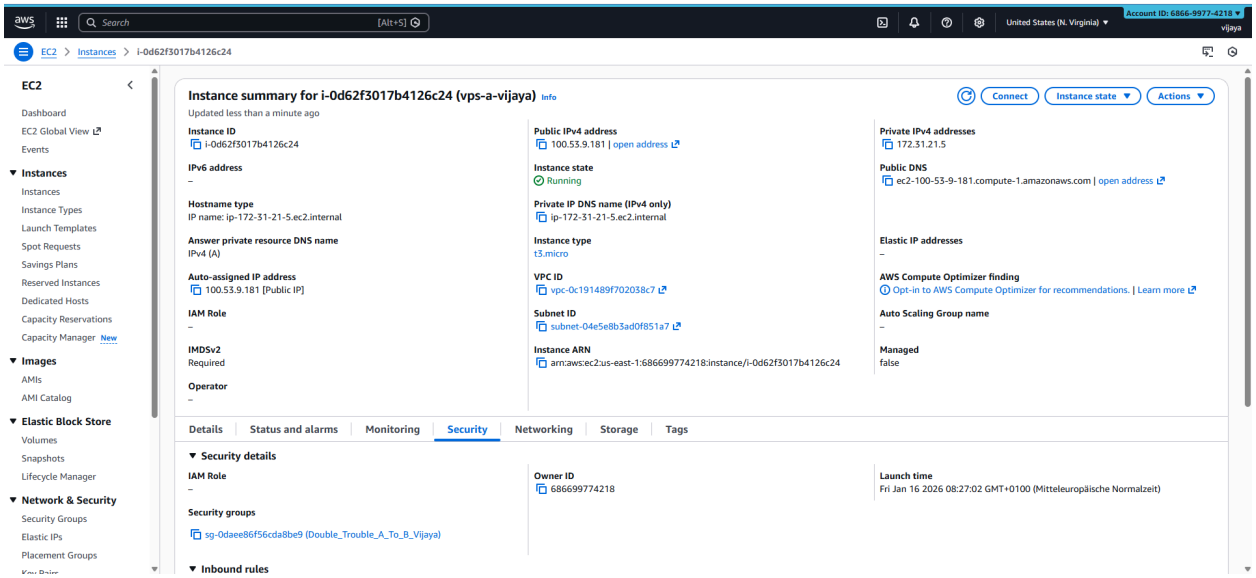
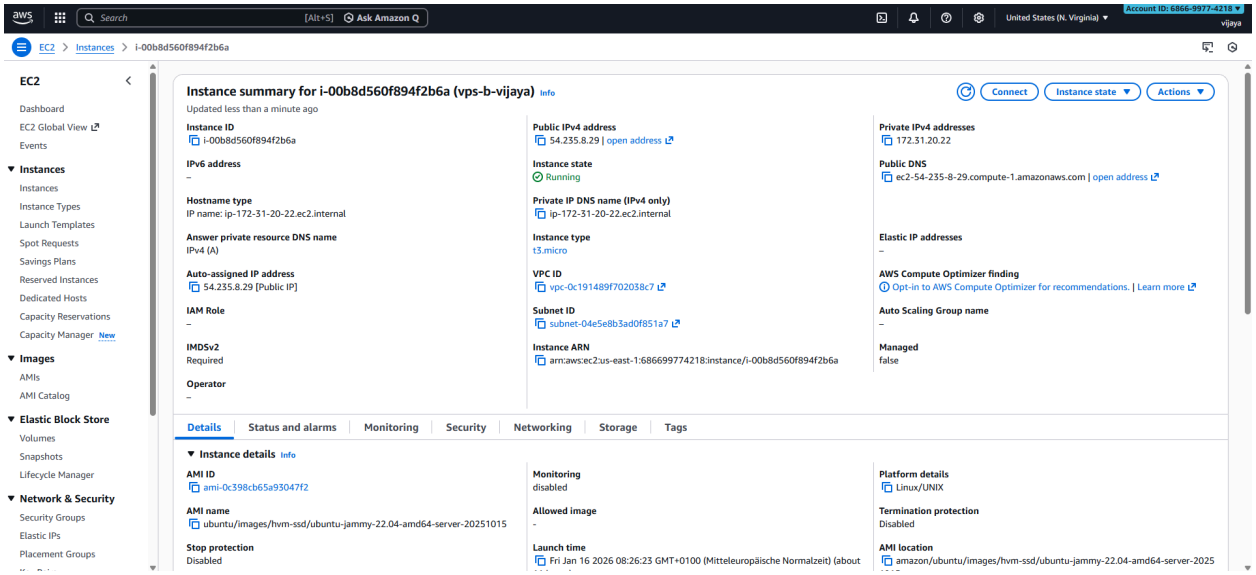
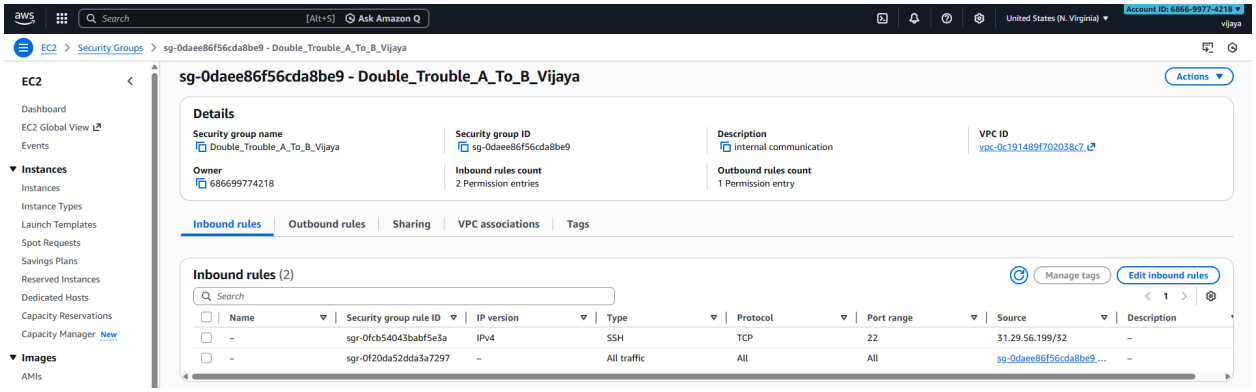
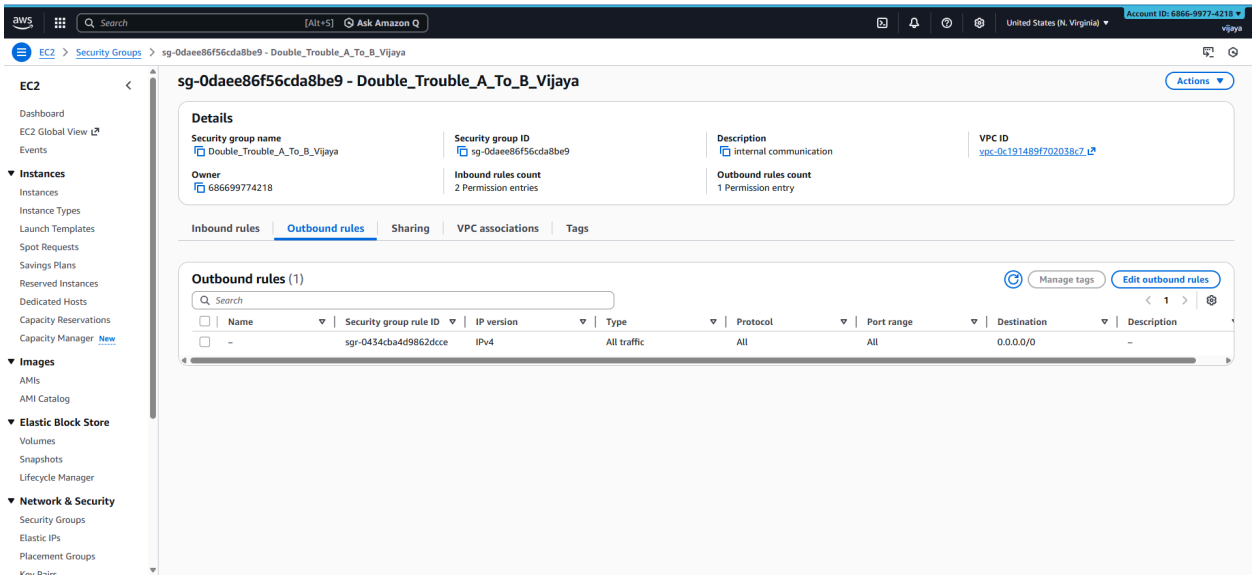
Double Trouble Lab

Infrastructure Proof:









Automation Evidence:

1.2 Initial Connection & Verification

```
buntu@ip-172-31-21-5:~$ ls -la ~/received_from_b/ | head -n 5
rontab -l
otal 28
rwx------ 2 ubuntu ubuntu 4096 Jan 15 19:45 .
rwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 19:22 ..
rw-rw-r-- 1 ubuntu ubuntu   49 Jan 15 19:36 file_1768505762.txt
rw-rw-r-- 1 ubuntu ubuntu   49 Jan 15 19:38 file_1768505883.txt
 Edit this file to introduce tasks to be run by cron.

 Each task to run has to be defined through a single line
 indicating with different fields when the task will be run
 and what command to run for the task

 To define the time you can provide concrete values for
 minute (m), hour (h), day of month (dom), month (mon),
 and day of week (dow) or use '*' in these fields (for 'any').

 Notice that tasks will be started based on the cron's system
 daemon's notion of time and timezones.

 Output of the crontab jobs (including errors) is sent through
 email to the user the crontab file belongs to (unless redirected).

 For example, you can run a backup of all your user accounts
 at 5 a.m every week with:
 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/

 For more information see the manual pages of crontab(5) and cron(8)

 m h  dom mon dow   command

 File creation every 2 minutes
/2 * * * * /home/ubuntu/create_on_b.sh

 Cleanup every 15 minutes
/15 * * * * /home/ubuntu/cleanup_from_b.sh

 Optional: Log rotation every day at 2 AM
 2 * * * find /home/ubuntu/script_logs -name "*.log" -mtime +7 -delete
```

```
ubuntu@ip-172-31-20-22:~$ ls -la ~/received_from_a/ | head -n 5
crontab -l
total 28
drwx------ 2 ubuntu ubuntu 4096 Jan 15 19:45 .
drwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 19:24 ..
-rw-rw-r-- 1 ubuntu ubuntu   49 Jan 15 19:36 file_1768505763.txt
-rw-rw-r-- 1 ubuntu ubuntu   49 Jan 15 19:38 file_1768505882.txt
# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').
#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h  dom mon dow   command
# File creation every 2 minutes
*/2 * * * * /home/ubuntu/create_on_a.sh

# Cleanup every 15 minutes
*/15 * * * * /home/ubuntu/cleanup_from_a.sh

# Optional: Log rotation every day at 2 AM
0 2 * * * find /home/ubuntu/script_logs -name "*.log" -mtime +7 -delete
```

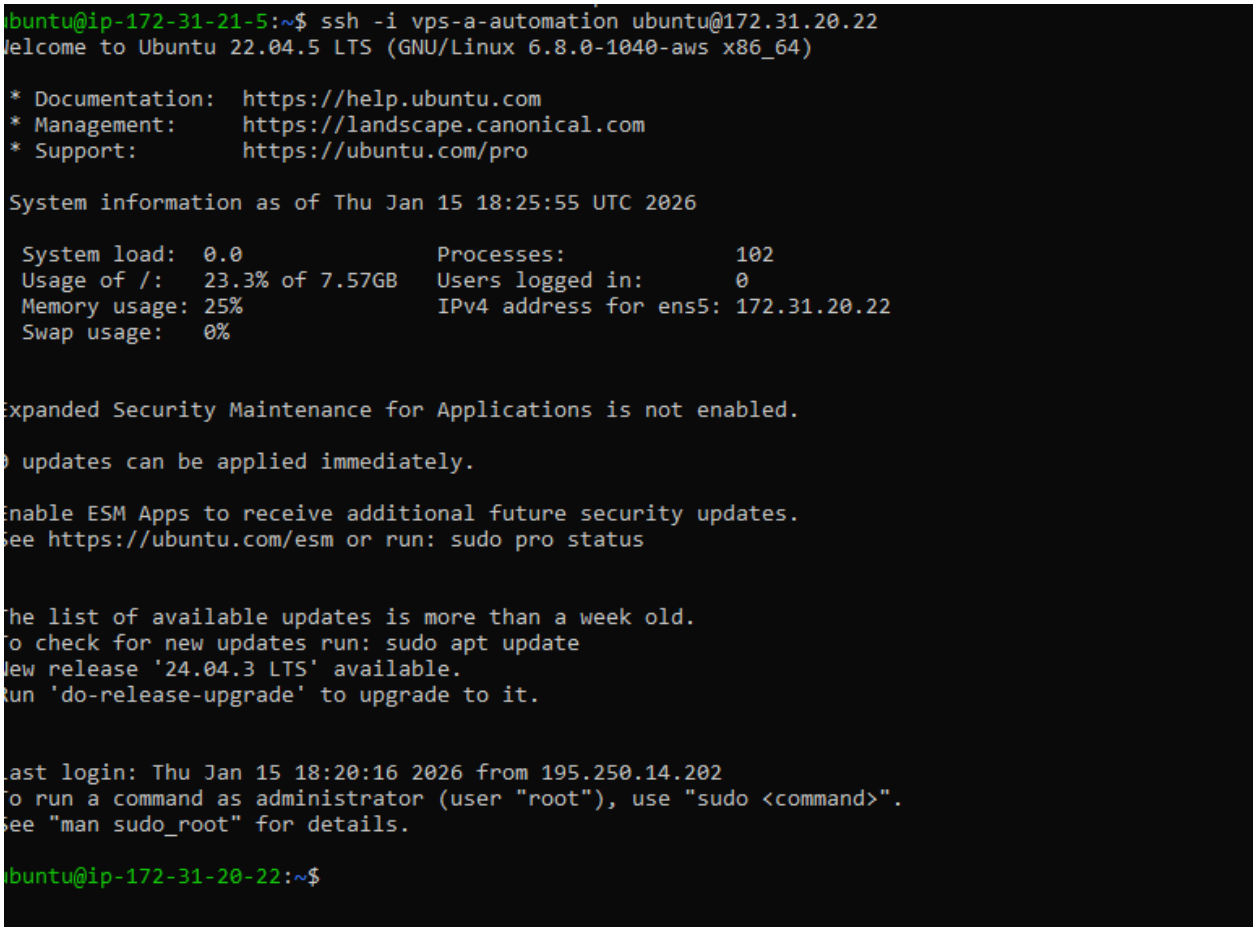
```
ubuntu@ip-172-31-21-5:~$ cat ~/received_from_b/file_*.txt | head -n 1
Created by VPS B at Thu Jan 15 19:36:02 UTC 2026
ubuntu@ip-172-31-21-5:~$
```

```
ubuntu@ip-172-31-20-22:~$ cat ~/received_from_a/file_*.txt | head -n 1
Created by VPS A at Thu Jan 15 19:36:03 UTC 2026
ubuntu@ip-172-31-20-22:~$
```

```
vijayagagla@DESKTOP-FP4OP26:~$ ssh -i Double-Trouble-Vijaya.pem ubuntu@98.81.87.109
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 6.8.0-1040-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

 System information as of Thu Jan 15 17:42:08 UTC 2026

  System load:  0.05              Processes:             104
  Usage of /:   23.3% of 7.57GB   Users logged in:       0
  Memory usage: 22%               IPv4 address for ens5: 172.31.21.5
  Swap usage:   0%


Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status


The list of available updates is more than a week old.
To check for new updates run: sudo apt update
Failed to connect to https://changelogs.ubuntu.com/meta-release-lts. Check your Internet connection or proxy settings


Last login: Thu Jan 15 14:27:10 2026 from 195.250.14.202
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-21-5:~$ whoami
ubuntu
ubuntu@ip-172-31-21-5:~$ hostname
ip-172-31-21-5
ubuntu@ip-172-31-21-5:~$ ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: ens5: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9001 qdisc mq state UP group default qlen 1000
    link/ether 0a:ff:f9:f8:3e:47 brd ff:ff:ff:ff:ff:ff
    altname enp0s5
    inet 172.31.21.5/20 metric 100 brd 172.31.31.255 scope global dynamic ens5
       valid_lft 3575sec preferred_lft 3575sec
    inet6 fe80::8ff:f9ff:fef8:3e47/64 scope link
       valid_lft forever preferred_lft forever
ubuntu@ip-172-31-21-5:~$
```

```
vijayagagla@DESKTOP-FP4OP26:~$ chmod 400 vps-b-vijaya.pem
vijayagagla@DESKTOP-FP4OP26:~$ ssh -i vps-b-vijaya.pem ubuntu@3.89.253.179
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 6.8.0-1040-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

 System information as of Thu Jan 15 17:32:23 UTC 2026

  System load:  0.0               Processes:             104
  Usage of /:   22.7% of 7.57GB   Users logged in:       0
  Memory usage: 24%               IPv4 address for ens5: 172.31.20.22
  Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status


The list of available updates is more than a week old.
To check for new updates run: sudo apt update


The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-20-22:~$ whoami
ubuntu
ubuntu@ip-172-31-20-22:~$ hostname
ip-172-31-20-22
ubuntu@ip-172-31-20-22:~$ ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: ens5: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9001 qdisc mq state UP group default qlen 1000
    link/ether 0a:ff:d0:89:fe:e3 brd ff:ff:ff:ff:ff:ff
    altname enp0s5
    inet 172.31.20.22/20 metric 100 brd 172.31.31.255 scope global dynamic ens5
       valid_lft 3081sec preferred_lft 3081sec
    inet6 fe80::8ff:d0ff:fe89:fee3/64 scope link
       valid_lft forever preferred_lft forever
ubuntu@ip-172-31-20-22:~$
```

2.3 Test Passwordless Connectivity



```
ubuntu@ip-172-31-20-22:~$ ssh -i vps-b-automation ubuntu@172.31.21.5
The authenticity of host '172.31.21.5 (172.31.21.5)' can't be established.
ED25519 key fingerprint is SHA256:H4m17DI1RMXHFqaIn/Axws87bzRO9Y3Nr3+U9xiFF5A.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.31.21.5' (ED25519) to the list of known hosts.
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 6.8.0-1040-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

 System information as of Thu Jan 15 18:27:48 UTC 2026

  System load:  0.0               Processes:             105
  Usage of /:   23.3% of 7.57GB   Users logged in:       1
  Memory usage: 25%               IPv4 address for ens5: 172.31.21.5
  Swap usage:   0%


Expanded Security Maintenance for Applications is not enabled.

 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status


The list of available updates is more than a week old.
To check for new updates run: sudo apt update
Failed to connect to https://changelogs.ubuntu.com/meta-release-lts. Check your Internet connection or proxy settin


Last login: Thu Jan 15 18:24:37 2026 from 195.250.14.202
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-21-5:~$
```

2.4 Harden SSH Configuration (Optional Security Enhancement)

```
#       ForceCommand cvs server
PasswordAuthentication no
PermitRootLogin no
PubkeyAuthentication yes
ubuntu@ip-172-31-21-5:~$
```

```
PasswordAuthentication no
PermitRootLogin no
PubkeyAuthentication yes
ubuntu@ip-172-31-20-22:~$
```

3) Create Secure Directory Structure

Auswählen ubuntu@ip-172-31-21-5: ~

```
ubuntu@ip-172-31-21-5:~$ mkdir -p ~/received_from_b
ubuntu@ip-172-31-21-5:~$ chmod 700 ~/received_from_b
ubuntu@ip-172-31-21-5:~$ ls -la  ~/received_from_b
total 8
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:44 .
drwxr-x--- 5 ubuntu ubuntu 4096 Jan 15 18:44 ..
ubuntu@ip-172-31-21-5:~$ ls -la  ~
total 48
drwxr-x--- 5 ubuntu ubuntu 4096 Jan 15 18:44 .
drwxr-xr-x 3 root   root   4096 Jan 15 13:42 ..
-rw------- 1 ubuntu ubuntu  805 Jan 15 18:20 .bash_history
-rw-r--r-- 1 ubuntu ubuntu  220 Jan  6  2022 .bash_logout
-rw-r--r-- 1 ubuntu ubuntu 3771 Jan  6  2022 .bashrc
drwx------ 2 ubuntu ubuntu 4096 Jan 15 14:27 .cache
-rw-r--r-- 1 ubuntu ubuntu  807 Jan  6  2022 .profile
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:02 .ssh
-rw-r--r-- 1 ubuntu ubuntu    0 Jan 15 18:40 .sudo_as_admin_successful
-rw------- 1 ubuntu ubuntu  883 Jan 15 18:01 .viminfo
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:44 received_from_b
-r-------- 1 ubuntu ubuntu 3381 Jan 15 17:49 vps-a-automation
-rw-r--r-- 1 ubuntu ubuntu  742 Jan 15 17:49 vps-a-automation.pub
ubuntu@ip-172-31-21-5:~$
```

```
buntu@ip-172-31-20-22:~$ mkdir -p ~/received_from_a
buntu@ip-172-31-20-22:~$ chmod 700 ~/received_from_a
buntu@ip-172-31-20-22:~$ ls received_from_a
buntu@ip-172-31-20-22:~$ ls -la received_from_a
otal 8
rwx------ 2 ubuntu ubuntu 4096 Jan 15 18:46 .
rwxr-x--- 5 ubuntu ubuntu 4096 Jan 15 18:46 ..
buntu@ip-172-31-20-22:~$ ls -la received_from_a
otal 8
rwx------ 2 ubuntu ubuntu 4096 Jan 15 18:46 .
rwxr-x--- 5 ubuntu ubuntu 4096 Jan 15 18:46 ..
buntu@ip-172-31-20-22:~$ ls -la ~/received_from_a
otal 8
rwx------ 2 ubuntu ubuntu 4096 Jan 15 18:46 .
rwxr-x--- 5 ubuntu ubuntu 4096 Jan 15 18:46 ..
buntu@ip-172-31-20-22:~$ ls -la ~
otal 48
rwxr-x--- 5 ubuntu ubuntu 4096 Jan 15 18:46 .
rwxr-xr-x 3 root   root   4096 Jan 15 17:26 ..
rw------- 1 ubuntu ubuntu  332 Jan 15 18:22 .bash_history
rw-r--r-- 1 ubuntu ubuntu  220 Jan  6  2022 .bash_logout
rw-r--r-- 1 ubuntu ubuntu 3771 Jan  6  2022 .bashrc
rwx------ 2 ubuntu ubuntu 4096 Jan 15 17:32 .cache
rw-r--r-- 1 ubuntu ubuntu  807 Jan  6  2022 .profile
rwx------ 2 ubuntu ubuntu 4096 Jan 15 18:27 .ssh
rw-r--r-- 1 ubuntu ubuntu    0 Jan 15 18:32 .sudo_as_admin_successful
rw------- 1 ubuntu ubuntu 2371 Jan 15 18:39 .viminfo
rwx------ 2 ubuntu ubuntu 4096 Jan 15 18:46 received_from_a
r-------- 1 ubuntu ubuntu 3381 Jan 15 17:54 vps-b-automation
rw-r--r-- 1 ubuntu ubuntu  742 Jan 15 17:54 vps-b-automation.pub
buntu@ip-172-31-20-22:~$
```

4) Create Automated File Transfer Scripts

```
ubuntu@ip-172-31-21-5:~$ ls -la ~
total 56
drwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 18:52 .
drwxr-xr-x 3 root   root   4096 Jan 15 13:42 ..
-rw------- 1 ubuntu ubuntu  805 Jan 15 18:20 .bash_history
-rw-r--r-- 1 ubuntu ubuntu  220 Jan  6  2022 .bash_logout
-rw-r--r-- 1 ubuntu ubuntu 3771 Jan  6  2022 .bashrc
drwx------ 2 ubuntu ubuntu 4096 Jan 15 14:27 .cache
-rw-r--r-- 1 ubuntu ubuntu  807 Jan  6  2022 .profile
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:02 .ssh
-rw-r--r-- 1 ubuntu ubuntu    0 Jan 15 18:40 .sudo_as_admin_successful
-rw------- 1 ubuntu ubuntu 2002 Jan 15 18:51 .viminfo
-rwx------ 1 ubuntu ubuntu  691 Jan 15 18:51 create_on_b.sh
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:44 received_from_b
drwxrwxr-x 2 ubuntu ubuntu 4096 Jan 15 18:52 script_logs
-r-------- 1 ubuntu ubuntu 3381 Jan 15 17:49 vps-a-automation
-rw-r--r-- 1 ubuntu ubuntu  742 Jan 15 17:49 vps-a-automation.pub
ubuntu@ip-172-31-21-5:~$
```

```
buntu@ip-172-31-20-22:~$ vi ~/create_on_a.sh
buntu@ip-172-31-20-22:~$ mkdir -p ~/script_logs
buntu@ip-172-31-20-22:~$ chmod 700 ~/create_on_a.sh
buntu@ip-172-31-20-22:~$ ls -la ~
otal 56
rwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 18:56 .
rwxr-xr-x 3 root   root   4096 Jan 15 17:26 ..
rw------- 1 ubuntu ubuntu  332 Jan 15 18:22 .bash_history
rw-r--r-- 1 ubuntu ubuntu  220 Jan  6  2022 .bash_logout
rw-r--r-- 1 ubuntu ubuntu 3771 Jan  6  2022 .bashrc
rwx------ 2 ubuntu ubuntu 4096 Jan 15 17:32 .cache
rw-r--r-- 1 ubuntu ubuntu  807 Jan  6  2022 .profile
rwx------ 2 ubuntu ubuntu 4096 Jan 15 18:27 .ssh
rw-r--r-- 1 ubuntu ubuntu    0 Jan 15 18:32 .sudo_as_admin_successful
rw------- 1 ubuntu ubuntu 3881 Jan 15 18:56 .viminfo
rwx------ 1 ubuntu ubuntu  691 Jan 15 18:56 create_on_a.sh
rwx------ 2 ubuntu ubuntu 4096 Jan 15 18:46 received_from_a
rwxrwxr-x 2 ubuntu ubuntu 4096 Jan 15 18:56 script_logs
r-------- 1 ubuntu ubuntu 3381 Jan 15 17:54 vps-b-automation
rw-r--r-- 1 ubuntu ubuntu  742 Jan 15 17:54 vps-b-automation.pub
buntu@ip-172-31-20-22:~$
```

4.3 Test the Scripts

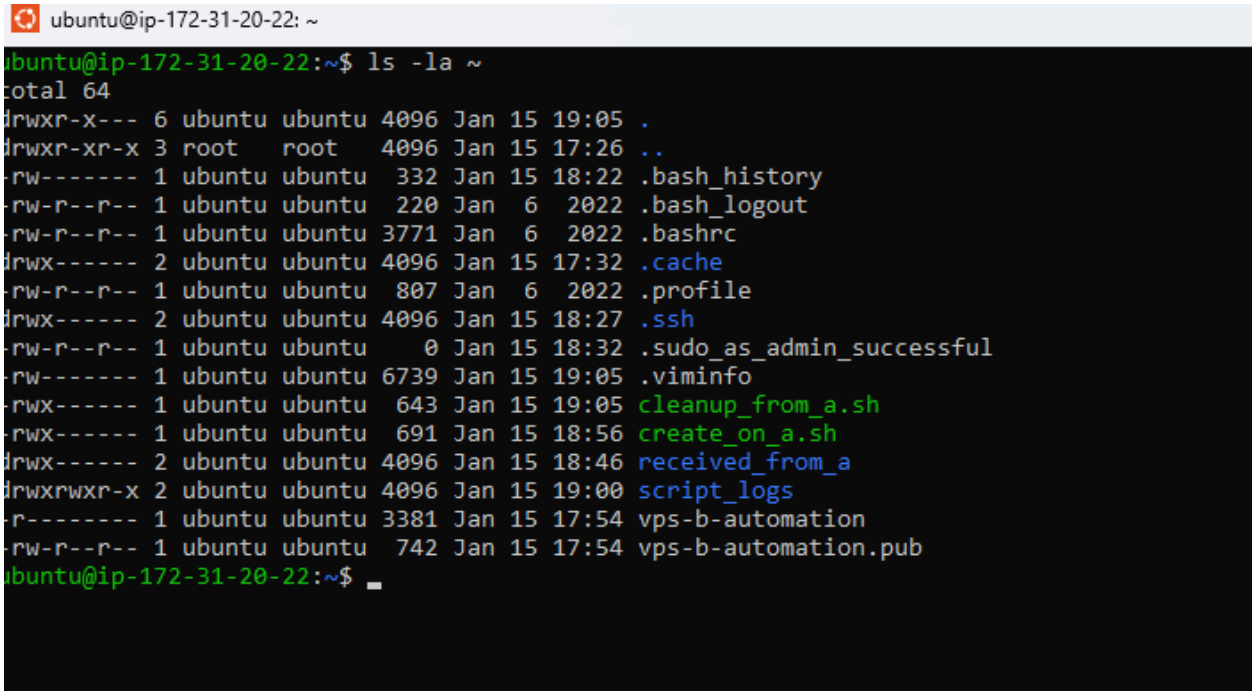
```
ubuntu@ip-172-31-21-5:~$ ssh -i vps-a-automation ubuntu@172.31.20.22 "ls -la ~/received_from_a/"
total 8
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:46 .
drwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 18:56 ..
ubuntu@ip-172-31-21-5:~$
```

```
ubuntu@ip-172-31-20-22:~$ ssh -i vps-b-automation ubuntu@172.31.21.5 "ls -la ~/received_from_b/"
total 8
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:44 .
drwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 18:52 ..
ubuntu@ip-172-31-20-22:~$
```

5) Create Cleanup Scripts

ubuntu@ip-172-31-21-5: ~

```
ubuntu@ip-172-31-21-5:~$ ls -la ~
total 64
drwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 19:05 .
drwxr-xr-x 3 root   root   4096 Jan 15 13:42 ..
-rw------- 1 ubuntu ubuntu  805 Jan 15 18:20 .bash_history
-rw-r--r-- 1 ubuntu ubuntu  220 Jan  6  2022 .bash_logout
-rw-r--r-- 1 ubuntu ubuntu 3771 Jan  6  2022 .bashrc
drwx------ 2 ubuntu ubuntu 4096 Jan 15 14:27 .cache
-rw-r--r-- 1 ubuntu ubuntu  807 Jan  6  2022 .profile
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:02 .ssh
-rw-r--r-- 1 ubuntu ubuntu    0 Jan 15 18:40 .sudo_as_admin_successful
-rw------- 1 ubuntu ubuntu 5516 Jan 15 19:05 .viminfo
-rwx------ 1 ubuntu ubuntu  643 Jan 15 19:05 cleanup_from_b.sh
-rwx------ 1 ubuntu ubuntu  691 Jan 15 18:51 create_on_b.sh
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:44 received_from_b
drwxrwxr-x 2 ubuntu ubuntu 4096 Jan 15 18:58 script_logs
-r-------- 1 ubuntu ubuntu 3381 Jan 15 17:49 vps-a-automation
-rw-r--r-- 1 ubuntu ubuntu  742 Jan 15 17:49 vps-a-automation.pub
ubuntu@ip-172-31-21-5:~$
```



6) Automate with Cron Jobs

```
ubuntu@ip-172-31-21-5:~$ crontab -e
no crontab for ubuntu - using an empty one

Select an editor.  To change later, run 'select-editor'.
  1. /bin/nano        <---- easiest
  2. /usr/bin/vim.basic
  3. /usr/bin/vim.tiny
  4. /bin/ed

Choose 1-4 [1]: 2
crontab: installing new crontab
ubuntu@ip-172-31-21-5:~$ crontab -l
# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').
#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h  dom mon dow   command

# File creation every 2 minutes
*/2 * * * * /home/ubuntu/create_on_b.sh

# Cleanup every 15 minutes
*/15 * * * * /home/ubuntu/cleanup_from_b.sh

# Optional: Log rotation every day at 2 AM
0 2 * * * find /home/ubuntu/script_logs -name "*.log" -mtime +7 -delete

ubuntu@ip-172-31-21-5:~$
```

```
ubuntu@ip-172-31-20-22:~$ crontab -e
no crontab for ubuntu - using an empty one

Select an editor.  To change later, run 'select-editor'.
  1. /bin/nano        <---- easiest
  2. /usr/bin/vim.basic
  3. /usr/bin/vim.tiny
  4. /bin/ed

Choose 1-4 [1]: 2
crontab: installing new crontab
ubuntu@ip-172-31-20-22:~$ crontab -l
# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').
#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h  dom mon dow   command
# File creation every 2 minutes
*/2 * * * * /home/ubuntu/create_on_a.sh

# Cleanup every 15 minutes
*/15 * * * * /home/ubuntu/cleanup_from_a.sh

# Optional: Log rotation every day at 2 AM
0 2 * * * find /home/ubuntu/script_logs -name "*.log" -mtime +7 -delete

ubuntu@ip-172-31-20-22:~$
```

7) Monitoring & Verification

7.1 Check System Operation

```
ubuntu@ip-172-31-21-5:~$ ls -la ~/received_from_b/
total 8
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:44 .
drwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 19:10 ..
ubuntu@ip-172-31-21-5:~$ tail -f ~/script_logs/create_on_b.log
=== Script completed at 2026-01-15 19:10:01 ===

=== Script started at 2026-01-15 19:12:01 ===
ubuntu@172.31.20.22: Permission denied (publickey).
=== Script completed at 2026-01-15 19:12:01 ===

=== Script started at 2026-01-15 19:14:01 ===
ubuntu@172.31.20.22: Permission denied (publickey).
=== Script completed at 2026-01-15 19:14:01 ===
```

```
ubuntu@ip-172-31-20-22:~$ ls -la ~/received_from_a/
total 8
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:46 .
drwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 19:10 ..
ubuntu@ip-172-31-20-22:~$ tail -f ~/script_logs/create_on_a.log
=== Script completed at 2026-01-15 19:00:57 ===
/home/ubuntu/create_on_a.sh: line 19: i: command not found
=== Script started at 2026-01-15 19:12:01 ===
ubuntu@172.31.21.5: Permission denied (publickey).
=== Script completed at 2026-01-15 19:12:01 ===
/home/ubuntu/create_on_a.sh: line 19: i: command not found
=== Script started at 2026-01-15 19:14:01 ===
ubuntu@172.31.21.5: Permission denied (publickey).
=== Script completed at 2026-01-15 19:14:01 ===
/home/ubuntu/create_on_a.sh: line 19: i: command not found
=== Script started at 2026-01-15 19:16:01 ===
ubuntu@172.31.21.5: Permission denied (publickey).
=== Script completed at 2026-01-15 19:16:02 ===
/home/ubuntu/create_on_a.sh: line 19: i: command not found
```

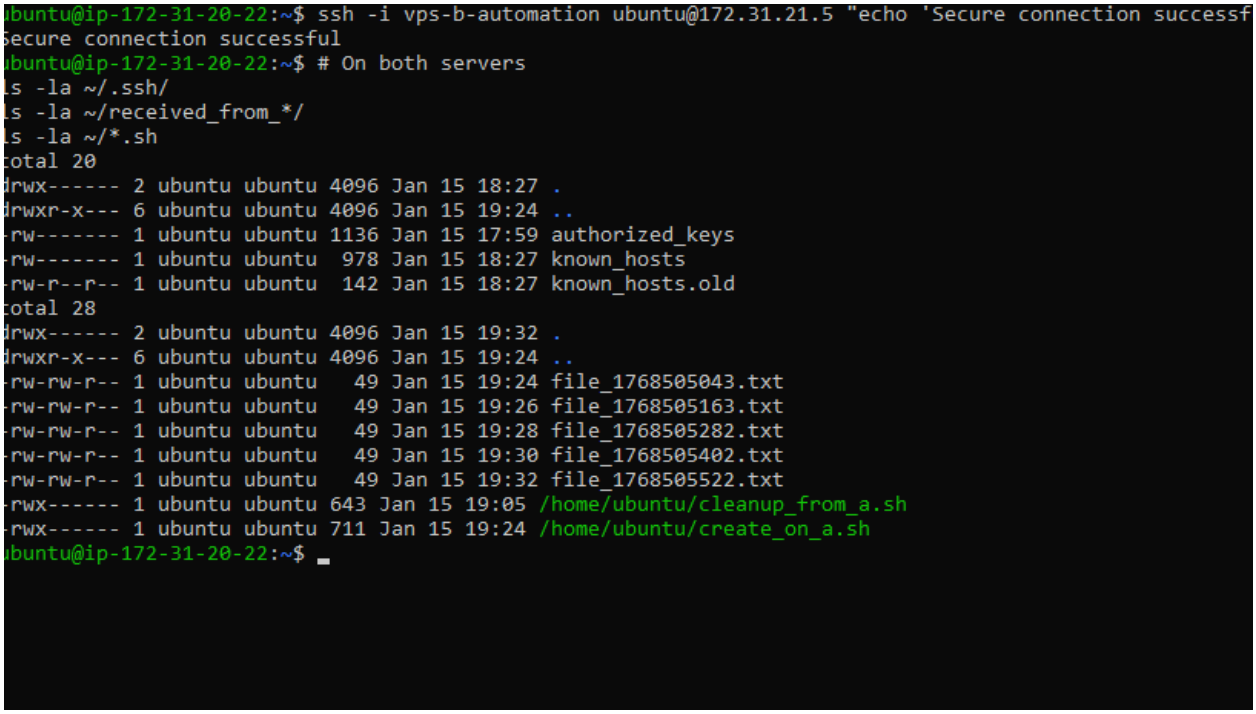
7.2 Monitor Cron Job Execution

```
ubuntu@ip-172-31-21-5:~$ sudo tail -f /var/log/syslog | grep CRON
Jan 15 19:12:01 ip-172-31-21-5 CRON[2745]: (ubuntu) CMD (/home/ubuntu/create_on_b.sh)
Jan 15 19:14:01 ip-172-31-21-5 CRON[2753]: (ubuntu) CMD (/home/ubuntu/create_on_b.sh)
Jan 15 19:15:01 ip-172-31-21-5 CRON[2766]: (ubuntu) CMD (/home/ubuntu/cleanup_from_b.sh)
Jan 15 19:16:01 ip-172-31-21-5 CRON[2772]: (ubuntu) CMD (/home/ubuntu/create_on_b.sh)
Jan 15 19:17:01 ip-172-31-21-5 CRON[2780]: (root) CMD (   cd / && run-parts --report /etc/cron.hourly)
Jan 15 19:18:01 ip-172-31-21-5 CRON[2785]: (ubuntu) CMD (/home/ubuntu/create_on_b.sh)
Jan 15 19:20:01 ip-172-31-21-5 CRON[2794]: (ubuntu) CMD (/home/ubuntu/create_on_b.sh)
Jan 15 19:22:01 ip-172-31-21-5 CRON[2807]: (ubuntu) CMD (/home/ubuntu/create_on_b.sh)
Jan 15 19:24:01 ip-172-31-21-5 CRON[2820]: (ubuntu) CMD (/home/ubuntu/create_on_b.sh)
Jan 15 19:26:01 ip-172-31-21-5 CRON[2836]: (ubuntu) CMD (/home/ubuntu/create_on_b.sh)
```

```
ubuntu@ip-172-31-20-22:~$ sudo tail -f /var/log/syslog | grep CRON
an 15 19:18:01 ip-172-31-20-22 CRON[2397]: (ubuntu) CMD (/home/ubuntu/create_on_a.sh)
an 15 19:20:01 ip-172-31-20-22 CRON[2406]: (ubuntu) CMD (/home/ubuntu/create_on_a.sh)
an 15 19:22:01 ip-172-31-20-22 CRON[2418]: (ubuntu) CMD (/home/ubuntu/create_on_a.sh)
an 15 19:24:01 ip-172-31-20-22 CRON[2446]: (ubuntu) CMD (/home/ubuntu/create_on_a.sh)
an 15 19:26:01 ip-172-31-20-22 CRON[2525]: (ubuntu) CMD (/home/ubuntu/create_on_a.sh)
```

8) Security Verification & Cleanup

```
ubuntu@ip-172-31-21-5:~$ ssh -i vps-a-automation ubuntu@172.31.20.22 "echo 'Secure connection successful'"
Secure connection successful
ubuntu@ip-172-31-21-5:~$ ls -la ~/.ssh/
ls -la ~/received_from_*/
ls -la ~/*.sh
total 16
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:02 .
drwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 19:22 ..
-rw------- 1 ubuntu ubuntu 1145 Jan 15 18:01 authorized_keys
-rw-r--r-- 1 ubuntu ubuntu  284 Jan 15 18:04 known_hosts
total 20
drwx------ 2 ubuntu ubuntu 4096 Jan 15 19:30 .
drwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 19:22 ..
-rw-rw-r-- 1 ubuntu ubuntu   49 Jan 15 19:26 file_1768505162.txt
-rw-rw-r-- 1 ubuntu ubuntu   49 Jan 15 19:28 file_1768505283.txt
-rw-rw-r-- 1 ubuntu ubuntu   49 Jan 15 19:30 file_1768505402.txt
-rwx------ 1 ubuntu ubuntu 643 Jan 15 19:05 /home/ubuntu/cleanup_from_b.sh
-rwx------ 1 ubuntu ubuntu 711 Jan 15 19:22 /home/ubuntu/create_on_b.sh
ubuntu@ip-172-31-21-5:~$
```


ubuntu@ip-172-31-20-22:~$ ssh -i vps-b-automation ubuntu@172.31.21.5 "echo 'Secure connection successf
Secure connection successful
ubuntu@ip-172-31-20-22:~$ # On both servers
ls -la ~/.ssh/
ls -la ~/received_from_*/
ls -la ~/*.sh
total 20
drwx------ 2 ubuntu ubuntu 4096 Jan 15 18:27 .
drwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 19:24 ..
-rw------- 1 ubuntu ubuntu 1136 Jan 15 17:59 authorized_keys
-rw------- 1 ubuntu ubuntu 978 Jan 15 18:27 known_hosts
-rw-r--r-- 1 ubuntu ubuntu 142 Jan 15 18:27 known_hosts.old
total 28
drwx------ 2 ubuntu ubuntu 4096 Jan 15 19:32 .
drwxr-x--- 6 ubuntu ubuntu 4096 Jan 15 19:24 ..
-rw-rw-r-- 1 ubuntu ubuntu   49 Jan 15 19:24 file_1768505043.txt
-rw-rw-r-- 1 ubuntu ubuntu   49 Jan 15 19:26 file_1768505163.txt
-rw-rw-r-- 1 ubuntu ubuntu   49 Jan 15 19:28 file_1768505282.txt
-rw-rw-r-- 1 ubuntu ubuntu   49 Jan 15 19:30 file_1768505402.txt
-rw-rw-r-- 1 ubuntu ubuntu   49 Jan 15 19:32 file_1768505522.txt
-rwx------ 1 ubuntu ubuntu 643 Jan 15 19:05 /home/ubuntu/cleanup_from_a.sh
-rwx------ 1 ubuntu ubuntu 711 Jan 15 19:24 /home/ubuntu/create_on_a.sh
ubuntu@ip-172-31-20-22:~$