

# LAB 2 Build your VPC and Launch a Web Server

Name : Abdul Qadir

Roll# : MSDS21045

The screenshot shows the AWS VPC creation process in progress. The top half of the screen displays the 'Create VPC' configuration page, where the user has selected 'VPC and more' and is configuring various settings like private subnets, CIDR blocks, and NAT gateways. The bottom half shows a 'Preview' diagram illustrating the network architecture, including the VPC, subnets, route tables, and network connections.

**Create VPC Configuration:**

- VPC Name:** lab-vpc
- CIDR Block:** 10.0.0.0/16
- Number of private subnets:** 1
- Public subnet CIDR block:** 10.0.0.0/24 (256 IPs)
- Private subnet CIDR block:** 10.0.1.0/24 (256 IPs)
- NAT gateways:** 1 per AZ
- VPC endpoints:** S3 Gateway
- DNS options:** Enable DNS hostnames, Enable DNS resolution

**Preview Diagram:**

```
graph LR; VPC[Your AWS virtual network lab-vpc] --- Subnets[Subnets (2) us-east-1a]; Subnets --- RouteTables[Route tables (2)]; RouteTables --- NetworkConnections[Network connections (2)];
```

The diagram shows the VPC named 'lab-vpc' connected to two subnets in 'us-east-1a': 'lab-subnet-public1-us-east-1a' and 'lab-subnet-private1-us-east-1a'. These subnets are connected to two route tables: 'lab-rtb-public' and 'lab-rtb-private1-us-east-1a'. Finally, these route tables are connected to two network connections: 'lab-igw' and 'lab-nat-public1-us-east-1a'.

Activities Firefox Web Browser

7:44 14 سمبر 63 %

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateVpc:createMode=vpcWithResources

AWS Services Search [Alt+S]

N. Virginia vocabs/user\$488941=msd21045@itu.edu.pk @ 8305-3217-7892

VPC Your VPCs Create VPC Create VPC resources

### Create VPC workflow

Verifying VPC creation: vpc-0d095730aff95c066

17%

Details

- ✓ Create VPC: vpc-0d095730aff95c066
- ✓ Enable DNS hostnames
- ✓ Enable DNS resolution
- ✓ Verifying VPC creation: vpc-0d095730aff95c066
- >Create subnet
- Create subnet
- Create Internet gateway
- Attach Internet gateway to the VPC
- Create route table
- Create route
- Associate route table
- Allocate elastic IP
- Create NAT gateway
- Wait for NAT Gateways to activate
- Create route table
- Create route
- Associate route table
- Verifying route table creation

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

7:47 14 سمبر 62 %

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateVpcWizard:

AWS Services Search [Alt+S]

N. Virginia vocabs/user\$488941=msd21045@itu.edu.pk @ 8305-3217-7892

VPC Your VPCs Create VPC Create VPC resources

### Create VPC workflow

Success

Details

- ✓ Create VPC: vpc-0d095730aff95c066
- ✓ Enable DNS hostnames
- ✓ Enable DNS resolution
- ✓ Verifying VPC creation: vpc-0d095730aff95c066
- ✓ Create subnet: subnet-05eec2417957e6629
- ✓ Create subnet: subnet-03883919eec8664fb
- ✓ Create Internet gateway: igw-063f3d1c5ccadab1
- ✓ Attach Internet gateway to the VPC
- ✓ Create route table: rtb-0babaa92025e4a255a
- ✓ Create route
- ✓ Associate route table
- ✓ Allocate elastic IP: eipalloc-0c512db622f66a862
- ✓ Create NAT gateway: nat-0fc3c90dc4dab025c
- ✓ Wait for NAT Gateways to activate
- ✓ Create route table: rtb-062d88cc02b550cea
- ✓ Create route
- ✓ Associate route table
- ✓ Verifying route table creation

**View VPC**

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

7:47 14 سبتمبر

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateVpcWizard:

AWS Services Search [Alt+S]

N. Virginia vocabs/user\$488941=msd21045@itu.edu.pk @ 8305-3217-7892 ▾

VPC dashboard > Your VPCs > vpc-0d093730aff95c066 / lab-vpc

Actions

**Details** Info

VPC ID: vpc-0d093730aff95c066 State: Available

Tenancy: Default DHCP option set: dopt-08ca377977e43206f

Default VPC: No IPv4 CIDR: 10.0.0.0/16

Network Address Usage metrics: Disabled Route 53 Resolver DNS Firewall rule groups: -

DNS hostnames: Enabled Main route table: rtb-0f6652b5900a5466d

IPv6 pool: - Main network ACL: acl-046bc34657dce9b3e

Owner ID: 830532177892 IPv6 CIDR (Network border group): -

Resource map | CIDRs | Flow logs | Tags | Integrations

Resource map Info

VPC Show details Your AWS virtual network lab-vpc

Subnets (2) Subnets within this VPC us-east-1a

lab-subnet-public1-us-east-1a lab-subnet-private1-us-east-1a

Route tables (3) Route network traffic to resources lab-rtb-public lab-rtb-private1-us-east-1a rtb-0f6652b5900a5466d

Network connections (2) Connections to other networks lab-lgw lab-nat-public1-us-east-1a

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

CloudShell Feedback

Activities Firefox Web Browser

7:51 14 سبتمبر

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#subnets:

AWS Services Search [Alt+S]

N. Virginia vocabs/user\$488941=msd21045@itu.edu.pk @ 8305-3217-7892 ▾

VPC > Subnets > Create subnet

Create subnet Info

VPC

VPC ID: Create subnets in this VPC.

Select a VPC:

- vpc-012aadf80e2819f08 (Work VPC)
- vpc-0296b689d06ff47ec (default)
- vpc-0d093730aff95c066 (lab-vpc)

Add new subnet

Cancel Create subnet

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateSubnet:

VPC dashboard EC2 Global View Subnets (1) Info

Subnet ID : subnet-08ecf62872bfe4ce6

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 Rule groups Domain lists

Select a subnet

Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR	IPv6 CIDR association
lab-subnet-public2	subnet-08ecf62872bfe4ce6	Available	vpc-0d093730aff95c066   lab-vpc	10.0.2.0/24	-	-

Create subnet

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateSubnet:

Create subnet

VPC

VPC ID Create subnets in this VPC:  
vpc-0d093730aff95c066 (lab-vpc)

Associated VPC CIDs  
IPv4 CIDs  
10.0.0.0/16

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.  
lab-subnet-private2  
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-1b

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.  
10.0.0.0/16

IPv4 subnet CIDR block  
10.0.3.0/24 256 IPs

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateSubnet:

VPC dashboard Subnets (11) Info

Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR	IPv6 CIDR assoc.
subnet-028bc7dacb719a56d	Available	vpc-029e6b6bd06ff47ec	172.31.80.0/20	-	-	
tab-subnet-private2	Available	vpc-0d93730aff95c066   lab-vpc	10.0.3.0/24	-	-	
subnet-009ed477748554e2	Available	vpc-029e6b6bd06ff47ec	172.31.48.0/20	-	-	
subnet-0ef250df4b9a2ecc4	Available	vpc-029e6b6bd06ff47ec	172.3.1.2.0/20	-	-	
subnet-0476bed8af16058	Available	vpc-029e6b6bd06ff47ec	172.3.1.64.0/20	-	-	
lab-subnet-public1-us-east-1a	Available	vpc-0d93730aff95c066   lab-vpc	10.0.0.0/24	-	-	
lab-subnet-private1-us-east-1a	Available	vpc-0d93730aff95c066   lab-vpc	10.0.1.0/24	-	-	
subnet-0511233ffa7bb8871	Available	vpc-029e6b6bd06ff47ec	172.31.0.0/20	-	-	
subnet-05343bf6499b9d93e	Available	vpc-029e6b6bd06ff47ec	172.31.16.0/20	-	-	
lab-subnet-public2	Available	vpc-0d93730aff95c066   lab-vpc	10.0.2.0/24	-	-	

Select a subnet

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#RouteTables:

VPC dashboard Route tables (6) Info

Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owner ID
rtb-00c8196e24dc0dff	-	-	-	Yes	vpc-029e6b6bd06ff47ec	830532177892
rtb-056090a07d722e17	-	-	-	Yes	vpc-012aaaf80e2819f08   Work...	830532177892
Work Public Route Table	rtb-08332b0e70f29da9	subnet-020aa43e8e41ab...	-	No	vpc-012aaaf80e2819f08   Work...	830532177892
lab-rtb-public	rtb-0bab920254a255a	subnet-05eeac2417957e6...	-	No	vpc-0d93730aff95c066   lab-vpc	830532177892
lab-rtb-private1-us-east-1a	rtb-062d88cc2b550cea	subnet-03083919ec066...	-	No	vpc-0d93730aff95c066   lab-vpc	830532177892
-	rtb-0f6652b5900a5466d	-	-	Yes	vpc-0d93730aff95c066   lab-vpc	830532177892

Select a route table

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#RouteTables:

VPC dashboard

EC2 Global View

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

Rule groups

Domain lists

Network Firewall

CloudShell Feedback

Route tables (1/6) Info

Last updated 2 minutes ago

Create route table

Name	Route table ID	Explicit subnet assoc...	Edge associations	Main	VPC	Owner ID
-	rtb-00ec8196e24dc0dff	-	-	Yes	vpc-029e6b68d0eff47ec	830532177892
-	rtb-0360a90a07d722e17	-	-	Yes	vpc-012aaaf80e2819f08   Work...	830532177892
Work Public Route Table	rtb-08c332b0e70f29da9	subnet-020aa43e8e41ab...	-	No	vpc-012aaaf80e2819f08   Work...	830532177892
lab-rtb-public	rtb-0bab92025e4a255a	subnet-05eec2417957e...	-	No	vpc-0d093730aff95c066   lab-vpc	830532177892
<input checked="" type="checkbox"/> lab-rtb-private1-us-east-1a	rtb-062d88cccd2b550cea	subnet-03883919ecc866...	-	No	vpc-0d093730aff95c066   lab-vpc	830532177892
-	rtb-0f6652b5900a5466d	-	-	Yes	vpc-0d093730aff95c066   lab-vpc	830532177892

rtb-062d88cccd2b550cea / lab-rtb-private1-us-east-1a

Details Routes Subnet associations Edge associations Route propagation Tags

Details

Route table ID rtb-062d88cccd2b550cea	Main No	Explicit subnet associations subnet-03883919ecc8664fb / lab-subnet-private1-us-east-1a	Edge associations -
VPC vpc-0d093730aff95c066   lab-vpc	Owner ID 830532177892		

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#RouteTables:

VPC dashboard

EC2 Global View

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

Rule groups

Domain lists

Network Firewall

CloudShell Feedback

Route tables (1/6) Info

Last updated 3 minutes ago

Create route table

Name	Route table ID	Explicit subnet assoc...	Edge associations	Main	VPC	Owner ID
-	rtb-00ec8196e24dc0dff	-	-	Yes	vpc-029e6b68d0eff47ec	830532177892
-	rtb-0360a90a07d722e17	-	-	Yes	vpc-012aaaf80e2819f08   Work...	830532177892
Work Public Route Table	rtb-08c332b0e70f29da9	subnet-020aa43e8e41ab...	-	No	vpc-012aaaf80e2819f08   Work...	830532177892
lab-rtb-public	rtb-0bab92025e4a255a	subnet-05eec2417957e...	-	No	vpc-0d093730aff95c066   lab-vpc	830532177892
<input checked="" type="checkbox"/> lab-rtb-private1-us-east-1a	rtb-062d88cccd2b550cea	subnet-03883919ecc866...	-	No	vpc-0d093730aff95c066   lab-vpc	830532177892
-	rtb-0f6652b5900a5466d	-	-	Yes	vpc-0d093730aff95c066   lab-vpc	830532177892

rtb-062d88cccd2b550cea / lab-rtb-private1-us-east-1a

Details Routes Subnet associations Edge associations Route propagation Tags

Routes (2)

Destination	Target	Status	Propagated
0.0.0.0/0	nat-0fc3c98dc4dab025c	Active	No
10.0.0.16	local	Active	No

Both Edit routes

Highlight All Match Case Match Diacritics Whole Words

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

AWS Services Search [Alt+S]

Last updated less than a minute ago Actions Create route table

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 Managed prefix lists Endpoints Endpoint services NAT gateways Peering connections Security Network ACLs Security groups DNS firewall Rule groups Domain lists Network Firewall CloudShell Feedback Find in page

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#RouteTables:

**Route tables (1/6) Info**

Name	Route table ID	Explicit subnet assoc...	Edge associations	Main	VPC	Owner ID
rtb-00ec8196e24dc0dff	-	-	-	Yes	vpc-029e6b68d06ff47ec	830532177892
lab-rtb-public	rtb-0bab92025e4a255a	subnet-05eec2417957e6...	-	No	vpc-0d93730aff95c066   lab-vpc	830532177892
	rtb-0360a90a07d722e17	-	-	Yes	vpc-012aadf80e2819f08   Work...	830532177892
<b>lab-rtb-private1-us-east-1a</b>	<b>rtb-062d88cc2b550cea</b>	<b>subnet-03883919eec8664fb</b>	-	No	vpc-0d93730aff95c066   lab-vpc	830532177892
	rtb-08c32b0e70f29da9	subnet-020aa43e8e41ab...	-	No	vpc-012aadf80e2819f08   Work...	830532177892
	rtb-0f6652b5900a5466d	-	-	Yes	vpc-0d93730aff95c066   lab-vpc	830532177892

rtb-062d88cc2b550cea / lab-rtb-private1-us-east-1a

Details Routes Subnet associations Edge associations Route propagation Tags

**Explicit subnet associations (1)**

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
lab-subnet-private1-us-east-1a	subnet-03883919eec8664fb	10.0.1.0/24	-

**Subnets without explicit associations (2)**

The following subnets have not been explicitly associated with any route tables and are therefore associated with the main route table:

Find subnet association
-------------------------

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

AWS Services Search [Alt+S]

N. Virginia vocabs/user\$488941=msd21045@itu.edu.pk @ 8305-3217-7892

VPC > Route tables > rtb-062d88cc2b550cea > 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
lab-subnet-private2	subnet-02f74cb2859387ac3	10.0.3.0/24	-	Main (rtb-0f6652b5900a5466d)
lab-subnet-public1-us-east-1a	subnet-05eec2417957e6629	10.0.0.0/24	-	rtb-0bab92025e4a255a   lab-rtb-public
lab-subnet-private1-us-east-1a	subnet-03883919eec8664fb	10.0.1.0/24	-	rtb-062d88cc2b550cea / lab-rtb-private1-u...
lab-subnet-public2	subnet-08ecf62072bfe4ce6	10.0.2.0/24	-	Main (rtb-0f6652b5900a5466d)

**Selected subnets**

subnet-03883919eec8664fb / lab-subnet-private1-us-east-1a X subnet-02f74cb2859387ac3 / lab-subnet-private2 X

Cancel Save associations

https://us-east-1.console.aws.amazon.com/console/home?region=us-east-1 lab-subnet-private1-us-east-1a Find in page © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Screenshot captured  
You can paste the image from the clipboard.

Route tables (1/6) Info

Name	Route table ID	Explicit subnet associations	Edge associations	Main	VPC	Owner ID
-	<a href="#">rtb-00ec3196e24dc0dff</a>	-	-	Yes	<a href="#">vpc-029e6b68d0f6ff47ec</a>	830532177892
lab-rtb-public	<a href="#">rtb-0bab92025e4a255a</a>	<a href="#">subnet-05eec2417957e6...</a>	-	No	<a href="#">vpc-0d093730aff95c066   lab-vpc</a>	830532177892
-	<a href="#">rtb-0360a90a07d722e17</a>	-	-	Yes	<a href="#">vpc-012aaaf80e2819f08   Work...</a>	830532177892
<b>lab-rtb-private1-us-east-1a</b>	<a href="#">rtb-062d88cc2b550cea</a>	<a href="#">subnet-03883919eec866...</a>	-	No	<a href="#">vpc-0d093730aff95c066   lab-vpc</a>	830532177892
Work Public Route Table	<a href="#">rtb-08c32b0e70f29da9</a>	<a href="#">subnet-020aa43e0e41ab...</a>	-	No	<a href="#">vpc-012aaaf80e2819f08   Work...</a>	830532177892
-	<a href="#">rtb-0f6652b5900a5466d</a>	-	-	Yes	<a href="#">vpc-0d093730aff95c066   lab-vpc</a>	830532177892

**rtb-062d88cc2b550cea / lab-rtb-private1-us-east-1a**

Details Routes Subnet associations Edge associations Route propagation Tags

**Details**

Route table ID <a href="#">rtb-062d88cc2b550cea</a>	Main No	Explicit subnet associations <a href="#">subnet-03883919eec8664fb / lab-subnet-private1-us-east-1a</a>	Edge associations -
VPC <a href="#">vpc-0d093730aff95c066   lab-vpc</a>	Owner ID <a href="#">830532177892</a>		

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Screenshot captured  
You can paste the image from the clipboard.

Route tables (1/6) Info

Name	Route table ID	Explicit subnet associations	Edge associations	Main	VPC	Owner ID
-	<a href="#">rtb-00ec3196e24dc0dff</a>	-	-	Yes	<a href="#">vpc-029e6b68d0f6ff47ec</a>	830532177892
lab-rtb-public	<a href="#">rtb-0bab92025e4a255a</a>	<a href="#">subnet-05eec2417957e6...</a>	-	No	<a href="#">vpc-0d093730aff95c066   lab-vpc</a>	830532177892
-	<a href="#">rtb-0360a90a07d722e17</a>	-	-	Yes	<a href="#">vpc-012aaaf80e2819f08   Work...</a>	830532177892
<b>lab-rtb-private1-us-east-1a</b>	<a href="#">rtb-062d88cc2b550cea</a>	<b>2 subnets</b>	-	No	<a href="#">vpc-0d093730aff95c066   lab-vpc</a>	830532177892
Work Public Route Table	<a href="#">rtb-08c32b0e70f29da9</a>	<a href="#">subnet-020aa43e0e41ab...</a>	-	No	<a href="#">vpc-012aaaf80e2819f08   Work...</a>	830532177892
-	<a href="#">rtb-0f6652b5900a5466d</a>	-	-	Yes	<a href="#">vpc-0d093730aff95c066   lab-vpc</a>	830532177892

**Explicit subnet associations (2)**

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
lab-subnet-private2	<a href="#">subnet-02f74cb2839387ac3</a>	10.0.3.0/24	-
lab-subnet-private1-us-east-1a	<a href="#">subnet-03883919eec8664fb</a>	10.0.1.0/24	-

**Subnets without explicit associations (1)**

The following subnets have not been explicitly associated with any route tables and are therefore associated with the main route table:

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
lab-subnet-public2	<a href="#">subnet-08efc62872bf4ce6</a>	10.0.2.0/24	-

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#RouteTables:

### VPC dashboard

EC2 Global View

Virtual private cloud

Route tables

Subnets

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

Rule groups

Domain lists

Network Firewall

CloudShell Feedback

lab-rtb-public

You have successfully updated subnet associations for rtb-Obaba92025e4a255a / lab-rtb-public.

Route tables (1/6) Info

Last updated less than a minute ago

Create route table

Name	Route table ID	Explicit subnet assoc...	Edge associations	Main	VPC	Owner ID
<input type="checkbox"/> rtb-00ec3196e24dc0dff	-	-	-	Yes	vpc-029e6b68d06ff47ec	830532177892
<input checked="" type="checkbox"/> lab-rtb-public	rtb-Obaba92025e4a255a	-	-	No	vpc-0d093730aff95c066   lab-vpc	830532177892
<input type="checkbox"/> rtb-0360a90a07d722e17	-	-	-	Yes	vpc-012aaaf80e2819f08   Work...	830532177892
<input type="checkbox"/> lab-rtb-private1-us-east-1a	rtb-062d88cc2b550cea	2 subnets	-	No	vpc-0d093730aff95c066   lab-vpc	830532177892
<input type="checkbox"/> Work Public Route Table	rtb-0bc332b0e70f79da9	subnet-020aa43e0e41ab...	-	No	vpc-012aaaf80e2819f08   Work...	830532177892
<input type="checkbox"/> -	rtb-0f6652b5900a5466d	-	-	Yes	vpc-0d093730aff95c066   lab-vpc	830532177892

rtb-Obaba92025e4a255a / lab-rtb-public

Details Routes Subnet associations Edge associations Route propagation Tags

Explicit subnet associations (0)

Edit subnet associations

No subnet associations

You do not have any subnet associations.

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#RouteTables:

### VPC dashboard

EC2 Global View

Virtual private cloud

Route tables

Subnets

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

Rule groups

Domain lists

Network Firewall

CloudShell Feedback

lab-rtb-public

You have successfully updated subnet associations for rtb-Obaba92025e4a255a / lab-rtb-public.

Route tables (1/6) Info

Last updated 1 minute ago

Create route table

Name	Route table ID	Explicit subnet assoc...	Edge associations	Main	VPC	Owner ID
<input type="checkbox"/> rtb-00ec3196e24dc0dff	-	-	-	Yes	vpc-029e6b68d06ff47ec	830532177892
<input checked="" type="checkbox"/> lab-rtb-public	rtb-Obaba92025e4a255a	-	-	No	vpc-0d093730aff95c066   lab-vpc	830532177892
<input type="checkbox"/> rtb-0360a90a07d722e17	-	-	-	Yes	vpc-012aaaf80e2819f08   Work...	830532177892
<input type="checkbox"/> lab-rtb-private1-us-east-1a	rtb-062d88cc2b550cea	2 subnets	-	No	vpc-0d093730aff95c066   lab-vpc	830532177892
<input type="checkbox"/> Work Public Route Table	rtb-0bc332b0e70f79da9	subnet-020aa43e0e41ab...	-	No	vpc-012aaaf80e2819f08   Work...	830532177892
<input type="checkbox"/> -	rtb-0f6652b5900a5466d	-	-	Yes	vpc-0d093730aff95c066   lab-vpc	830532177892

rtb-Obaba92025e4a255a / lab-rtb-public

Details Routes Subnet associations Edge associations Route propagation Tags

Routes (2)

Both Edit routes

Destination	Target	Status	Propagated
0.0.0.0/0	igw-063f3d1c55cadab1	Active	No
10.0.0.16/	local	Active	No

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#RouteTables:

### VPC dashboard

#### Route tables (1/6) Info

Name	Route table ID	Explicit subnet associations	Main	VPC	Owner ID
lab-rtb-public	rtb-0bab92025e4a255a	-	No	vpc-0d93730aff95c066   lab-vpc	830532177892
lab-rtb-private1-us-east-1a	rtb-062d88cd2b550cea	2 subnets	No	vpc-0d93730aff95c066   lab-vpc	830532177892
Work Public Route Table	rtb-08c532b0e70f29da9	subnet-020aa45e0e41ab...	No	vpc-012aadf80e2819f08   Work...	830532177892
-	rtb-0f6652b590a5466d	-	Yes	vpc-0d93730aff95c066   lab-vpc	830532177892

#### Subnets without explicit associations (2)

The following subnets have not been explicitly associated with any route tables and are therefore associated with the main route table:

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
lab-subnet-public1-us-east-1a	subnet-0sec2417957e6629	10.0.0.0/24	-
lab-subnet-public2	subnet-0secf62872bf4ce6	10.0.2.0/24	-

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#SecurityGroups:

### VPC dashboard

#### Security Groups (4) Info

Name	Security group ID	Security group name	VPC ID	Description	Owner
sg-0d53fc901fd7f68c3	Ec2SecurityGroup	vpc-012aadf80e2819f08	VPC Security Group	830532177892	
sg-00901779c4fc2d13c	default	vpc-0d93730aff95c066	default VPC security group	830532177892	
sg-049ba18b8303d69a	default	vpc-029e6068bd06ff47ec	default VPC security group	830532177892	
sg-0bd46b5f7bad77498	default	vpc-012aadf80e2819f08	default VPC security group	830532177892	

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateSecurityGroup:

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

**Basic details**

Security group name [Info](#)  
Web Security Group  
Name cannot be edited after creation.

Description [Info](#)  
Enable HTTP access

VPC Info  
vpc-0d093730aff95c066 (lab-vpc)

**Inbound rules** [Info](#)

Type	Protocol	Port range	Source	Description - optional
HTTP	TCP	80	Anywhere...	HTTP

Add rule

⚠ Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

**Outbound rules** [Info](#)

Type	Protocol	Port range	Destination	Description - optional
All traffic	All	All	Custom	

Delete

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateSecurityGroup:

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

**Inbound rules** [Info](#)

Type	Protocol	Port range	Source	Description - optional
HTTP	TCP	80	Anywhere...	HTTP

Add rule

⚠ Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

**Outbound rules** [Info](#)

Type	Protocol	Port range	Destination	Description - optional
All traffic	All	All	Custom	

Add rule

⚠ Rules with destination of 0.0.0.0/0 or ::/0 allow your instances to send traffic to any IPv4 or IPv6 address. We recommend setting security group rules to be more restrictive and to only allow traffic to specific known IP addresses.

**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.

No tags associated with the resource.

Add new tag

You can add up to 50 more tags

Create security group Cancel

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

Screenshot captured You can paste the image from the clipboard.

Thu 8:19 14 fe91

aws Services Search [Alt+S]

Security group (sg-09be2c527f324fe91 | Web Security Group) was created successfully

VPC > Security Groups > sg-09be2c527f324fe91 - Web Security Group

sg-09be2c527f324fe91 - Web Security Group

Details

Security group name	sg-09be2c527f324fe91	Description	Enable HTTP access
Owner	830532177892	Inbound rules count	1 Permission entry
		Outbound rules count	1 Permission entry

Inbound rules Outbound rules Tags

Inbound rules (1)

Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
sgr-047f1b5d6b03086...	IPv4	HTTP	TCP	80	0.0.0.0/0	HTTP	

Actions

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

This screenshot shows the AWS VPC Security Groups console. A success message at the top indicates a new security group has been created. The main view displays the details of the 'sg-09be2c527f324fe91 - Web Security Group'. It shows one inbound rule allowing HTTP traffic on port 80 from 0.0.0.0/0. The sidebar on the left provides navigation for VPC, Security, and Network Firewall.

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

EC2 Dashboard EC2 Global View

Resources

Instances (running)	1	Auto Scaling Groups	0	Capacity Reservations	0
Dedicated Hosts	0	Elastic IPs	2	Instances	1
Key pairs	1	Load balancers	0	Placement groups	0
Security groups	5	Snapshots	0	Volumes	1

Launch instance To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

Launch instance Migrate a server

Note: Your Instances will launch in the US East (N. Virginia) Region

Instance alarms View in CloudWatch

0 in alarm 0 OK 0 Insufficient data

Instances in alarm

Scheduled events

Service health AWS Health Dashboard

Region US East (N. Virginia)

Status This service is operating normally.

Zones

Zone name	Zone ID
us-east-1a	use1-az1
us-east-1b	use1-az2
us-east-1c	use1-az4
us-east-1d	use1-az6
us-east-1e	use1-az3

Account attributes

Default VPC vpc-029e6b68d06ff47ec

Settings Data protection and security Zones EC2 Serial Console Default credit specification EC2 console preferences

Explore AWS

Save up to 90% on EC2 with Spot Instances Optimize price-performance by combining EC2 purchase options in a single EC2 ASG. Learn more

Amazon GuardDuty Malware Protection GuardDuty now provides agentless malware detection in Amazon EC2 & EC2 container workloads. Learn more

Get Up to 40% Better Price Performance T4g Instances deliver the best price performance for burstable general purpose workloads in Amazon EC2. Learn more

Additional information Getting started guide

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

This screenshot shows the AWS EC2 Dashboard. It displays various EC2 resources such as instances, auto scaling groups, and security groups. On the right, there are sections for account attributes, service health (which shows the US East (N. Virginia) region is operating normally), and explore AWS features like GuardDuty and spot instances. The sidebar on the left provides navigation for EC2 and other services like Lambda and CloudWatch.

Activities Firefox Web Browser

8:23 14 سبتمبر

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

EC2 > Instances > Launch an instance

Launch an instance

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

Name: Web Server 1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.5.2...read more

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 GiB of snapshots, and 100 GiB of bandwidth to the Internet.

Launch instance

Review commands

CloudShell Feedback

Activities Firefox Web Browser

8:24 14 سبتمبر

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

t2.micro

Family: t2. 1 vCPU 1 GiB Memory Current generation: true

On-Demand Windows base pricing: 0.0162 USD per Hour

On-Demand SUSE base pricing: 0.0116 USD per Hour

On-Demand RHEL base pricing: 0.0116 USD per Hour

On-Demand Linux base pricing: 0.0116 USD per Hour

Additional costs apply for AMIs with pre-installed software

Key pair (login)

Key pair name - required: vockey

Create new key pair

Network settings

Network: Info

vpc-029e6b6b0d06ff47ec

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 group)

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-1' with the following rules:

Allow SSH traffic from Anywhere

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 GiB of snapshots, and 100 GiB of bandwidth to the Internet.

Launch instance

Review commands

CloudShell Feedback

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

vockey

Summary

Number of instances: 1

Software Image (AMI): Amazon Linux 2023 AMI 2023.5.2...read more ami-0182f575ed6fb9c85

Virtual server type (instance type): t2.micro

Firewall (security group): Web 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 GiB of snapshots, and 100 GiB of bandwidth to the internet.

Launch instance

CloudShell Feedback

Find in page Highlight All Match Case Match Diacritics Whole Words

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

This screenshot shows the initial configuration step of the AWS EC2 Launch Instances wizard. It includes fields for VPC, subnet, and security groups, along with a summary of the selected instance type (t2.micro) and storage (1 volume - 8 GiB). A prominent 'Free tier' callout box provides details about the included resources.

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

Advanced network configuration

Configure storage

Root volume (Not encrypted): 1x 8 GiB gp3

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

Add new volume

Click refresh to view backup information

0 x File systems

Advanced details

Domain join directory: Select

IAM instance profile: Select

Hostname type: IP name

DNS Hostname: Info

Summary

Number of instances: 1

Software Image (AMI): Amazon Linux 2023 AMI 2023.5.2...read more ami-0182f575ed6fb9c85

Virtual server type (instance type): t2.micro

Firewall (security group): Web 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 GiB of snapshots, and 100 GiB of bandwidth to the internet.

Launch instance

CloudShell Feedback

Find in page Highlight All Match Case Match Diacritics Whole Words

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

This screenshot shows the continuation of the EC2 launch wizard, focusing on advanced storage and networking configurations. It includes options for adding new volumes, configuring file systems, and setting advanced details like domain join and IAM profiles. Similar to the first screen, it features a 'Free tier' callout and a summary of the instance configuration.

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

AWS Services Search [Alt+S]

Metadata version Info V2 only (token required)

⚠ For V2 requests, you must include a session token in all instance metadata requests. Applications or agents that use V1 for instance metadata access will break.

Metadata response hop limit Info 2

Allow tags in metadata Info Select

User data - optional Info Upload a file with your user data or enter it in the field.

#!/bin/bash  
# Install Apache Web Server and PHP  
dnf install -y httpd wget php mariadb105-server  
# Download Lab files  
wget https://aws-tc-largeobjects.s3.us-west-2.amazonaws.com/CUR-TF-100-ACCLFO-2/z-lab2-pc/s3/lab-app.zip  
unzip lab-app.zip -d /var/www/html/  
# Turn on web server  
  
chkconfig httpd on  
service httpd start

Number of instances Info 1

Software Image (AMI) Amazon Linux 2023 AMI 2023.5.2...read more ami-0182f157e66fb9b65

Virtual server type (instance type) t2.micro

Firewall (security group) Web 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 GiB of snapshots, and 100 GiB of bandwidth to the internet.

Cancel Launch instance Review commands

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

Screenshot captured You can paste the image from the clipboard.

AWS Services Search [Alt+S]

EC2 > Instances > Launch an instance

Launching instance Launch initiation 75%

Details

Please wait while we launch your instance.  
Do not close your browser while this is loading.

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Activities Firefox Web Browser

8:31 14 Sunday

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

EC2 Instances Launch an instance

Success Successfully initiated launch of instance (i-0533144b53fd0b07b)

Launch log

Next Steps

What would you like to do next with this instance, for example "create alarm" or "create backup"

Create billing and free tier usage alerts

To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds.

Create billing alerts

Connect to your Instance

Once your instance is running, log into it from your local computer.

Connect to instance

Learn more

Connect an RDS database

Configure the connection between an EC2 instance and a database to allow traffic flow between them.

Connect an RDS database

Create a new RDS database

Learn more

Create EBS snapshot policy

Create a policy that automates the creation, retention, and deletion of EBS snapshots.

Create EBS snapshot policy

Manage detailed monitoring

Enable or disable detailed monitoring for the instance. If you enable detailed monitoring, the Amazon EC2 console displays monitoring graphs with a 1-minute period.

Manage detailed monitoring

Create Load Balancer

Create a application, network gateway or classic Elastic Load Balancer

Create Load Balancer

Create AWS budget

AWS Budgets allows you to create budgets, forecast spend, and take action on your costs and usage from a single location.

Create AWS budget

Manage CloudWatch alarms

Create or update Amazon CloudWatch alarms for the instance.

Manage CloudWatch alarms

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

This screenshot shows the AWS EC2 Instances Launch an instance page. At the top, a green success banner states 'Successfully initiated launch of instance (i-0533144b53fd0b07b)'. Below this, there's a 'Launch log' section and a 'Next Steps' section with a search bar. The 'Next Steps' section contains six cards: 'Create billing and free tier usage alerts', 'Connect to your Instance', 'Connect an RDS database', 'Create EBS snapshot policy', 'Manage detailed monitoring', 'Create Load Balancer', 'Create AWS budget', and 'Manage CloudWatch alarms'. Each card has a corresponding button (e.g., 'Create billing alerts', 'Connect to instance', 'Create a new RDS database', etc.) and a 'Learn more' link. The left sidebar lists various AWS services like EC2 Dashboard, Instances, Images, Elastic Block Store, Network & Security, and Load Balancing.

Activities Firefox Web Browser

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#instances:

AWS Services Search [Alt+S] N. Virginia vocabs/user\$488941=msd21045@itu.edu.pk @ 8305-3217-7892 ▾

Instances (1/2) info Last updated less than a minute ago Connect Instance state Actions Launch instances

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs
Web Server 1	i-0533144b53fd0b07b	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1b	ec2-174-129-177-73.co...	174.129.177.73	-	-
Bastion Host	i-062af5c103714bac7	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-44-204-138-218.co...	44.204.138.218	-	-

i-0533144b53fd0b07b (Web Server 1)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary

Instance ID: i-0533144b53fd0b07b (Web Server 1)

Private IPv4 address: 174.129.177.73 [open address]

Instance state: Running

Private IP DNS name (IPv4 only): ip-10-0-2-234.ec2.internal

Hostname type: IP name: ip-10-0-2-234.ec2.internal

Answer private resource DNS name: -

Auto-assigned IP address: 174.129.177.73 [Public IP]

Private IPv4 addresses: 10.0.2.234

Public IPv4 DNS: ec2-174-129-177-73.compute-1.amazonaws.com [open address]

Elastic IP addresses: -

AWS Compute Optimizer finding: Opt-in to AWS Compute Optimizer for recommendations. [Learn more]

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences



Activities Firefox Web Browser

New Private Tab 8:38 AM

Import bookmarks... Getting Started

ec2-174-129-177-73.compute-1.amazonaws.com

Firefox

Search with Google or enter address

Private window: Firefox clears your search and browsing history when you close all private windows.  
This doesn't make you anonymous.

Learn more

