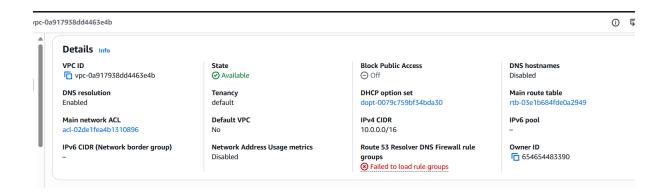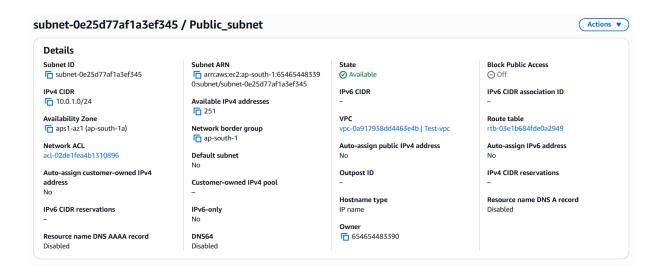Set up a VPC with an Internet gateway, create a public subnet with 256 IP addresses, a private subnet with 256 IP addresses, make a route table connecting the Internet gateway and the subnets, and launch a Linux EC2 instance by using the above VPC and public subnet.
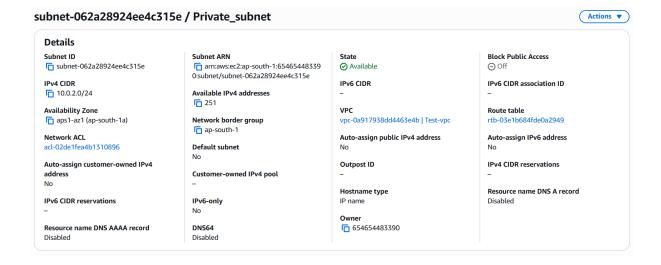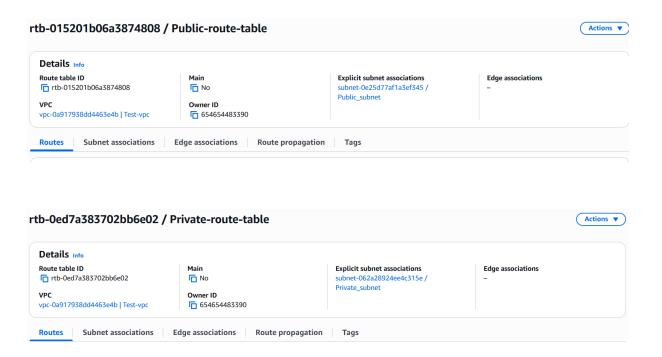
VPC Created:

vpc-0a917938dd4463e4b

Details Info

VPC ID	**State**	**Block Public Access**	**DNS hostnames**
vpc-0a917938dd4463e4b	⊘ Available	⊖ Off	Disabled
DNS resolution	**Tenancy**	**DHCP option set**	**Main route table**
Enabled	default	dopt-0079c759bf34bda30	rtb-03e1b684fde0a2949
Main network ACL	**Default VPC**	**IPv4 CIDR**	**IPv6 pool**
acl-02de1fea4b1310896	No	10.0.0.0/16	–
IPv6 CIDR (Network border group)	**Network Address Usage metrics**	**Route 53 Resolver DNS Firewall rule groups**	**Owner ID**
–	Disabled	⊗ Failed to load rule groups	654654483390

Public Subnet Created:

subnet-0e25d77af1a3ef345 / Public_subnet   Actions ▼

Details

Subnet ID	**Subnet ARN**	**State**	**Block Public Access**
subnet-0e25d77af1a3ef345	arn:aws:ec2:ap-south-1:65465448339 0:subnet/subnet-0e25d77af1a3ef345	⊘ Available	⊖ Off
IPv4 CIDR	**Available IPv4 addresses**	**IPv6 CIDR**	**IPv6 CIDR association ID**
10.0.1.0/24	251	–	–
Availability Zone		**VPC**	**Route table**
aps1-az1 (ap-south-1a)	**Network border group**	vpc-0a917938dd4463e4b | Test-vpc	rtb-03e1b684fde0a2949
Network ACL	ap-south-1	**Auto-assign public IPv4 address**	**Auto-assign IPv6 address**
acl-02de1fea4b1310896	**Default subnet**	No	No
Auto-assign customer-owned IPv4 address	No	**Outpost ID**	**IPv4 CIDR reservations**
No	**Customer-owned IPv4 pool**	–	–
	–	**Hostname type**	**Resource name DNS A record**
IPv6 CIDR reservations	**IPv6-only**	IP name	Disabled
–	No		
		Owner	
Resource name DNS AAAA record	**DNS64**	654654483390	
Disabled	Disabled		

Private Subnet Created:

subnet-062a28924ee4c315e / Private_subnet

Details

Subnet ID
subnet-062a28924ee4c315e

IPv4 CIDR
10.0.2.0/24

Availability Zone
aps1-az1 (ap-south-1a)

Network ACL
acl-02de1fea4b1310896

Auto-assign customer-owned IPv4 address
No

IPv6 CIDR reservations
–

Resource name DNS AAAA record
Disabled

Subnet ARN
arn:aws:ec2:ap-south-1:654654483390:subnet/subnet-062a28924ee4c315e

Available IPv4 addresses
251

Network border group
ap-south-1

Default subnet
No

Customer-owned IPv4 pool
–

IPv6-only
No

DNS64
Disabled

State
✓ Available

IPv6 CIDR
–

VPC
vpc-0a917938dd4463e4b | Test-vpc

Auto-assign public IPv4 address
No

Outpost ID
–

Hostname type
IP name

Owner
654654483390

Block Public Access
⊖ Off

IPv6 CIDR association ID
–

Route table
rtb-03e1b684fde0a2949

Auto-assign IPv6 address
No

IPv4 CIDR reservations
–

Resource name DNS A record
Disabled

Created Route Table:

rtb-015201b06a3874808 / Public-route-table

Details Info

Route table ID
rtb-015201b06a3874808

VPC
vpc-0a917938dd4463e4b | Test-vpc

Main
No

Owner ID
654654483390

Explicit subnet associations
subnet-0e25d77af1a3ef345 / Public_subnet

Edge associations
–

Routes | Subnet associations | Edge associations | Route propagation | Tags

rtb-0ed7a383702bb6e02 / Private-route-table

Details Info

Route table ID
rtb-0ed7a383702bb6e02

VPC
vpc-0a917938dd4463e4b | Test-vpc

Main
No

Owner ID
654654483390

Explicit subnet associations
subnet-062a28924ee4c315e / Private_subnet

Edge associations
–

Routes | Subnet associations | Edge associations | Route propagation | Tags

Created Internet Gateway:

igw-0c89409ae4db1bb7b / Test_igw

Actions ▼

Details Info

Internet gateway ID
🗇 igw-0c89409ae4db1bb7b

State
⊘ Attached

VPC ID
vpc-0a917938dd4463e4b | Test-vpc

Owner
🗇 654654483390

Tags

Manage tags

🔍 Search tags

1

Connected EC2 instance in public subnet:

```
ubuntu@ip-10-0-1-218:~$ netstat -nr
Kernel IP routing table
Destination     Gateway         Genmask         Flags  MSS Window  irtt Iface
0.0.0.0         10.0.1.1        0.0.0.0         UG       0 0          0 enX0
10.0.0.2        10.0.1.1        255.255.255.255 UGH      0 0          0 enX0
10.0.1.0        0.0.0.0         255.255.255.0   U        0 0          0 enX0
10.0.1.1        0.0.0.0         255.255.255.255 UH       0 0          0 enX0
ubuntu@ip-10-0-1-218:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
       valid_lft forever preferred_lft forever
2: enX0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9001 qdisc fq_codel state UP group default qlen 1000
    link/ether 02:a4:a6:39:60:7d brd ff:ff:ff:ff:ff:ff
    inet 10.0.1.218/24 metric 100 brd 10.0.1.255 scope global dynamic enX0
       valid_lft 3231sec preferred_lft 3231sec
    inet6 fe80::a4:a6ff:fe39:607d/64 scope link
       valid_lft forever preferred_lft forever
ubuntu@ip-10-0-1-218:~$ ▯
```