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

#### **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.

# 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.

# 3. Verify Network Interface Configuration:

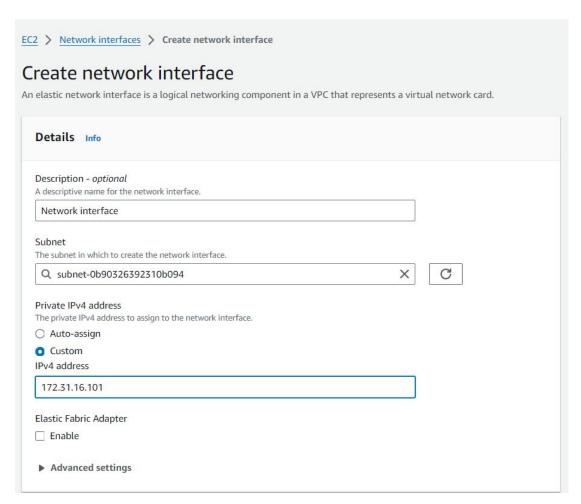
- Access the EC2 instance and verify the network interface configuration.
- Use the console to check the details of the associated NIC.

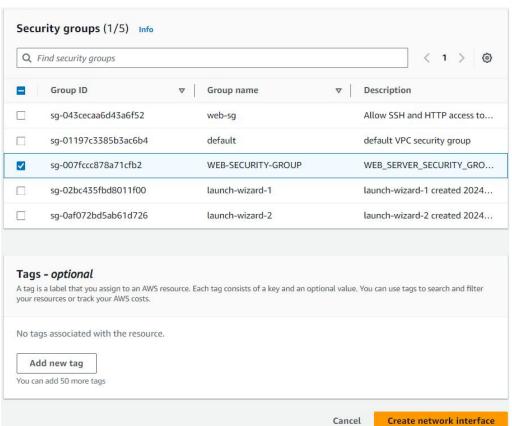
#### 4. Documentation:

- 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.

SOLUTION:-

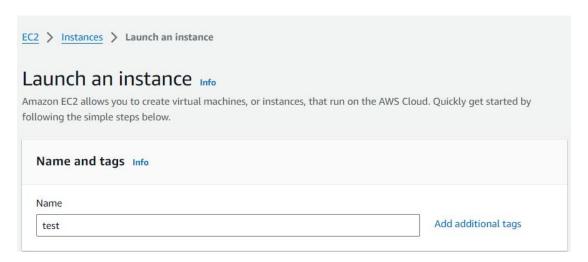
Q1:- 1

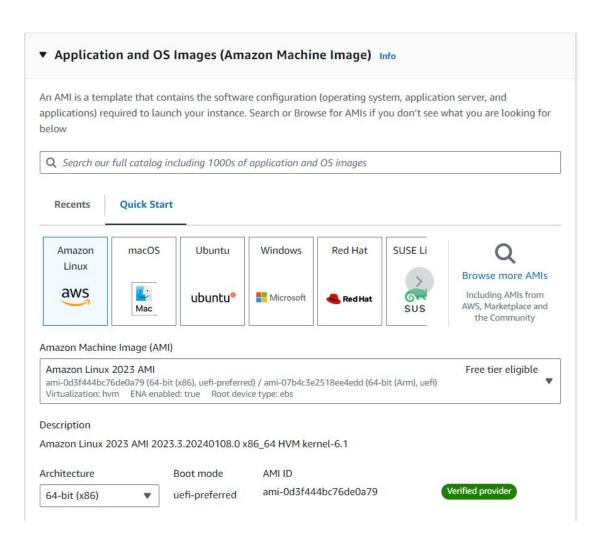


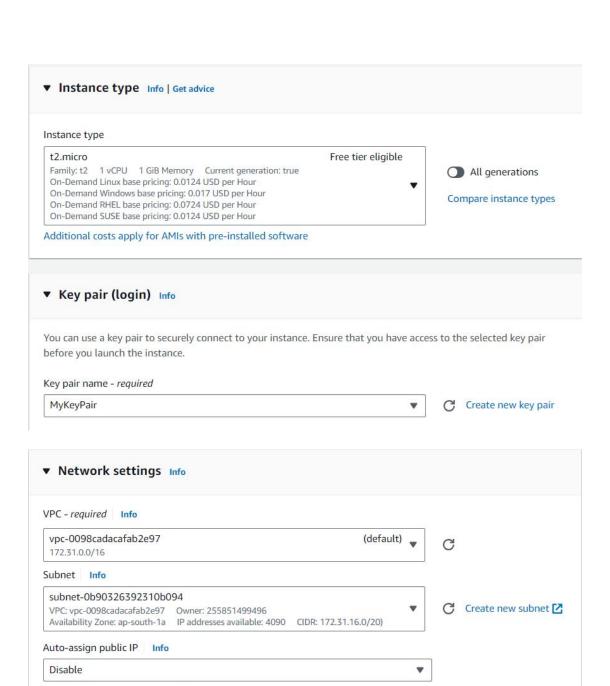




# Q1:- 2







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

Security groups that you add or remove here will be added to or removed from all your network interfaces.

Select existing security group

Compare security

group rules

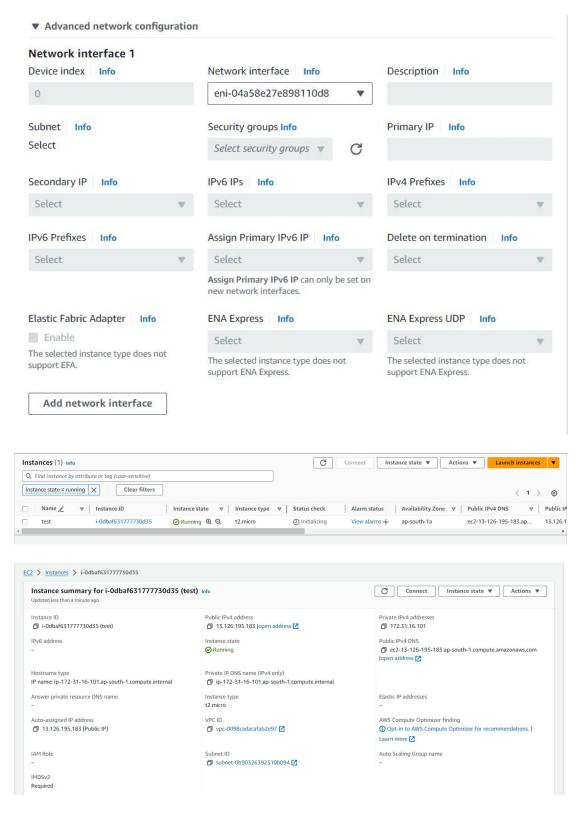
Firewall (security groups) Info

Create security group

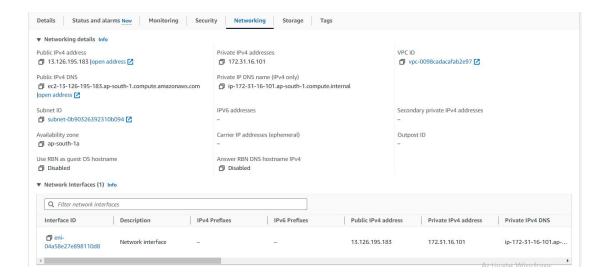
Common security groups Info

Select security groups

instance.



Q1:-3



#### 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.

# 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.

#### 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.

#### 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.

#### **SOLUTION:-**

#### Q1:- 1

root@DESKTOP-VIDGD8F:AWS# aws ec2 create-network-interface --description Network-Interface-Card --groups sg-007fccc878a71cfb2 --subnet-id subnet-0b90326392310b094

```
{
"NetworkInterface": {
```

```
"AvailabilityZone": "ap-south-1a",
"Description": "Network-Interface-Card",
"Groups": [
  {
    "GroupName": "WEB-SECURITY-GROUP",
    "GroupId": "sg-007fccc878a71cfb2"
  }
],
"InterfaceType": "interface",
"Ipv6Addresses": [],
"MacAddress": "02:aa:60:72:93:c3",
"NetworkInterfaceId": "eni-052036103a59e7ed1",
"OwnerId": "255851499496",
"PrivateDnsName": "ip-172-31-22-30.ap-south-1.compute.internal",
"PrivateIpAddress": "172.31.22.30",
"PrivateIpAddresses": [
  {
    "Primary": true,
    "PrivateDnsName": "ip-172-31-22-30.ap-south-1.compute.internal",
    "PrivateIpAddress": "172.31.22.30"
  }
],
"RequesterManaged": false,
"SourceDestCheck": true,
"Status": "pending",
```

```
"SubnetId": "subnet-0b90326392310b094",
    "TagSet": [],
    "VpcId": "vpc-0098cadacafab2e97"
  }
}
Q1:- 2
root@DESKTOP-VIDGD8F:AWS# aws ec2 run-instances --image-id ami-
0d3f444bc76de0a79 --key-name data-key --instance-type t2.micro --security-group-
ids sg-01197c3385b3ac6b4 --associate-public-ip-address --private-ip-address
172.31.16.101 --tag-specifications
'ResourceType=instance,Tags=[{Key=Name,Value=Instance-1}]'
{
  "Groups": [],
  "Instances": [
     {
       "AmiLaunchIndex": 0,
       "ImageId": "ami-0d3f444bc76de0a79",
       "InstanceId": "i-051ed95cccaecf1a5",
       "InstanceType": "t2.micro",
       "KeyName": "data-key",
       "LaunchTime": "2024-01-22T11:22:44.000Z",
       "Monitoring": {
         "State": "disabled"
      },
       "Placement": {
         "AvailabilityZone": "ap-south-la",
         "GroupName": "",
```

```
"Tenancy": "default"
},
"PrivateDnsName": "ip-172-31-16-101.ap-south-1.compute.internal",
"PrivateIpAddress": "172.31.16.101",
"ProductCodes": [],
"PublicDnsName": "",
"State": {
  "Code": 0,
  "Name": "pending"
},
"StateTransitionReason": "",
"SubnetId": "subnet-0b90326392310b094",
"VpcId": "vpc-0098cadacafab2e97",
"Architecture": "x86 64",
"BlockDeviceMappings": [],
"ClientToken": "4ff1c147-a5d2-4393-9a2d-d3ec7ae37fca",
"EbsOptimized": false,
"EnaSupport": true,
"Hypervisor": "xen",
"NetworkInterfaces": [
  {
    "Attachment": {
      "AttachTime": "2024-01-22T11:22:44.000Z",
      "AttachmentId": "eni-attach-0c8f8f712cbc0a11c",
       "DeleteOnTermination": true,
```

```
"Status": "attaching",
              "NetworkCardIndex": 0
           },
           "Description": "",
           "Groups": [
              {
                "GroupName": "default",
                "GroupId": "sg-01197c3385b3ac6b4"
             }
           ],
           "Ipv6Addresses": [],
           "MacAddress": "02:a1:ae:31:00:65",
           "NetworkInterfaceId": "eni-09baed7ed96635f8f",
           "OwnerId": "255851499496",
           "PrivateDnsName": "ip-172-31-16-101.ap-south-1.compute.internal",
           "PrivateIpAddress": "172.31.16.101",
           "PrivateIpAddresses": [
                "Primary": true,
                "PrivateDnsName": "ip-172-31-16-101.ap-south-
1.compute.internal",
                "PrivateIpAddress": "172.31.16.101"
              }
           ],
           "SourceDestCheck": true,
```

"DeviceIndex": 0,

```
"Status": "in-use",
    "SubnetId": "subnet-0b90326392310b094",
    "VpcId": "vpc-0098cadacafab2e97",
    "InterfaceType": "interface"
  }
],
"RootDeviceName": "/dev/xvda",
"RootDeviceType": "ebs",
"SecurityGroups": [
  {
    "GroupName": "default",
    "GroupId": "sg-01197c3385b3ac6b4"
  }
],
"SourceDestCheck": true,
"StateReason": {
  "Code": "pending",
  "Message": "pending"
},
"Tags": [
  {
    "Key": "Name",
    "Value": "Instance-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": "255851499496",
  "ReservationId": "r-05d318d2d14aed57d"
}
root@DESKTOP-VIDGD8F:AWS# aws ec2 attach-network-interface --instance-id i-
051ed95cccaecf1a5 --network-interface-id eni-052036103a59e7ed1 --device-index 1
{
  "AttachmentId": "eni-attach-0b874930bd1b19fb0",
  "NetworkCardIndex": 0
}
Q1:-3
root@DESKTOP-VIDGD8F:AWS# aws ec2 describe-network-interfaces --network-
interface-ids eni-052036103a59e7ed1
{
  "NetworkInterfaces": [
    {
      "Attachment": {
         "AttachTime": "2024-01-22T11:23:42.000Z",
         "AttachmentId": "eni-attach-0b874930bd1b19fb0",
         "DeleteOnTermination": false,
         "DeviceIndex": 1,
         "NetworkCardIndex": 0,
         "InstanceId": "i-051ed95cccaecf1a5",
         "InstanceOwnerId": "255851499496",
         "Status": "attached"
```

```
},
"AvailabilityZone": "ap-south-1a",
"Description": "Network-Interface-Card",
"Groups": [
  {
    "GroupName": "WEB-SECURITY-GROUP",
    "GroupId": "sg-007fccc878a71cfb2"
  }
],
"InterfaceType": "interface",
"Ipv6Addresses": [],
"MacAddress": "02:aa:60:72:93:c3",
"NetworkInterfaceId": "eni-052036103a59e7ed1",
"OwnerId": "255851499496",
"PrivateDnsName": "ip-172-31-22-30.ap-south-1.compute.internal",
"PrivateIpAddress": "172.31.22.30",
"PrivateIpAddresses": [
  {
    "Primary": true,
    "PrivateDnsName": "ip-172-31-22-30.ap-south-1.compute.internal",
    "PrivateIpAddress": "172.31.22.30"
  }
],
"RequesterManaged": false,
"SourceDestCheck": true,
```

```
"Status": "in-use",

"SubnetId": "subnet-0b90326392310b094",

"TagSet": [],

"VpcId": "vpc-0098cadacafab2e97"

}
```

# **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."

# 2. Resume Hibernated EC2 Instance:

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

# 3. Verify Instance State:

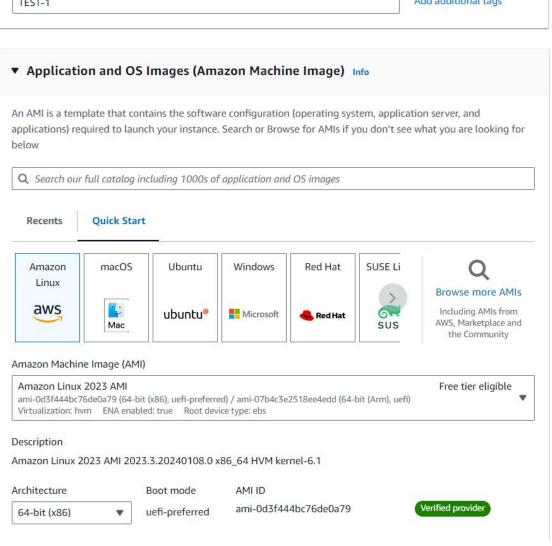
- Check the instance state using the console to ensure successful hibernation and resumption.

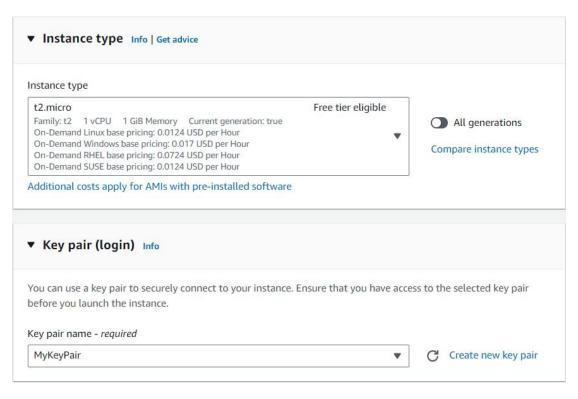
# 4. Documentation:

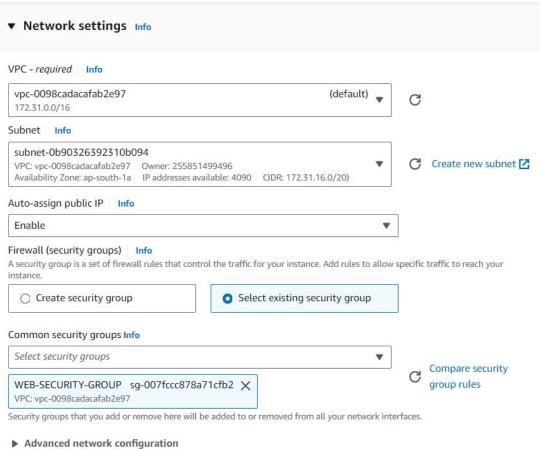
- Provide a step-by-step guide with screenshots for hibernating and resuming an EC2 instance using the console.
  - Include outputs or confirmation messages from the console.

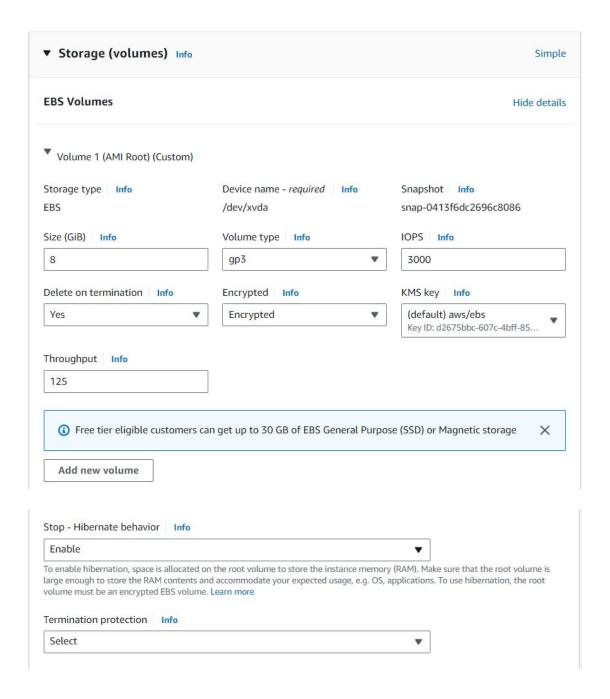
**SOLUTION:-**











# 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."

# 2. Resume Hibernated EC2 Instance using AWS CLI:

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

# 3. Verify Instance State using AWS CLI:

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

#### 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.

#### **SOLUTION:-**

# Q2:- 1

```
root@DESKTOP-VIDGD8F:AWS# aws ec2 run-instances --image-id ami-
0d3f444bc76de0a79 --key-name data-key --instance-type t2.micro --security-group-
ids sg-01197c3385b3ac6b4 --associate-public-ip-address --hibernation-options
Configured=true --block-device-mappings
'[{"DeviceName":"/dev/xvda","Ebs":{"VolumeSize":10,"VolumeType":"gp2","Encry
pted":true}}]' --tag-specifications
'ResourceType=instance,Tags=[{Key=Name,Value=Hibernet Instance}]'
  "Groups": [],
  "Instances": [
       "AmiLaunchIndex": 0,
       "ImageId": "ami-0d3f444bc76de0a79",
       "InstanceId": "i-03202db7f67e32a1c",
       "InstanceType": "t2.micro",
       "KeyName": "data-key",
       "LaunchTime": "2024-01-22T11:27:54.000Z",
       "Monitoring": {
         "State": "disabled"
       "Placement": {
         "AvailabilityZone": "ap-south-1a",
         "GroupName": "",
         "Tenancy": "default"
       "PrivateDnsName": "ip-172-31-17-65.ap-south-1.compute.internal",
       "PrivateIpAddress": "172.31.17.65",
       "ProductCodes": [],
       "PublicDnsName": "",
       "State": {
         "Code": 0,
         "Name": "pending"
       "StateTransitionReason": "",
       "SubnetId": "subnet-0b90326392310b094",
       "VpcId": "vpc-0098cadacafab2e97",
       "Architecture": "x86 64",
```

```
"BlockDeviceMappings": [],
"ClientToken": "bbfbb81b-9551-47ca-98b8-4101928216ed",
"EbsOptimized": false,
"EnaSupport": true,
"Hypervisor": "xen",
"NetworkInterfaces": [
  {
    "Attachment": {
       "AttachTime": "2024-01-22T11:27:54.000Z",
       "AttachmentId": "eni-attach-03e7f7415e87e66d6",
       "DeleteOnTermination": true,
       "DeviceIndex": 0,
       "Status": "attaching",
       "NetworkCardIndex": 0
    "Description": "",
    "Groups": [
         "GroupName": "default",
         "GroupId": "sg-01197c3385b3ac6b4"
    ],
    "Ipv6Addresses": [],
    "MacAddress": "02:cb:ce:96:c4:27",
    "NetworkInterfaceId": "eni-0b8cf26ba901dbdb5",
    "OwnerId": "255851499496",
    "PrivateDnsName": "ip-172-31-17-65.ap-south-1.compute.internal",
    "PrivateIpAddress": "172.31.17.65",
    "PrivateIpAddresses": [
       {
         "Primary": true,
         "PrivateDnsName": "ip-172-31-17-65.ap-south-1.compute.internal",
         "PrivateIpAddress": "172.31.17.65"
       }
    ],
    "SourceDestCheck": true,
    "Status": "in-use",
    "SubnetId": "subnet-0b90326392310b094",
    "VpcId": "vpc-0098cadacafab2e97",
    "InterfaceType": "interface"
  }
"RootDeviceName": "/dev/xvda",
"RootDeviceType": "ebs",
"SecurityGroups": [
    "GroupName": "default",
    "GroupId": "sg-01197c3385b3ac6b4"
],
```

```
"SourceDestCheck": true,
       "StateReason": {
         "Code": "pending",
         "Message": "pending"
       },
       "Tags": [
           "Key": "Name",
           "Value": "Hibernet Instance"
       "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": "255851499496",
  "ReservationId": "r-0b8e69a3603ffede3"
Q2:- 2
root@DESKTOP-VIDGD8F:AWS# aws ec2 stop-instances --instance-ids i-
03202db7f67e32a1c --hibernate
```

```
"StoppingInstances": [
       "CurrentState": {
         "Code": 64,
         "Name": "stopping"
       "InstanceId": "i-03202db7f67e32a1c",
       "PreviousState": {
         "Code": 16,
         "Name": "running"
    }
  ]
}
root@DESKTOP-VIDGD8F:AWS# aws ec2 start-instances --instance-ids i-
03202db7f67e32a1c
  "StartingInstances": [
       "CurrentState": {
         "Code": 0,
         "Name": "pending"
       "InstanceId": "i-03202db7f67e32a1c",
       "PreviousState": {
         "Code": 80,
         "Name": "stopped"
  ]
Q2:- 3
root@DESKTOP-VIDGD8F:AWS# aws ec2 describe-instances --instance-ids i-
03202db7f67e32a1c --query 'Reservations[*].Instances[*].[InstanceId,State.Name]'
[
  "i-03202db7f67e32a1c",
       "running"
  ]
]
```