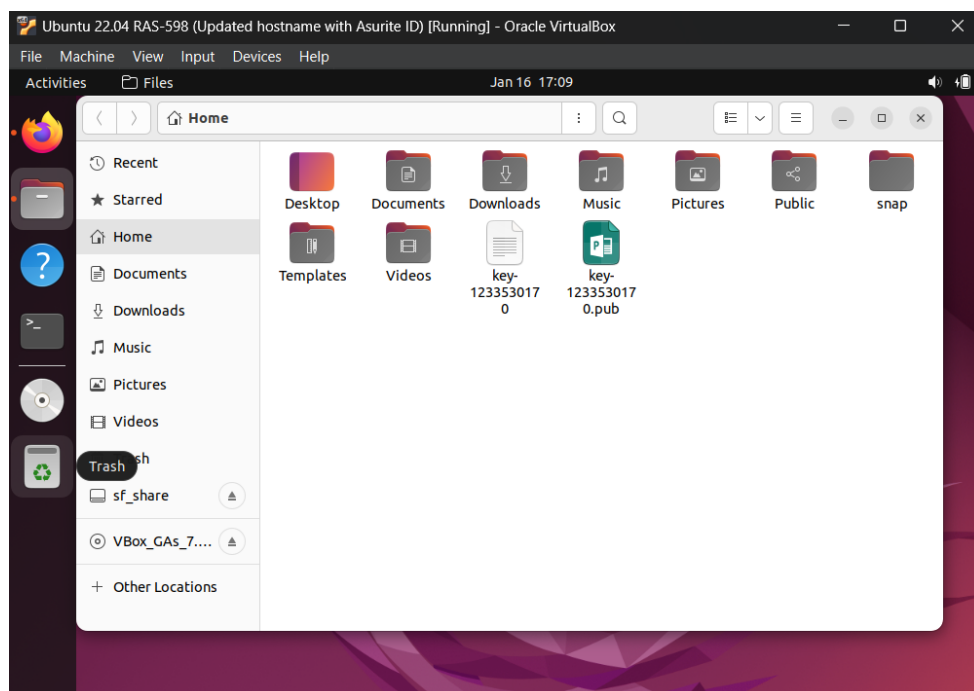


Figure 5. Two ssh key files generated

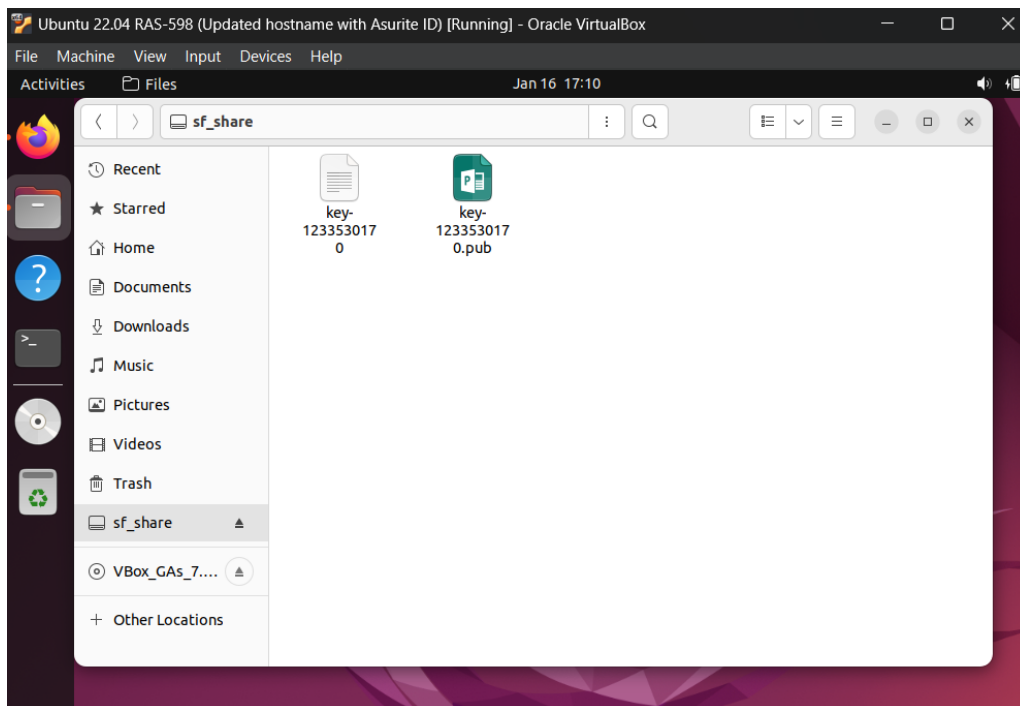


Figure 6. Copy pasted key files to shared folder on Host OS

Task 03: Tailscale setup

1. Create account on Tailscale <https://tailscale.com>
2. Install Tailscale on Virtual machine
3. Register your computer on your Tailscale account
On Terminal run: `sudo tailscale up`
4. Follow the directions in the command prompt to finish adding your computer to the tailnet on the tailscale website (Also: be sure to “**disable key expiry**” to ensure your computer’s registration doesn’t expire).
5. Add this machine to your own tailnet:
<https://login.tailscale.com/admin/invite/LUjyv5MY38g>
6. Run tailscale status to confirm it has been added and to get its hostname (should look like en4114943l.tail<some-custom-number>. ts.net)
7. Take a screenshot of you successfully pinging the device.
8. On Terminal run: `ping <remote-machine-hostname>`

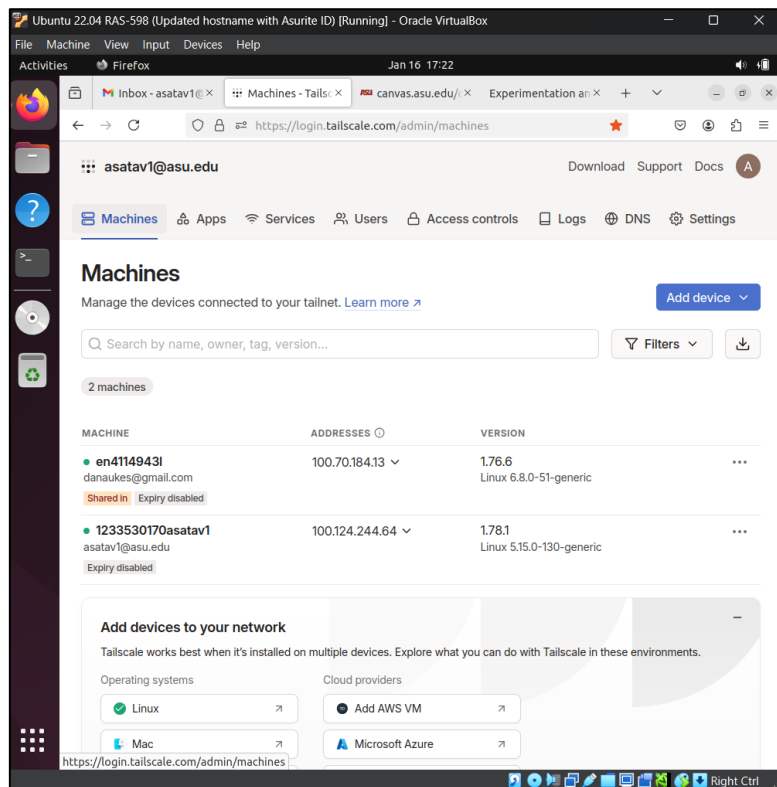


Figure 7. Tailscale account created and installation complete

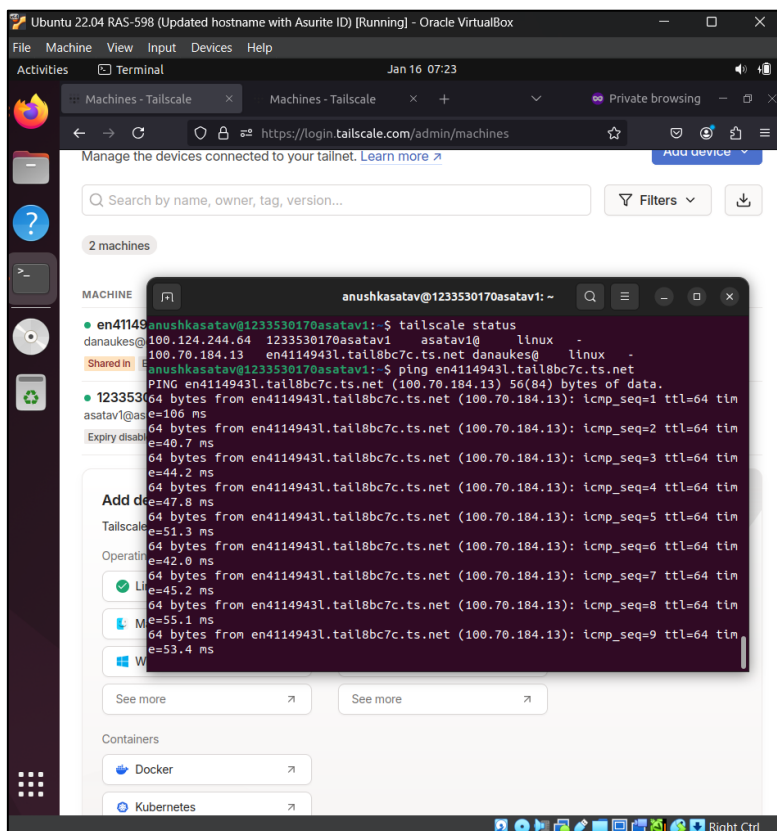


Figure 8. Ping new added device "en4114943l"