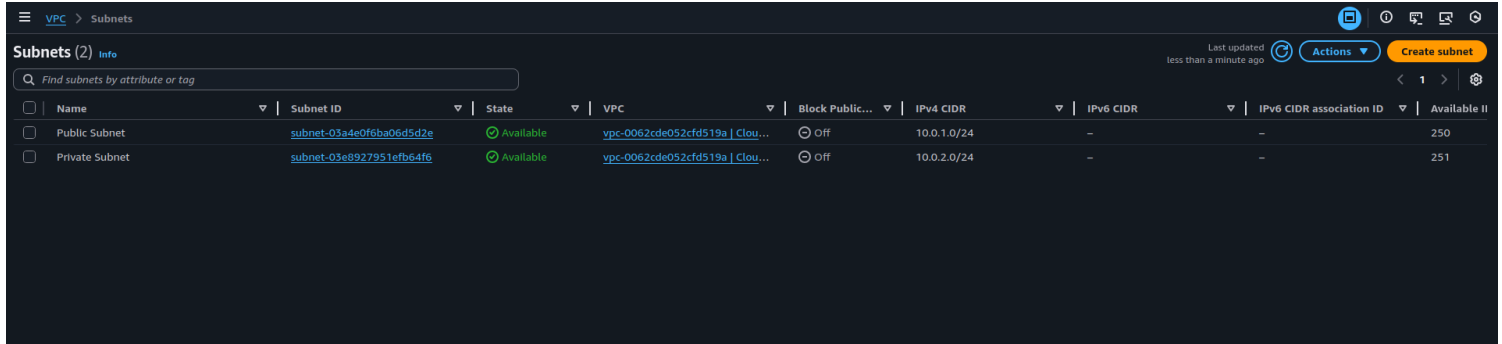


Cloudify Ops

Task 1: Create a New VPC

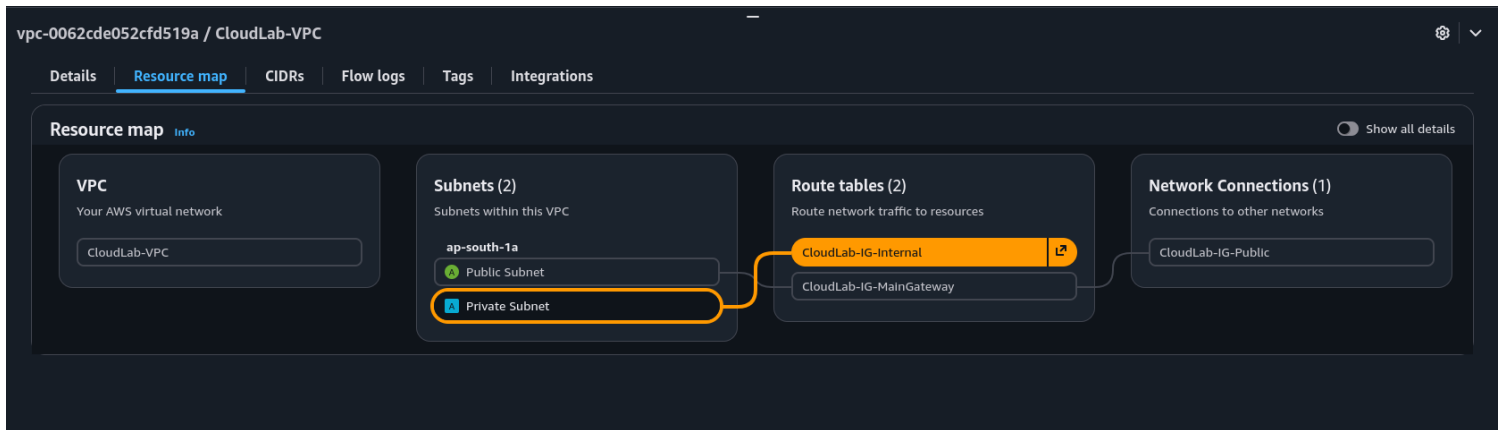
• Subnets :



The screenshot shows the AWS Subnets console for a VPC named 'CloudLab-VPC'. It displays two subnets: a Public Subnet and a Private Subnet, both in an 'Available' state. The table includes columns for Name, Subnet ID, State, VPC, Block Public IP, IPv4 CIDR, IPv6 CIDR, IPv6 CIDR association ID, and Available IP addresses.

	Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR	IPv6 CIDR	IPv6 CIDR association ID	Available II
<input type="checkbox"/>	Public Subnet	subnet-03a4e0f6ba06d5d2e	Available	vpc-0062cde052cfd519a Clou...	Off	10.0.1.0/24	–	–	250
<input type="checkbox"/>	Private Subnet	subnet-03e8927951efb64f6	Available	vpc-0062cde052cfd519a Clou...	Off	10.0.2.0/24	–	–	251

• Resource Map



Task 2: Launch an EC2 Instance (Public)

* EC2 Machine Created in Public Subnet

Instance summary for i-067224d550b26ef79 (CloudLab-EC2) Info

Updated 8 minutes ago

Instance ID

i-067224d550b26ef79

IPv6 address

-

Hostname type

IP name: ip-10-0-1-75.ap-south-1.compute.internal

Answer private resource DNS name

-

Auto-assigned IP address

43.205.239.50 [Public IP]

IAM Role

-

IMDSv2

Required

Operator

-

Public IPv4 address

43.205.239.50 | [open address](#)

Instance state

Running

Private IP DNS name (IPv4 only)

ip-10-0-1-75.ap-south-1.compute.internal

Instance type

t2.micro

VPC ID

vpc-0062cde052cfd519a (CloudLab-VPC)

Subnet ID

subnet-03a4e0f6ba06d5d2e (Public Subnet)

Instance ARN

arn:aws:ec2:ap-south-1:285688594658:instance/i-067224d550b26ef79

Private IPv4 addresses

10.0.1.75

Public DNS

-

Elastic IP addresses

-

AWS Compute Optimizer finding

Opt-in to AWS Compute Optimizer for recommendations. | [Learn more](#)

Auto Scaling Group name

-

Managed

false

• Security Group :

sg-0c54a5e0c1d24e413 - launch-wizard-1 Actions

Details

Security group name

launch-wizard-1

Owner

285688594658

Security group ID

sg-0c54a5e0c1d24e413

Description

launch-wizard-1 created 2025-12-15T14:58:54.639Z

VPC ID

vpc-0062cde052cfd519a

Inbound rules count

2 Permission entries

Outbound rules count

1 Permission entry

Inbound rules

Outbound rules

Sharing

VPC associations

Tags

Inbound rules (2) Manage tags Edit inbound rules

Search

<input type="checkbox"/>	Name	Security group rule ID	IP version	Type	Protocol	Port range	Source	Description
<input type="checkbox"/>	-	sgr-0ba2bb873b10fe709	IPv4	All ICMP - IPv4	ICMP	All	152.58.37.122/32	-
<input type="checkbox"/>	-	sgr-03184016e6f8e22ac	IPv4	SSH	TCP	22	0.0.0.0/0	-

Task 3: Run Basic Linux Commands

Connecting to ec2 using ssh protocol (Port 22)

```
ssh -i ~/.ssh/work-keys/aws/CloudLab-Key.pem ubuntu@
```

Connected :

2/10

```
agney-patel@LocUbuntu
-----
OS: Ubuntu 24.04.3 LTS x86_64
Host: Aspire 14 AS14H-53
Kernel: 6.14.0-37-generic
Uptime: 3 days, 14 hours, 36 mins
Packages: 2249 (dpkg), 16 (snap)
Shell: bash 5.2.21
Resolution: 1920x1200
DE: GNOME 46.0
WM: Mutter
WM Theme: Adwaita
Theme: Yaru-viridian-dark [GTK2/3]
Icons: Yaru-viridian [GTK2/3]
Terminal: x-terminal-emul
CPU: 13th Gen Intel i5-13500H (16) @
GPU: Intel Raptor Lake-P [UHD Graphi
Memory: 8836MiB / 15734MiB

agney-patel@LocUbuntu:~$ ssh -i ~/.ssh/work-keys/aws/CloudLab-Key.pem ubuntu@43.205.239.50
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1015-aws x86_64)

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

System information as of Mon Dec 15 15:28:36 UTC 2025

System load:  0.0      Processes:      111
Usage of /:   32.7% of 6.71GB   Users logged in: 1
Memory usage: 29%      IPv4 address for enx0: 10.0.1.75
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

*** System restart required ***
Last login: Mon Dec 15 15:12:58 2025 from 152.58.37.122
ubuntu@ip-10-0-1-75:~$
```

File/Dir commands :

```
ubuntu@ip-10-0-1-75:~$ pwd
/home/ubuntu
ubuntu@ip-10-0-1-75:~$ ls -l && cd testdir/
total 4
drwxrwxr-x 2 ubuntu ubuntu 4096 Dec 15 15:16 testdir
ubuntu@ip-10-0-1-75:~/testdir$ ls
ubuntu@ip-10-0-1-75:~/testdir$ vi file1.txt
ubuntu@ip-10-0-1-75:~/testdir$ ls
file1.txt
ubuntu@ip-10-0-1-75:~/testdir$ echo "This is some text for file1" > file1.txt
ubuntu@ip-10-0-1-75:~/testdir$ cat file1.txt
This is some text for file1
ubuntu@ip-10-0-1-75:~/testdir$
```

System commands :

```

ubuntu@ip-10-0-1-75:~/testdir$ whoami && hostname
ubuntu
ip-10-0-1-75
ubuntu@ip-10-0-1-75:~/testdir$ df -h / && uptime -p
Filesystem      Size  Used Avail Use% Mounted on
/dev/root        6.8G  2.2G  4.6G  33% /
up 24 minutes
ubuntu@ip-10-0-1-75:~/testdir$ █

```

Package updates :

```

ubuntu@ip-10-0-1-75:~/testdir$ sudo -i
root@ip-10-0-1-75:~# apt update -y && apt upgrade -y
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
0% [Connecting to security.ubuntu.com (91.189.92.24)]
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
All packages are up to date.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@ip-10-0-1-75:~#
root@ip-10-0-1-75:~#

```

Task 4: Launch a Private EC2 Instance

Private subnet :

▼ Network settings Info

VPC - required Info

vpc-0062cde052cfd519a (CloudLab-VPC)
10.0.0.0/16

Subnet Info

subnet-03e8927951efb64f6 Private Subnet
VPC: vpc-0062cde052cfd519a Owner: 285688594658 Availability Zone: ap-south-1a (aps1-az1)
Zone type: Availability Zone IP addresses available: 251 CIDR: 10.0.2.0/24

Create new subnet ↗

Auto-assign public IP Info

Disable

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group ☐ Select existing security group

Security group name - required

launch-wizard-2

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and ._-:/()#,@[]+=&;{}!\$*

Description - required Info

launch-wizard-2 created 2025-12-15T15:39:13.635Z

Inbound Security Group Rules

▼ Security group rule 1 (TCP, 22, sg-0c54a5e0c1d24e413) Remove

Type Info	Protocol Info	Port range Info
ssh	TCP	22
Source type Info	Source Info	Description - optional Info
Custom	<div>Add CIDR, prefix list or security group</div> <div>sg-0c54a5e0c1d24e413 ✕</div>	e.g. SSH for admin desktop

Add security group rule

EC2 Running in Pvt Subnet :

Instances (1/2) Info

Find Instance by attribute or tag (case-sensitive) All states

Instance state = running Clear filters

< 1 > ⚙

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
<input type="checkbox"/>	CloudLab-EC2	i-067224d550b26ef79	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1a	-	43.205.239.50	-
<input checked="" type="checkbox"/>	Private - EC2	i-0d600b3607928032c	Running	t2.micro	Initializing	View alarms +	ap-south-1a	-	-	-

Copying the key to main ec2 with public ip and then accesing the ec2 which is running in priavate subnet using that key :

5/10

```
ubuntu@ip-10-0-1-75: ~ - 190x50
agnay-patel@LocUbuntu:~/.ssh/work-keys/aws$ scp -i CloudLab-Key.pem CloudLab-Key.pem ubuntu@43.205.239.50:/home/ubuntu
CloudLab-Key.pem
agnay-patel@LocUbuntu:~/.ssh/work-keys/aws$ ssh -i CloudLab-Key.pem ubuntu@43.205.239.50
100% 1678 21.9KB/s 00:00
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1018-aws x86_64)

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

System information as of Mon Dec 15 16:15:34 UTC 2025

System load:  0.13           Processes:            108
Usage of /:   32.7% of 6.71GB Users logged in:       0
Memory usage: 20%           IPv4 address for enx0: 10.0.1.75
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

Last login: Mon Dec 15 16:11:46 2025 from 13.233.177.3
ubuntu@ip-10-0-1-75:~$
```

Using key succesfully accessed the instance which is running in private subnet :

```
ubuntu@ip-10-0-1-75:~$ ssh -i CloudLab-Key.pem ubuntu@10.0.2.60
The authenticity of host '10.0.2.60 (10.0.2.60)' can't be established.
ED25519 key fingerprint is SHA256:FJMLVyvySaCsiLwgfKiDKqX0eBR9ayTEDFC4FjGM2y4.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.0.2.60' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1015-aws x86_64)

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

System information as of Mon Dec 15 16:18:04 UTC 2025

System load:  0.0                Processes:            108
Usage of /:   25.8% of 6.71GB    Users logged in:     0
Memory usage: 21%                IPv4 address for enX0: 10.0.2.60
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.

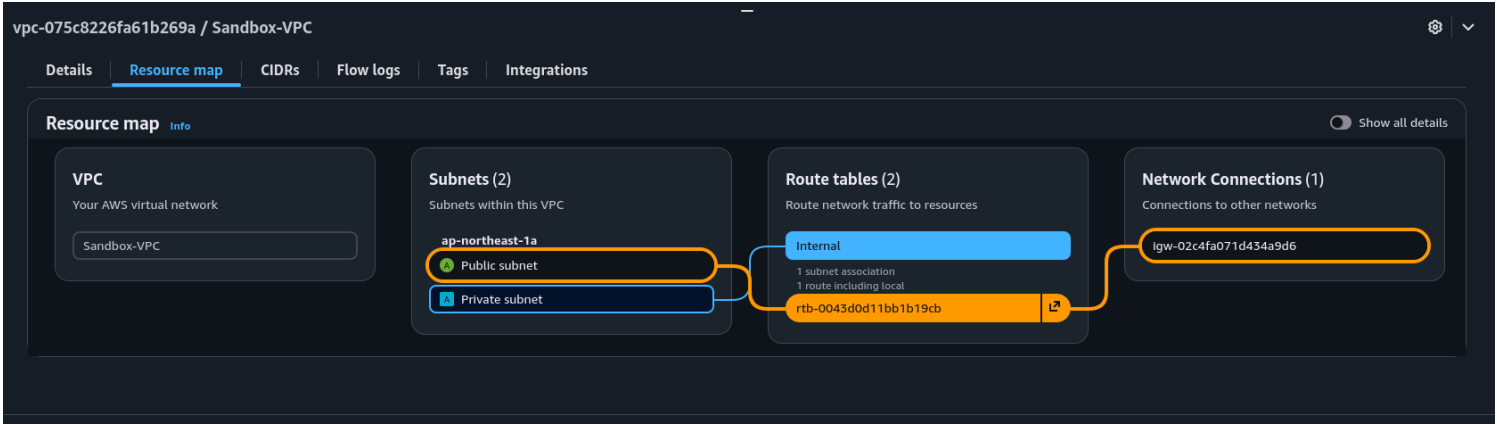
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

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

ubuntu@ip-10-0-2-60:~$
```

Task 5: Create a Second VPC for Peering(Different Region)

Created Second VPC in tokyo and initiated the peering connection :



Peering Request :

From Requesters side:

Peering connections (2) [Info](#) Actions Create peering connection

Find peering connections by attribute or tag

Name	Peering connection ID	Status	Requester VPC	Accepter VPC	Requester CIDRs	Accepter CIDRs	Requester owner
-	pcx-066f0c3ceeb5d7b8d	Provisioning	vpc-0062cde052cfd519a	vpc-075c8226fa61b269a / San...	10.0.0.0/16	10.1.0.0/16	285688594i
-	pcx-0a858deb456b4a6f6	Deleted	vpc-0062cde052cfd519a	vpc-08684f5c8654b9a87 / Mal...	-	-	285688594i

Peering connections (2) [Info](#) Actions Create peering connection

Find peering connections by attribute or tag

Name	Peering connection ID	Status	Requester VPC	Accepter VPC	Requester CIDRs	Accepter CIDRs	Requester owner
-	pcx-066f0c3ceeb5d7b8d	Active	vpc-0062cde052cfd519a	vpc-075c8226fa61b269a / San...	10.0.0.0/16	10.1.0.0/16	285688594i
-	pcx-0a858deb456b4a6f6	Deleted	vpc-0062cde052cfd519a	vpc-08684f5c8654b9a87 / Mal...	-	-	285688594i

Updating Peering Route In Requesters Side :

Edit routes

Destination	Target	Status	Propagated	Route Origin
10.0.0.0/16	local	Active	No	CreateRouteTable
10.1.0.0/16	Peering Connection	-	No	CreateRoute

[Add route](#) [Cancel](#) [Preview](#) [Save changes](#)

Updating Peering Route In Accepters Side :

Edit routes

Destination

10.1.0.0/16

Target

local

Status

Active

Propagated

No

Route Origin

CreateRouteTable

10.0.0.0/16

Peering Connection

pcx-066f0c3ceb5d7b8d

Remove

Add route

Cancel

Preview

Save changes

Created EC2 in tokyo with only private ip :|

Instance summary for i-0cc224743b89bd8b7 (Test server)

Refresh

Connect

Instance state

Actions

Refreshing instance data

Instance ID

i-0cc224743b89bd8b7

IPv6 address

-

Hostname type

IP name: ip-10-1-2-126.ap-northeast-1.compute.internal

Answer private resource DNS name

-

Auto-assigned IP address

-

IAM Role

-

IMDSv2

Required

Operator

-

Public IPv4 address

-

Instance state

Running

Private IP DNS name (IPv4 only)

ip-10-1-2-126.ap-northeast-1.compute.internal

Instance type

t2.micro

VPC ID

vpc-075c8226fa61b269a (Sandbox-VPC)

Subnet ID

subnet-0a7f4981e5187139b (Private subnet)

Instance ARN

arn:aws:ec2:ap-northeast-1:285688594658:instance/i-0cc224743b89bd8b7

Private IPv4 addresses

10.1.2.126

Public DNS

-

Elastic IP addresses

-

AWS Compute Optimizer finding

Opt-in to AWS Compute Optimizer for recommendations. | Learn more

Auto Scaling Group name

-

Managed

false

Received Reply from ec2 which is running in private subnet of tokyo region :

```
ubuntu@ip-10-0-1-75:~$ ping 10.1.2.126
PING 10.1.2.126 (10.1.2.126) 56(84) bytes of data.
64 bytes from 10.1.2.126: icmp_seq=1 ttl=64 time=127 ms
64 bytes from 10.1.2.126: icmp_seq=2 ttl=64 time=127 ms
64 bytes from 10.1.2.126: icmp_seq=3 ttl=64 time=128 ms
64 bytes from 10.1.2.126: icmp_seq=4 ttl=64 time=127 ms
64 bytes from 10.1.2.126: icmp_seq=5 ttl=64 time=128 ms
^C
--- 10.1.2.126 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4007ms
rtt min/avg/max/mdev = 127.442/127.496/127.556/0.043 ms
ubuntu@ip-10-0-1-75:~$
```

9/10

