

Task 14: **set up a VPC with an Internet gateway, create a public subnet, a private subnet make a route table connecting the Internet gateway and the subnets, and launch a Linux EC2 instance by using the above vpc and public subnet.**

1. **set up a VPC with an Internet gateway, create a public subnet, a private subnet make a route table connecting the Internet gateway and the subnets:**

[VPC](#) > [Your VPCs](#) > [Create VPC](#)

## Create VPC [Info](#)

A VPC is an isolated portion of the AWS Cloud populated by AWS objects, such as subnets, route tables, and Internet gateways.

### VPC settings

Resources to create [Info](#)

Create only the VPC resource or the VPC and other networking resources.

☐ VPC only

☒ VPC and more

Name tag auto-generation [Info](#)

Enter a value for the Name tag. This value will be used to auto-generate Name tags for all resources in the VPC.

☒ Auto-generate

IPv4 CIDR block [Info](#)

Determine the starting IP and the size of your VPC using CIDR notation.

65,536 IPs

CIDR block size must be between /16 and /28.

IPv6 CIDR block [Info](#)

☒ No IPv6 CIDR block

## Number of Availability Zones (AZs) [Info](#)

Choose the number of AZs in which to provision subnets. We recommend at least two AZs for high availability.

1	<b>2</b>	3
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► **Customize AZs**

## Number of public subnets [Info](#)

The number of public subnets to add to your VPC. Use public subnets for web applications that need to be publicly accessible over the internet.

0	<b>2</b>
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## Number of private subnets [Info](#)

The number of private subnets to add to your VPC. Use private subnets to secure backend resources that don't need public access.

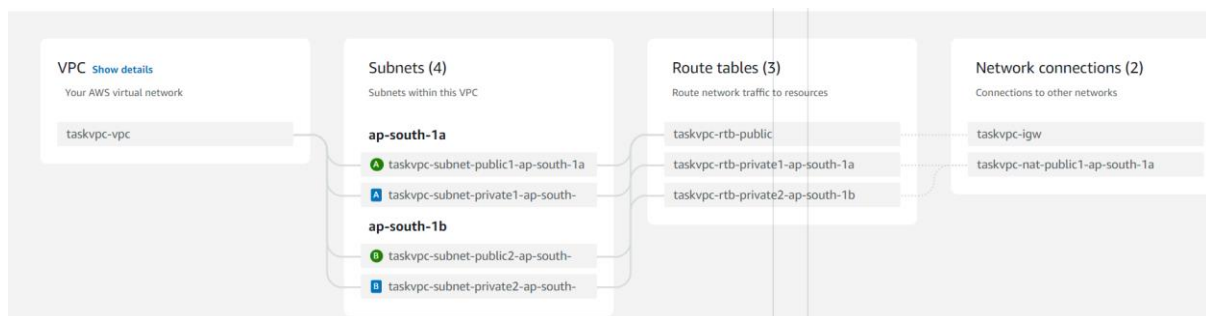
0	<b>2</b>	4
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► **Customize subnets CIDR blocks**

## NAT gateways (\$) [Info](#)

Choose the number of Availability Zones (AZs) in which to create NAT gateways. Note that there is a charge for each NAT gateway

None	<b>In 1 AZ</b>	1 per AZ
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✔ Success

▼ Details

- ✔ Create VPC: [vpc-0f6a1d3a4bd7a8792](#)
- ✔ Enable DNS hostnames
- ✔ Enable DNS resolution
- ✔ Verifying VPC creation: [vpc-0f6a1d3a4bd7a8792](#)
- ✔ Create subnet: [subnet-0fc87e11005d9b56a](#)
- ✔ Create subnet: [subnet-0eadaa3f9fd061e9b](#)
- ✔ Create subnet: [subnet-0025173625319ccd7](#)
- ✔ Create subnet: [subnet-023e7955303605140](#)
- ✔ Create internet gateway: [igw-0b7c816ad83c72a30](#)
- ✔ Attach internet gateway to the VPC
- ✔ Create route table: [rtb-0cac3ef9d6acaaccc](#)
- ✔ Create route
- ✔ Associate route table
- ✔ Associate route table
- ✔ Allocate elastic IP: [eipalloc-0c47a69bbffbede33](#)
- ✔ Create NAT gateway: [nat-0c3a6ee8e02c46972](#)
- ✔ Wait for NAT Gateways to activate
- ✔ Create route table: [rtb-0113efe55a3126127](#)
- ✔ Create route
- ✔ Associate route table
- ✔ Create route table: [rtb-0e34462dc8083026b](#)
- ✔ Create route
- ✔ Associate route table

[VPC](#) > [Your VPCs](#) > [vpc-0f6a1d3a4bd7a8792](#)

vpc-0f6a1d3a4bd7a8792 / taskvpc-vpc

Actions ▼

Details [Info](#)

VPC ID vpc-0f6a1d3a4bd7a8792	State ✔ Available	DNS hostnames Enabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-09685a3108f9f5517	Main route table rtb-0e2a584cdc984d57b	Main network ACL acl-0e03fb31f8af18fec
Default VPC No	IPv4 CIDR 10.0.0.0/16	IPv6 pool -	IPv6 CIDR (Network border group) -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 891377228959	

VPC > Subnets > subnet-0e34c2e1644ce98dc

subnet-0e34c2e1644ce98dc

Actions

Details

Subnet ID

subnet-0e34c2e1644ce98dc

Available IPv4 addresses

4091

Network border group

ap-south-1

Default subnet

Yes

Customer-owned IPv4 pool

-

IPv6-only

No

DNS64

Disabled

Subnet ARN

arn:aws:ec2:ap-south-1:891377228959:subnet/subnet-0e34c2e1644ce98dc

IPv6 CIDR

-

VPC

vpc-01ce844a8c44890ec

Auto-assign public IPv4 address

Yes

Outpost ID

-

Hostname type

IP name

Owner

891377228959

State

Available

Availability Zone

ap-south-1c

Route table

rtb-0c30dac9f457783ec

Auto-assign IPv6 address

No

IPv4 CIDR reservations

-

Resource name DNS A record

Disabled

IPv4 CIDR

172.31.16.0/20

Availability Zone ID

aps1-az2

Network ACL

acl-0cebb5a26e0429464

Auto-assign customer-owned IPv4 address

No

IPv6 CIDR reservations

-

Resource name DNS AAAA record

Disabled

Internet gateways (1/2) Info

Search

< 1 > ⚙

	Name	Internet gateway ID	State	VPC ID	Owner
<input type="checkbox"/>	-	igw-061c415c74439b3b3	Attached	vpc-01ce844a8c44890ec	891377228959
<input checked="" type="checkbox"/>	taskvpc-igw	igw-0b7c816ad83c72a30	Attached	vpc-0f6a1d3a4bd7a8792   taskvpc-vpc	891377228959

igw-0b7c816ad83c72a30 / taskvpc-igw

Details

Tags

Details

Internet gateway ID

igw-0b7c816ad83c72a30

State

Attached

VPC ID

vpc-0f6a1d3a4bd7a8792 | taskvpc-vpc

Owner

891377228959

# Create route table [Info](#)

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.

## Route table settings

### Name - optional

Create a tag with a key of 'Name' and a value that you specify.

### VPC

The VPC to use for this route table.

## Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

### Key

### Value - optional

[Remove](#)[Add new tag](#)

You can add 49 more tags.

aws

Services

Search

[Alt+S]

Mumbai

shar

VPC dashboard

EC2 Global View

Filter by VPC

Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet gateways

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

Peering connections

Route table rtb-04f216ee1e956bae7 | vpc-routetable was created successfully.

VPC > Route tables > rtb-04f216ee1e956bae7

rtb-04f216ee1e956bae7 / vpc-routetable

Details

Route table ID  
rtb-04f216ee1e956bae7

Main  
No

Explicit subnet associations  
-

Edge associations  
-

VPC  
vpc-0f6a1d3a4bd7a8792 | taskvpc-vpc

Owner ID  
891377228959

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (1)

Both

Edit routes

Filter routes

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No

VPC > Route tables > rtb-04f216ee1e956bae7 > Edit subnet associations

## Edit subnet associations

Change which subnets are associated with this route table.

**Available subnets (2/4)**

	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input checked="" type="checkbox"/>	taskvpc-subnet-public2-ap-south-1b	subnet-0eadaa3f9fd061e9b	10.0.16.0/20	-	rtb-0cac3ef9d6acaacc / taskvpc-rtb-p...
<input type="checkbox"/>	taskvpc-subnet-private2-ap-south-1b	subnet-023e7955303605140	10.0.144.0/20	-	rtb-0e34462dc8083026b / taskvpc-rtb...
<input type="checkbox"/>	taskvpc-subnet-private1-ap-south-1a	subnet-0025173625319ccd7	10.0.128.0/20	-	rtb-0113efe55a3126127 / taskvpc-rtb...
<input checked="" type="checkbox"/>	taskvpc-subnet-public1-ap-south-1a	subnet-0fc87e11005d9b56a	10.0.0.0/20	-	rtb-0cac3ef9d6acaacc / taskvpc-rtb-p...

**Selected subnets**

subnet-0eadaa3f9fd061e9b / taskvpc-subnet-public2-ap-south-1b X

subnet-0fc87e11005d9b56a / taskvpc-subnet-public1-ap-south-1a X

Cancel
Save associations

**Elastic IP addresses (1/1)**

Actions
Allocate Elastic IP address

	Name	Allocated IPv4 addr...	Type	Allocation ID	Reverse DNS record
<input checked="" type="checkbox"/>	taskvpc-eip-ap-south-1a	13.200.61.42	Public IP	eipalloc-0c47a69bbffbede33	-

## 2. launch a Linux EC2 instance by using the above vpc and public subnet:-

**Network settings** [Info](#)

**VPC - required** [Info](#)

vpc-0f6a1d3a4bd7a8792 (taskvpc-vpc)  
10.0.0.0/16

**Subnet** [Info](#)

subnet-0eadaa3f9fd061e9b  
VPC: vpc-0f6a1d3a4bd7a8792 Owner: 891377228959  
Availability Zone: ap-south-1b IP addresses available: 4091 CIDR: 10.0.16.0/20

taskvpc-subnet-public2-ap-south-1b

**Auto-assign public IP** [Info](#)

Enable

Additional charges apply when outside of free tier allowance

**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-5

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

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*

mysecuritygroup

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](#)

mysecuritygroupformyec2

Inbound Security Group Rules

▼ Security group rule 1 (TCP, 22, 0.0.0.0/0)

Remove

Type [Info](#)

Protocol [Info](#)

Port range [Info](#)

ssh ▼

TCP

22

Instances (1/5) [Info](#)

Refresh

Connect

Instance state ▼

Actions ▼

Launch instances ▼

Find Instance by attribute or tag (case-sensitive)

All states ▼

< 1 > ⚙

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
<input checked="" type="checkbox"/>	my vpc ec2	i-0b8bd118fb2378eb8	Running	t2.micro	2/2 checks passed	<a href="#">View alarms</a>	ap-south-1b	ec2-13-235-78-160
<input type="checkbox"/>	vpcinstance	i-05b65992df9cd987c	Terminated	t2.micro	-	<a href="#">View alarms</a>	ap-south-1b	-
<input type="checkbox"/>	vpcinstance	i-091b54fccdf61a9fc	Running	t2.micro	2/2 checks passed	<a href="#">View alarms</a>	ap-south-1b	-
<input type="checkbox"/>	windowsws	i-073dc0eb17845873a	Stopped	t2.micro	-	<a href="#">View alarms</a>	ap-south-1a	-
<input type="checkbox"/>	linux-webserver	i-0c82bc665a0c55e44	Stopped	t2.micro	-	<a href="#">View alarms</a>	ap-south-1a	-

i-0b8bd118fb2378eb8 (my vpc ec2)

Details

Status and alarms

Monitoring

Security

Networking

Storage

Tags

▼ Instance summary [Info](#)

Instance ID

i-0b8bd118fb2378eb8 (my vpc ec2)

IPv6 address

-

Public IPv4 address

13.235.78.160 [open address](#)

Instance state

Running

Private IPv4 addresses

10.0.24.241

Public IPv4 DNS

ec2-13-235-78-160.ap-south-1.compute.amazonaws.com | [open address](#)