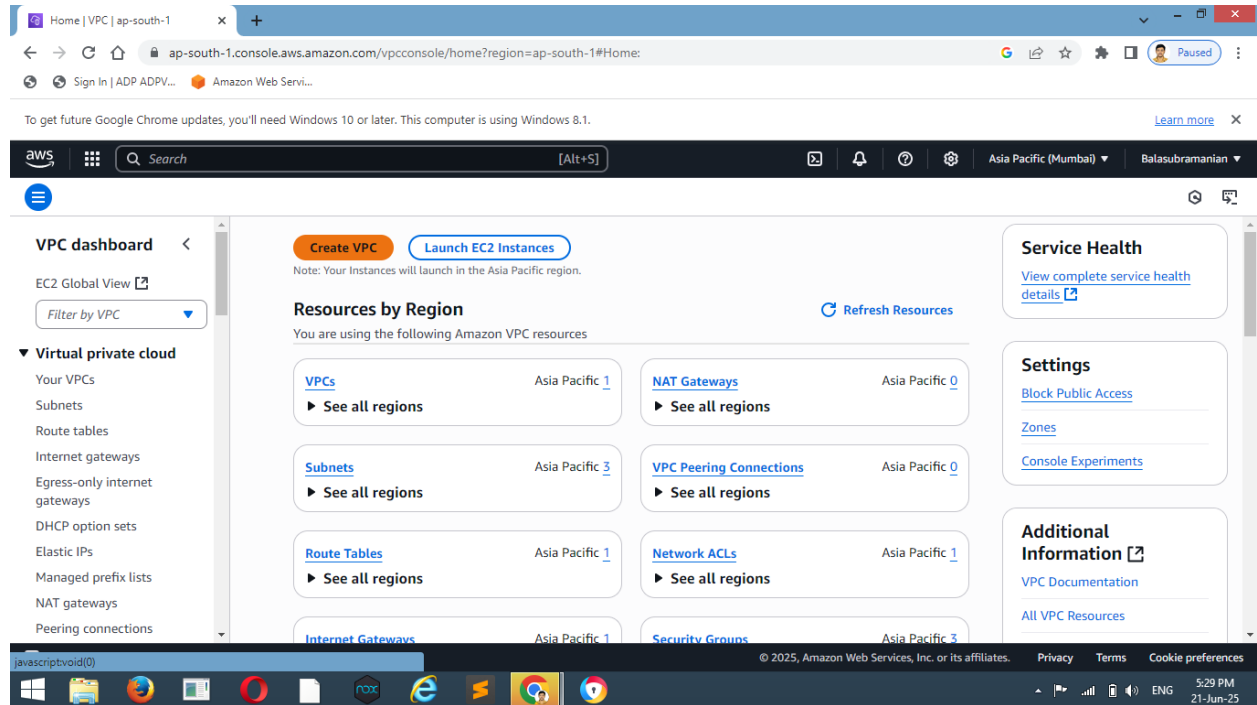
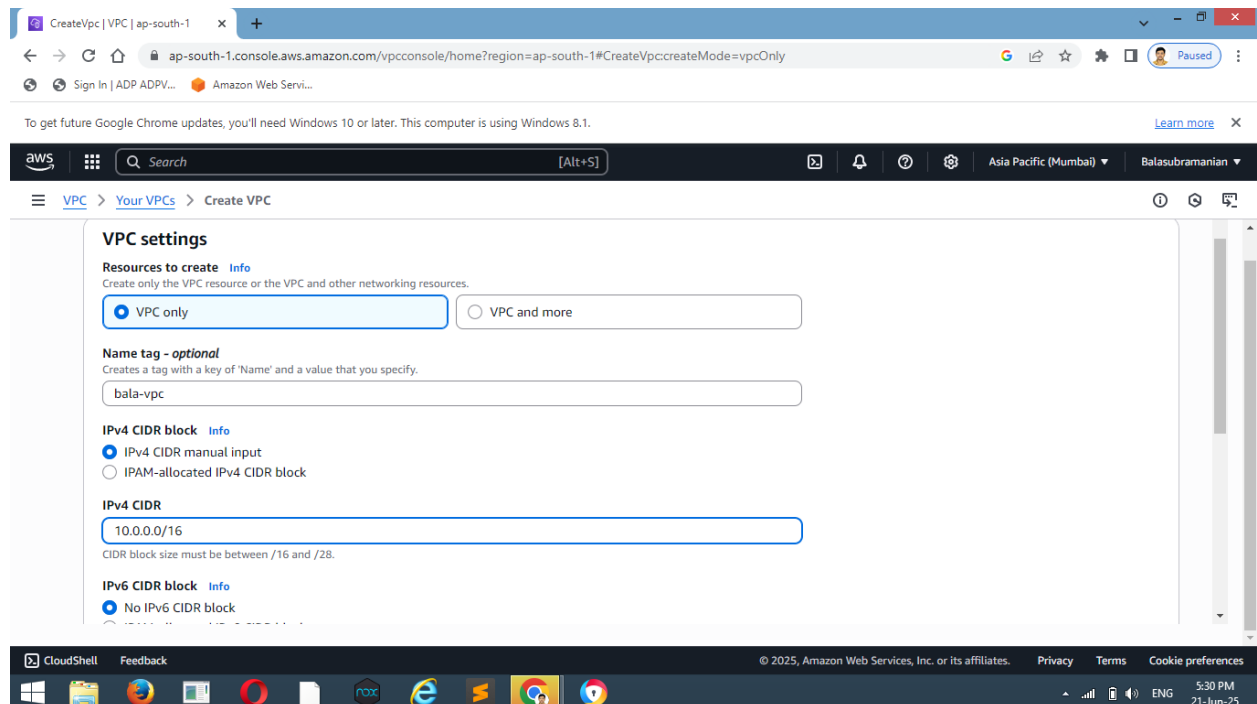


## CREATION OF VIRTUAL PRIVATE CLOUD (VPC) WITH SUBNETS, ROUTE TABLES, INTERNET GATEWAY AND SECURITY GROUPS

### STEP 1: GO TO VPC SERVICE AND CLICK CREATE VPC



### STEP 2: I WILL GIVE VPC NAME OF “bala-vpc” AND GIVE IPV4 RANGE



### STEP 3: SUCCESSFULLY CREATED VPC

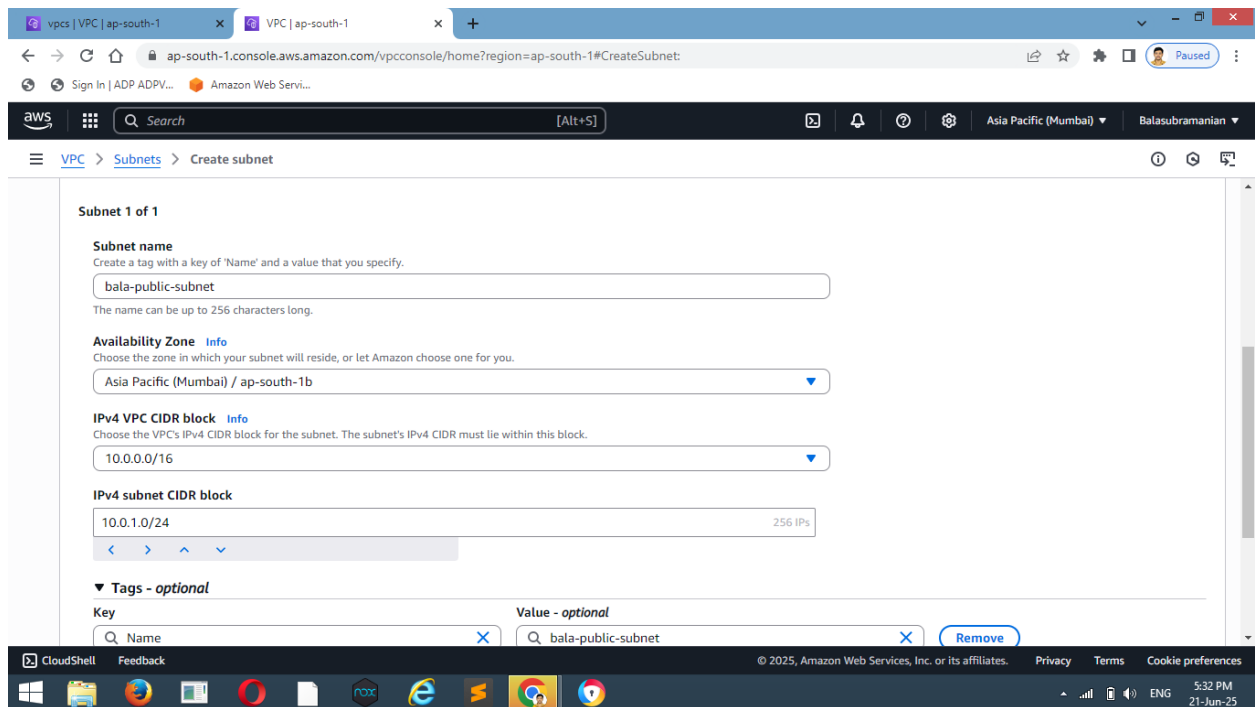
The screenshot shows the AWS Management Console for the VPC dashboard of vpc-02e7306f536eeadd9. A green notification banner at the top states "You successfully created vpc-02e7306f536eeadd9 / bala-vpc". The left sidebar contains the "VPC dashboard" and "Your VPCs" section. The main content area displays the "Details" for the VPC, including:

- VPC ID:** vpc-02e7306f536eeadd9
- State:** Available
- Block Public Access:** Off
- DNS hostnames:** Disabled
- DNS resolution:** Enabled
- Tenancy:** default
- DHCP option set:** dopt-0bca8d821465fec8e
- Main route table:** rtb-0337c2ff6cfac482
- Main network ACL:** acl-07fd7d9f45a40957a
- Default VPC:** No
- IPv4 CIDR:** 10.0.0.0/16
- IPv6 pool:** -
- Owner ID:** 524522255989
- Route 53 Resolver DNS Firewall rule groups:** -

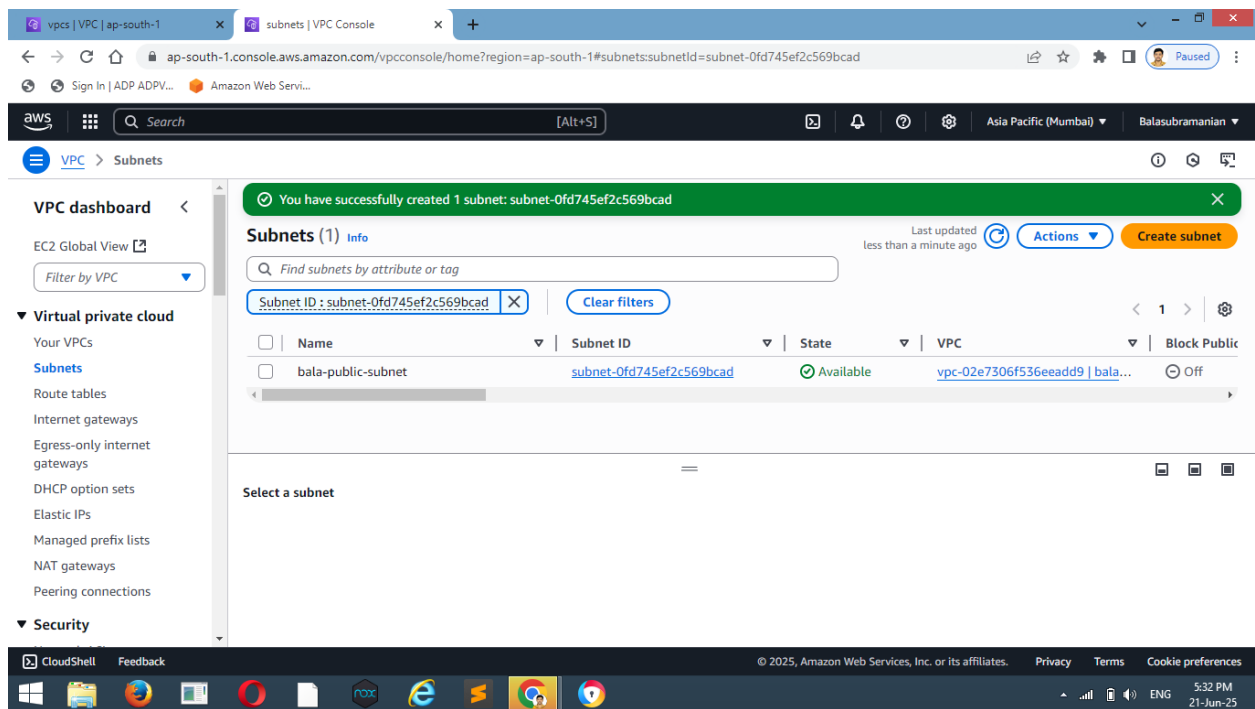
The bottom of the console shows the taskbar with various applications and the system clock indicating 5:30 PM on 21-Jun-25.

### STEP 4: CREATION OF SUBNET

The screenshot shows the "Create subnet" wizard in the AWS Management Console. The "VPC" section is selected, and the "VPC ID" is set to vpc-02e7306f536eeadd9 (bala-vpc). The "Subnet settings" section is visible, showing the "Subnet name" field and the "Subnet 1 of 1" label. The "Subnet name" field is currently empty, and the "Subnet 1 of 1" label indicates that this is the first subnet being created. The bottom of the console shows the taskbar with various applications and the system clock indicating 5:31 PM on 21-Jun-25.



## STEP 5: SUCCESSFULLY CREATED SUBNET



## STEP 6: CREATION OF ROUTE TABLES

The screenshot shows the AWS Management Console for the 'ap-south-1' region. The 'Route tables' page is active, displaying a list of two existing route tables. The left sidebar shows the 'VPC dashboard' with various VPC components listed. The top navigation bar includes the AWS logo, a search bar, and the user's name 'Balasubramanian'.

Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC
-	<a href="#">rtb-0337c2fff6cfac482</a>	-	-	Yes	<a href="#">vpc-</a>
-	<a href="#">rtb-020d5b931cf944127</a>	-	-	Yes	<a href="#">vpc-</a>

Below the table, there is a section titled 'Select a route table' with a search bar and a list of route tables.

The screenshot shows the 'Create route table' wizard in the AWS Management Console. The 'Route table settings' section is visible, where the user can specify the name, VPC, and tags for the new route table. The 'Name' field is set to 'bala-public-route' and the 'VPC' dropdown is set to 'vpc-02e7306f536eeadd9 (bala-vpc)'. The 'Tags' section shows a single tag with the key 'Name' and the value 'bala-public-route'. The 'Create route table' button is highlighted in orange.

**Route table settings**

**Name - optional**  
Create a tag with a key of 'Name' and a value that you specify.  
bala-public-route

**VPC**  
The VPC to use for this route table.  
vpc-02e7306f536eeadd9 (bala-vpc)

**Tags**  
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

**Key**  
Name

**Value - optional**  
bala-public-route

**Add new tag**  
You can add 49 more tags.

**Create route table**

## STEP 7: SUCCESSFULLY CREATED ROUTE TABLES

The screenshot shows the AWS Management Console for the 'ap-south-1' region. The 'Route tables' page displays the details for the route table 'rtb-08ce17c52ef8172b5'. A green notification bar at the top states: 'Route table rtb-08ce17c52ef8172b5 | bala-public-route was created successfully.' The route table is associated with the VPC 'vpc-02e7306f536eeadd9 | bala-vpc'. The 'Routes' tab shows a single route with the destination '10.0.0.0/16', target 'local', and status 'Active'.

**Route table details:**

- Route table ID: rtb-08ce17c52ef8172b5
- VPC: vpc-02e7306f536eeadd9 | bala-vpc
- Main: No
- Owner ID: 524522255989
- Explicit subnet associations: -
- Edge associations: -

**Routes (1):**

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No

## STEP 8: CREATION OF INTERNET GATEWAY

The screenshot shows the AWS Management Console for the 'ap-south-1' region. The 'Internet gateways' page displays the details for the internet gateway 'igw-023b933d8e0a24049'. The gateway is in the 'Attached' state and is associated with the VPC 'vpc-0bc9ba71bcb13654'. A 'Create internet gateway' button is visible at the top right.

**Internet gateway details:**

- Internet gateway ID: igw-023b933d8e0a24049
- State: Attached
- VPC ID: vpc-0bc9ba71bcb13654

Select an internet gateway above

vpcs | VPC Console x subnets | VPC Console x RouteTables | VPC Console x VPC | ap-south-1

ap-south-1.console.aws.amazon.com/vpconsole/home?region=ap-south-1#CreateInternetGateway:

Sign In | ADP ADPV... Amazon Web Servi...

aws Search [Alt+S]

Asia Pacific (Mumbai) Balasubramanian

VPC > Internet gateways > Create internet gateway

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

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

#### Internet gateway settings

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

bala-intgt

#### Tags - optional

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - optional
Name	bala-intgt

[Add new tag](#) [Remove](#)

You can add 49 more tags.

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

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Windows Taskbar: File Explorer, Edge, Chrome, etc. System tray: 5:35 PM, 21-Jun-25

## STEP 9: SUCCESSFULLY CREATED INTERNET GATEWAY

vpcs | VPC Console x subnets | VPC Console x RouteTables | VPC Console x VPC | ap-south-1

ap-south-1.console.aws.amazon.com/vpconsole/home?region=ap-south-1#InternetGateway:internetGatewayId=igw-0060ca8f48846456b

Sign In | ADP ADPV... Amazon Web Servi...

aws Search [Alt+S]

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VPC > Internet gateways > igw-0060ca8f48846456b

### VPC dashboard

EC2 Global View

Filter by VPC

- Virtual private cloud
  - Your VPCs
  - Subnets
  - Route tables
  - Internet gateways
  - Egress-only internet gateways
  - DHCP option sets
  - Elastic IPs
  - Managed prefix lists
  - NAT gateways
  - Peering connections
- Security

[Attach to a VPC](#)

### igw-0060ca8f48846456b / bala-intgt

[Actions](#)

#### Details [Info](#)

Internet gateway ID	State	VPC ID	Owner
igw-0060ca8f48846456b	Detached	-	524522255989

#### Tags

[Manage tags](#)

Key	Value
Name	bala-intgt

[Search tags](#) < 1 > [Settings](#)

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Windows Taskbar: File Explorer, Edge, Chrome, etc. System tray: 5:35 PM, 21-Jun-25

## STEP 10: INTERNET GATEWAY IS ATTACHED TO VPC

The screenshot shows the AWS Management Console for the region 'ap-south-1'. The breadcrumb navigation is 'VPC > Internet gateways > igw-0060ca8f48846456b'. The main content area displays the details for the Internet Gateway 'igw-0060ca8f48846456b / bala-intgt'. The 'Details' section shows the Internet gateway ID as 'igw-0060ca8f48846456b', the State as 'Detached', the VPC ID as '-', and the Owner as '524522'. The 'Tags' section shows a single tag with the key 'Name' and value 'bala-intgt'. An 'Actions' menu is open, showing options: 'Attach to VPC', 'Detach from VPC', 'Manage tags', and 'Delete'. The left sidebar shows the 'VPC dashboard' with a filter by VPC dropdown, and a list of VPC resources including 'Your VPCs', 'Subnets', 'Route tables', 'Internet gateways' (selected), 'Egress-only internet gateways', 'DHCP option sets', 'Elastic IPs', 'Managed prefix lists', 'NAT gateways', and 'Peering connections'. The bottom of the console shows the 'CloudShell' and 'Feedback' buttons, and the footer contains copyright information for Amazon Web Services, Inc. or its affiliates, along with 'Privacy', 'Terms', and 'Cookie preferences' links. The system clock shows 5:36 PM on 21-Jun-25.

The screenshot shows the AWS Management Console for the region 'ap-south-1'. The breadcrumb navigation is 'VPC > Internet gateways > Attach to VPC (igw-0060ca8f48846456b)'. The main content area displays the 'Attach to VPC (igw-0060ca8f48846456b)' dialog. The 'VPC' section contains the instruction: 'Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.' The 'Available VPCs' section contains the instruction: 'Attach the internet gateway to this VPC.' A search bar is present with the text 'vpc-02e7306f536eeadd9'. Below the search bar, a list of available VPCs is shown, including 'vpc-02e7306f536eeadd9' and 'vpc-02e7306f536eeadd9 - bala-vpc'. The 'Attach internet gateway' button is highlighted in orange. The bottom of the console shows the 'CloudShell' and 'Feedback' buttons, and the footer contains copyright information for Amazon Web Services, Inc. or its affiliates, along with 'Privacy', 'Terms', and 'Cookie preferences' links. The system clock shows 5:36 PM on 21-Jun-25.

## STEP 11: ROUTE TABLE IS CONNECTED TO SUBNET

The screenshot shows the 'Edit subnet associations' page in the AWS VPC console. The breadcrumb trail is 'VPC > Route tables > rtb-08ce17c52ef8172b5 > Edit subnet associations'. The page title is 'Edit subnet associations' with a subtitle 'Change which subnets are associated with this route table.' Below this, there is a section 'Available subnets (1/1)' with a search bar and a table. The table has columns: Name, Subnet ID, IPv4 CIDR, IPv6 CIDR, and Route table ID. One row is visible: 'bala-public-subnet' with Subnet ID 'subnet-0fd745ef2c569bcad' and IPv4 CIDR '10.0.1.0/24'. Below the table is a 'Selected subnets' section showing 'subnet-0fd745ef2c569bcad / bala-public-subnet'. At the bottom right are 'Cancel' and 'Save associations' buttons.

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
bala-public-subnet	subnet-0fd745ef2c569bcad	10.0.1.0/24	-	Main (rtb-0337c2ff6cfac482)

The screenshot shows the 'Route tables' page in the AWS VPC console. A green success message at the top states: 'You have successfully updated subnet associations for rtb-08ce17c52ef8172b5 / bala-public-route.' The breadcrumb trail is 'VPC > Route tables'. The left sidebar shows the 'Virtual private cloud' section with 'Route tables' selected. The main content area shows a table of route tables. The table has columns: Name, Route table ID, Explicit subnet associations, Edge associations, Main, and VPC. The row for 'bala-public-route' with ID 'rtb-08ce17c52ef8172b5' is selected, showing 'subnet-0fd745ef2c569bcad' under 'Explicit subnet associations'. Below the table, the 'Details' tab for 'rtb-08ce17c52ef8172b5 / bala-public-route' is active, showing 'Route table ID' as 'rtb-08ce17c52ef8172b5' and 'Main' as 'No'.

Name	Route table ID	Explicit subnet associations	Edge associations	Main	VPC
-	rtb-0337c2ff6cfac482	-	-	Yes	vpc-
-	rtb-020d5b931cf944127	-	-	Yes	vpc-
bala-public-route	rtb-08ce17c52ef8172b5	subnet-0fd745ef2c569bcad	-	No	vpc-



## STEP 12: CREATION OF SECURITY GROUP

**Create security group** [Info](#)

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](#)  
bala-security-public  
Name cannot be edited after creation.

**Description** [Info](#)  
bala-security-public

**VPC** [Info](#)  
vpc-02e7306f536eeadd9 (bala-vpc)

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

This security group has no inbound rules.

[Add rule](#)

**VPC** [Info](#)  
vpc-02e7306f536eeadd9 (bala-vpc)

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

Type	Protocol	Port range	Source	Description - optional
SSH	TCP	22	Any... 0.0.0.0/0	
HTTP	TCP	80	Any... 0.0.0.0/0	
RDP	TCP	3389	Any... 0.0.0.0/0	

[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.

aws | Search [Alt+S] | Asia Pacific (Mumbai) | Balasubramanian

VPC > Security Groups > Create security group

RDP TCP 3389 Any... 0.0.0.0/0 0.0.0.0/0 Delete

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 Info Protocol Info Port range Info Destination Info Description - optional Info

All traffic All All Cust... 0.0.0.0/0 Delete

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.

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aws | Search [Alt+S] | Asia Pacific (Mumbai) | Balasubramanian

VPC > Security Groups > Create security group

**Outbound rules** Info

Type Info Protocol Info Port range Info Destination Info Description - optional Info

All traffic All All Cust... 0.0.0.0/0 Delete

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

Cancel Create security group

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Security group (sg-025fa5978c4d50440 | bala-security-public) was created successfully

Details

### sg-025fa5978c4d50440 - bala-security-public

**Details**

Security group name	Security group ID	Description	VPC ID
bala-security-public	sg-025fa5978c4d50440	bala-security-public	vpc-02e7306f536eeadd9
Owner	Inbound rules count	Outbound rules count	
524522255989	3 Permission entries	1 Permission entry	

**Inbound rules** | Outbound rules | Sharing - new | VPC associations - new | Tags

**Inbound rules (3)**

Name	Security group rule ID	IP version	Type	Protocol	Port
-	sgr-0dd627e00504a15a	IPv4	RDP	TCP	33...

## STEP 13: ROUTE TABLE IS CONNECTED TO INTERNET GATEWAY

Edit routes

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No
0.0.0.0/0	Internet Gateway	-	No

igw-0060ca8f48846456b

Use: "igw-0060ca8f48846456b"

igw-0060ca8f48846456b (bala-intgt)

Cancel Preview Save changes

aws | vpcs | VPC Console | subnets | VPC Console | VPC | ap-south-1 | igws | VPC Console | VPC | ap-south-1

ap-south-1.console.aws.amazon.com/vpcconsole/home?region=ap-south-1#RouteTableDetails:RouteTableId=rtb-08ce17c52ef8172b5

Sign In | ADP ADPV... | Amazon Web Servi...

aws | Search | [Alt+S] | Asia Pacific (Mumbai) | Balasubramanian

VPC > Route tables > rtb-08ce17c52ef8172b5

VPC dashboard < EC2 Global View [?] Filter by VPC

Virtual private cloud Your VPCs Subnets Route tables Internet gateways Egress-only internet gateways DHCP option sets Elastic IPs Managed prefix lists NAT gateways Peering connections

Security

Updated routes for rtb-08ce17c52ef8172b5 / bala-public-route successfully Details

rtb-08ce17c52ef8172b5 / bala-public-route Actions

Details Info

Route table ID rtb-08ce17c52ef8172b5 Main No Explicit subnet associations subnet-0fd745ef2c569bcad / bala-public-subnet Edge associations -

VPC vpc-02e7306f536eeadd9 | bala-vpc Owner ID 524522255989

Routes Subnet associations Edge associations Route propagation Tags

Routes (2) Both Edit routes

Filter routes

Destination	Target	Status	Propagated
0.0.0.0/0	igw-0060ca8f48846456b	Active	No

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**STEP 14: FINALLY VPC IS MERGED WITH SUBNET, ROUTE TABLES AND INTERNET GATEWAY. WE CAN USE THIS VPC TO CREATE EC2 INSTANCE**

aws | vpcs | VPC Console | subnets | VPC Console | VPC | ap-south-1 | igws | VPC Console | VPC | ap-south-1

ap-south-1.console.aws.amazon.com/vpcconsole/home?region=ap-south-1#vpcs

Sign In | ADP ADPV... | Amazon Web Servi...

aws | Search | [Alt+S] | Asia Pacific (Mumbai) | Balasubramanian

VPC > Your VPCs

VPC dashboard < EC2 Global View [?] Filter by VPC

Virtual private cloud Your VPCs Subnets Route tables Internet gateways Egress-only internet gateways DHCP option sets Elastic IPs Managed prefix lists NAT gateways Peering connections

Your VPCs (1/2) Info Last updated less than a minute ago Actions Create VPC

Find VPCs by attribute or tag

Name	VPC ID	State	Block Public...	IPv4 CIDR	If
bala-vpc	vpc-02e7306f536eeadd9	Available	Off	10.0.0.0/16	-
-	vpc-0bc9ba71bcb13654	Available	Off	172.31.0.0/16	-

ap-south-1b

bala-public-subnet

rtb-0337c2fff6cfac482

bala-public-route

bala-intgt

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