

Create a VPC

The screenshot shows the AWS CloudWatch Metrics console with a search bar at the top containing 'VPC'. The search results are displayed under two main sections: 'Services' and 'Features'.

Services (13 results):

- VPC (Isolated Cloud Resources)
- AWS Firewall Manager (Central management of firewall rules)
- Detective (Investigate and Analyze potential security issues)
- Managed Services (IT operations management for AWS)

Features (59 results):

- Dashboard (VPC feature)
- Route 53 VPCs (Route 53 feature)

On the right side of the interface, there is a sidebar titled 'Create application' with a 'Default layout' button and an '+ Add widgets' button. Below this, there are sections for 'Logs' and 'Metrics' with tabs for 'CloudWatch Metrics' and 'CloudWatch Metrics Insights'.

Click on Create VPC

The screenshot shows the AWS VPC dashboard. On the left, there is a navigation menu with sections like 'Virtual private cloud', 'Security', and 'DNS firewall'. The main area features a 'Create VPC' button in an orange box and a 'Launch EC2 Instances' button. Below these buttons, there is a section titled 'Resources by Region' which lists various VPC components with their counts in the US East region:

Resource Type	Count
VPCs	US East 1
NAT Gateways	US East 0
Subnets	US East 6
Route Tables	US East 1
Internet Gateways	US East 1
Egress-only Internet Gateways	US East 0
Carrier gateways	US East 0
DHCP option sets	US East 1
Elastic IPs	US East 0
Managed prefix lists	US East 0
Endpoints	US East 0
Endpoint services	US East 0
NAT gateways	US East 0
Peering connections	US East 0

On the right side, there are sections for 'Service Health' (with a link to 'View complete service health details'), 'Settings' (with links to 'Zones' and 'Console Experiments'), 'Additional Information' (with links to 'VPC Documentation', 'All VPC Resources', 'Forums', and 'Report an Issue'), and 'AWS Network Manager' (with a detailed description of its features).

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.

IPv4 CIDR block Info
 IPv4 CIDR manual input IPAM-allocated IPv4 CIDR block

IPv4 CIDR

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

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

CreateVpc

Click on Create VPC.

You successfully created **vpc-0db0dc0a044037a4d / test-vpc**

VPC dashboard Actions ▾

EC2 Global View Filter by VPC

Virtual private cloud

- Your VPCs**
- Subnets
- Route tables
- Internet gateways
- Egress-only internet gateways
- Carrier gateways
- DHCP option sets
- Elastic IPs
- Managed prefix lists
- Endpoints
- Endpoint services
- NAT gateways
- Peering connections

Security

- Network ACLs
- Security groups

DNS Firewall

Display a menu Feedback

vpc-0db0dc0a044037a4d / test-vpc

Details Info

VPC ID	State	DNS hostnames	DNS resolution
vpc-0db0dc0a044037a4d	Available	Disabled	Enabled
Tenancy	DHCP option set	Main route table	Main network ACL
Default	dopt-0f13ceaa424ab4d5e	rtb-0af2843dc2956709c	acl-05795d3471657ed74
Default VPC	IPv4 CIDR	IPv6 pool	IPv6 CIDR (Network border group)
No	12.0.0.0/16	–	–
Network Address Usage metrics	Route 53 Resolver DNS Firewall rule groups	Owner ID	–
Disabled	–	637423339839	–

Resource map Info

VPC [Show details](#)
 Your AWS virtual network
[test-vpc](#)

Subnets (0)
 Subnets within this VPC

Route tables (1)
 Route network traffic to resources
[rtb-0af2843dc2956709c](#)

VpcDetails

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Create an Internet Gateway.

The screenshot shows the AWS VPC dashboard with the 'Internet gateways' section selected. The table displays one internet gateway entry:

Name	Internet gateway ID	State	VPC ID	Owner
-	igw-035f4c5e6e2cc94be	Attached	vpc-082939a3ed23f7468	63742

The screenshot shows the 'Create internet gateway' wizard. Step 1: Internet gateway settings. The 'Name tag' field contains 'test-igw'. The 'Tags - optional' section shows a single tag 'Name: test-igw'. The 'Create internet gateway' button is highlighted.

Click on Create Internet Gateway.

Attach Internet Gateway to VPC.

Go to Internet Gateway

The following internet gateway was created: igw-08d7b5f791197b2e9 - test-igw. You can now attach to a VPC to enable the VPC to communicate with the internet.

Attach to a VPC

VPC dashboard

EC2 Global View

Filter by VPC

Virtual private cloud

- Your VPCs
- Subnets
- Route tables
- Internet gateways**
- Egress-only internet gateways
- Carrier gateways
- DHCP option sets
- Elastic IPs
- Managed prefix lists
- Endpoints
- Endpoint services
- NAT gateways
- Peering connections

Security

- Network ACLs
- Security groups

DNS Firewall

Details Info

Internet gateway ID: igw-08d7b5f791197b2e9 State: Detached VPC ID: - Owner: 637423339839

Tags

Key	Value
Name	test-igw

Actions

Click on Actions

The following internet gateway was created: igw-08d7b5f791197b2e9 - test-igw. You can now attach to a VPC to enable the VPC to communicate with the internet.

Attach to a VPC

VPC dashboard

EC2 Global View

Filter by VPC

Virtual private cloud

- Your VPCs
- Subnets
- Route tables
- Internet gateways**
- Egress-only internet gateways
- Carrier gateways
- DHCP option sets
- Elastic IPs
- Managed prefix lists
- Endpoints
- Endpoint services
- NAT gateways
- Peering connections

Security

- Network ACLs
- Security groups

DNS Firewall

Details Info

Internet gateway ID: igw-08d7b5f791197b2e9 State: Detached VPC ID: - Owner: 637423339839

Tags

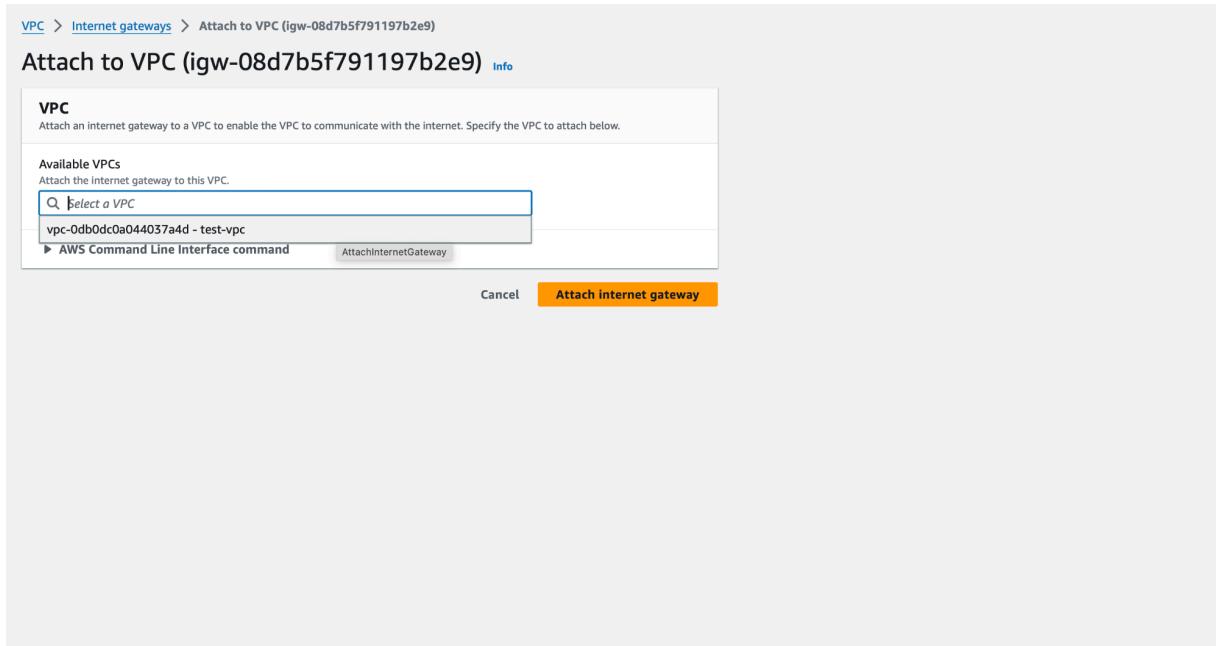
Key	Value
Name	test-igw

Actions

- Attach to VPC
- Detach from VPC
- Manage tags
- Delete

InternetGateway

Click on Attach to VPC.



Click on Attach Internet Gateway

Let's Create Subnet

Name	Subnet ID	State	VPC	IPv4 CIDR
-	subnet-00e3b6bab2abb0da0	Available	vpc-082939a3ed23f7468	172.31.64.0/20
-	subnet-01a8b4c483f84bbc5	Available	vpc-082939a3ed23f7468	172.31.80.0/20
-	subnet-07c36d7bb676cc782	Available	vpc-082939a3ed23f7468	172.31.48.0/20
-	subnet-0227a62dd9955dbc	Available	vpc-082939a3ed23f7468	172.31.16.0/20
-	subnet-0330084cd3e4f88d4	Available	vpc-082939a3ed23f7468	172.31.0.0/20
-	subnet-01ec25771453fe926	Available	vpc-082939a3ed23f7468	172.31.32.0/20

Subnet 1 of 1

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

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.

IPv4 VPC CIDR block [Info](#)
Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

IPv4 subnet CIDR block
 256 IPs
< > ^ v

Tags - optional

Key	Value - optional
<input type="text" value="Name"/>	<input type="text" value="test-public-subnet-1a"/>

[Add new tag](#)
You can add 49 more tags.
[Remove](#)

[Add new subnet](#)

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

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Create a private subnet.

Create subnets in this VPC.

Associated VPC CIDRs
IPv4 CIDRs

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.

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.

IPv4 VPC CIDR block [Info](#)
Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

IPv4 subnet CIDR block
 CreateSubnet 56 IPs
< > ^ v

You can select VPC

VPC dashboard

- EC2 Global View
- Filter by VPC
 - vpc-082939a3ed23f7468
 - Owner: 637423339839
 - vpc-0db0dc0a044037a4d
 - test-vpc
 - Owner: 637423339839
- Internet gateways
- Egress-only internet gateways
- Carrier gateways
- DHCP option sets
- Elastic IPs
- Managed prefix lists
- Endpoints
- Endpoint services
- NAT gateways
- Peering connections
- Security
 - Network ACLs
 - Security groups

Subnets (8) Info

Last updated 2 minutes ago

Name	Subnet ID	State	VPC	IPv4 CIDR
-	subnet-00e3b6bab2abb0da0	Available	vpc-082939a3ed23f7468	172.31.64.0/20
-	subnet-01a8b4c483fb4bb5	Available	vpc-082939a3ed23f7468	172.31.80.0/20
-	subnet-07c36d7bb676cc782	Available	vpc-082939a3ed23f7468	172.31.48.0/20
-	subnet-0227a62ddcd9955dbc	Available	vpc-082939a3ed23f7468	172.31.16.0/20
-	subnet-0330084cd3e4fb8d4	Available	vpc-082939a3ed23f7468	172.31.0.0/20
-	subnet-01ec25771453fe926	Available	vpc-082939a3ed23f7468	172.31.32.0/20
test-public-subnet-1a	subnet-065efa30e41c186ac	Available	vpc-0db0dc0a044037a4d test-vpc	12.0.1.0/24
test-private-subnet	subnet-0aa1f514812b60cdb	Available	vpc-0db0dc0a044037a4d test-vpc	12.0.3.0/24

Select a subnet

Lets create a Route table.

VPC dashboard

- EC2 Global View
- Filter by VPC
 - vpc-0db0dc0a044037a4d
 - test-vpc
 - Owner: 637423339839
- Virtual private cloud
 - Your VPCs
 - Subnets
 - Route tables
 - Route tables
 - Internet gateways
 - Egress-only internet gateways
 - Carrier gateways
 - DHCP option sets
 - Elastic IPs
 - Managed prefix lists
 - Endpoints
 - Endpoint services
 - NAT gateways
 - Peering connections
 - Security

Route tables (1) Info

Last updated 5 minutes ago

Name	Route table ID	Explicit subnet associations	Edge associations	Main	VPC
-	rtb-0af2843dc2956709c	-	-	Yes	RouteTables vpc-0db0dc0a044037a4d

Select a route table

The screenshot shows the 'Create route table' wizard in the AWS VPC service. The 'Route table settings' step is active. In the 'Name - optional' section, a tag named 'test-rt' is added. The 'VPC' section shows 'vpc-0db0dc0a044037a4d (test-vpc)' selected. Under 'Tags', a single tag 'Name: test-rt' is listed. A note says 'You can add 49 more tags.' At the bottom right are 'Cancel' and 'Create route table' buttons.

Route table needs to reach out to internet. Lets give internet access.

Click on Edit routes

The screenshot shows the 'rtb-083e17b4b2263d3f3 / test-rt' route table details. The 'Details' tab is selected, showing the route table ID, VPC, and owner ID. The 'Routes' tab is selected, displaying one route entry: Destination 12.0.0.0/16, Target local, Status Active, and Propagated No. The sidebar on the left lists various VPC-related services like EC2 Global View, Virtual private cloud, Route tables, and Security.

The screenshot shows the 'Edit routes' section of the AWS VPC Route Tables. A route entry for '12.0.0.0/16' is selected. The 'Target' dropdown is set to 'local' (Active). The 'Propagated' checkbox is unchecked. The 'Remove' button is visible. The 'Save changes' button is highlighted in orange.

Choose Internet Gateway.

Select create igw and save changes.

Lets create route table for private subnet

The screenshot shows the 'Create route table' page. In the 'Route table settings' section, the name is set to 'RT-Test-private'. In the 'VPC' section, the VPC is selected as 'vpc-0db0dc0a044037a4d (test-vpc)'. In the 'Tags' section, there is one tag: 'Name: RT-Test-private'. The 'Create route table' button is highlighted in orange.

Since this is a private subnet, we need not provide internet access.

VPC dashboard > VPC > Route tables > rtb-01d0527894e816ac7 / RT-Test-private

Details Info

Route table ID rtb-01d0527894e816ac7	Main No	Explicit subnet associations -	Edge associations -
VPC vpc-0db0dc0a044037a4d test-vpc	Owner ID 637423339839		

Routes (1)

Destination	Target	Status	Propag...
12.0.0.0/16	local	Active	No

Subnet associations

Click on Subnet associations.

VPC dashboard > VPC > Route tables > rtb-01d0527894e816ac7 / RT-Test-private

Details Info

Route table ID rtb-01d0527894e816ac7	Main No	Explicit subnet associations -	Edge associations -
VPC vpc-0db0dc0a044037a4d test-vpc	Owner ID 637423339839	RouteTableDetails	

Subnet associations

Explicit subnet associations (0)

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
No subnet associations			

You do not have any subnet associations.

Subnets without explicit associations (2)

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
test-public-subnet-1a	subnet-065efa30e41c186ac	12.0.1.0/24	-
test-private-subnet	subnet-0aa1f514812b60cdb	12.0.3.0/24	-

Click on Edit Subnet association

The screenshot shows the 'Edit subnet associations' page for a specific route table. At the top, there's a breadcrumb navigation: VPC > Route tables > rtb-01d0527894e816ac7 > Edit subnet associations. Below the breadcrumb is a section titled 'Edit subnet associations' with the sub-instruction 'Change which subnets are associated with this route table.' A table titled 'Available subnets (1/2)' lists two subnets: 'test-public-subnet-1a' and 'test-private-subnet'. The 'test-private-subnet' row has a checked checkbox in the first column. In the 'Selected subnets' section, the same subnet is listed with its ID and a link to 'EditRouteTableSubnetAssociations'. At the bottom right are 'Cancel' and 'Save associations' buttons.

Click on Save Association.

The screenshot shows the 'rtb-01d0527894e816ac7 / RT-Test-private' route table details page. A green banner at the top indicates 'You have successfully updated subnet associations for rtb-01d0527894e816ac7 / RT-Test-private.' The main area displays the route table's details, including its ID, owner, and explicit subnet associations. The 'Subnet associations' tab is selected, showing one association: 'test-private-subnet' (subnet ID: subnet-Oaa1f514812b60cdb). Below this, a section for 'Subnets without explicit associations' lists 'test-public-subnet-1a' (subnet ID: subnet-065efa30e41c186ac). At the bottom, there are 'Edit subnet associations' buttons for both sections.

Create EC2 instance in public subnet

The screenshot shows the AWS Lambda console interface. It's a multi-step wizard for creating a new function:

- Step 1: Set runtime and name**: Shows the runtime selected as Node.js 14.x and the function name as 'HelloWorldFunction'. It includes fields for Handler, Role, and Environment.
- Step 2: Configure triggers**: Shows the trigger selected as 'Lambda@Edge' and the event source as 'Static website'.
- Step 3: Set environment variables**: Shows the variable 'AWS_LAMBDA_FUNCTION_NAME' with the value 'HelloWorldFunction'.
- Step 4: Add permissions**: Shows the policy 'AmazonLambdaBasicExecutionRole' attached to the function.
- Step 5: Review and Create function**: Shows the function configuration summary and a large orange 'Create function' button.

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- Step 1: Set runtime and name**: Shows the runtime selected as Node.js 14.x and the function name as 'HelloWorldFunction'. It includes fields for Handler, Role, and Environment.
- Step 2: Configure triggers**: Shows the trigger selected as 'Lambda@Edge' and the event source as 'Static website'.
- Step 3: Set environment variables**: Shows the variable 'AWS_LAMBDA_FUNCTION_NAME' with the value 'HelloWorldFunction'.
- Step 4: Add permissions**: Shows the policy 'AmazonLambdaBasicExecutionRole' attached to the function.
- Step 5: Review and Create function**: Shows the function configuration summary and a large orange 'Create function' button.

Click on edit network settings.

before you launch the instance.

Key pair name - **required**
gk-macbook Create new key pair

▼ Network settings Info Edit

Network Info
vpc-082939a3ed23f7468

Subnet Info
No preference (Default subnet in any availability zone)

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

We'll create a new security group called '**launch-wizard-4**' with the following rules:

Allow SSH traffic from Anywhere
Helps you connect to your instance
Anywhere
0.0.0.0/0

Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server Launch an instance

Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

▼ Summary

Number of instances Info
1

Software Image (AMI)
Canonical, Ubuntu, 24.04, amd6...[read more](#)
ami-0e86e20dae9224db8

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 I/Os, 1 GB of snapshots, and

Cancel Launch instance Review commands

Choose our custom settings

▼ Network settings Info

VPC - **required** Info
vpc-0db0dc0a044037a4d (test-vpc)
12.0.0.0/16

Subnet Info
subnet-065efa30e41c186ac test-public-subnet-1a
VPC: vpc-0db0dc0a044037a4d Owner: 63742339839 Availability Zone: us-east-1a Zone type: Availability Zone IP addresses available: 251 CIDR: 12.0.1.0/24

Create new subnet [x]

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 2024-09-07T19:45:42.368Z

Inbound Security Group Rules

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

▼ Summary

Number of instances Info
1

Software Image (AMI)
Canonical, Ubuntu, 24.04, amd6...[read more](#)
ami-0e86e20dae9224db8

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 I/Os, 1 GB of snapshots, and

Cancel Launch instance Review commands

Click on enable auto assign public ip.

Create Security Group and launch instance.

Test EC2.

