

Network Interface + Hibernate Instance

QUESTION NO: 01

=====

Console:

1. Create Network Interface (NIC) on Console:

- Navigate to the AWS Management Console.
- Create a new Network Interface (NIC) in a specific VPC and subnet.
- Associate the NIC with a security group.
- Note down the Private IP address assigned to the NIC.

=====

SOLUTIONS :-

- Navigate to the AWS Management Console.:-
- Create a new Network Interface (NIC) in a specific VPC and subnet.

Go to AWS console → EC2 services → Network & Security → Network Interfaces.

A page will pop up

click on create network interfaces and fill the required fields:-

EC2 > Network interfaces > Create network interface

Create network interface

An elastic network interface is a logical networking component in a VPC that represents a virtual network card.

Details Info

Description - optional
A descriptive name for the network interface.

Subnet
The subnet in which to create the network interface.
 ✕ ↺

Private IPv4 address
The private IPv4 address to assign to the network interface.
☒ Auto-assign ☐ Custom

Associate the NIC with a security group.:-

Security groups (1/1) Info

< 1 > ⚙

| <input checked="" type="checkbox"/> | Group ID | Group name | Description |
|-------------------------------------|----------------------|------------|----------------------------|
| <input checked="" type="checkbox"/> | sg-0d901e970546b4e0f | default | default VPC security group |

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.

You can add 50 more tags

Cancel Create network interface

- Note down the Private IP address assigned to the NIC.:-

Network interface: eni-0fa17540095cdcf5

Source/dest. check

True

▼ IP addresses

| | | |
|----------------------|---|------------------------|
| Private IPv4 address | Private IPv4 DNS | Elastic Fabric Adapter |
| 172.31.8.134 | ip-172-31-8-134.ap-south-1.compute.internal | False |
| Public IPv4 address | Public IPv4 DNS | IPv6 addresses |
| - | - | - |

=====

2. Launch EC2 Instance and Associate NIC:

- Launch a new EC2 instance using the AWS Management Console.
- During the instance launch, associate the previously created NIC with the instance.
- Confirm that the instance has the expected private IP address.

SOLUTIONS :-

- Launch a new EC2 instance using the AWS Management Console:-**

Instances (1/1) Info

Refresh

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

< 1 >

Settings

| <input checked="" type="checkbox"/> | Name | Instance ID | Instance state | Instance type | Status check | Alarm status | Availability |
|-------------------------------------|---------------|---------------------|--|---------------|--------------|------------------------|--------------|
| <input checked="" type="checkbox"/> | insanceForNic | i-03e3fa6b6bfec3c7f | <div><div>Pending</div><div>Info</div><div>Refresh</div></div> | t2.micro | - | <div>View alarms</div> | ap-south- |

- During the instance launch, associate the previously created NIC with the instance. Go to instance → actions → network → attach network interface.**

Instance: i-03e3fa6b6befc3c7f (insranceForNic)

Instance summary Info

| | | |
|--|--|---|
| Instance ID i-03e3fa6b6befc3c7f (instanceForNic) | Public IPv4 address 3.110.177.151 open address | Private IPv4 addresses 172.31.14.8 172.31.8.134 |
|--|--|---|

Attach network interface Info

You can create and configure network interfaces in your account and then attach them to instances in your VPC.

Instance ID

i-03e3fa6b6befc3c7f (instanceForNic)

Network interface

Select a network interface to attach to the instance.

eni-0fa17540095cdcf5 (Creating NIC for traffic.)

▼ ENA Express - optional

- Confirm that the instance has the expected private IP address.**

3. Verify Network Interface Configuration:

- Access the EC2 instance and verify the network interface configuration.
- Use the console to check the details of the associated NIC.

SOLUTIONS :-

- Access the EC2 instance and verify the network interface configuration.

Instance: i-03e3fa6b6befc3c7f (insranceForNic)

| Interface ID | Description | IPv4 Prefixes | IPv6 Prefixes | Public IPv4 address | Private |
|-----------------------|---------------------------|---------------|---------------|---------------------|---------|
| eni-0e31135d309054b34 | - | - | - | 3.110.177.151 | 172.31 |
| eni-0fa17540095cdcf5 | Creating NIC for traffic. | - | - | - | 172.31 |

4. Documentation:

- Provide a step-by-step guide with screenshots for creating a NIC, associating it with an EC2 instance, and verifying the configuration.
- Include outputs or confirmation messages from the console.

CLI:

1. Create Network Interface (NIC) using AWS CLI:

- Use the AWS CLI to create a new Network Interface (NIC) in a specific VPC and subnet.
- Associate the NIC with a security group.
- Note down the Private IP address assigned to the NIC.

SOLUTIONS:-

- Use the AWS CLI to create a new Network Interface (NIC) in a specific VPC and subnet

```
root@DESKTOP-NJSOG33:AWS# aws ec2 create-network-interface --subnet-id subnet-0040a79fdd7cc9181 --description "Your NIC Description"
```

```
--groups sg-0d901e970546b4e0f
```

```
{
  "NetworkInterface": {
    "AvailabilityZone": "ap-south-1b",
    "Description": "Your NIC Description",
```

```
"Groups": [  
  {  
    "GroupName": "default",  
    "GroupId": "sg-0d901e970546b4e0f"  
  }  
,  
  "InterfaceType": "interface",  
  "Ipv6Addresses": [],  
  "MacAddress": "0a:3e:42:d7:01:0f",  
  "NetworkInterfaceId": "eni-059c4c17300b61b82",  
  "OwnerId": "043241213129",  
  "PrivateDnsName": "ip-172-31-15-236.ap-south-1.compute.internal",  
  "PrivateIpAddress": "172.31.15.236",  
  "PrivateIpAddresses": [  
    {  
      "Primary": true,  
      "PrivateDnsName": "ip-172-31-15-236.ap-south-1.compute.internal",  
      "PrivateIpAddress": "172.31.15.236"  
    }  
  ],  
  "RequesterManaged": false,  
  "SourceDestCheck": true,  
  "Status": "pending",
```

```

    "SubnetId": "subnet-0040a79fdd7cc9181",

    "TagSet": [],

    "VpcId": "vpc-0d7f078357cd79872"

}

}

```

root@DESKTOP-NJSOG33:AWS#

| Network interfaces (1/1) Info | | | | | |
|-------------------------------------|------|-----------------------|--------------------------|-----------------------|-------------------|
| Search | | | | | |
| | Name | Network interface ID | Subnet ID | VPC ID | Availability Zone |
| <input checked="" type="checkbox"/> | | eni-059c4c17300b61b82 | subnet-0040a79fdd7cc9181 | vpc-0d7f078357cd79872 | ap-south-1b |

- Associate the NIC with a security group.

```
aws ec2 modify-network-interface-attribute --network-interface-id eni-059c4c17300b61b82 --groups sg-0d901e9
```

70546b4e0f

| Network interfaces (1/1) Info | | | | | |
|-------------------------------------|-----------------------|-------------------|---------------------|----------------------|---------------------------|
| Search | | | | | |
| | VPC ID | Availability Zone | Security group n... | Security group IDs | Interface Type |
| <input checked="" type="checkbox"/> | vpc-0d7f078357cd79872 | ap-south-1b | default | sg-0d901e970546b4e0f | Elastic network interface |

- Note down the Private IP address assigned to the NIC.

```
root@DESKTOP-NJSOG33:AWS# aws ec2 describe-network-interfaces --network-interface-ids eni-059c4c17300b61b82 --query 'NetworkInterfac
```

```
es[0].PrivateIpAddresses[0].PrivateIpAddress' --output text
```

172.31.15.236

root@DESKTOP-NJSOG33:AWS#

2. Launch EC2 Instance and Associate NIC using AWS CLI:

- Use the AWS CLI to launch a new EC2 instance.
 - During the instance launch, associate the previously created NIC with the instance.
 - Confirm that the instance has the expected private IP address.
-

```
root@DESKTOP-NJSOG33:AWS# aws ec2 run-instances \
```

```
--image-id ami-0d980397a6e8935cd \
```

```
--key-name sim.pem.aws \
```

```
--instance-type t2.micro \
```

```
--network-interfaces "[{\"NetworkInterfaceId\":\"eni-059c4c17300b61b82\", \"DeviceIndex\":0}]"
```

```
{
```

```
  "Groups": [],
```

```
  "Instances": [
```

```
    {
```

```
      "AmiLaunchIndex": 0,
```

```
      "ImageId": "ami-0d980397a6e8935cd",
```

```
      "InstanceId": "i-02b7e9159a1e0bef6",
```

```
      "InstanceType": "t2.micro",
```

```
      "KeyName": "sim.pem.aws",
```

```
      "LaunchTime": "2024-01-20T21:10:17.000Z",
```

```
      "Monitoring": {
```

```
        "State": "disabled"
```

```
      },
```

```
      "Placement": {
```

```
"AvailabilityZone": "ap-south-1b",

"GroupName": "",

"Tenancy": "default"

},

"PrivateDnsName": "ip-172-31-15-236.ap-south-1.compute.internal",

"PrivateIpAddress": "172.31.15.236",

"ProductCodes": [],

"PublicDnsName": "",

"State": {

  "Code": 0,

  "Name": "pending"

},

"StateTransitionReason": "",

"SubnetId": "subnet-0040a79fdd7cc9181",

"VpcId": "vpc-0d7f078357cd79872",

"Architecture": "x86_64",

"BlockDeviceMappings": [],

"ClientToken": "a34d7447-cafa-4684-91cc-2953082e4e3f",

"EbsOptimized": false,

"EnaSupport": true,

"Hypervisor": "xen",

"NetworkInterfaces": [

  {
```



```
"Attachment": {
  "AttachTime": "2024-01-20T21:10:17.000Z",
  "AttachmentId": "eni-attach-055fc4bc9246c8c51",
  "DeleteOnTermination": false,
  "DeviceIndex": 0,
  "Status": "attaching",
  "NetworkCardIndex": 0
},
"Description": "Your NIC Description",
"Groups": [
  {
    "GroupId": "sg-0d901e970546b4e0f"
  }
],
"Ipv6Addresses": [],
"MacAddress": "0a:3e:42:d7:01:0f",
"NetworkInterfaceId": "eni-059c4c17300b61b82",
"OwnerId": "043241213129",
"PrivateDnsName": "ip-172-31-15-236.ap-south-1.compute.internal",
"PrivateIpAddress": "172.31.15.236",
"PrivateIpAddresses": [
  {
    "Primary": true,
```

```
        "PrivateDnsName": "ip-172-31-15-236.ap-south-1.compute.internal",
        "PrivateIpAddress": "172.31.15.236"
    }

],

    "SourceDestCheck": true,

    "Status": "in-use",

    "SubnetId": "subnet-0040a79fdd7cc9181",

    "VpcId": "vpc-0d7f078357cd79872",

    "InterfaceType": "interface"
}

],

    "RootDeviceName": "/dev/xvda",

    "RootDeviceType": "ebs",

    "SecurityGroups": [

        {

            "GroupId": "sg-0d901e970546b4e0f"

        }

    ],

    "SourceDestCheck": true,

    "StateReason": {

        "Code": "pending",

        "Message": "pending"

    },

    }
```

```
"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,
```

- **Confirm that the instance has the expected private IP address.**

```
root@DESKTOP-NJSOG33:AWS# aws ec2 describe-instances --instance-ids i-02b7e9159a1e0bef6 --query 'Reservations[0].Instances[0].Private
```

```
IpAddress' --output text
```

```
172.31.15.236
```

```
=====
```

3. Verify Network Interface Configuration using AWS CLI:

- Use the AWS CLI to check the details of the associated NIC and the EC2 instance.
- Confirm the network interface configuration.

```
=====
```

```
172.31.15.236
```

```
root@DESKTOP-NJSOG33:AWS# aws ec2 describe-network-interfaces --network-interface-ids eni-059c4c17300b61b82
```

```
{
```

```
  "NetworkInterfaces": [
```

```
    {
```

```
      "Association": {
```

```
        "IpOwnerId": "amazon",
```

```
        "PublicDnsName": "ec2-13-127-10-237.ap-south-1.compute.amazonaws.com",
```

```
        "PublicIp": "13.127.10.237"
```

```
      },
```

```
      "Attachment": {
```

```
        "AttachTime": "2024-01-20T21:10:17.000Z",
```

```
        "AttachmentId": "eni-attach-055fc4bc9246c8c51",
```

```
        "DeleteOnTermination": false,
```

```
"DeviceIndex": 0,

"NetworkCardIndex": 0,

"InstanceId": "i-02b7e9159a1e0bef6",

"InstanceOwnerId": "043241213129",

"Status": "attached"

},

"AvailabilityZone": "ap-south-1b",

"Description": "Your NIC Description",

"Groups": [

  {

    "GroupName": "default",

    "GroupId": "sg-0d901e970546b4e0f"

  }

],

"InterfaceType": "interface",

"Ipv6Addresses": [],

"MacAddress": "0a:3e:42:d7:01:0f",

"NetworkInterfaceId": "eni-059c4c17300b61b82",

"OwnerId": "043241213129",

"PrivateDnsName": "ip-172-31-15-236.ap-south-1.compute.internal",

"PrivateIpAddress": "172.31.15.236",

"PrivateIpAddresses": [

  {
```

```
"Association": {
  "IpOwnerId": "amazon",
  "PublicDnsName": "ec2-13-127-10-237.ap-south-1.compute.amazonaws.com",
  "PublicIp": "13.127.10.237"
},
"Primary": true,
"PrivateDnsName": "ip-172-31-15-236.ap-south-1.compute.internal",
"PrivateIpAddress": "172.31.15.236"
}
],
"RequesterManaged": false,
"SourceDestCheck": true,
"Status": "in-use",
"SubnetId": "subnet-0040a79fdd7cc9181",
"TagSet": [],
"VpcId": "vpc-0d7f078357cd79872"
}
]
}

root@DESKTOP-NJSOG33:AWS#
```

Confirm the network interface configuration:-

```
root@DESKTOP-NJSOG33:AWS# aws ec2 describe-instances --instance-ids i-02b7e9159a1e0bef6
```

```
{
  "Reservations": [
    {
      "Groups": [],
      "Instances": [
        {
          "AmiLaunchIndex": 0,
          "ImageId": "ami-0d980397a6e8935cd",
          "InstanceId": "i-02b7e9159a1e0bef6",
          "InstanceType": "t2.micro",
          "KeyName": "sim.pem.aws",
          "LaunchTime": "2024-01-20T21:10:17.000Z",
          "Monitoring": {
            "State": "disabled"
          },
          "Placement": {
            "AvailabilityZone": "ap-south-1b",
            "GroupName": "",
            "Tenancy": "default"
          },
          "PrivateDnsName": "ip-172-31-15-236.ap-south-1.compute.internal",
          "PrivateIpAddress": "172.31.15.236",
          "ProductCodes": [],
```

```
"PublicDnsName": "ec2-13-127-10-237.ap-south-1.compute.amazonaws.com",  
"PublicIpAddress": "13.127.10.237",  
"State": {  
    "Code": 16,  
    "Name": "running"  
},  
"StateTransitionReason": "",  
"SubnetId": "subnet-0040a79fdd7cc9181",  
"VpcId": "vpc-0d7f078357cd79872",  
"Architecture": "x86_64",  
"BlockDeviceMappings": [  
    {  
        "DeviceName": "/dev/xvda",  
        "Ebs": {  
            "AttachTime": "2024-01-20T21:10:18.000Z",  
            "DeleteOnTermination": true,  
            "Status": "attached",  
            "VolumeId": "vol-01bc3575cbda42274"  
        }  
    }  
],  
"ClientToken": "a34d7447-cafa-4684-91cc-2953082e4e3f",  
"EbsOptimized": false,
```



```
"EnaSupport": true,  
"Hypervisor": "xen",  
"NetworkInterfaces": [  
{  
  "Association": {  
    "IpOwnerId": "amazon",  
    "PublicDnsName": "ec2-13-127-10-237.ap-south-  
1.compute.amazonaws.com",  
    "PublicIp": "13.127.10.237"  
  },  
  "Attachment": {  
    "AttachTime": "2024-01-20T21:10:17.000Z",  
    "AttachmentId": "eni-attach-055fc4bc9246c8c51",  
    "DeleteOnTermination": false,  
    "DeviceIndex": 0,  
    "Status": "attached",  
    "NetworkCardIndex": 0  
  },  
  "Description": "Your NIC Description",  
  "Groups": [  
    {  
      "GroupName": "default",  
      "GroupId": "sg-0d901e970546b4e0f"  
    }
```

```
],  
  "Ipv6Addresses": [],  
  "MacAddress": "0a:3e:42:d7:01:0f",  
  "NetworkInterfaceId": "eni-059c4c17300b61b82",  
  "OwnerId": "043241213129",  
  "PrivateDnsName": "ip-172-31-15-236.ap-south-1.compute.internal",  
  "PrivateIpAddress": "172.31.15.236",  
  "PrivateIpAddresses": [  
    {  
      "Association": {  
        "IpOwnerId": "amazon",  
        "PublicDnsName": "ec2-13-127-10-237.ap-south-  
1.compute.amazonaws.com",  
        "PublicIp": "13.127.10.237"  
      },  
      "Primary": true,  
      "PrivateDnsName": "ip-172-31-15-236.ap-south-1.compute.internal",  
      "PrivateIpAddress": "172.31.15.236"  
    }  
  ],  
  "SourceDestCheck": true,  
  "Status": "in-use",  
  "SubnetId": "subnet-0040a79fdd7cc9181",  
  "VpcId": "vpc-0d7f078357cd79872",
```

```
        "InterfaceType": "interface"
    }
],
    "RootDeviceName": "/dev/xvda",
    "RootDeviceType": "ebs",
    "SecurityGroups": [
        {
            "GroupName": "default",
            "GroupId": "sg-0d901e970546b4e0f"
        }
    ],
    "SourceDestCheck": true,
    "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": "2024-01-20T21:10:17.000Z",  
"PrivateDnsNameOptions": {  
  "HostnameType": "ip-name",  
  "EnableResourceNameDnsARecord": false,  
  "EnableResourceNameDnsAAAARecord": false  
}  
}  
],  
"OwnerId": "043241213129",
```

```

    "ReservationId": "r-074e92661186bc930"

}

]

}

root@DESKTOP-NJSOG33:AWS#

```

Instance: i-02b7e9159a1e0bef6

Filter network interfaces

| Interface ID | Description | IPv4 Prefixes | IPv6 Prefixes | Public IPv4 address | Private IPv4 address |
|----------------------|----------------------|---------------|---------------|---------------------|----------------------|
| eni-59c4c17300b61b82 | Your NIC Description | - | - | 13.127.10.237 | 172.31.15.236 |

▼ Elastic IP addresses (0) Info

Filter Elastic IP addresses

4. Documentation:

- Provide a detailed document with AWS CLI commands for creating a NIC, associating it with an EC2 instance, and verifying the configuration.
- Include any relevant information such as NIC IDs, private IP addresses, etc.

QUESTION NO: 01

Hibernate Instance Console:

1. Hibernate EC2 Instance on Console:

- Launch a new EC2 instance using the AWS Management Console.
- Access the console to hibernate the running instance.
- Confirm the status change to "hibernating."

SOLUTION:-

Going through usual instance launch do two changes:

A) under 'storage' EBS volume make the changes that has been highlighted below :-

▼ **Storage (volumes)** [Info](#) Simple

EBS Volumes Hide details

▼ Volume 1 (AMI Root) (Custom)

| | | |
|---|--|--|
| Storage type Info EBS | Device name - required Info /dev/xvda | Snapshot Info snap-0a96b47003168bf23 |
| Size (GiB) Info 8 | Volume type Info gp3 | IOPS Info 3000 |
| Delete on termination Info Yes | Encrypted Info Encrypted | KMS key Info (default) aws/ebs Key ID: alias/aws/ebs |

B) Under 'Advance details' section towards the end “enabling the Hibernate behavior” as shown below:-

Stop - Hibernate behavior [Info](#)

Enable

To enable hibernation, space is allocated on the root volume to store the instance memory (RAM). Make sure that the root volume is large enough to store the RAM contents and accommodate your expected usage, e.g. OS, applications. To use hibernation, the root volume must be an encrypted EBS volume. [Learn more](#)

Instance: i-008dab327e983c120 (My_ec2Hibernate)

| | | |
|-----------------------------------|--|------------------------------------|
| Instance auto-recovery Default | Lifecycle normal | Stop-hibernate behavior Enabled |
| AMI Launch index 0 | Key pair assigned at launch sim.pem.aws | State transition reason - |
| Credit specification standard | Kernel ID - | State transition message - |

- Access the console to hibernate the running instance.

Click on hibernate.

NOTE:- before hibernating try connect → connect using ec2 → and on console run the command <uptime>.

it will show you since when the instance is up and after hibernating, if you resume the hibernate and restart the instance and use the same process to SSH as in connect and again running the <uptime> command, you will realize that the instance was not stopped it was up from first go only.

Instances (1/1) [Info](#) Refresh Connect

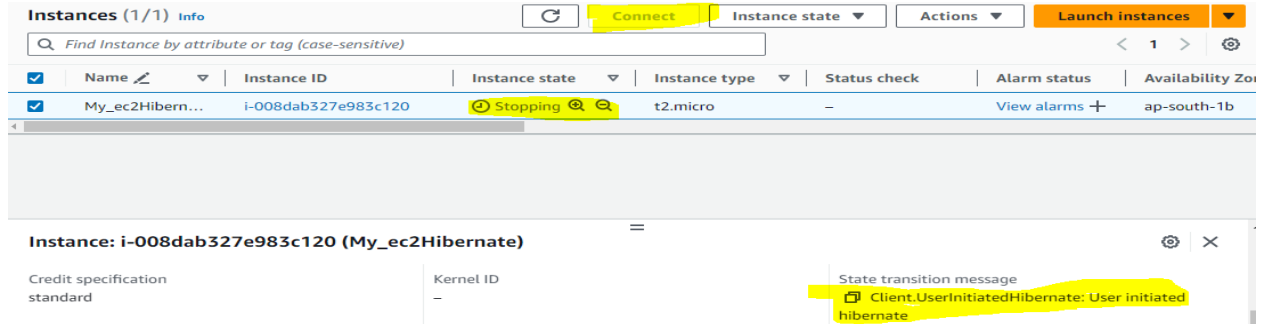
Find Instance by attribute or tag (case-sensitive)

| Name | Instance ID | Instance state | Instance type | Alarm status | Availability Zone |
|-----------------|---------------------|----------------|---------------|---------------|-------------------|
| My_ec2Hibern... | i-008dab327e983c120 | Running | t2.micro | View alarms + | ap-south-1b |

Actions: Stop instance, Start instance, Reboot instance, **Hibernate instance**, Terminate instance

After hibernating:-

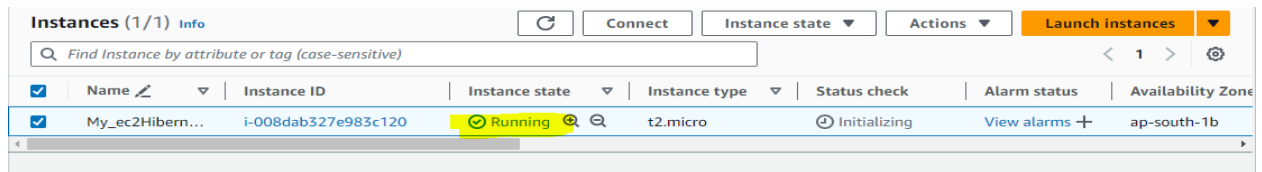
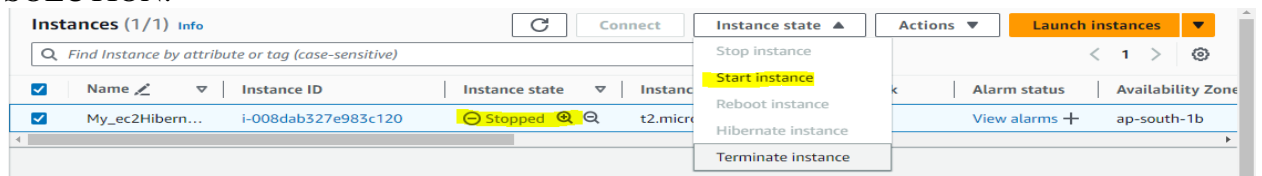
- Confirm the status change to "hibernating."



2. Resume Hibernated EC2 Instance:

- Resume the hibernated instance using the console.
- Confirm the instance state changes to "running."

SOLUTION:-



3. Verify Instance State:

- Check the instance state using the console to ensure successful hibernation and resumption.
- The solution lies in the above screenshots only.

4. Documentation:

- Provide a step-by-step guide with screenshots for hibernating and resuming an EC2 instance using the console.
- Include outputs or confirmation messages from the console.

=====

CLI:

1. Hibernate EC2 Instance using AWS CLI:

- Use the AWS CLI to launch a new EC2 instance.
- Use the AWS CLI to hibernate the running instance.
- Confirm the status change to "hibernating."

=====

ume must be encrypted.

```
root@DESKTOP-NJSOG33:AWS# aws ec2 run-instances \
```

```
--image-id ami-0d980397a6e8935cd \
```

```
--instance-type t2.micro \
```

```
--key-name sim.pem.aws \
```

```
--subnet-id subnet-0040a79fdd7cc9181 \
```

```
--hibernation-options Configured=true \
```

```
--block-device-mappings
```

```
"[{\\"DeviceName\\":\\"/dev/xvda\\",\\"Ebs\\":{\\"VolumeSize\\":8,\\"VolumeType\\":\\"gp2\\",\\"Encrypted\\":true}}]"
```

```
{
```

```
"Groups": [],
```

```
"Instances": [
```



```
{  
  "AmiLaunchIndex": 0,  
  "ImageId": "ami-0d980397a6e8935cd",  
  "InstanceId": "i-0e8f87c31a6efab63",  
  "InstanceType": "t2.micro",  
  "KeyName": "sim.pem.aws",  
  "LaunchTime": "2024-01-21T18:45:59.000Z",  
  "Monitoring": {  
    "State": "disabled"  
  },  
  "Placement": {  
    "AvailabilityZone": "ap-south-1b",  
    "GroupName": "",  
    "Tenancy": "default"  
  },  
  "PrivateDnsName": "ip-172-31-3-224.ap-south-1.compute.internal",  
  "PrivateIpAddress": "172.31.3.224",  
  "ProductCodes": [],  
  "PublicDnsName": "",  
  "State": {  
    "Code": 0,  
    "Name": "pending"  
  },  
}
```

```
"StateTransitionReason": "",
"SubnetId": "subnet-0040a79fdd7cc9181",
"VpcId": "vpc-0d7f078357cd79872",
"Architecture": "x86_64",
"BlockDeviceMappings": [],
"ClientToken": "35f489a0-e9bf-402c-afae-b16b2634556d",
"EbsOptimized": false,
"EnaSupport": true,
"Hypervisor": "xen",
"NetworkInterfaces": [
  {
    "Attachment": {
      "AttachTime": "2024-01-21T18:45:59.000Z",
      "AttachmentId": "eni-attach-0da2f6c6f296bbec5",
      "DeleteOnTermination": true,
      "DeviceIndex": 0,
      "Status": "attaching",
      "NetworkCardIndex": 0
    },
    "Description": "",
    "Groups": [
      {
        "GroupName": "default",
```

```
        "GroupId": "sg-0d901e970546b4e0f"
      }
    ],
    "Ipv6Addresses": [],
    "MacAddress": "0a:10:b2:2e:db:1f",
    "NetworkInterfaceId": "eni-006612af6f9ae7988",
    "OwnerId": "043241213129",
    "PrivateDnsName": "ip-172-31-3-224.ap-south-1.compute.internal",
    "PrivateIpAddress": "172.31.3.224",
    "PrivateIpAddresses": [
      {
        "Primary": true,
        "PrivateDnsName": "ip-172-31-3-224.ap-south-1.compute.internal",
        "PrivateIpAddress": "172.31.3.224"
      }
    ],
    "SourceDestCheck": true,
    "Status": "in-use",
    "SubnetId": "subnet-0040a79fdd7cc9181",
    "VpcId": "vpc-0d7f078357cd79872",
    "InterfaceType": "interface"
  }
],
```

```
"RootDeviceName": "/dev/xvda",
"RootDeviceType": "ebs",
"SecurityGroups": [
  {
    "GroupName": "default",
    "GroupId": "sg-0d901e970546b4e0f"
  }
],
"SourceDestCheck": true,
"StateReason": {
  "Code": "pending",
  "Message": "pending"
},
"VirtualizationType": "hvm",
"CpuOptions": {
  "CoreCount": 1,
  "ThreadsPerCore": 1
},
"CapacityReservationSpecification": {
  "CapacityReservationPreference": "open"
},
"HibernationOptions": {
  "Configured": true
```

```
    },  
    "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": "043241213129",  
    "ReservationId": "r-0c9bc67b531009e5b"  
}
```

- root@DESKTOP-NJSOG33:AWS#

NOTES:-

--block-device-mappings: Specifies the block device mapping for the instance.

- DeviceName: "/dev/xvda": Refers to the root device volume.
- Ebs: Specifies the properties of the EBS volume.
- VolumeSize: Specifies the size of the root volume in gibibytes.
- VolumeType: Specifies the volume type (in this case, gp2 for General Purpose SSD).
- Encrypted: Specifies that the root volume should be encrypted.

| Instances (1/3) Info | | | | | | | |
|--|-----------------|---------------------|----------------|---------------|-------------------|---------------|--------------|
| Find Instance by attribute or tag (case-sensitive) | | | | | | | |
| | Name | Instance ID | Instance state | Instance type | Status check | Alarm status | Availability |
| <input checked="" type="checkbox"/> | | i-0e8f87c31a6efab63 | Running | t2.micro | 2/2 checks passed | View alarms + | ap-south-1 |
| <input type="checkbox"/> | My_ec2Hibern... | i-008dab327e983c120 | Terminated | t2.micro | - | View alarms + | ap-south-1 |
| <input type="checkbox"/> | mu_ec2 | i-05891e5aa59f3b20f | Shutting-d... | t2.micro | - | View alarms + | ap-south-1 |

| Instance: i-0e8f87c31a6efab63 | | |
|-----------------------------------|-----------------------------|------------------------------------|
| Instance auto-recovery Default | Lifecycle normal | Stop-hibernate behavior Enabled |
| AMI Launch index | Key pair assigned at launch | State transition reason |

SOLUTION:-

root@DESKTOP-NJSOG33:AWS# aws ec2 stop-instances --instance-ids i-0e8f87c31a6efab63 --hibernate

```
{
  "StoppingInstances": [
    {
      "CurrentState": {
        "Code": 64,
        "Name": "stopping"
      },
      "InstanceId": "i-0e8f87c31a6efab63",
      "PreviousState": {
```

```
    "Code": 16,
    "Name": "running"
  }
}
]
}

root@DESKTOP-NJSOG33:AWS#
```

```
root@DESKTOP-NJSOG33:AWS# aws ec2 start-instances --instance-ids i-0e8f87c31a6efab63

{
  "StartingInstances": [
    {
      "CurrentState": {
        "Code": 0,
        "Name": "pending"
      },
      "InstanceId": "i-0e8f87c31a6efab63",
      "PreviousState": {
        "Code": 80,
        "Name": "stopped"
      }
    }
  ]
}
```

}

root@DESKTOP-NJSOG33:AWS#

| Instances (1/3) Info | | | | | | | |
|---|-----------------|---------------------|----------------|---------------|--------------|-----------------------------|--------------|
| <div>Find Instance by attribute or tag (case-sensitive)</div> | | | | | | | |
| <input checked="" type="checkbox"/> | Name | Instance ID | Instance state | Instance type | Status check | Alarm status | Availability |
| <input checked="" type="checkbox"/> | | i-0e8f87c31a6efab63 | Stopping | t2.micro | - | View alarms | ap-south-1 |
| <input type="checkbox"/> | My_ec2Hibern... | i-008dab327e983c120 | Terminated | t2.micro | - | View alarms | ap-south-1 |

2. Resume Hibernated EC2 Instance using AWS CLI:

- Use the AWS CLI to resume the hibernated instance.
- Confirm the instance state changes to "running."

```
root@DESKTOP-NJSOG33:AWS# aws ec2 describe-instances --instance-ids i-0e8f87c31a6efab63 --query 'Reservations[*].Instances[*].[InstanceId,State.Name]'
```

```
[
```

```
[
```

```
[
```

```
    "i-0e8f87c31a6efab63",
```

```
    "running"
```

```
]
```

```
]
```

```
]
```

```
root@DESKTOP-NJSOG33:AWS#
```

3. Verify Instance State using AWS CLI:

- Use the AWS CLI to check the instance state and ensure successful hibernation and resumption.
-

```
root@DESKTOP-NJSOG33:AWS# aws ec2 describe-instances --instance-ids i-0e8f87c31a6efab63 --query 'Reservations[*].Instances[*].[InstanceId,State.Name]'
```

```
[
  [
    [
      "i-0e8f87c31a6efab63",
      "running"
    ]
  ]
]
```

```
root@DESKTOP-NJSOG33:AWS#
```

4. Documentation:

- Provide a detailed document with AWS CLI commands for hibernating and resuming an EC2 instance.
- Include any relevant information such as instance IDs, state changes, etc.

