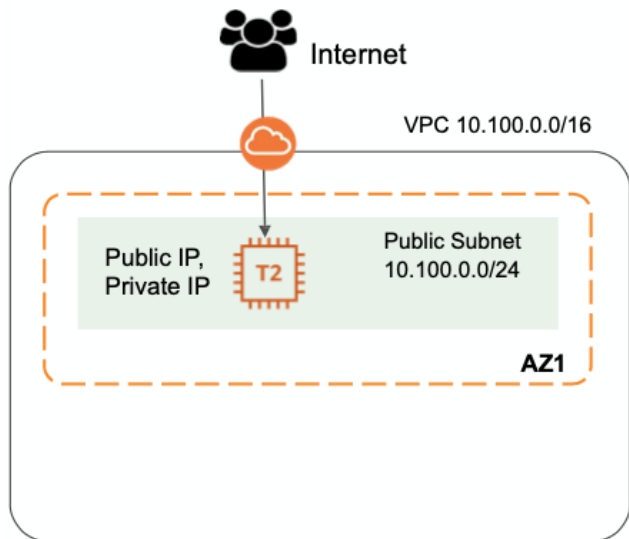


## LAB-VPC-1

### VPC with Single Public Subnet



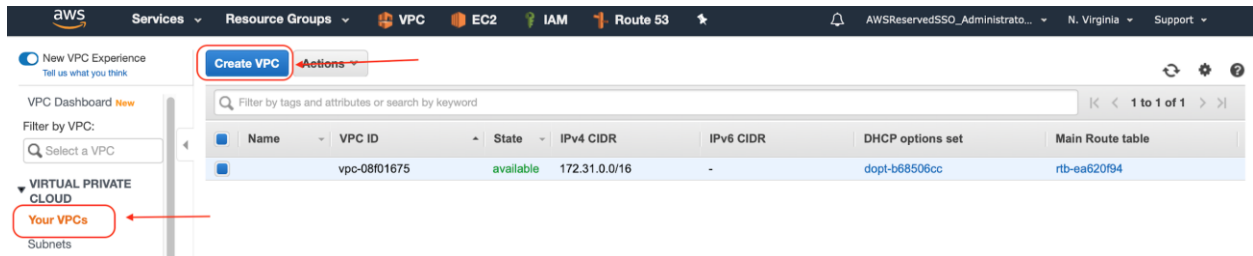
Public Subnet Route Table

Destination	Target
10.100.0.0/16	local
0.0.0.0/0	igw-xxx

## Resolution

### 1 Create VPC

Go to VPC service -> Your VPCs -> Create VPC (Name: MyVPC, CIDR: 10.100.0.0/16) -> Create



[VPCs](#) > Create VPC

## Create VPC

A VPC is an isolated portion of the AWS cloud populated by AWS EC2 instances. You must specify an IPv4 address range for your VPC. Specify the IPv4 address range as a Classless Inter-Domain Routing (CIDR) block; for example, 10.0.0.0/16. You cannot specify an IPv4 CIDR block larger than /16. You can optionally associate an IPv6 CIDR block with the VPC.

Name tag  ⓘ

IPv4 CIDR block\*  ⓘ

IPv6 CIDR block ☒ No IPv6 CIDR Block ⓘ  
☐ Amazon provided IPv6 CIDR block  
☐ IPv6 CIDR owned by me

Tenancy  ⓘ

\* Required

[Cancel](#)

[Create](#)

## Create Internet Gateway

Go to Internet Gateways -> Create internet gateway

The screenshot shows the AWS VPC console interface. On the left sidebar, under 'VIRTUAL PRIVATE CLOUD', the 'Internet Gateways' option is highlighted with a red box and an arrow. The main content area shows the 'Internet gateways (1/1)' page. At the top right of this page, the 'Create internet gateway' button is highlighted with a red box and an arrow. Below this, there is a table listing the existing internet gateway.

<input checked="" type="checkbox"/>	Name	Internet gateway ID	State	VPC ID	Owner
<input checked="" type="checkbox"/>	-	igw-7a2c7901	Attached	vpc-08f01675	046091944969

## 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.

myvpc-igw

### 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

🔍 Name



#### Value - optional

🔍 myvpc-igw



Remove

Add new tag

You can add 49 more tags.

Cancel

Create internet gateway

## Attach Internet Gateway to VPC

Select Internet gateway -> Actions -> Attach to VPC -> Select your VPC

VPC > Internet gateways > igw-025b12c2889cf5210

### igw-025b12c2889cf5210 / myvpc-igw

**Details** [Info](#)

Internet gateway ID	State	VPC ID	Owner
igw-025b12c2889cf5210	Detached	-	0460919449...

**Tags**

Search tags

Key	Value
Name	myvpc-igw

Actions

Attach to VPC

Detach from VPC

Manage tags

Delete

VPC > Internet gateways > Attach to VPC (igw-025b12c2889cf5210)

## Attach to VPC (igw-025b12c2889cf5210) [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.

Q vpc-0df4e6d3766e1e51f X

**AWS Command Line Interface command**

Cancel

Attach internet gateway

## igw-025b12c2889cf5210 / myvpc-igw

Actions ▾

### Details Info

Internet gateway ID

igw-025b12c2889cf5210

State

Attached

VPC ID

vpc-0df4e6d3766e1e51f | MyVPC

Owner

046091944969

## Create Subnet

Subnets -> Create subnet (Name: MyVPC-Public, VPC: MyVPC, AZ: Select first az - us-east-1a, CIDR: 10.100.0.0/24)

New VPC Experience  
Tell us what you think

VPC Dashboard New

Filter by VPC:

Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs

Subnets

Route Tables

Internet Gateways New

Create subnet

Actions ▾

Filter by tags and attributes or search by keyword

<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4
<input type="checkbox"/>		subnet-2266ea2c	available	vpc-08f01675	172.31.64.0/20	4091
<input type="checkbox"/>		subnet-5152850e	available	vpc-08f01675	172.31.32.0/20	4091
<input type="checkbox"/>		subnet-68da100e	available	vpc-08f01675	172.31.0.0/20	4091
<input type="checkbox"/>		subnet-8d7960b3	available	vpc-08f01675	172.31.48.0/20	4091
<input type="checkbox"/>		subnet-b00298fd	available	vpc-08f01675	172.31.16.0/20	4091
<input type="checkbox"/>		subnet-ff9a4ade	available	vpc-08f01675	172.31.80.0/20	4091

Subnets > Create subnet

## Create subnet

Specify your subnet's IP address block in CIDR format; for example, 10.0.0.0/24. IPv4 block sizes must be between a /16 netmask and /28 netmask, and can be the same size as your VPC. An IPv6 CIDR block must be a /64 CIDR block.

Create subnet | VPC Management Console

Name tag MyVPC-Public

VPC\* vpc-0df4e6d3766e1e51f

Select MyVPC

Availability Zone us-east-1a

VPC CIDRs

CIDR	Status	Status Reason
10.100.0.0/16	associated	

IPv4 CIDR block\* 10.100.0.0/24

\* Required

Cancel

Create

Select Subnet -> Action -> Modify Auto Assign Public IP -> Enable -> Save

The screenshot shows the AWS console interface for a subnet. At the top, there is a 'Create subnet' button and an 'Actions' dropdown menu. The 'Actions' menu is open, showing options like 'Delete subnet', 'Create flow log', 'Modify auto-assign IP settings' (highlighted with a red box), 'Edit IPv6 CIDRs', 'Edit network ACL association', 'Edit route table association', 'Share subnet', and 'Add/Edit Tags'. Below the menu, a table lists subnet details. The 'Auto-assign public IPv4 address' is currently set to 'No' (highlighted with a red box). Below the table, there are tabs for 'Description', 'Flow Logs', 'Route Table', 'Network ACL', 'Tags', and 'Sharing'. The 'Description' tab is active, showing details for Subnet ID, VPC, Available IPv4 Addresses, Availability Zone, Network ACL, and Auto-assign public IPv4 address.

Name	State	VPC	IPv4 CIDR	Available IPv4	IPv6 CIDR
MyVPC-Pu	available	vpc-0df4e6d3766e1e51f   ...	10.100.0.0/24	251	-

Subnet ID	State
subnet-0aada8ff5fd454ec3	available

VPC	IPv4 CIDR
vpc-0df4e6d3766e1e51f   MyVPC	10.100.0.0/24

Available IPv4 Addresses	IPv6 CIDR
251	-

Availability Zone	Route Table
us-east-1a (use1-az6)	rtb-02bd9ba65d04e853b

Network ACL	Default subnet
acl-0e0afca1fa18d7865	No

Auto-assign public IPv4 address	Auto-assign customer-owned IPv4 address
No	No

Customer-owned IPv4 pool	Auto-assign IPv6 address
-	No

Outpost ID	Owner
-	046091944969

[Subnets](#) > Modify auto-assign IP settings

## Modify auto-assign IP settings

Enable the auto-assign IP address setting to automatically request a public IPv4 or IPv6 address for an instance launched in this subnet. You can override the auto-assign IP settings for an instance at launch time.

Subnet ID: subnet-0aada8ff5fd454ec3

**Auto-assign IPv4** ☒ Enable auto-assign public IPv4 address ⓘ

**Auto-assign Co-IP** ☐ Enable auto-assign customer-owned IPv4 address ⓘ

\* Required

[Cancel](#) [Save](#)

## Create Route Table

Route Tables -> Create Route Table (Name: MyVPC-Public, VPC: MyVPC)

**Create route table** Actions

Filter by tags and attributes or search by keyword

Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID
	rtb-02bd9ba65d04e853b	-	-	Yes	vpc-0df4e6d3766e1e51f   ...
	rtb-ea620f94	-	-	Yes	vpc-08f01675

[Route Tables](#) > Create route table

## Create route table

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

Name tag MyVPC-Public-RT

VPC\* vpc-0df4e6d3766e1e51f

Select MyVPC

Key (128 characters maximum)

Value (256 characters maximum)

*This resource currently has no tags*

Add Tag 50 remaining (Up to 50 tags maximum)

\* Required

Cancel

Create

## Add route to send all traffic that is not local to Internet Gateway

Select Route table -> Routes -> Edit -> Add another route (Destination: 0.0.0.0/0, Target: Internet gateway -> igw-xxx) -> Save

[Route Tables](#) > Edit routes

AWSReservedSSO\_AdministratorAccess\_03764b  
ac4500cab0/rnieva @ 046091944969

### Edit routes

Destination	Target	Status	Propagated
10.100.0.0/16	local	active	No
0.0.0.0/0	igw-		No

Add route

igw-025b12c2889cf5210 myvpc-igw

\* Required

Cancel Save routes

## Associate Route table with Subnet to make it Public Subnet

Select Route table -> Subnet Associations -> Edit -> Check the MyVPC-Public subnet -> Save

Create route table Actions

Search: MyVPC-Public-RT Add filter

Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID	Owner
MyVPC-Pu...	rtb-02ca5122d39719980	-	-	No	vpc-0df4e6d3766e1e51f   ...	046091944969

Route Table: rtb-02ca5122d39719980

Summary Routes Subnet Associations Edge Associations Route Propagation Tags

Edit subnet associations

Subnet ID	IPv4 CIDR	IPv6 CIDR
None found		

You do not have any subnet associations.



[Route Tables](#) > Edit subnet associations

## Edit subnet associations

Route table rtb-02ca5122d39719980 (MyVPC-Public-RT)

Associated subnets **subnet-0aada8ff5fd454ec3**

Filter by attributes or search by keyword			
1 to 1 of 1			
<input type="checkbox"/> Subnet ID	IPv4 CIDR	IPv6 CIDR	Current Route Table
<input checked="" type="checkbox"/> subnet-0aada8ff5fd454ec3   MyVPC-Pu...	10.100.0.0/24	-	Main

\* Required

Cancel **Save**

## Launch EC2 instance in newly created Public Subnet

### Step 3: Configure Instance Details

Number of instances	<input type="text" value="1"/>	<a href="#">Launch into Auto Scaling Group</a>
Purchasing option	<input type="checkbox"/> Request Spot instances	
Network	<b>vpc-0df4e6d3766e1e51f   MyVPC</b>	<a href="#">Create new VPC</a>
Subnet	<b>subnet-0aada8ff5fd454ec3   MyVPC-Public   us-ea</b> 251 IP Addresses available	<a href="#">Create new subnet</a>
Auto-assign Public IP	Use subnet setting (Enable)	
Placement group	<input type="checkbox"/> Add instance to placement group	
Capacity Reservation	Open	<a href="#">Create new Capacity Reservation</a>
IAM role	None	<a href="#">Create new IAM role</a>
Shutdown behavior	Stop	
Stop - Hibernate behavior	<input type="checkbox"/> Enable hibernation as an additional stop behavior	
Enable termination protection	<input type="checkbox"/> Protect against accidental termination	
Monitoring	<input type="checkbox"/> Enable CloudWatch detailed monitoring	
<p>Cancel Previous <b>Review and Launch</b> <b>Next: Add Storage</b></p>		

## Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.

A copy of a tag can be applied to volumes, instances or both.

Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key (128 characters maximum)	Value (256 characters maximum)	Instances <small>i</small>	Volumes <small>i</small>	
<input type="text" value="Name"/>	<input type="text" value="My-EC2-A"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="button" value="X"/>

(Up to 50 tags maximum)

## Configure Security Group

### Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group ☐ Select an existing security group

Security group name:

Description:

Type <small>i</small>	Protocol <small>i</small>	Port Range <small>i</small>	Source <small>i</small>	Description <small>i</small>	
SSH	TCP	22	My IP 186.13.114.75/32	e.g. SSH for Admin Desktop	<input type="button" value="X"/>

## Select an existing key pair or create a new key pair



A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Create a new key pair

**Key pair name**  
 rnieva-keypair

Download Key Pair

... You have to download the **private key file** (\*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Cancel

Launch Instances

Launch Instance

Connect

Actions

search : i-09d843b215b20c666

Add filter

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP
MyEC2-A	i-09d843b215b20c666	t2.micro	us-east-1a	running	2/2 checks ...	None		54.211.247.181

Instance: i-09d843b215b20c666 (MyEC2-A)

Public IP: 54.211.247.181

Description

Status Checks

Monitoring

Tags

Instance ID

i-09d843b215b20c666

Instance state

running

Instance type

t2.micro

Finding

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

Private DNS

ip-10-100-0-139.ec2.internal

Private IPs

10.100.0.139

Secondary private IPs

VPC ID

vpc-0df4e6d3766e1e51f (MyVPC)

Subnet ID

subnet-0aada8ff5fd454ec3 (MyVPC-Public)

Network interfaces

eth0

Public DNS (IPv4)

-

IPv4 Public IP

54.211.247.181

IPv6 IPs

-

Elastic IPs

-

Availability zone

us-east-1a

Security groups

MyVPC-SG. [view inbound rules](#). [view outbound rules](#)

Scheduled events

No scheduled events

AMI ID

amzn2-ami-hvm-2.0.20200617.0-x86\_64-gp2 (ami-08f3d892de259504d)

Platform details

Linux/UNIX

Usage operation

RunInstances

Connect to EC2 instance using the public IP from your laptop using linux terminal (ec2-user)

```
$ chmod 600 rnieva-keypair.pem
```

```
$ ls -l rnieva-keypair.pem
```

```
-rw-----@ 1 rnieva  staff  1692 Jul 24 16:56 rnieva-keypair.pem
```

```
$ ssh -i rnieva-keypair.pem ec2-user@54.211.247.181
```

```
The authenticity of host '54.211.247.181 (54.211.247.181)' can't be established.
```

```
ECDSA key fingerprint is
```

```
SHA256:gPaH78Hue2C+uPgXbB0+wdrx/q5UqQZ6MWZR78qDvLo.
```

```
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
```

```
Warning: Permanently added '54.211.247.181' (ECDSA) to the list of known hosts.
```

```
  _ |  _ |  )  
  _ | (  _ /  Amazon Linux 2 AMI  
  _ |\_ |  _ |
```

```
https://aws.amazon.com/amazon-linux-2/
```

```
14 package(s) needed for security, out of 31 available
```

```
Run "sudo yum update" to apply all updates.
```

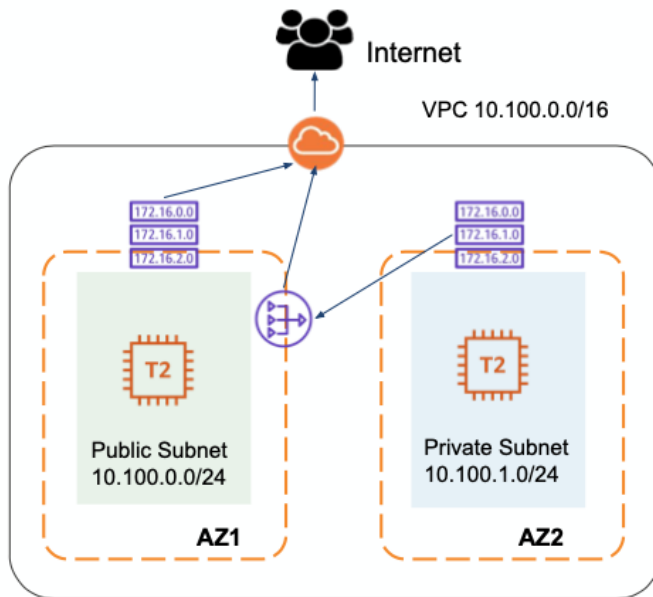
```
-bash: warning: setlocale: LC_CTYPE: cannot change locale (UTF-8): No such file or directory
```

```
[ec2-user@ip-10-100-0-139 ~]$ uptime
```

```
20:07:48 up 10 min,  1 user,  load average: 0.00, 0.01, 0.00
```

## LAB-VPC-1

### VPC with Public and Private Subnet



Public Subnet Route Table

Destination	Target
10.100.0.0/16	local
0.0.0.0/0	igw-xxx

Private Subnet Route Table

Destination	Target
10.100.0.0/16	local

## Solution:

### Create a Private Subnet

Create subnet (Name: MyVPC-Private, VPC: MyVPC, AZ: Select different az (us-east-1b), CIDR: 10.100.1.0/24)

2. Create Private route table

[Subnets](#) > Create subnet

### Create subnet

Specify your subnet's IP address block in CIDR format; for example, 10.0.0.0/24. IPv4 block sizes must be between a /16 netmask and /28 netmask, and can be the same size as your VPC. An IPv6 CIDR block must be a /64 CIDR block.

Name tag  ⓘ

VPC\*  ⓘ Choose subnet MyVPC-Public

Availability Zone  ⓘ

VPC CIDRs	CIDR	Status	Status Reason
	10.100.0.0/16	associated	

IPv4 CIDR block\*  ⓘ

\* Required

[Cancel](#) [Create](#)

### Create Private route table

Route Tables -> Create Route Table (Name: MyVPC-Private, VPC: MyVPC)

[Route Tables](#) > Create route table

### Create route table

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

Name tag  ⓘ

VPC\*  ⓘ VPC: MyVPC

Key	(128 characters maximum)	Value	(256 characters maximum)
This resource currently has no tags			

[Add Tag](#) 50 remaining (Up to 50 tags maximum)

\* Required

[Cancel](#) [Create](#)

Associate Route table with Subnet to make it Private subnet  
Select Route table -> Subnet Associations -> Edit -> Check the MyVPC-Private subnet -> Save

Create route table Actions

Route Table ID : rtb-0aec07a9b768ad4b2 Add filter

Name	Route Table ID	Explicit subnet association	Edge associations	Main
MyVPC-Private-RT	rtb-0aec07a9b768ad4b2	-	-	No

Route Table: rtb-0aec07a9b768ad4b2

Summary Routes **Subnet Associations** Edge Associations Route Propagation Tags

Edit subnet associations

None found

Subnet ID	IPv4 CIDR	IPv6 CIDR
-----------	-----------	-----------

You do not have any subnet associations.

Route Tables > Edit subnet associations

## Edit subnet associations

Route table rtb-0aec07a9b768ad4b2 (MyVPC-Private-RT)

Associated subnets subnet-0ab00ecc35cca6298

Filter by attributes or search by keyword

Subnet ID	IPv4 CIDR	IPv6 CIDR	Current Route Table
<input checked="" type="checkbox"/> subnet-0ab00ecc35cca6298   MyVPC-Private	10.100.1.0/24	-	Main
<input type="checkbox"/> subnet-0aada8ff5fd454ec3   MyVPC-Public	10.100.0.0/24	-	rtb-02ca5122d39719980

\* Required

Cancel Save

## Launch another EC2 instance in same VPC but in newly created Private subnet

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 3: Configure Instance Details

Number of instances  [Launch into Auto Scaling Group](#)

Purchasing option ☐ Request Spot instances

Network  [Create new VPC](#)

Subnet  [Create new subnet](#)

Auto-assign Public IP

Placement group ☐ Add instance to placement group

Capacity Reservation  [Create new Capacity Reservation](#)

IAM role  [Create new IAM role](#)

Shutdown behavior

Stop - Hibernate behavior ☐ Enable hibernation as an additional stop behavior

Enable termination protection ☐ Protect against accidental termination

Monitoring ☐ Enable CloudWatch detailed monitoring  
[Additional charges apply.](#)

Tenancy  [Additional charges may apply when launching Dedicated instances.](#)

Elastic Inference ☐ Add an Elastic Inference accelerator

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.  
A copy of a tag can be applied to volumes, instances or both.  
Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key (128 characters maximum)	Value (256 characters maximum)	Instances	Volumes
Name	My-EC2-B	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Add another tag](#) (Up to 50 tags maximum)

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Security Group](#)



## Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group

☐ Select an existing security group

Security group name: MyVPC-Private-SG

Description: MyVPC-Private-SG

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom 10.100.0.0/24	Public Subnet
All ICMP - IP	ICMP	0 - 65535	Custom 10.100.0.0/24	e.g. SSH for Admin Desktop

Add Rule

Cancel

Previous

Review and Launch

## Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Choose an existing key pair

Select a key pair

rnueva-keypair

☒ I acknowledge that I have access to the selected private key file (rnueva-keypair.pem), and that without this file, I won't be able to log into my instance.

Cancel

Launch Instances

Note down the My-EC2-B private IP address.

The screenshot shows the AWS Management Console interface for an EC2 instance named 'My-EC2-B'. The instance is in the 'running' state. The 'Private IPs' field is highlighted with a red circle, showing the address '10.100.1.216'. Other details include the Instance ID 'i-0ab7fa62a9fe8152a', Instance Type 't2.micro', Availability Zone 'us-east-1b', and VPC ID 'vpc-0df4e6d3766e1e51f (MyVPC)'.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
My-EC2-B	i-0ab7fa62a9fe8152a	t2.micro	us-east-1b	running	Initializing	None	-

Description		Status Checks	Monitoring	Tags
Instance ID	i-0ab7fa62a9fe8152a			
Instance state	running			
Instance type	t2.micro			
Finding	Opt-in to AWS Compute Optimizer for recommendations. <a href="#">Learn more</a>			
Private DNS	ip-10-100-1-216.ec2.internal			
Private IPs	10.100.1.216			
Secondary private IPs				
VPC ID	vpc-0df4e6d3766e1e51f (MyVPC)			
Subnet ID	subnet-0ab00ecc35cca6298 (MyVPC-Private)			
Public DNS (IPv4)	-			
IPv4 Public IP	-			
IPv6 IPs	-			
Elastic IPs				
Availability zone	us-east-1b			
Security groups	MyVPC-Private-SG. <a href="#">view inbound rules.</a> <a href="#">view outbound rules</a>			
Scheduled events	No scheduled events			
AMI ID	amzn2-ami-hvm-2.0.20200617.0-x86_64-gp2 (ami-08f3d892de259504d)			
Platform details	Linux/UNIX			

Try to ping EC2-B private IP from EC2-A instance

```
[ec2-user@ip-10-100-0-139 ~]$ ping -c 5 10.100.1.216
PING 10.100.1.216 (10.100.1.216) 56(84) bytes of data.
64 bytes from 10.100.1.216: icmp_seq=1 ttl=255 time=1.22 ms
64 bytes from 10.100.1.216: icmp_seq=2 ttl=255 time=0.868 ms
64 bytes from 10.100.1.216: icmp_seq=3 ttl=255 time=0.701 ms
64 bytes from 10.100.1.216: icmp_seq=4 ttl=255 time=0.725 ms
64 bytes from 10.100.1.216: icmp_seq=5 ttl=255 time=0.739 ms

--- 10.100.1.216 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4073ms
rtt min/avg/max/mdev = 0.701/0.850/1.221/0.197 ms
```

Create a NAT gateway in your VPC

## VPC -> NAT Gateways -> Create NAT Gateway

[NAT Gateways](#) > Create NAT Gateway

### Create NAT Gateway

Create a NAT gateway and assign it an Elastic IP address. [Learn more.](#)

Subnet\* subnet-0ab00ecc35cca6298

choose MyVPC-Public

Elastic IP Allocation ID\* eipalloc-03f97d7aeef7e65bf

Allocate Elastic IP address

Elastic IP address (34.194.248.98) allocated.

Key (128 characters maximum)	Value (256 characters maximum)
Name	MyVPC-Private-NATGW
Add Tag	49 remaining (Up to 50 tags maximum)

\* Required

Cancel

Create a NAT Gateway

## Add a route in Private subnet for internet traffic and route through NAT Gateway

Route Tables -> Select MyVPC-Private route table

Routes -> Edit -> Add another route

Destination: 0.0.0.0/0

Target: nat-gateway

Save

Create route table Actions

Name: MyVPC-Private-RT Add filter

Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID
MyVPC-Private-RT	rtb-0aec07a9b768ad4b2	subnet-0ab00ecc35cca6298	-	No	vpc-0df4e6d3766e1e51

Route Table: rtb-0aec07a9b768ad4b2

Summary Routes Subnet Associations Edge Associations Route Propagation Tags

Edit routes

View All routes

Destination	Target	Status	Propagated
10.100.0.0/16	local	active	No

[Route Tables](#) > Edit routes

## Edit routes

Destination: 10.100.0.0/16  
0.0.0.0/0

Target: local  
nat-0926aae31403a48e5 MyVPC-Private-NATGW

Status: active

Propagated: No

Add route

\* Required

Cancel Save routes

Create route table Actions

Name: MyVPC-Private-RT Add filter

MyVPC-Private-RT rtb-0aec07a9b768ad4b2 subnet-0ab0ecc35cca6298 - No vpc-0df4e6d3766e1e51

Route Table: rtb-0aec07a9b768ad4b2

Summary Routes Subnet Associations Edge Associations Route Propagation Tags

Edit routes

View All routes

Destination	Target	Status	Propagated
10.100.0.0/16	local	active	No
0.0.0.0/0	nat-0926aae31403a48e5	active	No

## Try to connect to EC2-B instance from EC2-A

```
[ec2-user@ip-10-100-0-139 ~]$ touch rnueva-keypair.pem
[ec2-user@ip-10-100-0-139 ~]$ vi rnueva-keypair.pem
[ec2-user@ip-10-100-0-139 ~]$ chmod 600 rnueva-keypair.pem
[ec2-user@ip-10-100-0-139 ~]$ ssh -i rnueva-keypair.pem ec2-user@10.100.1.216
The authenticity of host '10.100.1.216 (10.100.1.216)' can't be established.
ECDSA key fingerprint is SHA256:200tS7bQDvWk06Gr0mhornCZepZVwUMj0xFFTharR7U.
ECDSA key fingerprint is MD5:1c:2d:3f:43:40:ec:f1:4d:67:22:8b:31:3b:b0:04:d7.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.100.1.216' (ECDSA) to the list of known hosts.
```

```

  _ | ( _ | _ )
  _ | ( _ | _ )
  _ | \ _ | _ |
Amazon Linux 2 AMI

```

<https://aws.amazon.com/amazon-linux-2/>

```
[ec2-user@ip-10-100-1-216 ~]$ uptime
21:40:06 up 19 min, 1 user, load average: 0.00, 0.00, 0.00
```

## Try to ping google.com from MyEC2-B

```
[ec2-user@ip-10-100-1-216 ~]$ ping -c 3 google.com
PING google.com (172.217.8.14) 56(84) bytes of data.
64 bytes from iad23s59-in-f14.1e100.net (172.217.8.14): icmp_seq=1 ttl=113
time=2.43 ms
64 bytes from iad23s59-in-f14.1e100.net (172.217.8.14): icmp_seq=2 ttl=113
time=1.89 ms
64 bytes from iad23s59-in-f14.1e100.net (172.217.8.14): icmp_seq=3 ttl=113
time=1.85 ms

--- google.com ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2002ms
rtt min/avg/max/mdev = 1.852/2.061/2.437/0.268 ms
```