

1.Creating 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. Mouse over a resource to highlight the related resources.

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.

8 IPs

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

IPv6 CIDR block [Info](#)

☒ No IPv6 CIDR block

☐ Amazon-provided IPv6 CIDR block

Tenancy [Info](#)

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.

▶ 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.

Preview

VPC [Show details](#)

Your AWS virtual network

myVPC-vpc

Subnets (4)

Subnets within this VPC

us-east-1a

myVPC-subnet-public1-us-east-1a

myVPC-subnet-private1-us-east-1a

us-east-1b

myVPC-subnet-public2-us-east-1b

myVPC-subnet-private2-us-east-1b

Route tables (3)

Route network traffic to resources

myVPC-rtb-public

myVPC-rtb-private1-us-east-1a

myVPC-rtb-private2-us-east-1b

Network connections (2)

Connections to other networks

myVPC-igw

myVPC-vpc-e-s3

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.

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.

▼ Customize subnets CIDR blocks

Public subnet CIDR block in us-east-1a

16 IPs

Public subnet CIDR block in us-east-1b

4,096 IPs

Private subnet CIDR block in us-east-1a

4,096 IPs

Private subnet CIDR block in us-east-1b

4,096 IPs

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.

VPC endpoints [Info](#)

Endpoints can help reduce NAT gateway charges and improve security by accessing S3 directly from the VPC. By default, full access policy is used. You can customize this policy at any time.

DNS options [Info](#)

☒ Enable DNS hostnames

☒ Enable DNS resolution

▶ Additional tags

Cancel

Create VPC

1 | Page

2.VPC Created

VPC > Your VPCs > vpc-0853a889f19c19050

vpc-0853a889f19c19050 / myVPC-vpc

Actions

DetailsInfo

VPC ID

vpc-0853a889f19c19050

Tenancy

Default

Default VPC

No

Network Address Usage metrics

Disabled

State

Available

DHCP option set

dopt-06ecb6abcba7ed67c

IPv4 CIDR

10.0.0.0/26

Route 53 Resolver DNS Firewall rule groups

-

DNS hostnames

Enabled

Main route table

rtb-0cc6293f6e82318d1

IPv6 pool

-

Owner ID

339712699389

DNS resolution

Enabled

Main network ACL

acl-0c956ee016ab2c1d5

IPv6 CIDR (Network border group)

-

Resource mapInfo

VPCShow details

Your AWS virtual network

myVPC-vpc

Subnets (4)

Subnets within this VPC

us-east-1a

myVPC-subnet-public1-us-east-1a

myVPC-subnet-private1-us-east-1a

us-east-1b

myVPC-subnet-public2-us-east-1b

myVPC-subnet-private2-us-east-1b

Route tables (4)

Route network traffic to resources

myVPC-rtb-private2-us-east-1b

myVPC-rtb-public

rtb-0cc6293f6e82318d1

myVPC-rtb-private1-us-east-1a

Network connections (2)

Connections to other networks

myVPC-igw

myVPC-nat-public1-us-east-1a

Your VPCs (1)Info

Search

myVPC

Clear filters

<1>

<input type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP option set	Main route table	Main network ACL	Tenancy
<input type="checkbox"/>	myVPC-vpc	vpc-0853a889f19c19050	Available	10.0.0.0/26	-	dopt-06ecb6abcba7ed67c	-	-	Default

>

3.Subnets (2 Public & 2 Private Subnets)

Subnets (4)Info

Find resources by attribute or tag

myVPC

Clear filters

<1>

<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR	Available IPv4 addresses	Availability Zone
<input type="checkbox"/>	myVPC-subnet-public2-us-east-1b	subnet-002a680fb6fbdc89	Available	vpc-0853a889f19c19050 myV...	10.0.0.16/28	-	11	us-east-1b
<input type="checkbox"/>	myVPC-subnet-private1-us-east-1a	subnet-020d78251a614a108	Available	vpc-0853a889f19c19050 myV...	10.0.0.32/28	-	11	us-east-1a
<input type="checkbox"/>	myVPC-subnet-private2-us-east-1b	subnet-05988f8cbd99943f7	Available	vpc-0853a889f19c19050 myV...	10.0.0.48/28	-	11	us-east-1b
<input type="checkbox"/>	myVPC-subnet-public1-us-east-1a	subnet-006ed604942ec0a7d	Available	vpc-0853a889f19c19050 myV...	10.0.0.0/28	-	10	us-east-1a

>

4.Route Tables

Route tables (3/4)Info

Find resources by attribute or tag

myVPC

Clear filters

<input type="checkbox"/>	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owner ID
<input checked="" type="checkbox"/>	myVPC-rtb-private2-us-east-1b	rtb-08c20d4f8cab0e9f8	subnet-05988f8cbd9994...	-	No	vpc-0853a889f19c19050 myV...	339712699389
<input checked="" type="checkbox"/>	myVPC-rtb-public	rtb-0327954c95491396a	2 subnets	-	No	vpc-0853a889f19c19050 myV...	339712699389
<input type="checkbox"/>	-	rtb-0cc6293f6e82318d1	-	-	Yes	vpc-0853a889f19c19050 myV...	339712699389
<input checked="" type="checkbox"/>	myVPC-rtb-private1-us-east-1a	rtb-0bb792c43accf9edf	subnet-020d78251a614a...	-	No	vpc-0853a889f19c19050 myV...	339712699389

5.Internet Gateways

Internet gateways (1)Info

Search

myVPC

Clear filters

<input type="checkbox"/>	Name	Internet gateway ID	State	VPC ID	Owner
<input type="checkbox"/>	myVPC-igw	igw-0f2fbfe06d1ca575e	Attached	vpc-0853a889f19c19050 myVPC-vpc	339712699389

6.NAT Gateways

NAT gateways (1) Info

Find resources by attribute or tag

Actions

Create NAT gateway

<1>

Name	NAT gateway ID	Connectivity...	State	State message	Primary public I...	Primary private I...	Primary network...	VPC	Subnet
myVPC-nat-public1...	nat-0933007244c14eee4	Public	Available	-	54.167.236.40	10.0.0.4	eni-04ba2c89d6ec3e...	vpc-0853a889f19c19050 / myV...	subnet-006ed...

7.Public Subnets associated with Internet Gateways

Subnets (1/4) Info

Find resources by attribute or tag

myVPC

Clear filters

Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR
myVPC-subnet-public2-us-east-1b	subnet-002a680fb6fbdcc89	Available	vpc-0853a889f19c19050 myV...	10.0.0.16/28	-
myVPC-subnet-private1-us-east-1a	subnet-020d78251a614a108	Available	vpc-0853a889f19c19050 myV...	10.0.0.32/28	-
myVPC-subnet-private2-us-east-1b	subnet-05988f8cbd99943f7	Available	vpc-0853a889f19c19050 myV...	10.0.0.48/28	-
myVPC-subnet-public1-us-east-1a	subnet-006ed604942ec0a7d	Available	vpc-0853a889f19c19050 myV...	10.0.0.0/28	-

subnet-006ed604942ec0a7d / myVPC-subnet-public1-us-east-1a

- Details
- Flow logs
- Route table
- Network ACL
- CIDR reservations
- Sharing
- Tags

Route table: rtb-0327954c95491396a / myVPC-rtb-public

Routes (2)

Filter routes

Destination	Target
10.0.0.0/26	local
0.0.0.0/0	igw-0f2fbfe06d1ca575e

8. Private Subnets associated with NAT Gateways

Subnets (1/4) Info

Find resources by attribute or tag

myVPC

Clear filters

Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR
myVPC-subnet-public2-us-east-1b	subnet-002a680fb6fbdcc89	Available	vpc-0853a889f19c19050 myV...	10.0.0.16/28	-
myVPC-subnet-private1-us-east-1a	subnet-020d78251a614a108	Available	vpc-0853a889f19c19050 myV...	10.0.0.32/28	-
myVPC-subnet-private2-us-east-1b	subnet-05988f8cbd99943f7	Available	vpc-0853a889f19c19050 myV...	10.0.0.48/28	-
myVPC-subnet-public1-us-east-1a	subnet-006ed604942ec0a7d	Available	vpc-0853a889f19c19050 myV...	10.0.0.0/28	-

subnet-020d78251a614a108 / myVPC-subnet-private1-us-east-1a

- Details
- Flow logs
- Route table
- Network ACL
- CIDR reservations
- Sharing
- Tags

Route table: rtb-0bb792c43accf9edf / myVPC-rtb-private1-us-east-1a

Routes (2)

Filter routes

Destination	Target
10.0.0.0/26	local
0.0.0.0/0	nat-0933007244c14eee4

9. Route tables associated with Subnets

Route tables (1/4) Info

Find resources by attribute or tag

myVPC X Clear filters

	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owner ID
<input type="checkbox"/>	myVPC-rtb-private2-us-east-1b	rtb-08c20d4f8cab0e9f8	subnet-05988f8cbd9994...	–	No	vpc-0853a889f19c19050 myV...	339712699389
<input checked="" type="checkbox"/>	myVPC-rtb-public	rtb-0327954c95491396a	2 subnets	–	No	vpc-0853a889f19c19050 myV...	339712699389
<input type="checkbox"/>	–	rtb-0cc6293f6e82318d1	–	–	Yes	vpc-0853a889f19c19050 myV...	339712699389
<input type="checkbox"/>	myVPC-rtb-private1-us-east-1a	rtb-0bb792c43accf9edf	subnet-020d78251a614a...	–	No	vpc-0853a889f19c19050 myV...	339712699389

rtb-0327954c95491396a / myVPC-rtb-public

DetailsRoutesSubnet associationsEdge associationsRoute propagationTags

Explicit subnet associations (2)

Find subnet association

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
myVPC-subnet-public2-us-east-1b	subnet-002a680fb6fbdcc89	10.0.0.16/28	–
myVPC-subnet-public1-us-east-1a	subnet-006ed604942ec0a7d	10.0.0.0/28	–

Route tables (1/4) Info

Find resources by attribute or tag

myVPC X Clear filters

	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owner ID
<input checked="" type="checkbox"/>	myVPC-rtb-private2-us-east-1b	rtb-08c20d4f8cab0e9f8	subnet-05988f8cbd9994...	–	No	vpc-0853a889f19c19050 myV...	339712699389
<input type="checkbox"/>	myVPC-rtb-public	rtb-0327954c95491396a	2 subnets	–	No	vpc-0853a889f19c19050 myV...	339712699389
<input type="checkbox"/>	–	rtb-0cc6293f6e82318d1	–	–	Yes	vpc-0853a889f19c19050 myV...	339712699389
<input type="checkbox"/>	myVPC-rtb-private1-us-east-1a	rtb-0bb792c43accf9edf	subnet-020d78251a614a...	–	No	vpc-0853a889f19c19050 myV...	339712699389

rtb-08c20d4f8cab0e9f8 / myVPC-rtb-private2-us-east-1b

DetailsRoutesSubnet associationsEdge associationsRoute propagationTags

Explicit subnet associations (1)

Find subnet association

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
myVPC-subnet-private2-us-east-1b	subnet-05988f8cbd99943f7	10.0.0.48/28	–

Route tables (1/4) Info

Find resources by attribute or tag

myVPC X Clear filters

	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owner ID
<input type="checkbox"/>	myVPC-rtb-private2-us-east-1b	rtb-08c20d4f8cab0e9f8	subnet-05988f8cbd9994...	–	No	vpc-0853a889f19c19050 myV...	339712699389
<input type="checkbox"/>	myVPC-rtb-public	rtb-0327954c95491396a	2 subnets	–	No	vpc-0853a889f19c19050 myV...	339712699389
<input type="checkbox"/>	–	rtb-0cc6293f6e82318d1	–	–	Yes	vpc-0853a889f19c19050 myV...	339712699389
<input checked="" type="checkbox"/>	myVPC-rtb-private1-us-east-1a	rtb-0bb792c43accf9edf	subnet-020d78251a614a...	–	No	vpc-0853a889f19c19050 myV...	339712699389

rtb-0bb792c43accf9edf / myVPC-rtb-private1-us-east-1a

DetailsRoutesSubnet associationsEdge associationsRoute propagationTags

Explicit subnet associations (1)

Find subnet association

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
myVPC-subnet-private1-us-east-1a	subnet-020d78251a614a108	10.0.0.32/28	–

10.Launching EC2 machine using created VPC

▼ Network settings Info

VPC - required Info

vpc-0853a889f19c19050 (myVPC-vpc)

10.0.0.0/26

Subnet Info

subnet-002a680fb6fdbcc89 myVPC-subnet-public2-us-east-1b

VPC: vpc-0853a889f19c19050 Owner: 339712699389

Availability Zone: us-east-1b IP addresses available: 11 CIDR: 10.0.0.16/28

Create new subnet

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-4

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-4 created 2024-04-30T10:41:19.659Z

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

Source type Info Source Info Description - optional Info

Anywhere Add CIDR, prefix list or security 0.0.0.0/0 e.g. SSH for admin desktop

▼ Summary

Number of instances Info

1

Software Image (AMI)

Canonical, Ubuntu, 24.04 LTS, ...read more
ami-04b70fa74e45c3917

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel Launch instance Review commands

11.EC2 Instance Running with created VPC

Instances (1/1) Info

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

✓	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs
✓	myVPC-Demo-...	i-07674e0f936422cd4	Running	t2.micro	-	View alarms +	us-east-1b	ec2-54-165-164-62.co...	54.165.164.62	-	-

i-07674e0f936422cd4 (myVPC-Demo-EC2)

Details

Status and alarms New

Monitoring

Security

Networking

Storage

Tags

▼ Instance summary Info

Instance ID

i-07674e0f936422cd4 (myVPC-Demo-EC2)

IPv6 address

-

Hostname type

IP name: ip-10-0-0-29.ec2.internal

Answer private resource DNS name

-

Auto-assigned IP address

54.165.164.62 [Public IP]

IAM Role

-

Public IPv4 address

54.165.164.62 | open address

Instance state

Running

Private IP DNS name (IPv4 only)

ip-10-0-0-29.ec2.internal

Instance type

t2.micro

VPC ID

vpc-0853a889f19c19050 (myVPC-vpc)

Subnet ID

subnet-002a680fb6fdbcc89 (myVPC-subnet-public2-us-east-1b)

Private IPv4 addresses

10.0.0.29

Public IPv4 DNS

ec2-54-165-164-62.compute-1.amazonaws.com | open address

Elastic IP addresses

-

AWS Compute Optimizer finding

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

Auto Scaling Group name

-

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12. Launched EC2 instance with created VPC Public Subnet

```
aws | Services | Search [Alt+S]
EC2 | Simple Notification Service | VPC

Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1008-aws x86_64)

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

System information as of Tue Apr 30 10:50:02 UTC 2024

System load:  0.15           Processes:            106
Usage of /:   23.2% of 6.71GB Users logged in:          0
Memory usage: 20%           IPv4 address for enX0: 10.0.0.29
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 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-10-0-0-29:~$ ifconfig
enX0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 9001
    inet 10.0.0.29  netmask 255.255.255.240  broadcast 10.0.0.31
    inet6 fe80::100e:adff:fe86:d081  prefixlen 64  scopeid 0x20<link>
    ether 12:0e:ad:86:d0:81  txqueuelen 1000  (Ethernet)
    RX packets 1499  bytes 692175 (692.1 KB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 1311  bytes 189998 (189.9 KB)
    TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
    inet 127.0.0.1  netmask 255.0.0.0
    inet6 ::1  prefixlen 128  scopeid 0x10<host>
    loop txqueuelen 1000  (Local Loopback)
    RX packets 126  bytes 13175 (13.1 KB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 126  bytes 13175 (13.1 KB)
    TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

ubuntu@ip-10-0-0-29:~$
```