

## VPC Setup

### Creating a VPC

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

## Create VPC [Info](#)

A VPC is an isolated portion of the AWS Cloud populated by AWS objects, such as Amazon EC2 instances.

### 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 - *optional*

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

krua-review-VPC

#### IPv4 CIDR block [Info](#)

☒ IPv4 CIDR manual input

☐ IPAM-allocated IPv4 CIDR block

#### IPv4 CIDR

172.25.0.0/16

#### IPv6 CIDR block [Info](#)

☒ No IPv6 CIDR block

☐ IPAM-allocated IPv6 CIDR block

☐ Amazon-provided IPv6 CIDR block

☐ IPv6 CIDR owned by me

#### Tenancy [Info](#)

Default

## Deployment 3 Documentation

### Caden Hong

## Creating Subnets

### Public Subnet

VPC > Subnets > Create subnet

## Create subnet [Info](#)

### VPC

#### VPC ID

Create subnets in this VPC.

vpc-088f820674463f327 (krua-review-VPC) ▼

#### Associated VPC CIDRs

IPv4 CIDRs

172.25.0.0/16

### Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

#### Subnet 1 of 1

##### Subnet name

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

PUBLIC-REVIEW-A

The name can be up to 256 characters long.

##### Availability Zone [Info](#)

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US East (N. Virginia) / us-east-1a ▼

##### IPv4 CIDR block [Info](#)

🔍 172.125.0.0/18 ✕

## Deployment 3 Documentation

### Caden Hong

#### Private Subnet

VPC > Subnets > Create subnet

### Create subnet [Info](#)

#### VPC

##### VPC ID

Create subnets in this VPC.

vpc-088f820674463f327 (krua-review-VPC) ▼

##### Associated VPC CIDRs

###### IPv4 CIDRs

172.25.0.0/16

#### Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

##### Subnet 1 of 1

###### Subnet name

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

PRIVATE-REVIEW-A

The name can be up to 256 characters long.

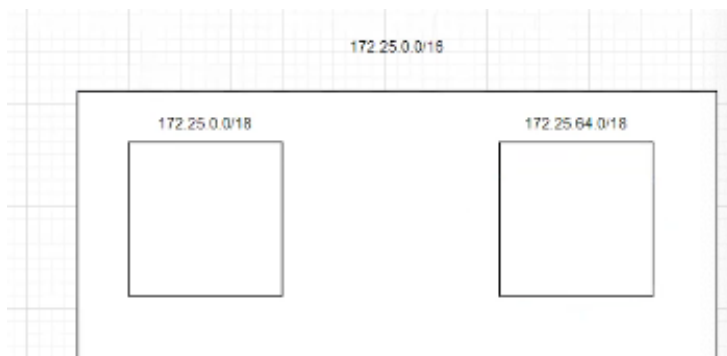
###### Availability Zone [Info](#)

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US East (N. Virginia) / us-east-1a ▼

###### IPv4 CIDR block [Info](#)

🔍 172.25.64.0/18 ✕



The entire diagram has 4 squares inside the CIDR block - since we are splitting /16 into 4, we are assigning /18 to each subnet block (if in half, we'd do /17)

## Attaching Internet Gateway

VPC > Internet gateways > Create internet gateway

### Create internet gateway [Info](#)

An internet gateway is a virtual router that connects a VPC to the internet. To create a new internet gateway specify the name for the gateway below.

#### Internet gateway settings

##### Name tag

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

#### Tags - *optional*

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.

Cancel

Create internet gateway

VPC > Internet gateways > Attach to VPC (igw-01a7864981b2f5899)

### Attach to VPC (igw-01a7864981b2f5899) [Info](#)

#### VPC

Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.

##### Available VPCs

Attach the internet gateway to this VPC.



► AWS Command Line Interface command

Cancel

Attach internet gateway

Create Internet Gateway and then attach to the VPC created

## Creating Route Tables

### Editing Default to Include Internet Gateway

–

Yes

vpc-088f820674463f327 | k rua-review-VPC

10802...

rtb-0809b029b79ec8185

Details

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (1)

Edit routes

Both

< 1 >

⚙

Destination	Target	Status	Propagated
172.25.0.0/16	local	Active	No

A default routing table is created for all subnets within the address range of 172.25.0.0 – 172.25.255.255 to communicate with each other, but there aren't any routes created to connect to the internet – so we have to click on **Edit Routes** and add 0.0.0.0/0 as destination and the created Internet Gateway as the target

VPC > Route tables > rtb-0809b029b79ec8185 > Edit routes

Edit routes

Destination	Target	Status	Propagated
172.25.0.0/16	<input type="text" value="local"/>	Active	No
<input type="text" value="0.0.0.0/0"/>	<input type="text" value="igw-01a7864981b2f5899"/>	–	No

Add route

Remove

Cancel

Preview

Save changes

## Private Route Table

VPC > Route tables > Create route table

### 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**

You can add 49 more tags.

**Routes**

**Subnet associations**

Edge associations

Route propagation

Tags

#### Explicit subnet associations (0)

< 1 > ⚙

Subnet ID



IPv4 CIDR



IPv6 CIDR



No subnet associations

VPC > Route tables > rtb-0463a07c926de42ac > Edit subnet associations

## Edit subnet associations

Change which subnets are associated with this route table.

### Available subnets (1/2)

Filter subnet associations

< 1 > ⚙

<input type="checkbox"/>	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Re
<input checked="" type="checkbox"/>	PRIVATE-REVIEW-A	subnet-0933171350519dffe	172.25.64.0/18	–	M re
<input type="checkbox"/>	PUBLIC-REVIEW-A	subnet-0c76d5c8ca9df0aa6	172.25.0.0/18	–	M re

### Selected subnets

subnet-0933171350519dffe / PRIVATE-REVIEW-A ✕

Cancel

Save associations

Routes

**Subnet associations**

Edge associations

Route propagation

Tags

### Explicit subnet associations (1)

Edit subnet associations

Find subnet association

< 1 > ⚙

Subnet ID	IPv4 CIDR	IPv6 CIDR
subnet-0933171350519dffe / PRIVATE-REVIEW-A	172.25.64.0/18	–

# Deployment 3 Documentation

## Caden Hong

### Creating EC2

#### Public EC2

[EC2](#) > [Instances](#) > Launch an instance

## Launch an instance [Info](#)

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

### Name and tags [Info](#)

Name

Pub-EC2

[Add additional tags](#)

### ▼ Application and OS Images (Amazon Machine Image) [Info](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Recents

Quick Start



Amazon Machine Image (AMI)

[Browse more AMIs](#)  
Including AMIs from  
AWS, Marketplace and  
the Community

### ▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required

kl-deployment1



[Create new key pair](#)



## Deployment 3 Documentation

### Caden Hong

#### ▼ Network settings [Info](#)

VPC - required [Info](#)

vpc-088f820674463f327 (krua-review-VPC)  
172.25.0.0/16



Subnet [Info](#)

subnet-0c76d5c8ca9df0aa6  
VPC: vpc-088f820674463f327 Owner: 108026381256  
Availability Zone: us-east-1a IP addresses available: 16379 CIDR: 172.25.0.0/18



[Create new subnet](#)

Auto-assign public IP [Info](#)

Enable

#### 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

SSH/PING

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-7 created 2022-10-03T20:44:44.836Z

#### Inbound security groups rules

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

Remove

Type [Info](#)

ssh

Protocol [Info](#)

TCP

Port range [Info](#)

22

Source type [Info](#)

Anywhere

Source [Info](#)

0.0.0.0/0

Description - optional [Info](#)

e.g. SSH for admin desktop

▼ Security group rule 2 (ICMP, All, 0.0.0.0/0)

Remove

Type [Info](#)

All ICMP - IPv4

Protocol [Info](#)

ICMP

Port range [Info](#)

All

Source type [Info](#)

Anywhere

Source [Info](#)

0.0.0.0/0

Description - optional [Info](#)

e.g. SSH for admin desktop

ICMP for ping

## Private EC2

[EC2](#) > [Instances](#) > Launch an instance

# Launch an instance [Info](#)

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

## Name and tags [Info](#)

Name

Pri-EC2

[Add additional tags](#)

## ▼ Application and OS Images (Amazon Machine Image) [Info](#)


An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Recents


**Quick Start**

Amazon  
Linux  


macOS  


Ubuntu  


Windows  


Red Hat  




[Browse more AMIs](#)

Including AMIs from  
AWS, Marketplace and  
the Community

## ▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required

kl-deployment1



[Create new key pair](#)

## ▼ Network settings [Info](#)

VPC - required [Info](#)

vpc-088f820674463f327 (krua-review-VPC)  
172.25.0.0/16



Subnet [Info](#)

subnet-0933171350519dffe PRIVATE-REVIEW-A  
VPC: vpc-088f820674463f327 Owner: 108026381256  
Availability Zone: us-east-1a IP addresses available: 16379 CIDR: 172.25.64.0/18



[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

Common security groups [Info](#)

Select security groups



[Compare security group rules](#)

SSH/PING sg-0e90e26cad7a95105 ✕  
VPC: vpc-088f820674463f327

Security groups that you add or remove here will be added to or removed from all your network interfaces.

► Advanced network configuration

<input checked="" type="checkbox"/>	Pub-EC2	i-042162ea08c48fcc9	Running	
<input type="checkbox"/>	Pri-EC2	i-0f10d4bb7a54b430c	Running	

### Instance: i-042162ea08c48fcc9 (Pub-EC2)

< Details Security Networking Storage Status checks More >

▼ Instance summary Info

Instance ID	Public IPv4 address
i-042162ea08c48fcc9 (Pub-EC2)	3.89.221.42   <a href="#">open address</a>
Private IPv4 addresses	IPv6 address
172.25.19.109	-

### Instance: i-0f10d4bb7a54b430c (Pri-EC2)

< Details Security Networking Storage Status checks More >

▼ Instance summary Info

Instance ID	Public IPv4 address
i-0f10d4bb7a54b430c (Pri-EC2)	-
Private IPv4 addresses	IPv6 address
172.25.89.9	-

You can check both public and private EC2s are within the given subnet range

#### To Access the Private EC2

1. Transfer key-pair file into the public EC2: **scp -i keypair.pem keypair.pem ubuntu@publicip:/home/ubuntu**
2. SSH into the public EC2: **ssh -i keypair.pem ubuntu@publicip**
3. From public EC2, SSH into the private EC2 using the private IP: **ssh -i keypair.pem ubuntu@privateip**

**NOTE: Both EC2 must use the same keypair.pem file**

Diagram

