Name: Anushka G Satav **ASU ID:** 1233530170 (asatav1)

RAS 598 Experimentation and Deployment of Robots

By Prof. Daniel Aukes

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

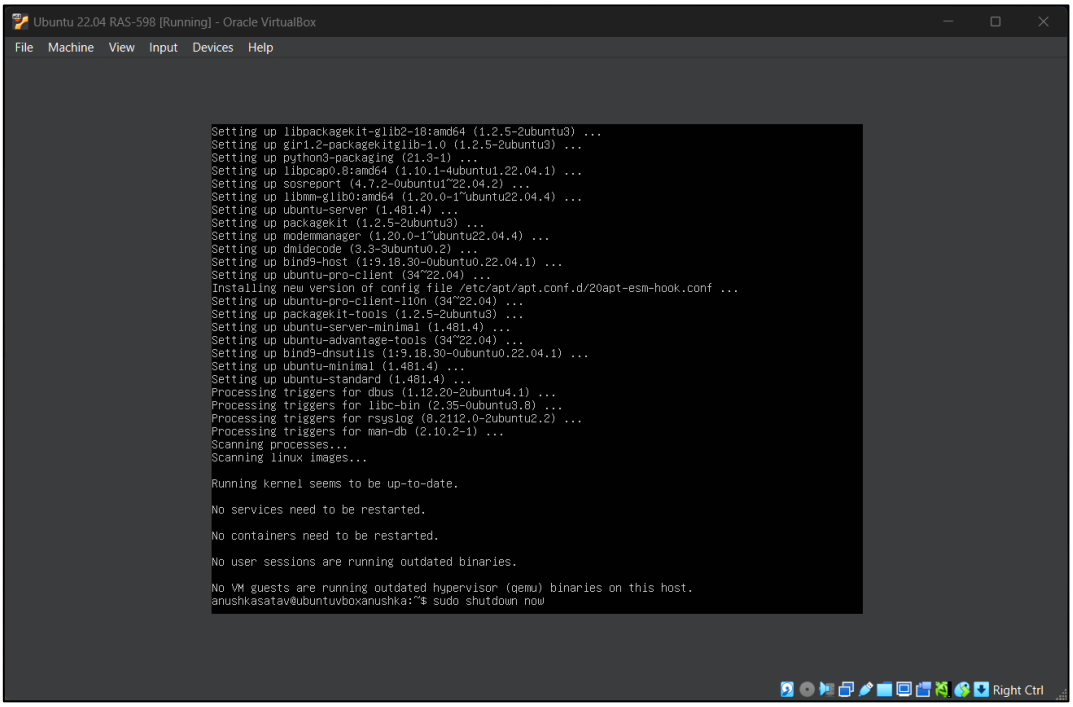

Figure 1. Ubuntu 22.04 Server edition Installation screenshot

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

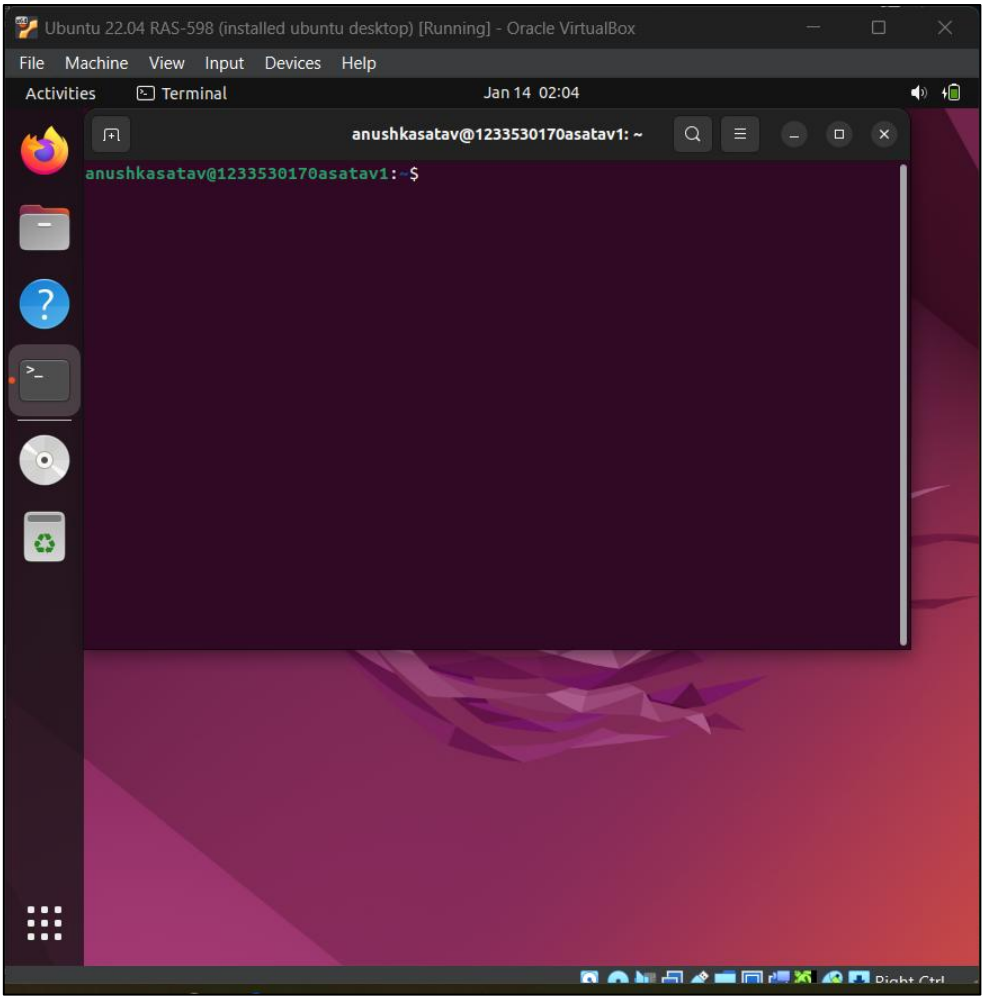

Figure 2. Ubuntu 22.04 Desktop installed and running

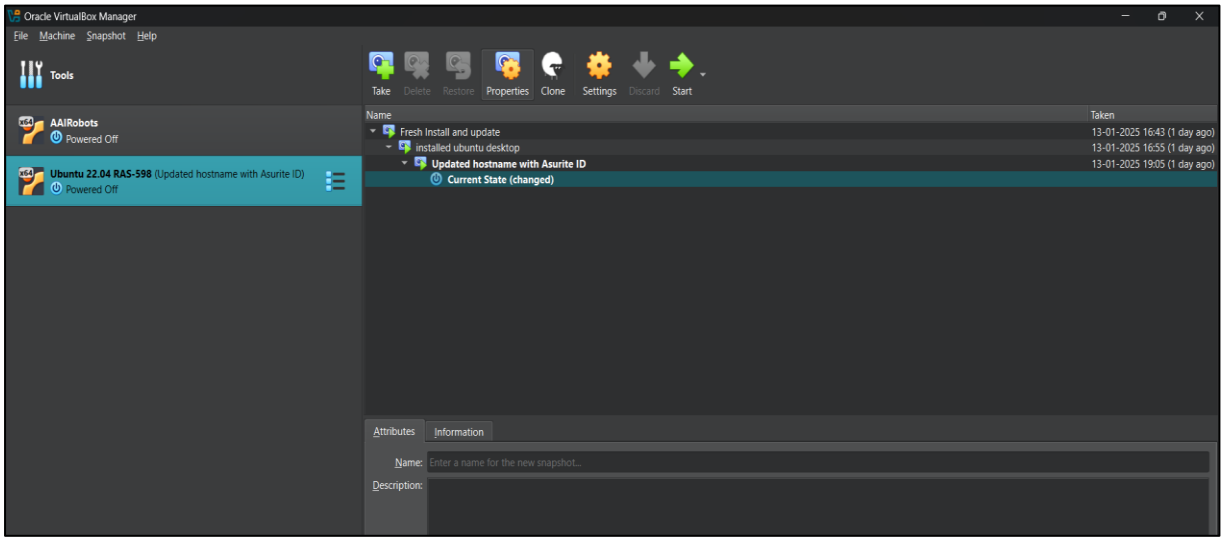

Figure 3. Snapshots created during the setup

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-1233531070.pub) to the VirtualBox shared folder so you can extract it on your host machine.

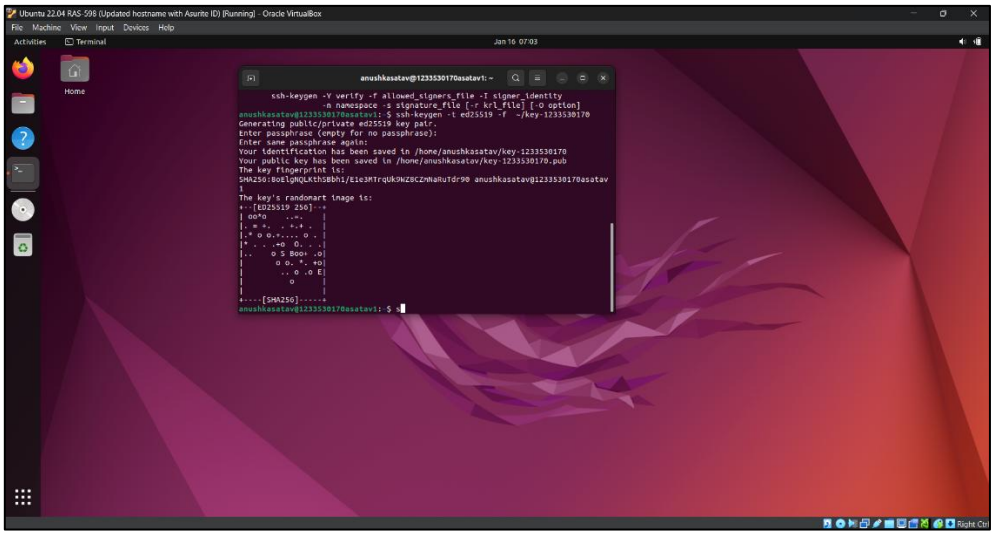

Figure 4. Created a private key named with ASURITE ID (key-1233530170)

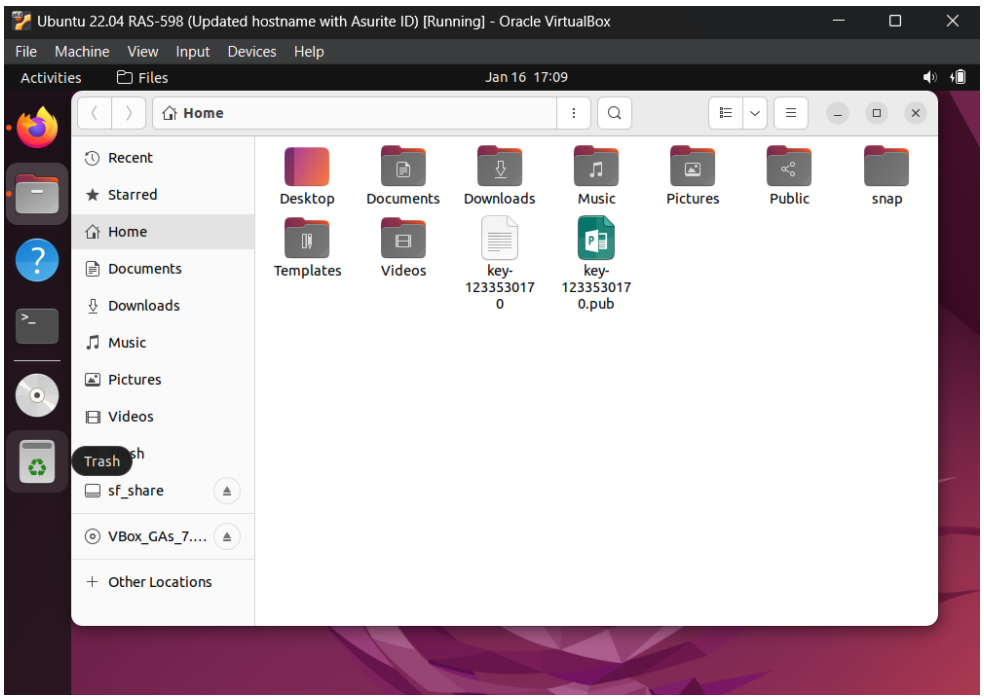

Figure 5. Two ssh key files generated

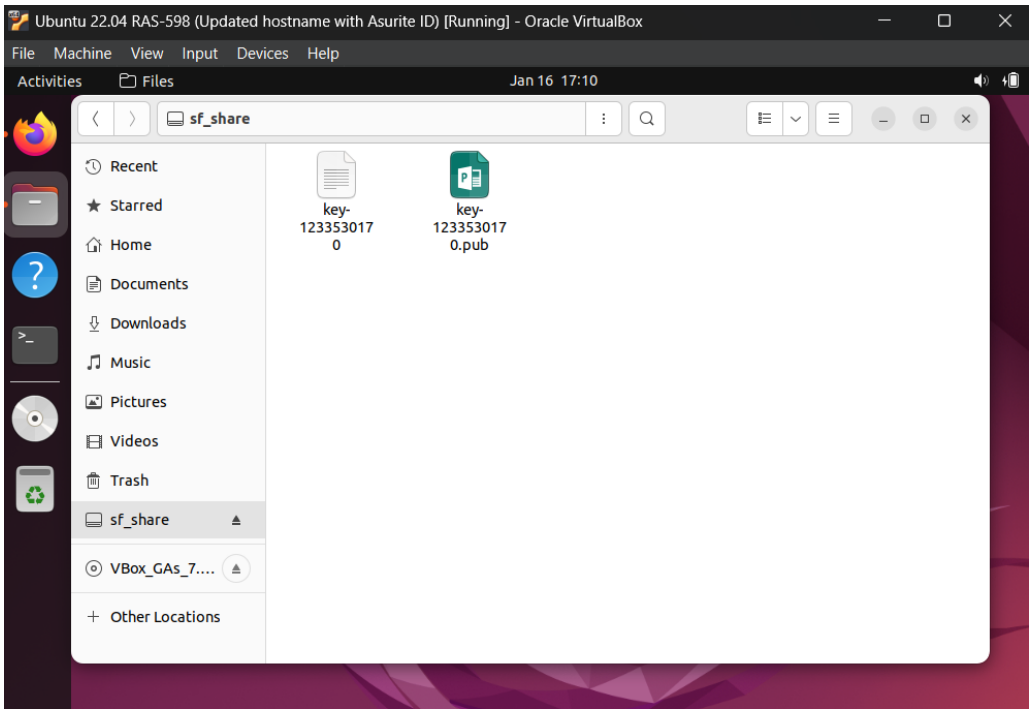

Figure 6. Copy pasted key files to shared folder on Host OS

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>`

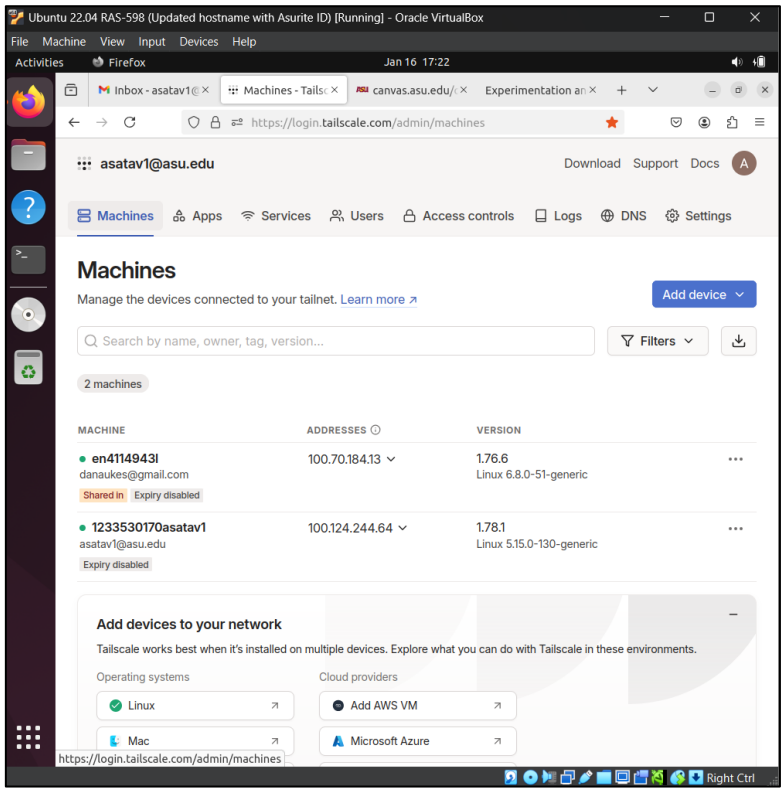

Figure 7. Tailscale account created and installation complete

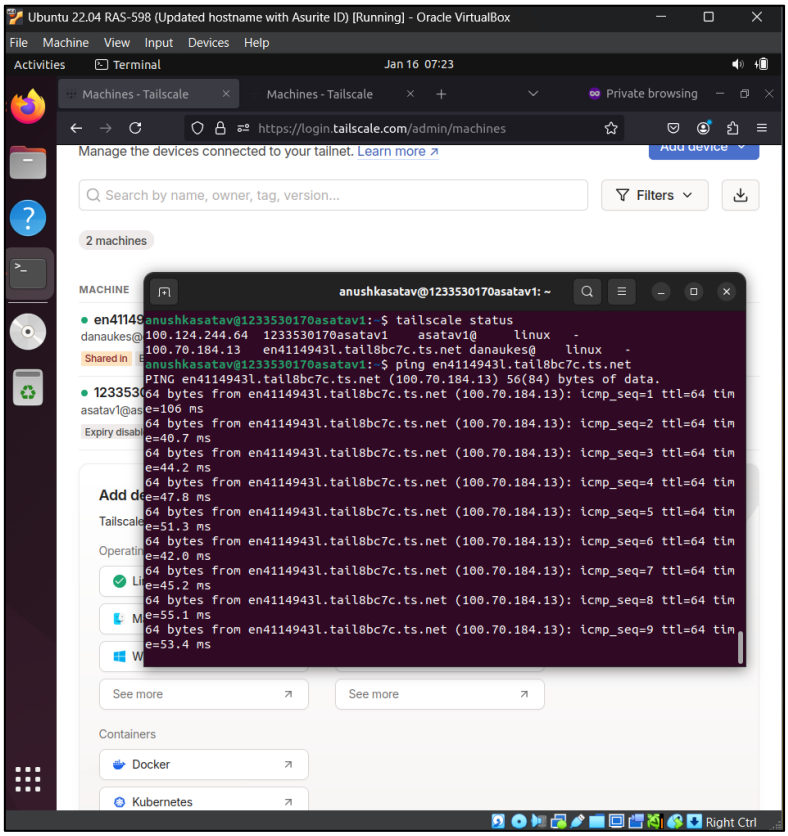

Figure 8. Ping new added device “en4114943l”