AWS HANDS ON LAB -04

Console

1. Create Launch Template on Console:
   - Navigate to the EC2 dashboard on the AWS Management Console.
   - Create a launch template named "WebServerTemplate."
   - Specify configurations such as instance type, key pair, and any additional settings.

2. Launch Instance Using Launch Template:
   - Use the launch template "WebServerTemplate" to launch an EC2 instance.
   - Verify the successful launch of the instance.

3. Modify Launch Template:
   - Modify the launch template to change the instance type or any other parameter.
   - Use the modified template to launch another instance.

4. Documentation:
   - Provide a step-by-step guide with screenshots for creating, launching, and modifying instances using the launch template.
   - Include outputs or confirmation messages from the console.

Services | Search [Alt+S] | Mumbai ▾ | Armansk ▾

EC2

Key pair name

arman_key ▾

Create new key pair

▼ **Network settings** Info

Subnet Info

Don't include in launch template ▾

Create new subnet ↗

When you specify a subnet, a network interface is automatically added to your template.

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.

◉ Select existing security group   ○ Create security group

Security groups Info

Select security groups ▾

Compare security group rules

default sg-0684345a3b8385e06 ✕
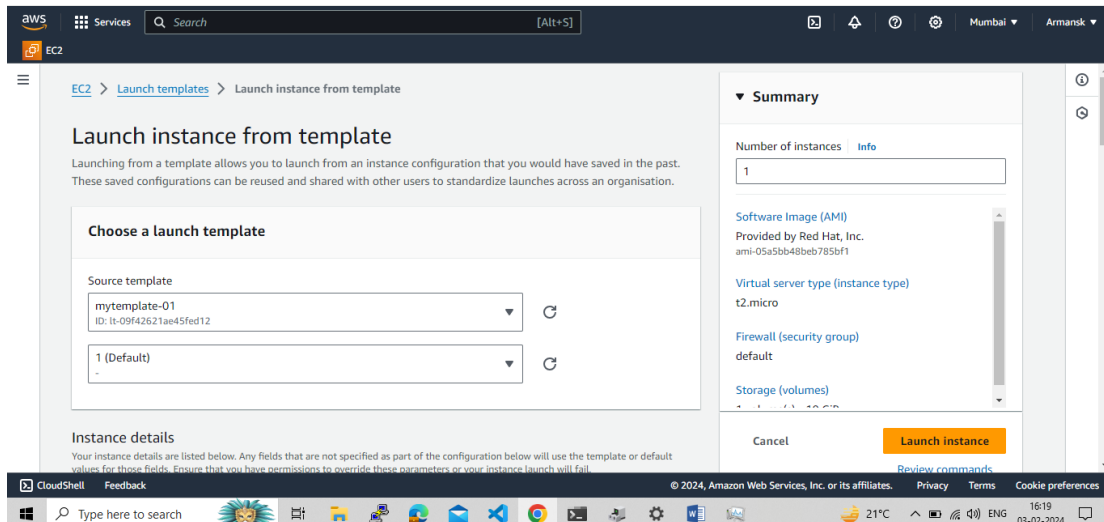VPC: vpc-021f79810ae895420

▼ **Summary**

Software Image (AMI)
Provided by Red Hat, Inc.
ami-05a5bb48beb785bf1

Virtual server type (instance type)
t2.micro

Firewall (security group)
default

Storage (volumes)
1 volume(s) - 10 GiB

Cancel   **Create launch template**

Type here to search   21°C   ENG   16:18   03-02-2024

Services | Search [Alt+S] | Mumbai ▾ | Armansk ▾

EC2

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Recents   My AMIs   **Quick Start**

Amazon Linux	macOS	Ubuntu	Windows	Red Hat	SUSE Li
aws	Mac	ubuntu	⊞ Microsoft	Red Hat	SUS

Browse more AMIs
Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Red Hat Enterprise Linux 9 (HVM), SSD Volume Type   Free tier eligible
ami-05a5bb48beb785bf1 (64-bit (x86)) / ami-0060e169bc491b039 (64-bit (Arm))
Virtualization: hvm   ENA enabled: true   Root device type: ebs
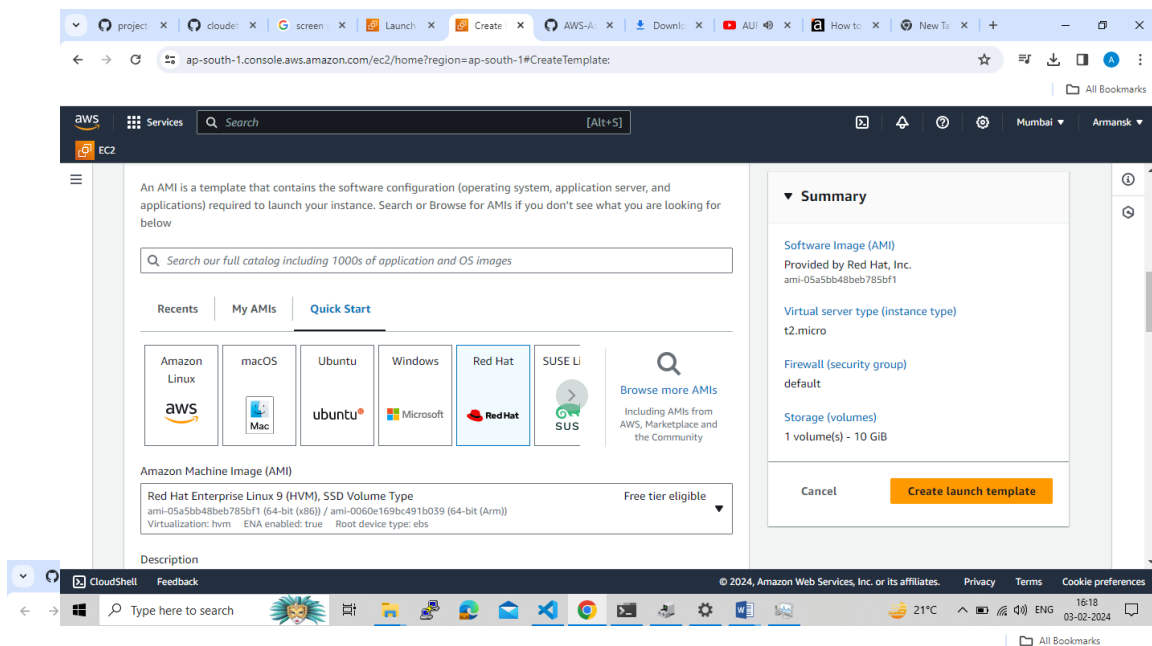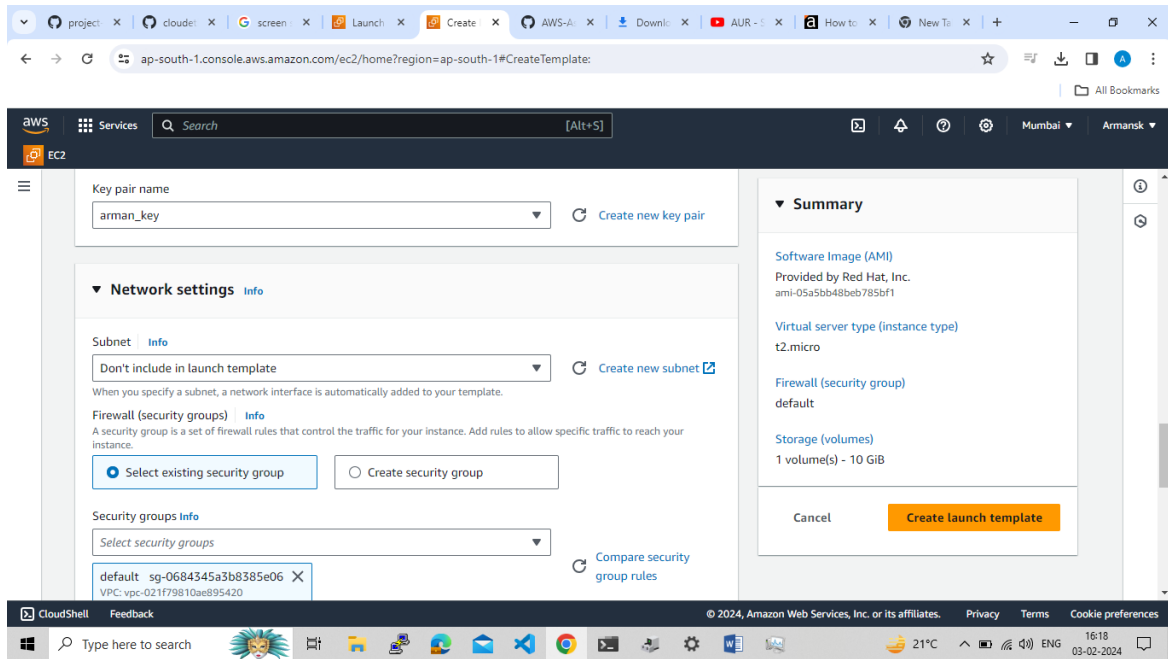
Description

▼ **Summary**

Software Image (AMI)
Provided by Red Hat, Inc.
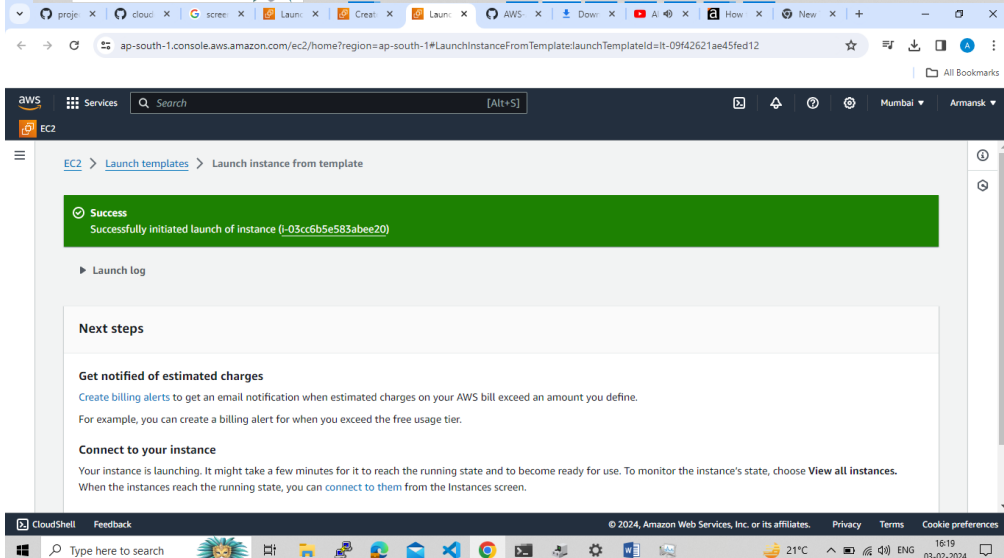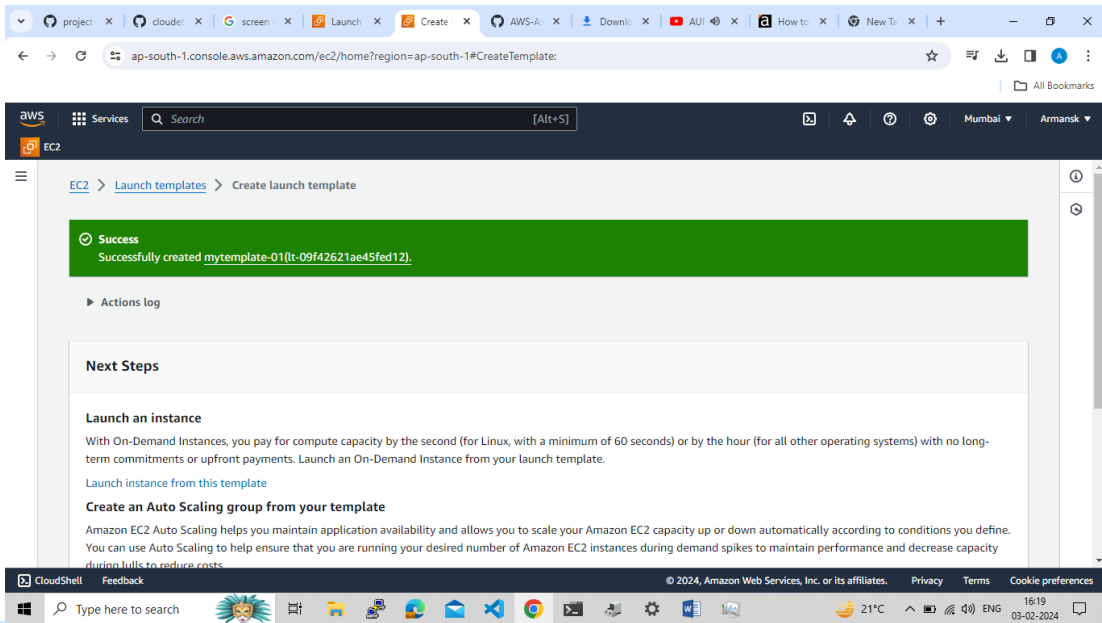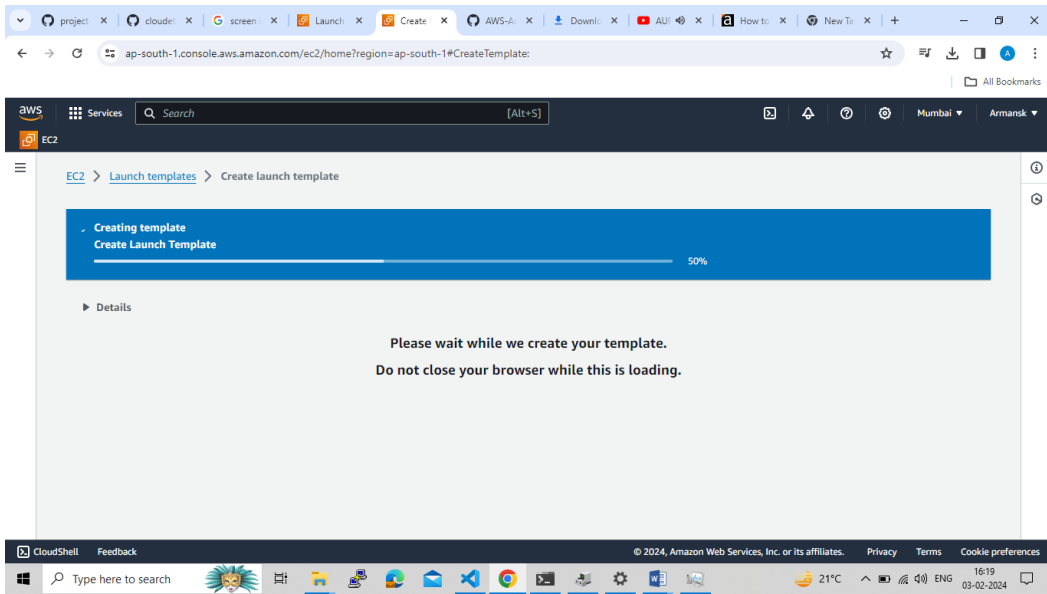ami-05a5bb48beb785bf1

Virtual server type (instance type)
t2.micro

Firewall (security group)
default

Storage (volumes)
1 volume(s) - 10 GiB

Cancel   **Create launch template**

Type here to search   21°C   ENG   16:18   03-02-2024

All Bookmarks

Services | Search [Alt+S] | Mumbai ▾ | Armansk ▾

EC2

EC2 > Launch templates > Launch instance from template

Launch instance from template

Launching from a template allows you to launch from an instance configuration that you would have saved in the past. These saved configurations can be reused and shared with other users to standardize launches across an organisation.

Choose a launch template

Source template

mytemplate-01
ID: lt-09f42621ae45fed12 ▾

1 (Default) ▾

Instance details

Your instance details are listed below. Any fields that are not specified as part of the configuration below will use the template or default values for those fields. Ensure that you have permissions to override these parameters or your instance launch will fail.

▼ **Summary**

Number of instances Info

1

Software Image (AMI)
Provided by Red Hat, Inc.
ami-05a5bb48beb785bf1

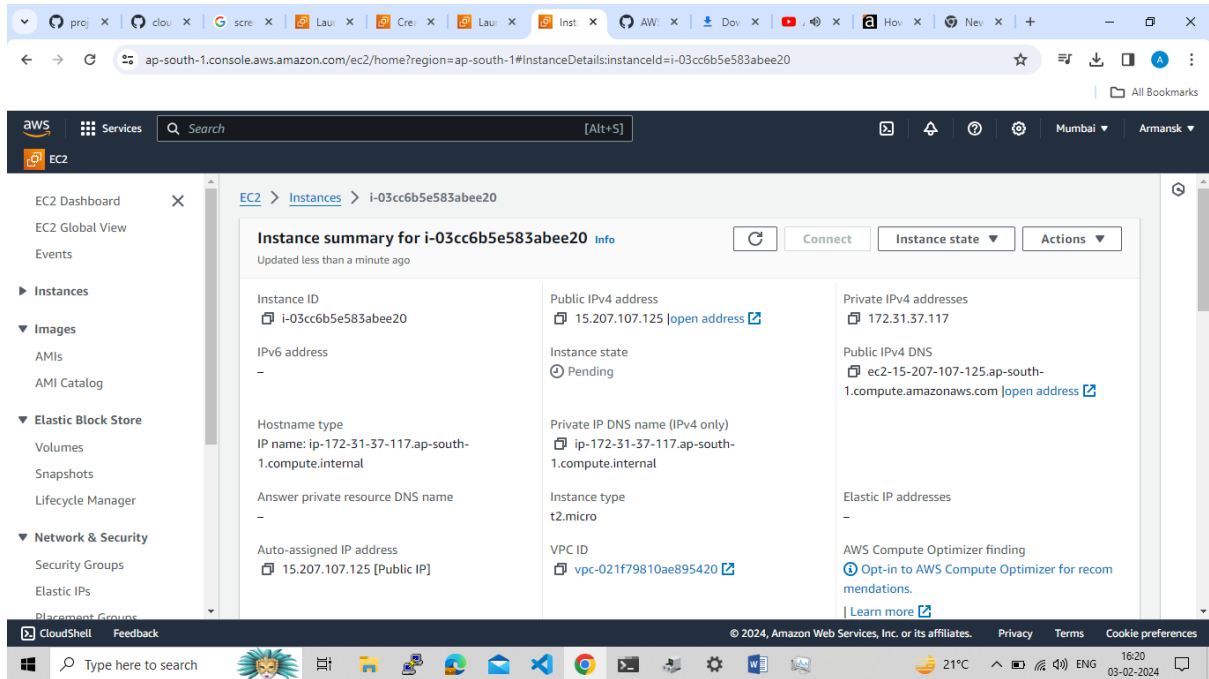Virtual server type (instance type)
t2.micro

Firewall (security group)
default

Storage (volumes)

Cancel   **Launch instance**

Review commands

Type here to search   21°C   ENG   16:19   03-02-2024

Creating template
Create Launch Template

50%

▶ Details

Please wait while we create your template.

Do not close your browser while this is loading.

EC2 > Launch templates > Create launch template

⊘ **Success**
Successfully created mytemplate-01(lt-09f42621ae45fed12).

▶ Actions log

Next Steps

Launch an instance

With On-Demand Instances, you pay for compute capacity by the second (for Linux, with a minimum of 60 seconds) or by the hour (for all other operating systems) with no long-term commitments or upfront payments. Launch an On-Demand Instance from your launch template.

Launch instance from this template

Create an Auto Scaling group from your template

Amazon EC2 Auto Scaling helps you maintain application availability and allows you to scale your Amazon EC2 capacity up or down automatically according to conditions you define. You can use Auto Scaling to help ensure that you are running your desired number of Amazon EC2 instances during demand spikes to maintain performance and decrease capacity during lulls to reduce costs.

EC2 > Launch templates > Launch instance from template

⊘ **Success**
Successfully initiated launch of instance (i-03cc6b5e583abee20)

▶ Launch log

Next steps

Get notified of estimated charges

Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define.

For example, you can create a billing alert for when you exceed the free usage tier.

Connect to your instance

Your instance is launching. It might take a few minutes for it to reach the running state and to become ready for use. To monitor the instance's state, choose **View all instances**. When the instances reach the running state, you can connect to them from the Instances screen.

root@DESKTOP-0ANCI6F:~# aws ec2 create-launch-template --launch-template-name mytemplate --version-description version1 --launch-template-data '{"NetworkInterfaces":[{"AssociatePublicIpAddress":true,"DeviceIndex":0,"SubnetId":"subnet-04b2f5518f2e3ad65"}],"ImageId":"ami-0d3f444bc76de0a79","InstanceType":"t2.micro","TagSpecifications":[{"ResourceType":"instance","Tags":[{"Key":"purpose","Value":"webserver"}]}]}'

```
{
    "LaunchTemplate": {
        "LaunchTemplateId": "lt-03796f71d10754cea",
        "LaunchTemplateName": "mytemplate",
        "CreateTime": "2024-01-18T10:02:19.000Z",
        "CreatedBy": "arn:aws:iam::842313196830:user/Arman",
        "DefaultVersionNumber": 1,
        "LatestVersionNumber": 1
    }
}
```

root@DESKTOP-0ANCI6F:~# aws ec2 run-instances --launch-template LaunchTemplateName=mytemplate

```
{
    "Groups": [],
    "Instances": [
        {
            "AmiLaunchIndex": 0,
            "ImageId": "ami-0d3f444bc76de0a79",
            "InstanceId": "i-088e9a99293feb10c",
            "InstanceType": "t2.micro",
            "LaunchTime": "2024-01-18T10:03:55.000Z",
            "Monitoring": {
                "State": "disabled"
```

```json
        },
            "Placement": {
                "AvailabilityZone": "ap-south-1a",
                "GroupName": "",
                "Tenancy": "default"
            },
            "PrivateDnsName": "ip-172-31-38-28.ap-south-1.compute.internal",
            "PrivateIpAddress": "172.31.38.28",
            "ProductCodes": [],
            "PublicDnsName": "",
            "State": {
                "Code": 0,
                "Name": "pending"
            },
            "StateTransitionReason": "",
            "SubnetId": "subnet-04b2f5518f2e3ad65",
            "VpcId": "vpc-03c7f996950265179",
            "Architecture": "x86_64",
            "BlockDeviceMappings": [],
            "ClientToken": "ad67dc77-9ff9-4e53-81e7-a14fcb63e491",
            "EbsOptimized": false,
            "EnaSupport": true,
            "Hypervisor": "xen",
            "NetworkInterfaces": [
                {
                    "Attachment": {
                        "AttachTime": "2024-01-18T10:03:55.000Z",
                        "AttachmentId": "eni-attach-05f7166be6ac8019f",
                        "DeleteOnTermination": true,
                        "DeviceIndex": 0,
                        "Status": "attaching",
                        "NetworkCardIndex": 0
                    },
                    "Description": "",
                    "Groups": [
                        {
                            "GroupName": "default",
                            "GroupId": "sg-0f2f43ec49dbd5e51"
                        }
                    ],
                    "Ipv6Addresses": [],
                    "MacAddress": "02:57:5d:1b:82:59",
                    "NetworkInterfaceId": "eni-07d99e69ad37cb6fb",
                    "OwnerId": "842313196830",
                    "PrivateDnsName": "ip-172-31-38-28.ap-south-1.compute.internal",
                    "PrivateIpAddress": "172.31.38.28",
                    "PrivateIpAddresses": [
```

{

                    "Primary": true,
                    "PrivateDnsName": "ip-172-31-38-28.ap-south-1.compute.internal",
                    "PrivateIpAddress": "172.31.38.28"
                }
            ],
            "SourceDestCheck": true,
            "Status": "in-use",
            "SubnetId": "subnet-04b2f5518f2e3ad65",
            "VpcId": "vpc-03c7f996950265179",
            "InterfaceType": "interface"
        }
    ],
    "RootDeviceName": "/dev/xvda",
    "RootDeviceType": "ebs",
    "SecurityGroups": [
        {
            "GroupName": "default",
            "GroupId": "sg-0f2f43ec49dbd5e51"
        }
    ],
    "SourceDestCheck": true,
    "StateReason": {
        "Code": "pending",
        "Message": "pending"
    },
    "Tags": [
        {
            "Key": "purpose",
            "Value": "webserver"
        },
        {
            "Key": "aws:ec2launchtemplate:id",
            "Value": "lt-03796f71d10754cea"
        },
        {
            "Key": "aws:ec2launchtemplate:version",
            "Value": "1"
        }
    ],
    "VirtualizationType": "hvm",
    "CpuOptions": {
        "CoreCount": 1,
        "ThreadsPerCore": 1

```
        },
            "CapacityReservationSpecification": {
                "CapacityReservationPreference": "open"
            },
            "MetadataOptions": {
                "State": "pending",
                "HttpTokens": "required",
                "HttpPutResponseHopLimit": 2,
                "HttpEndpoint": "enabled",
                "HttpProtocolIpv6": "disabled",
                "InstanceMetadataTags": "disabled"
            },
            "EnclaveOptions": {
                "Enabled": false
            },
            "BootMode": "uefi-preferred",
            "PrivateDnsNameOptions": {
                "HostnameType": "ip-name",
                "EnableResourceNameDnsARecord": false,
                "EnableResourceNameDnsAAAARecord": false
            }
        }
    ],
    "OwnerId": "842313196830",
    "ReservationId": "r-022e2cc4b2ec29ce4"
}
```

```
root@DESKTOP-0ANCI6F:~# aws ec2 create-launch-template-version --launch-template-name mytemplate --version-description "version 2" --source-version 1 --launch-template-data '{"InstanceType": "t2.medium"}'
```

```
{
    "LaunchTemplateVersion": {
        "LaunchTemplateId": "lt-03796f71d10754cea",
        "LaunchTemplateName": "mytemplate",
        "VersionNumber": 2,
        "VersionDescription": "version 2",
        "CreateTime": "2024-01-18T10:05:16.000Z",
        "CreatedBy": "arn:aws:iam::842313196830:user/Arman",
        "DefaultVersion": false,
        "LaunchTemplateData": {
            "NetworkInterfaces": [
                {
                    "AssociatePublicIpAddress": true,
                    "DeviceIndex": 0,
                    "SubnetId": "subnet-04b2f5518f2e3ad65"
                }
```

```
      ],
            "ImageId": "ami-0d3f444bc76de0a79",
            "InstanceType": "t2.medium",
            "TagSpecifications": [
               {
                  "ResourceType": "instance",
                  "Tags": [
                     {
                        "Key": "purpose",
                        "Value": "webserver"
                     }
                  ]
               }
            ]
         }
      }
}
```

1. Allocate Elastic IP and Associate:
   - Using the AWS Management Console, allocate an Elastic IP address.
   - Associate the Elastic IP with an existing running EC2 instance.

2. Verify Elastic IP Functionality:
   - Confirm the functionality of the Elastic IP by accessing the associated EC2 instance.
   - Document any observations or considerations related to Elastic IP usage.

3. Swap Elastic IPs:
   - Allocate another Elastic IP and swap it with the original Elastic IP.
   - Document the steps taken and verify the new Elastic IP functionality.

4. Documentation:
   - Provide a step-by-step guide, including screenshots, for allocating, associating, and swapping Elastic IPs.
   - Include evidence of the successful verification of Elastic IP functionality.

```
root@DESKTOP-0ANCI6F:~# aws ec2 allocate-address
{
    "PublicIp": "13.201.113.52",
    "AllocationId": "eipalloc-0adde39a1400a71c6",
    "PublicIpv4Pool": "amazon",
    "NetworkBorderGroup": "ap-south-1",
    "Domain": "vpc"
}

root@DESKTOP-0ANCI6F:~# aws ec2 associate-address --instance-id i-
027be4ec7042b68d5 --allocation-id eipalloc-0adde39a1400a71c6
{
    "AssociationId": "eipassoc-04622f339c18d4bec"
}
root@DESKTOP-0ANCI6F:~# aws ec2 allocate-address --domain vpc --output json
{
    "PublicIp": "13.201.155.252",
    "AllocationId": "eipalloc-0761e3eb113f88478",
    "PublicIpv4Pool": "amazon",
    "NetworkBorderGroup": "ap-south-1",
    "Domain": "vpc"
}

root@DESKTOP-0ANCI6F:~# aws ec2 disassociate-address --association-id
eipassoc-04622f339c18d4bec
root@DESKTOP-0ANCI6F:~# aws ec2 allocate-address
{
    "PublicIp": "13.200.74.53",
    "AllocationId": "eipalloc-0e2ed22df684c9abb",
    "PublicIpv4Pool": "amazon",
    "NetworkBorderGroup": "ap-south-1",
    "Domain": "vpc"
}
root@DESKTOP-0ANCI6F:~# aws ec2 associate-address --instance-id i-
027be4ec7042b68d5 --allocation-id eipalloc-0e2ed22df684c9abb
{
    "AssociationId": "eipassoc-0db55ad8faa1379cc"
}

\
```

1. Create Partition Placement Group:
   - Using the AWS Management Console, create a "Partition" placement group.
   - Ensure it is associated with a specific region.

2. Launch Instances into Partition Placement Group:
   - Launch multiple EC2 instances into the created "Partition" placement group with distinct partition numbers.
   - Confirm that instances are distributed across partitions.

3. Test Isolation:
   - Use the console to observe the network and resource isolation between instances in different partitions.
   - Verify that instances in one partition do not share the underlying hardware with instances in other partitions.

. Documentation:
   - Provide a step-by-step guide + screenshots, for creating a "Partition" placement group and launching instances into it.
   - Include observations related to network and resource isolation.

Placement groups

Actions ▼   **Create placement group**

🔍 Find Placement Group by attribute or tag

‹ 1 › ⚙

Group name ▽	Group Id ▽	Strategy ▽	State ▽	Partition ▽	Group ARN ▽
You do not have any placement groups in this region.					
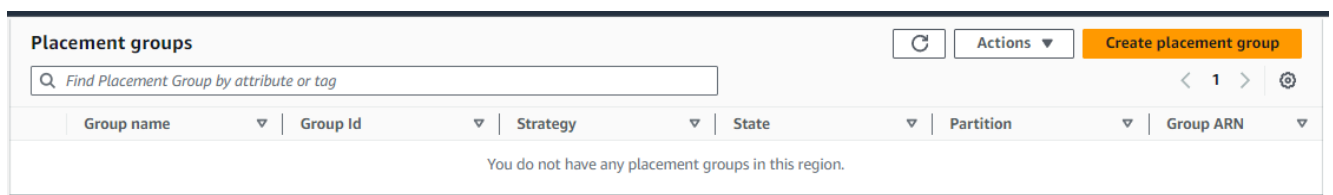
Create placement group Info

Placement group settings

Name

Partition

Placement strategy
Determines how the instances are placed on the underlying hardware.

Partition ▼

Number of partitions
Choose the number of partitions to create in this placement group.

2 ▼

Tags - *optional*

No tags associated with the resource.

Add new tag

You can add up to 50 more tags.

Cancel   **Create group**

Created ec2 instance and attached placement groups 1st partition

Placement group | Info

Partition   pg-0789698e80d2df898 ▼   ↻ Create new placement
Strategy: partition   Number of partitions: 2   Shared: No   group ↗

Target partition | Info

1 ▼

Created ec2 instance and attached placement groups 2nd partition

Placement group | Info

Partition   pg-0789698e80d2df898 ▼   ↻ Create new placement
Strategy: partition   Number of partitions: 2   Shared: No   group ↗

Target partition | Info

2 ▼

```
root@DESKTOP-0ANCI6F:~# aws ec2 describe-instances --filters Name=placement-group-
name,Values=Newgroup
{
    "Reservations": [
        {
            "Groups": [],
            "Instances": [
                {
                    "AmiLaunchIndex": 0,
                    "ImageId": "ami-0d3f444bc76de0a79",
                    "InstanceId": "i-0db2dc429274c90c1",
                    "InstanceType": "t2.micro",
                    "KeyName": "18jan",
                    "LaunchTime": "2024-01-18T06:43:12.000Z",
                    "Monitoring": {
                        "State": "disabled"
                    },
                    "Placement": {
                        "AvailabilityZone": "ap-south-1b",
                        "GroupName": "Newgroup",
                        "PartitionNumber": 1,
                        "Tenancy": "default"
                    },
                    "PrivateDnsName": "ip-172-31-2-6.ap-south-1.compute.internal",
                    "PrivateIpAddress": "172.31.2.6",
                    "ProductCodes": [],
                    "PublicDnsName": "ec2-3-109-202-221.ap-south-1.compute.amazonaws.com",
                    "PublicIpAddress": "3.109.202.221",
                    "State": {
                        "Code": 16,
                        "Name": "running"
                    },
                    "StateTransitionReason": "",
                    "SubnetId": "subnet-09cd0b66cff30bbcc",
                    "VpcId": "vpc-03c7f996950265179",
                    "Architecture": "x86_64",
                    "BlockDeviceMappings": [
                        {
                            "DeviceName": "/dev/xvda",
                            "Ebs": {
                                "AttachTime": "2024-01-18T06:43:12.000Z",
                                "DeleteOnTermination": true,
                                "Status": "attached",
                                "VolumeId": "vol-0535ba6a5eced6da6"
                            }
                        }
                    ],
```

```
    "ClientToken": "852a14f7-6a29-4e99-94a0-b718c346006d",
                "EbsOptimized": false,
                "EnaSupport": true,
                "Hypervisor": "xen",
                "NetworkInterfaces": [
                    {
                        "Association": {
                            "IpOwnerId": "amazon",
                            "PublicDnsName": "ec2-3-109-202-221.ap-south-
1.compute.amazonaws.com",
                            "PublicIp": "3.109.202.221"
                        },
                        "Attachment": {
                            "AttachTime": "2024-01-18T06:43:12.000Z",
                            "AttachmentId": "eni-attach-03df38244955ce11a",
                            "DeleteOnTermination": true,
                            "DeviceIndex": 0,
                            "Status": "attached",
                            "NetworkCardIndex": 0
                        },
                        "Description": "",
                        "Groups": [
                            {
                                "GroupName": "launch-wizard-2",
                                "GroupId": "sg-017d23f1fd7da57dd"
                            }
                        ],
                        "Ipv6Addresses": [],
                        "MacAddress": "0a:1f:fd:91:d7:cb",
                        "NetworkInterfaceId": "eni-0be0046924ad5e52f",
                        "OwnerId": "842313196830",
                        "PrivateDnsName": "ip-172-31-2-6.ap-south-1.compute.internal",
                        "PrivateIpAddress": "172.31.2.6",
                        "PrivateIpAddresses": [
                            {
                                "Association": {
                                    "IpOwnerId": "amazon",
                                    "PublicDnsName": "ec2-3-109-202-221.ap-south-
1.compute.amazonaws.com",
                                    "PublicIp": "3.109.202.221"
                                },
                                "Primary": true,
                                "PrivateDnsName": "ip-172-31-2-6.ap-south-1.compute.internal",
                                "PrivateIpAddress": "172.31.2.6"
                            }
                        ],
                        "SourceDestCheck": true,
                        "Status": "in-use",
```

```
"SubnetId": "subnet-09cd0b66cff30bbcc",
                "VpcId": "vpc-03c7f996950265179",
                "InterfaceType": "interface"
            }
        ],
        "RootDeviceName": "/dev/xvda",
        "RootDeviceType": "ebs",
        "SecurityGroups": [
            {
                "GroupName": "launch-wizard-2",
                "GroupId": "sg-017d23f1fd7da57dd"
            }
        ],
        "SourceDestCheck": true,
        "Tags": [
            {
                "Key": "Name",
                "Value": "placement1"
            }
        ],
        "VirtualizationType": "hvm",
        "CpuOptions": {
            "CoreCount": 1,
            "ThreadsPerCore": 1
        },
        "CapacityReservationSpecification": {
            "CapacityReservationPreference": "open"
        },
        "HibernationOptions": {
            "Configured": false
        },
        "MetadataOptions": {
            "State": "applied",
            "HttpTokens": "required",
            "HttpPutResponseHopLimit": 2,
            "HttpEndpoint": "enabled",
            "HttpProtocolIpv6": "disabled",
            "InstanceMetadataTags": "disabled"
        },
        "EnclaveOptions": {
            "Enabled": false
        },
        "BootMode": "uefi-preferred",
        "PlatformDetails": "Linux/UNIX",
        "UsageOperation": "RunInstances",
        "UsageOperationUpdateTime": "2024-01-18T06:43:12.000Z",
        "PrivateDnsNameOptions": {
```

```
                "HostnameType": "ip-name",
                "EnableResourceNameDnsARecord": true,
                "EnableResourceNameDnsAAAARecord": false
            }
        }
    ],
    "OwnerId": "842313196830",
    "ReservationId": "r-0dece507b4b881a9c"
},
{
    "Groups": [],
    "Instances": [
        {
            "AmiLaunchIndex": 0,
            "ImageId": "ami-0d3f444bc76de0a79",
            "InstanceId": "i-064731f867c5e8605",
            "InstanceType": "t2.micro",
            "KeyName": "18jan",
            "LaunchTime": "2024-01-18T06:44:27.000Z",
            "Monitoring": {
                "State": "disabled"
            },
            "Placement": {
                "AvailabilityZone": "ap-south-1b",
                "GroupName": "Newgroup",
                "PartitionNumber": 2,
                "Tenancy": "default"
            },
            "PrivateDnsName": "ip-172-31-5-147.ap-south-1.compute.internal",
            "PrivateIpAddress": "172.31.5.147",
            "ProductCodes": [],
            "PublicDnsName": "ec2-52-66-98-216.ap-south-1.compute.amazonaws.com",
            "PublicIpAddress": "52.66.98.216",
            "State": {
                "Code": 16,
                "Name": "running"
            },
            "StateTransitionReason": "",
            "SubnetId": "subnet-09cd0b66cff30bbcc",
            "VpcId": "vpc-03c7f996950265179",
            "Architecture": "x86_64",
            "BlockDeviceMappings": [
                {
                    "DeviceName": "/dev/xvda",
                    "Ebs": {
                        "AttachTime": "2024-01-18T06:44:28.000Z",
                        "DeleteOnTermination": true,
                        "Status": "attached",
```

```json
                    "VolumeId": "vol-0424b55897790b5fc"
                }
            }
        ],
        "ClientToken": "eaf14071-f5f9-4969-b453-51b95e922fa5",
        "EbsOptimized": false,
        "EnaSupport": true,
        "Hypervisor": "xen",
        "NetworkInterfaces": [
            {
                "Association": {
                    "IpOwnerId": "amazon",
                    "PublicDnsName": "ec2-52-66-98-216.ap-south-
1.compute.amazonaws.com",
                    "PublicIp": "52.66.98.216"
                },
                "Attachment": {
                    "AttachTime": "2024-01-18T06:44:27.000Z",
                    "AttachmentId": "eni-attach-052d2e736da2f0006",
                    "DeleteOnTermination": true,
                    "DeviceIndex": 0,
                    "Status": "attached",
                    "NetworkCardIndex": 0
                },
                "Description": "",
                "Groups": [
                    {
                        "GroupName": "launch-wizard-3",
                        "GroupId": "sg-0736da0c897dc245b"
                    }
                ],
                "Ipv6Addresses": [],
                "MacAddress": "0a:a7:71:f4:91:29",
                "NetworkInterfaceId": "eni-00d66398507fbda70",
                "OwnerId": "842313196830",
                "PrivateDnsName": "ip-172-31-5-147.ap-south-1.compute.internal",
                "PrivateIpAddress": "172.31.5.147",
                "PrivateIpAddresses": [
                    {
                        "Association": {
                            "IpOwnerId": "amazon",
                            "PublicDnsName": "ec2-52-66-98-216.ap-south-
1.compute.amazonaws.com",
                            "PublicIp": "52.66.98.216"
                        },
                        "Primary": true,
```

```
                "PrivateDnsName": "ip-172-31-5-147.ap-south-1.compute.internal",
                            "PrivateIpAddress": "172.31.5.147"
                        }
                    ],
                    "SourceDestCheck": true,
                    "Status": "in-use",
                    "SubnetId": "subnet-09cd0b66cff30bbcc",
                    "VpcId": "vpc-03c7f996950265179",
                    "InterfaceType": "interface"
                }
            ],
            "RootDeviceName": "/dev/xvda",
            "RootDeviceType": "ebs",
            "SecurityGroups": [
                {
                    "GroupName": "launch-wizard-3",
                    "GroupId": "sg-0736da0c897dc245b"
                }
            ],
            "SourceDestCheck": true,
            "Tags": [
                {
                    "Key": "Name",
                    "Value": "placement2"
                }
            ],
            "VirtualizationType": "hvm",
            "CpuOptions": {
                "CoreCount": 1,
                "ThreadsPerCore": 1
            },
            "CapacityReservationSpecification": {
                "CapacityReservationPreference": "open"
            },
            "HibernationOptions": {
                "Configured": false
            },
            "MetadataOptions": {
                "State": "applied",
                "HttpTokens": "required",
                "HttpPutResponseHopLimit": 2,
                "HttpEndpoint": "enabled",
                "HttpProtocolIpv6": "disabled",
                "InstanceMetadataTags": "disabled"
            },
            "EnclaveOptions": {
                "Enabled": false
```

```
            },
                    "BootMode": "uefi-preferred",
                    "PlatformDetails": "Linux/UNIX",
                    "UsageOperation": "RunInstances",
                    "UsageOperationUpdateTime": "2024-01-18T06:44:27.000Z",
                    "PrivateDnsNameOptions": {
                        "HostnameType": "ip-name",
                        "EnableResourceNameDnsARecord": true,
                        "EnableResourceNameDnsAAAARecord": false
                    }
                }
            ],
            "OwnerId": "842313196830",
            "ReservationId": "r-00477ef5d289a273a"
        }
    ]
}
root@DESKTOP-0ANCI6F:~#
root@DESKTOP-0ANCI6F:~# aws ec2 describe-instances --filters Name=placement-group-name,Values=Partition
{
    "Reservations": [
        {
            "Groups": [],
            "Instances": [
                {
                    "AmiLaunchIndex": 0,
                    "ImageId": "ami-0d3f444bc76de0a79",
                    "InstanceId": "i-01a09d20f03db08af",
                    "InstanceType": "t2.micro",
                    "KeyName": "18jan",
                    "LaunchTime": "2024-01-18T07:18:45.000Z",
                    "Monitoring": {
                        "State": "disabled"
                    },
                    "Placement": {
                        "AvailabilityZone": "ap-south-1a",
                        "GroupName": "Partition",
                        "PartitionNumber": 1,
                        "Tenancy": "default"
                    },
                    "PrivateDnsName": "ip-172-31-42-16.ap-south-1.compute.internal",
                    "PrivateIpAddress": "172.31.42.16",
                    "ProductCodes": [],
                    "PublicDnsName": "ec2-52-66-200-218.ap-south-1.compute.amazonaws.com",
                    "PublicIpAddress": "52.66.200.218",
                    "State": {
                        "Code": 16,
                        "Name": "running"
```

```
        },
                "StateTransitionReason": "",
                "SubnetId": "subnet-04b2f5518f2e3ad65",
                "VpcId": "vpc-03c7f996950265179",
                "Architecture": "x86_64",
                "BlockDeviceMappings": [
                    {
                        "DeviceName": "/dev/xvda",
                        "Ebs": {
                            "AttachTime": "2024-01-18T07:18:46.000Z",
                            "DeleteOnTermination": true,
                            "Status": "attached",
                            "VolumeId": "vol-0105b26a8a7bad3d2"
                        }
                    }
                ],
                "ClientToken": "99983bc8-fe3c-42a3-9aa0-43ba16d33015",
                "EbsOptimized": false,
                "EnaSupport": true,
                "Hypervisor": "xen",
                "NetworkInterfaces": [
                    {
                        "Association": {
                            "IpOwnerId": "amazon",
                            "PublicDnsName": "ec2-52-66-200-218.ap-south-
1.compute.amazonaws.com",
                            "PublicIp": "52.66.200.218"
                        },
                        "Attachment": {
                            "AttachTime": "2024-01-18T07:18:45.000Z",
                            "AttachmentId": "eni-attach-030827304c4cde40e",
                            "DeleteOnTermination": true,
                            "DeviceIndex": 0,
                            "Status": "attached",
                            "NetworkCardIndex": 0
                        },
                        "Description": "",
                        "Groups": [
                            {
                                "GroupName": "launch-wizard-4",
                                "GroupId": "sg-09d433a95ec59119e"
                            }
                        ],
                        "Ipv6Addresses": [],
                        "MacAddress": "02:b9:0b:bb:62:75",
                        "NetworkInterfaceId": "eni-0b7de706ed1f477b4",
                        "OwnerId": "842313196830",
                        "PrivateDnsName": "ip-172-31-42-16.ap-south-1.compute.internal",
```

            "PrivateIpAddress": "172.31.42.16",
                        "PrivateIpAddresses": [
                            {
                                "Association": {
                                    "IpOwnerId": "amazon",
                                    "PublicDnsName": "ec2-52-66-200-218.ap-south-
1.compute.amazonaws.com",
                                    "PublicIp": "52.66.200.218"
                                },
                                "Primary": true,
                                "PrivateDnsName": "ip-172-31-42-16.ap-south-1.compute.internal",
                                "PrivateIpAddress": "172.31.42.16"
                            }
                        ],
                        "SourceDestCheck": true,
                        "Status": "in-use",
                        "SubnetId": "subnet-04b2f5518f2e3ad65",
                        "VpcId": "vpc-03c7f996950265179",
                        "InterfaceType": "interface"
                    }
                ],
                "RootDeviceName": "/dev/xvda",
                "RootDeviceType": "ebs",
                "SecurityGroups": [
                    {
                        "GroupName": "launch-wizard-4",
                        "GroupId": "sg-09d433a95ec59119e"
                    }
                ],
                "SourceDestCheck": true,
                "Tags": [
                    {
                        "Key": "Name",
                        "Value": "part1"
                    }
                ],
                "VirtualizationType": "hvm",
                "CpuOptions": {
                    "CoreCount": 1,
                    "ThreadsPerCore": 1
                },
                "CapacityReservationSpecification": {
                    "CapacityReservationPreference": "open"
                },
                "HibernationOptions": {
                    "Configured": false
                },
                "MetadataOptions": {
                    "State": "applied",

```
                "HttpTokens": "required",
                    "HttpPutResponseHopLimit": 2,
                    "HttpEndpoint": "enabled",
                    "HttpProtocolIpv6": "disabled",
                    "InstanceMetadataTags": "disabled"
                },
                "EnclaveOptions": {
                    "Enabled": false
                },
                "BootMode": "uefi-preferred",
                "PlatformDetails": "Linux/UNIX",
                "UsageOperation": "RunInstances",
                "UsageOperationUpdateTime": "2024-01-18T07:18:45.000Z",
                "PrivateDnsNameOptions": {
                    "HostnameType": "ip-name",
                    "EnableResourceNameDnsARecord": true,
                    "EnableResourceNameDnsAAAARecord": false
                }
            }
        ],
        "OwnerId": "842313196830",
        "ReservationId": "r-048a7be58e26341a6"
    },
--------------------------------------------------------------
    {
        "Groups": [],
        "Instances": [
            {
                "AmiLaunchIndex": 0,
                "ImageId": "ami-0d3f444bc76de0a79",
                "InstanceId": "i-0503f01ac05124986",
                "InstanceType": "t2.micro",
                "KeyName": "18jan",
                "LaunchTime": "2024-01-18T07:22:13.000Z",
                "Monitoring": {
                    "State": "disabled"
                },
                "Placement": {
                    "AvailabilityZone": "ap-south-1a",
                    "GroupName": "Partition",
                    "PartitionNumber": 2,
                    "Tenancy": "default"
                },
                "PrivateDnsName": "ip-172-31-33-111.ap-south-1.compute.internal",
                "PrivateIpAddress": "172.31.33.111",
                "ProductCodes": [],
                "PublicDnsName": "ec2-13-234-115-28.ap-south-1.compute.amazonaws.com",
                "PublicIpAddress": "13.234.115.28",
                "State": {
```

              "Code": 16,
                        "Name": "running"
                  },
                  "StateTransitionReason": "",
                  "SubnetId": "subnet-04b2f5518f2e3ad65",
                  "VpcId": "vpc-03c7f996950265179",
                  "Architecture": "x86_64",
                  "BlockDeviceMappings": [
                     {
                        "DeviceName": "/dev/xvda",
                        "Ebs": {
                           "AttachTime": "2024-01-18T07:22:14.000Z",
                           "DeleteOnTermination": true,
                           "Status": "attached",
                           "VolumeId": "vol-088df35bc0d388685"
                        }
                     }
                  ],
                  "ClientToken": "27337556-934d-41ea-ba2e-5f8b397240fd",
                  "EbsOptimized": false,
                  "EnaSupport": true,
                  "Hypervisor": "xen",
                  "NetworkInterfaces": [
                     {
                        "Association": {
                           "IpOwnerId": "amazon",
                           "PublicDnsName": "ec2-13-234-115-28.ap-south-
1.compute.amazonaws.com",
                           "PublicIp": "13.234.115.28"
                        },
                        "Attachment": {
                           "AttachTime": "2024-01-18T07:22:13.000Z",
                           "AttachmentId": "eni-attach-0ba14facdd6f649e7",
                           "DeleteOnTermination": true,
                           "DeviceIndex": 0,
                           "Status": "attached",
                           "NetworkCardIndex": 0
                        },
                        "Description": "",
                        "Groups": [
                           {
                              "GroupName": "launch-wizard-5",
                              "GroupId": "sg-0487a78902aafc6e0"
                           }
                        ],
                        "Ipv6Addresses": [],
                        "MacAddress": "02:41:31:4c:2d:0d",
                        "NetworkInterfaceId": "eni-0bf80407836f594ab",

                "OwnerId": "842313196830",
                    "PrivateDnsName": "ip-172-31-33-111.ap-south-1.compute.internal",
                    "PrivateIpAddress": "172.31.33.111",
                    "PrivateIpAddresses": [
                        {
                            "Association": {
                                "IpOwnerId": "amazon",
                                "PublicDnsName": "ec2-13-234-115-28.ap-south-
1.compute.amazonaws.com",
                                "PublicIp": "13.234.115.28"
                            },
                            "Primary": true,
                            "PrivateDnsName": "ip-172-31-33-111.ap-south-1.compute.internal",
                            "PrivateIpAddress": "172.31.33.111"
                        }
                    ],
                    "SourceDestCheck": true,
                    "Status": "in-use",
                    "SubnetId": "subnet-04b2f5518f2e3ad65",
                    "VpcId": "vpc-03c7f996950265179",
                    "InterfaceType": "interface"
                }
            ],
            "RootDeviceName": "/dev/xvda",
            "RootDeviceType": "ebs",
            "SecurityGroups": [
                {
                    "GroupName": "launch-wizard-5",
                    "GroupId": "sg-0487a78902aafc6e0"
                }
            ],
            "SourceDestCheck": true,
            "Tags": [
                {
                    "Key": "Name",
                    "Value": "part2"
                }
            ],
            "VirtualizationType": "hvm",
            "CpuOptions": {
                "CoreCount": 1,
                "ThreadsPerCore": 1
            },
            "CapacityReservationSpecification": {
                "CapacityReservationPreference": "open"
            },
            "HibernationOptions": {
                "Configured": false

```json
        },
                    "MetadataOptions": {
                        "State": "applied",
                        "HttpTokens": "required",
                        "HttpPutResponseHopLimit": 2,
                        "HttpEndpoint": "enabled",
                        "HttpProtocolIpv6": "disabled",
                        "InstanceMetadataTags": "disabled"
                    },
                    "EnclaveOptions": {
                        "Enabled": false
                    },
                    "BootMode": "uefi-preferred",
                    "PlatformDetails": "Linux/UNIX",
                    "UsageOperation": "RunInstances",
                    "UsageOperationUpdateTime": "2024-01-18T07:22:13.000Z",
                    "PrivateDnsNameOptions": {
                        "HostnameType": "ip-name",
                        "EnableResourceNameDnsARecord": true,
                        "EnableResourceNameDnsAAAARecord": false
                    }
                }
            ],
            "OwnerId": "842313196830",
            "ReservationId": "r-083172b47bca9a1f5"
        }
    ]
}
```