rish4name / **Lms_Linux**

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🟢 **rish4name** changes again   4c29e1c · 1 minute ago   ⟲

144 lines (91 loc) · 2.83 KB

✅ Secure Remote GUI Access via SSH (X11) and VNC

OS Used: Ubuntu (both systems)
Author: Ryder
Course: Linux System Administration
Assignment: Remote GUI Access & Verification

📌 Objective

Demonstrate secure remote GUI access from your laptop to a remote machine (friend's laptop) using:

1. **SSH with X11 Forwarding (Single GUI App)**
2. **VNC Over SSH Tunnel (Full Desktop Session)**

All operations assume explicit permission on the remote system.

✅ Step 1 — Prepare & Secure the Remote Machine

(Run these on the friend's laptop)

✅ 1. Install SSH and optional VNC server

```
sudo apt update
sudo apt install -y openssh-server tigervnc-standalone-server
```

✅ 2. Create non-root user & enable SSH service

```
sudo useradd -m frienduser || true
sudo passwd frienduser
sudo systemctl enable --now ssh
```

✅ 3. Configure SSH key-based authentication

Replace `<your-pubkey>` with your actual *public* SSH key:

```
sudo mkdir -p /home/frienduser/.ssh
echo "<your-pubkey>" | sudo tee -a /home/frienduser/.ssh/authorized_keys

sudo chmod 700 /home/frienduser/.ssh
sudo chmod 600 /home/frienduser/.ssh/authorized_keys
sudo chown -R frienduser:frienduser /home/frienduser/.ssh
```

📸 Screenshot A: `authorized_keys` file

✅ Step 2 — X11 Forwarding (Test GUI App Over SSH)

✅ 1. Connect using SSH + X11 forwarding

(Run on your laptop)

```
ssh -X frienduser@FRIEND_IP
```

✅ 2. Run a GUI app remotely
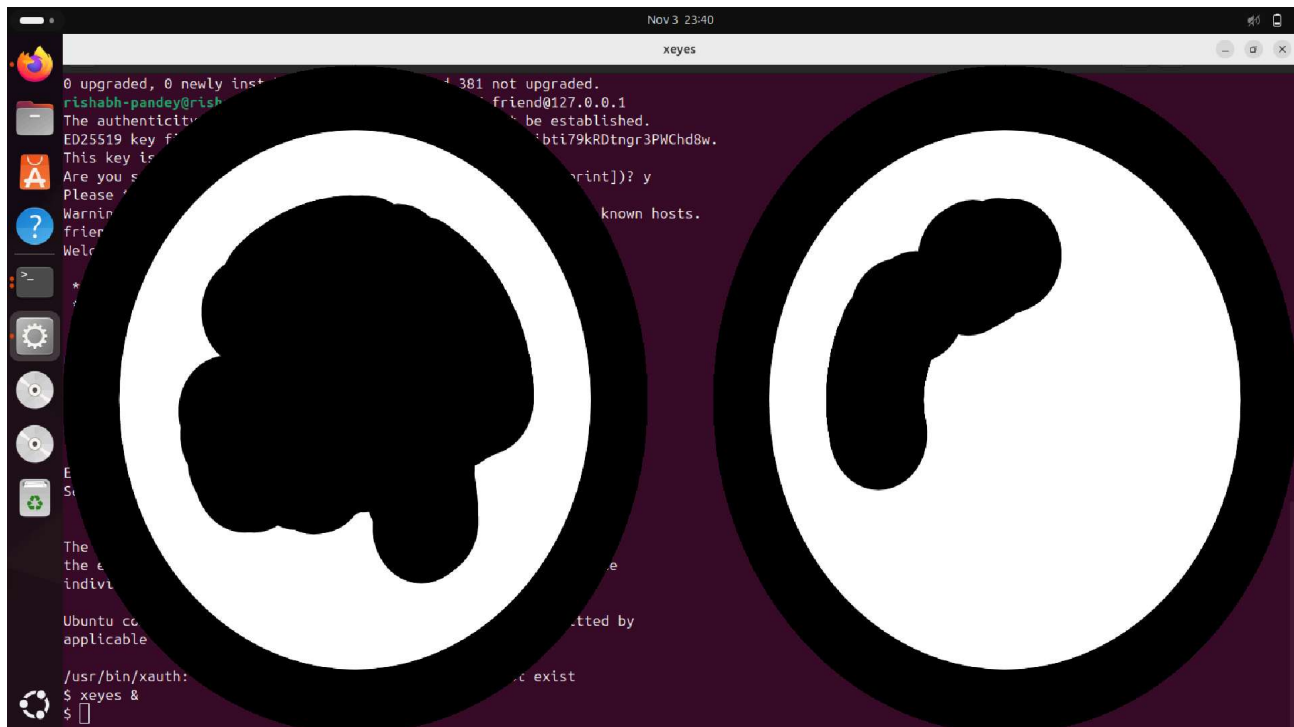
```
xeyes &
```

or

```
gedit &
```

✅ If successful: the GUI app appears on **your** laptop screen, though it runs on the friend's machine.

📸 Screenshot B: X11 Forwarding Result

Should show:

- Terminal with `ssh -X frienduser@FRIEND_IP`
- GUI app (xeyes/gedit) open

✅ Step 3 — Full Desktop Access via VNC over SSH Tunnel

✅ 1. Start VNC server on remote machine

```
vncserver :1
```

This creates display `:1` → port **5901**

✅ 2. On your laptop, create secure SSH tunnel

```
ssh -L 5901:localhost:5901 frienduser@FRIEND_IP -N &
```

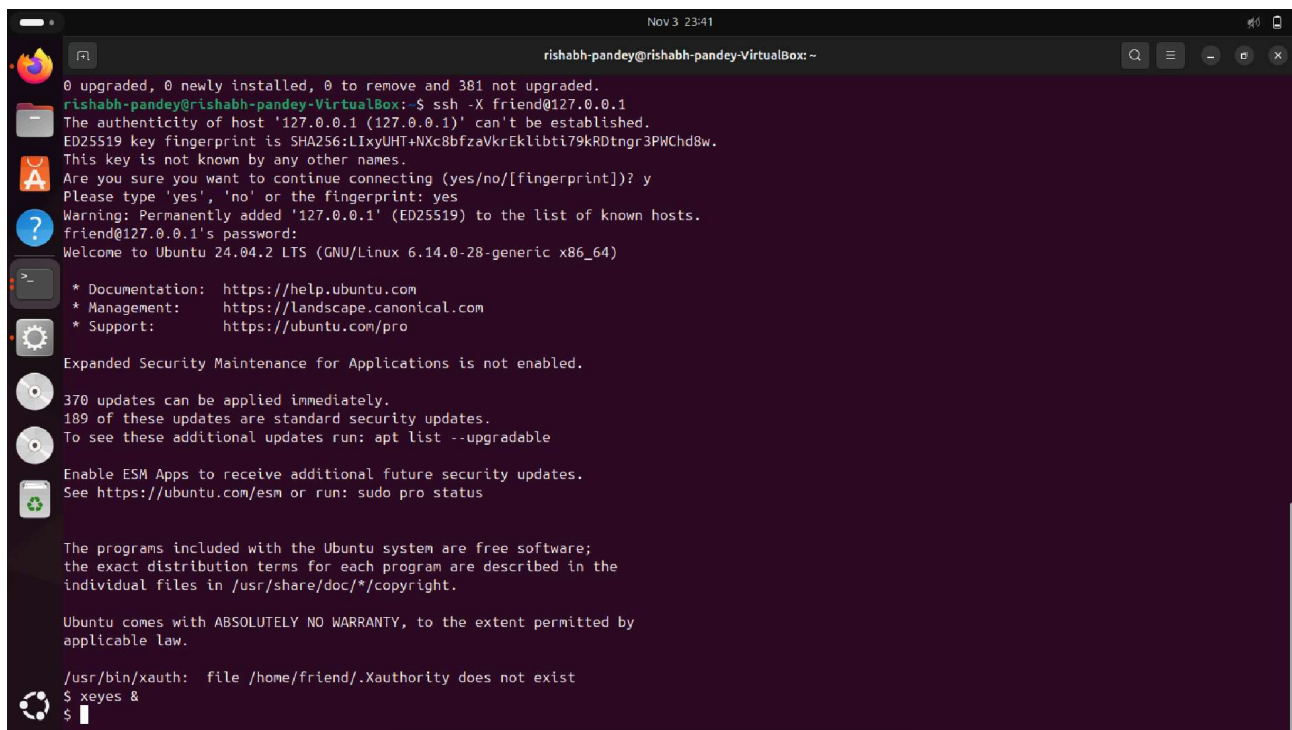## ✅ 3. Connect using any VNC viewer

Open VNC client → connect to:

```
localhost:5901
```

✅ If successful: full desktop of remote machine appears.

📷 Screenshot C: VNC Desktop Session

Place screenshot here:

✅ Summary

This assignment demonstrates secure GUI remote access using:

- ✅ **SSH server setup with proper permissions**
- ✅ **Public-key authentication**

- ✔ X11 forwarding to run GUI apps remotely
- ✔ VNC over SSH for a full remote desktop
- ✔ Verification screenshots for each stage

All actions follow secure, permission-based remote access practices.

✅ End of Submission ✅

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