**AWS Hands-On Assignment 05 (On Console and CLI)**

**Network Interface & Hibernate Instance**

**QUESTION NO: 01**

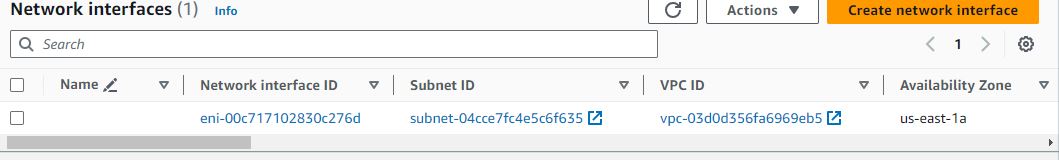
**Network Interface**

**Console:**

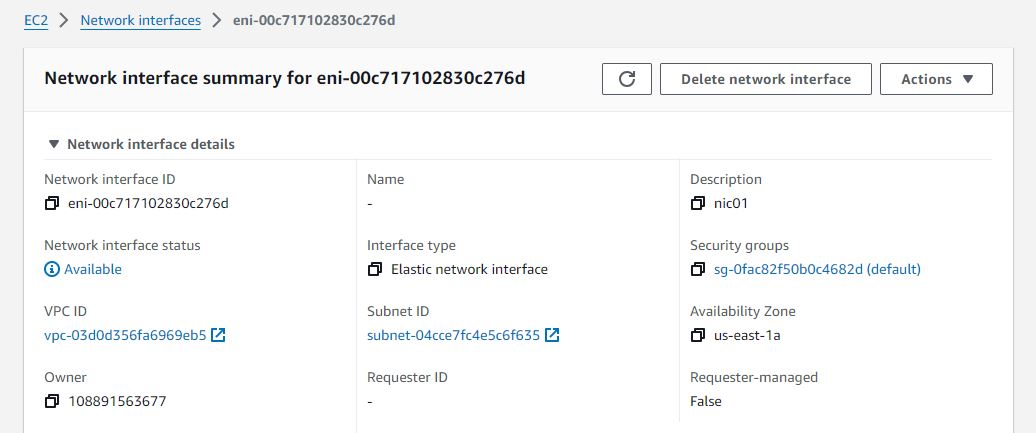
**1. Create Network Interface (NIC) on Console:**  
   - Navigate to the AWS Management Console.  
   - Create a new Network Interface (NIC) in a specific VPC and subnet.  
   - Associate the NIC with a security group.  
   - Note down the Private IP address assigned to the NIC.

 Ans.

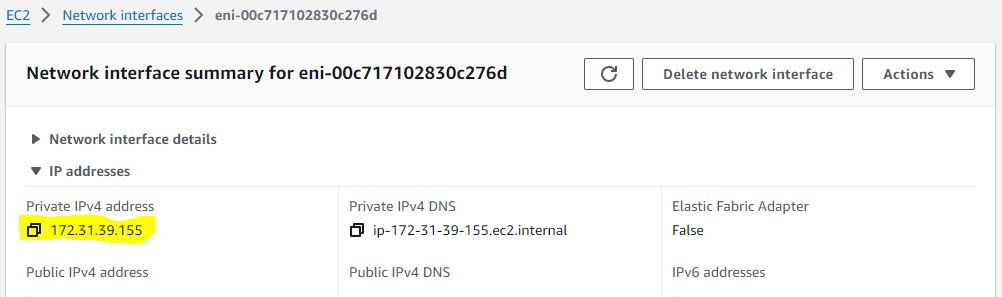
Created NIC :-



Security group associated :-



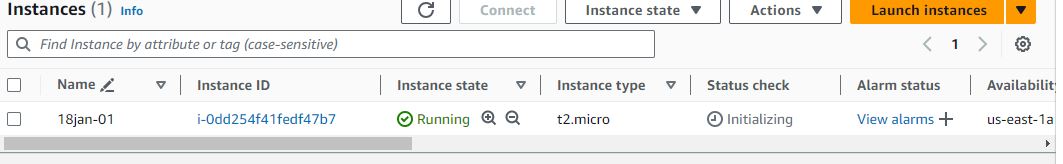
Private IP :-



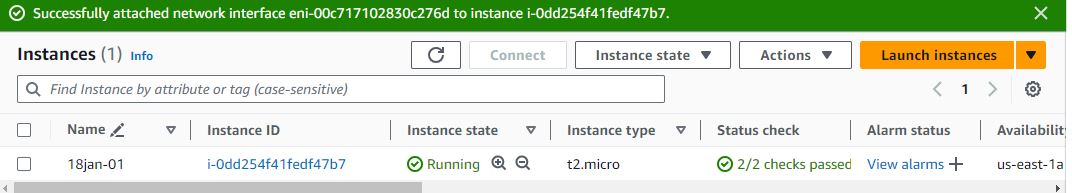
**2. Launch EC2 Instance and Associate NIC:**  
   - Launch a new EC2 instance using the AWS Management Console.  
   - During the instance launch, associate the previously created NIC with the instance.  
   - Confirm that the instance has the expected private IP address.

Ans.

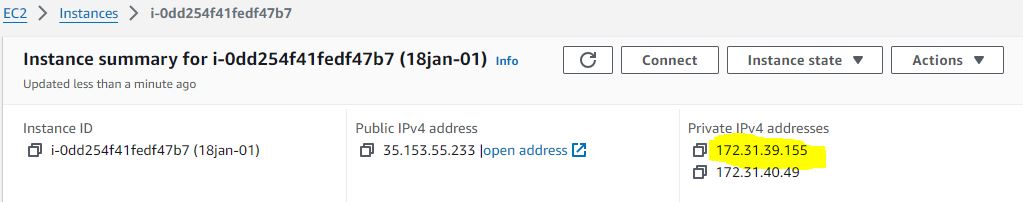
Launched new instance :-



Associated previously created NIC with the instance :-

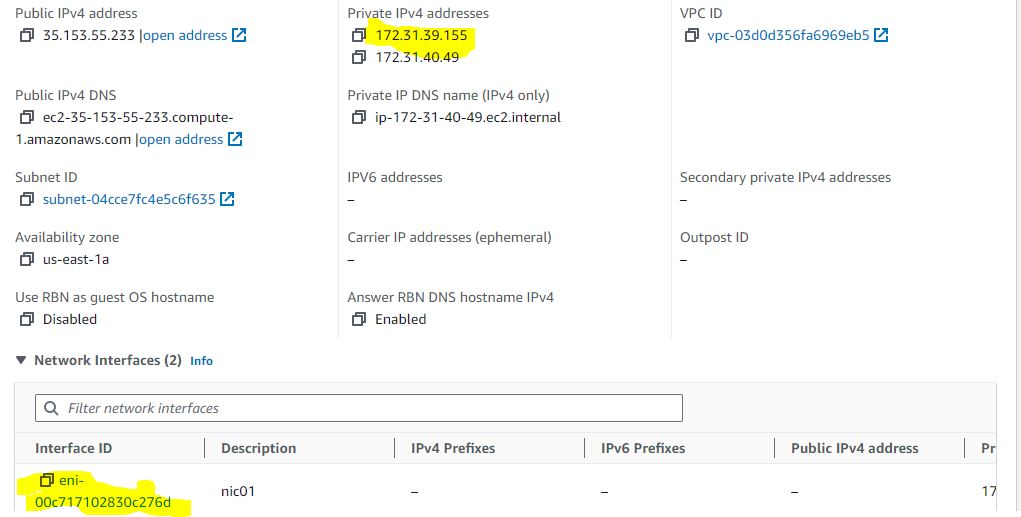


Same Private IP :-



**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.

Ans.



**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.

 Ans.

root@DESKTOP-1RT156R:~# aws ec2 create-network-interface --subnet-id subnet-04cce7fc4e5c6f635 --description "NIC-01" --groups sg-0fac82f50b0c4682d

{

"NetworkInterface": {

"AvailabilityZone": "us-east-1a",

"Description": "NIC-01",

"Groups": [

{

"GroupName": "default",

"GroupId": "sg-0fac82f50b0c4682d"

}

],

"InterfaceType": "interface",

"Ipv6Addresses": [],

"MacAddress": "0e:c4:14:9d:2b:69",

"NetworkInterfaceId": "eni-09bedc292676e6f60",

"OwnerId": "108891563677",

"PrivateDnsName": "ip-172-31-36-156.ec2.internal",

"PrivateIpAddress": "172.31.36.156",

"PrivateIpAddresses": [

{

"Primary": true,

"PrivateDnsName": "ip-172-31-36-156.ec2.internal",

"PrivateIpAddress": "172.31.36.156"

}

],

"RequesterManaged": false,

"SourceDestCheck": true,

"Status": "pending",

"SubnetId": "subnet-04cce7fc4e5c6f635",

"TagSet": [],

"VpcId": "vpc-03d0d356fa6969eb5"

}

}

**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.

Ans.

root@DESKTOP-1RT156R:~# aws ec2 create-key-pair --key-name nic\_key --query 'KeyMaterial' --output text > nic\_key.pem

root@DESKTOP-1RT156R:~# aws ec2 run-instances --image-id ami-0005e0cfe09cc9050 --key-name nic\_key --instance-type t2.micro --security-group-ids sg-0fac82f50b0c4682d --associate-public-ip-address --tag-specifications 'ResourceType=instance,Tags=[{Key=Name,Value=Ec2\_Instance}]'

{

"Groups": [],

"Instances": [

{

"AmiLaunchIndex": 0,

"ImageId": "ami-0005e0cfe09cc9050",

"InstanceId": "i-05815de563bae418b",

"InstanceType": "t2.micro",

"KeyName": "nic\_key",

"LaunchTime": "2024-01-18T14:25:00.000Z",

"Monitoring": {

"State": "disabled"

},

"Placement": {

"AvailabilityZone": "us-east-1a",

"GroupName": "",

"Tenancy": "default"

},

"PrivateDnsName": "ip-172-31-46-240.ec2.internal",

"PrivateIpAddress": "172.31.46.240",

"ProductCodes": [],

"PublicDnsName": "",

"State": {

"Code": 0,

"Name": "pending"

},

"StateTransitionReason": "",

"SubnetId": "subnet-04cce7fc4e5c6f635",

"VpcId": "vpc-03d0d356fa6969eb5",

"Architecture": "x86\_64",

"BlockDeviceMappings": [],

"ClientToken": "63c5ce9a-58d4-4626-a946-7cbeb781227d",

"EbsOptimized": false,

"EnaSupport": true,

"Hypervisor": "xen",

"NetworkInterfaces": [

{

"Attachment": {

"AttachTime": "2024-01-18T14:25:00.000Z",

"AttachmentId": "eni-attach-0ab02ae16c0f65a87",

"DeleteOnTermination": true,

"DeviceIndex": 0,

"Status": "attaching",

"NetworkCardIndex": 0

},

"Description": "",

"Groups": [

{

"GroupName": "default",

"GroupId": "sg-0fac82f50b0c4682d"

}

],

"Ipv6Addresses": [],

"MacAddress": "0e:a0:4b:64:05:9d",

"NetworkInterfaceId": "eni-05805584ce4665365",

"OwnerId": "108891563677",

"PrivateDnsName": "ip-172-31-46-240.ec2.internal",

"PrivateIpAddress": "172.31.46.240",

"PrivateIpAddresses": [

{

"Primary": true,

"PrivateDnsName": "ip-172-31-46-240.ec2.internal",

"PrivateIpAddress": "172.31.46.240"

}

],

"SourceDestCheck": true,

"Status": "in-use",

"SubnetId": "subnet-04cce7fc4e5c6f635",

"VpcId": "vpc-03d0d356fa6969eb5",

"InterfaceType": "interface"

}

],

"RootDeviceName": "/dev/xvda",

"RootDeviceType": "ebs",

"SecurityGroups": [

{

"GroupName": "default",

"GroupId": "sg-0fac82f50b0c4682d"

}

],

"SourceDestCheck": true,

"StateReason": {

"Code": "pending",

"Message": "pending"

},

"Tags": [

{

"Key": "Name",

"Value": "Ec2\_Instance"

}

],

"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": "108891563677",

"ReservationId": "r-0cc00738678b154e6"

}

root@DESKTOP-1RT156R:~# aws ec2 attach-network-interface --network-interface-id eni-09bedc292676e6f60 --instance-id i-05815de563bae41

8b --device-index 1

{

"AttachmentId": "eni-attach-0186794282afa433d",

"NetworkCardIndex": 0

}

**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.

Ans.

root@DESKTOP-1RT156R:~# aws ec2 describe-network-interfaces --network-interface-ids eni-09bedc292676e6f60

{

"NetworkInterfaces": [

{

"Attachment": {

"AttachTime": "2024-01-18T14:27:55.000Z",

"AttachmentId": "eni-attach-0186794282afa433d",

"DeleteOnTermination": false,

"DeviceIndex": 1,

"NetworkCardIndex": 0,

"InstanceId": "i-05815de563bae418b",

"InstanceOwnerId": "108891563677",

"Status": "attached"

},

"AvailabilityZone": "us-east-1a",

"Description": "NIC-01",

"Groups": [

{

"GroupName": "default",

"GroupId": "sg-0fac82f50b0c4682d"

}

],

"InterfaceType": "interface",

"Ipv6Addresses": [],

"MacAddress": "0e:c4:14:9d:2b:69",

"NetworkInterfaceId": "eni-09bedc292676e6f60",

"OwnerId": "108891563677",

"PrivateDnsName": "ip-172-31-36-156.ec2.internal",

"PrivateIpAddress": "172.31.36.156",

"PrivateIpAddresses": [

{

"Primary": true,

"PrivateDnsName": "ip-172-31-36-156.ec2.internal",

"PrivateIpAddress": "172.31.36.156"

}

],

"RequesterManaged": false,

"SourceDestCheck": true,

"Status": "in-use",

"SubnetId": "subnet-04cce7fc4e5c6f635",

"TagSet": [],

"VpcId": "vpc-03d0d356fa6969eb5"

}

]

}

root@DESKTOP-1RT156R:~#

**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.

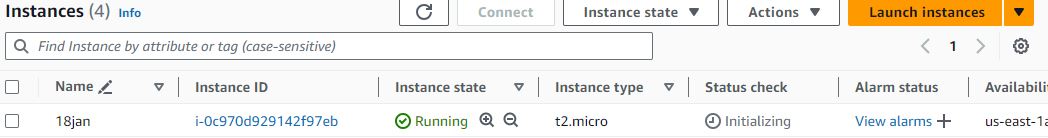
**QUESTION NO: 02**

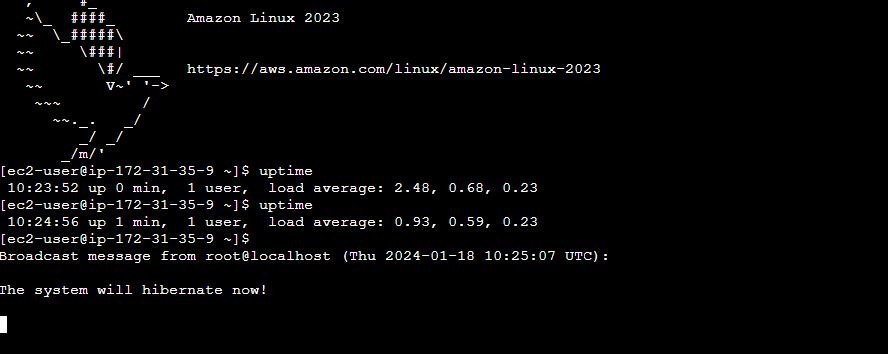
**Hibernate Instance**

**Console:**

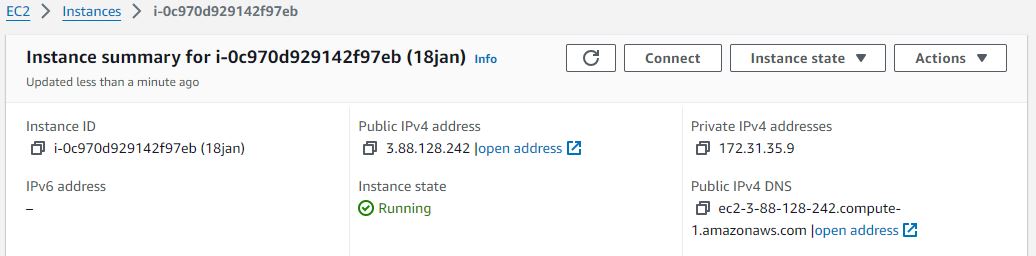
**1. Hibernate EC2 Instance on Console:**  
   - Launch a new EC2 instance using the AWS Management Console.  
   - Access the console to hibernate the running instance.  
   - Confirm the status change to "hibernating."

Ans.



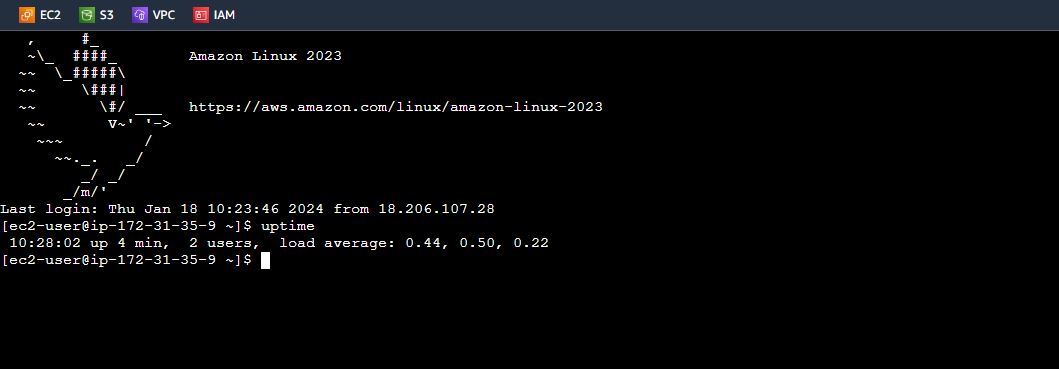


**2. Resume Hibernated EC2 Instance:**  
   - Resume the hibernated instance using the console.  
   - Confirm the instance state changes to "running."  
Ans.



**3. Verify Instance State:**  
   - Check the instance state using the console to ensure successful hibernation and resumption.

Ans.



**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."

 Ans.

root@DESKTOP-1RT156R:~# aws ec2 run-instances --image-id ami-0005e0cfe09cc9050 --instance-type t2.micro --key-name 16-jan --subnet-id subnet-04cce7fc4e5c6f635 --hibernation-options Configured=true --block-device-mappings '[{"DeviceName":"/dev/xvda","Ebs":{"VolumeSize":8,"VolumeType":"gp2","Encrypted":true}}]' --tag-specifications 'ResourceType=instance,Tags=[{Key=Name,Value=18jan-hib}]'

{

"Groups": [],

"Instances": [

{

"AmiLaunchIndex": 0,

"ImageId": "ami-0005e0cfe09cc9050",

"InstanceId": "i-03f273a803b8f811a",

"InstanceType": "t2.micro",

"KeyName": "16-jan",

"LaunchTime": "2024-01-18T11:30:54.000Z",

"Monitoring": {

"State": "disabled"

},

"Placement": {

"AvailabilityZone": "us-east-1a",

"GroupName": "",

"Tenancy": "default"

},

"PrivateDnsName": "ip-172-31-44-2.ec2.internal",

"PrivateIpAddress": "172.31.44.2",

"ProductCodes": [],

"PublicDnsName": "",

"State": {

"Code": 0,

"Name": "pending"

},

"StateTransitionReason": "",

"SubnetId": "subnet-04cce7fc4e5c6f635",

"VpcId": "vpc-03d0d356fa6969eb5",

"Architecture": "x86\_64",

"BlockDeviceMappings": [],

"ClientToken": "f533deea-d403-4be3-810a-3225190acff7",

"EbsOptimized": false,

"EnaSupport": true,

"Hypervisor": "xen",

"NetworkInterfaces": [

{

"Attachment": {

"AttachTime": "2024-01-18T11:30:54.000Z",

"AttachmentId": "eni-attach-087894c798287cbea",

"DeleteOnTermination": true,

"DeviceIndex": 0,

"Status": "attaching",

"NetworkCardIndex": 0

},

"Description": "",

"Groups": [

{

"GroupName": "default",

"GroupId": "sg-0fac82f50b0c4682d"

}

],

"Ipv6Addresses": [],

"MacAddress": "0e:0c:46:05:8f:db",

"NetworkInterfaceId": "eni-0afdd8388d8557ef7",

"OwnerId": "108891563677",

"PrivateDnsName": "ip-172-31-44-2.ec2.internal",

"PrivateIpAddress": "172.31.44.2",

"PrivateIpAddresses": [

{

"Primary": true,

"PrivateDnsName": "ip-172-31-44-2.ec2.internal",

"PrivateIpAddress": "172.31.44.2"

}

],

"SourceDestCheck": true,

"Status": "in-use",

"SubnetId": "subnet-04cce7fc4e5c6f635",

"VpcId": "vpc-03d0d356fa6969eb5",

"InterfaceType": "interface"

}

],

"RootDeviceName": "/dev/xvda",

"RootDeviceType": "ebs",

"SecurityGroups": [

{

"GroupName": "default",

"GroupId": "sg-0fac82f50b0c4682d"

}

],

"SourceDestCheck": true,

"StateReason": {

"Code": "pending",

"Message": "pending"

},

"Tags": [

{

"Key": "Name",

"Value": "18jan-hib"

}

],

"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": "108891563677",

"ReservationId": "r-0d4f7c27f344179b0"

}

root@DESKTOP-1RT156R:~# aws ec2 stop-instances --instance-ids i-03f273a803b8f811a --hibernate

{

"StoppingInstances": [

{

"CurrentState": {

"Code": 64,

"Name": "stopping"

},

"InstanceId": "i-03f273a803b8f811a",

"PreviousState": {

"Code": 16,

"Name": "running"

}

}

]

}

root@DESKTOP-1RT156R:~# aws ec2 stop-instances --instance-ids i-03f273a803b8f811a --hibernate

{

"StoppingInstances": [

{

"CurrentState": {

"Code": 80,

"Name": "stopped"

},

"InstanceId": "i-03f273a803b8f811a",

"PreviousState": {

"Code": 80,

"Name": "stopped"

}

}

]

}

**2. Resume Hibernated EC2 Instance using AWS CLI:**  
   - Use the AWS CLI to resume the hibernated instance.  
   - Confirm the instance state changes to "running."

Ans.

root@DESKTOP-1RT156R:~# aws ec2 start-instances --instance-ids i-03f273a803b8f811a

{

"StartingInstances": [

{

"CurrentState": {

"Code": 0,

"Name": "pending"

},

"InstanceId": "i-03f273a803b8f811a",

"PreviousState": {

"Code": 80,

"Name": "stopped"

}

}

]

}

root@DESKTOP-1RT156R:~# aws ec2 start-instances --instance-ids i-03f273a803b8f811a

{

"StartingInstances": [

{

"CurrentState": {

"Code": 16,

"Name": "running"

},

"InstanceId": "i-03f273a803b8f811a",

"PreviousState": {

"Code": 16,

"Name": "running"

}

}

]

}

**3. Verify Instance State using AWS CLI:**  
   - Use the AWS CLI to check the instance state and ensure successful hibernation and resumption.

Ans.

root@DESKTOP-1RT156R:~# aws ec2 describe-instances --instance-ids i-03f273a803b8f811a --query 'Reservations[\*].Instances[\*].[InstanceId,State.Name]'

[

[

[

"i-03f273a803b8f811a",

"running"

]

]

]

root@DESKTOP-1RT156R:~#

**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.