**AWS Hands-On Assignment 05**

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**QUESTION NO: 01**

**Console:**

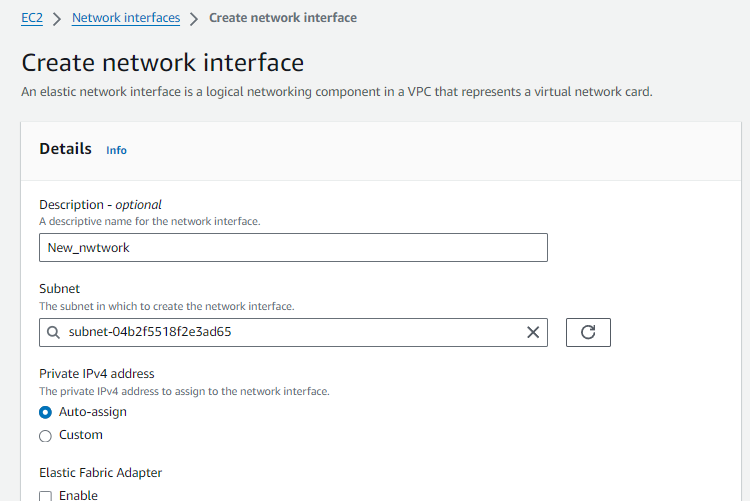
**1. Create Network Interface (NIC) on Console:  
   - Navigate to the AWS Management Console.  
   - Create a new Network Interface (NIC) in a specific VPC and subnet.  
   - Associate the NIC with a security group.  
   - Note down the Private IP address assigned to the NIC.**

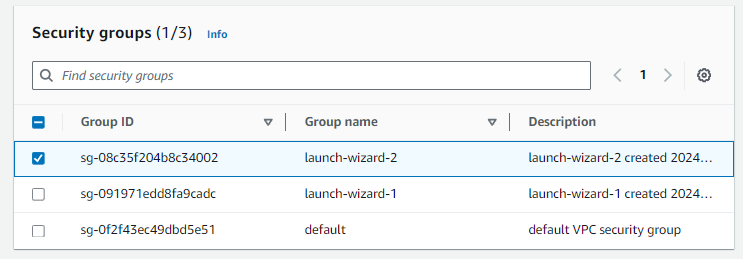
**2. Launch EC2 Instance and Associate NIC:  
   - Launch a new EC2 instance using the AWS Management Console.  
   - During the instance launch, associate the previously created NIC with the instance.  
   - Confirm that the instance has the expected private IP address.**

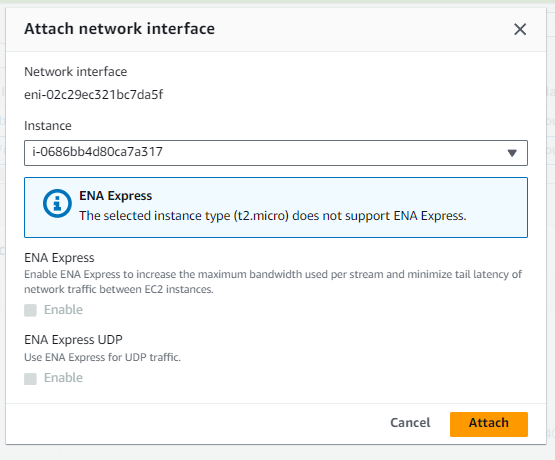
**3. Verify Network Interface Configuration:  
   - Access the EC2 instance and verify the network interface configuration.  
   - Use the console to check the details of the associated NIC.**

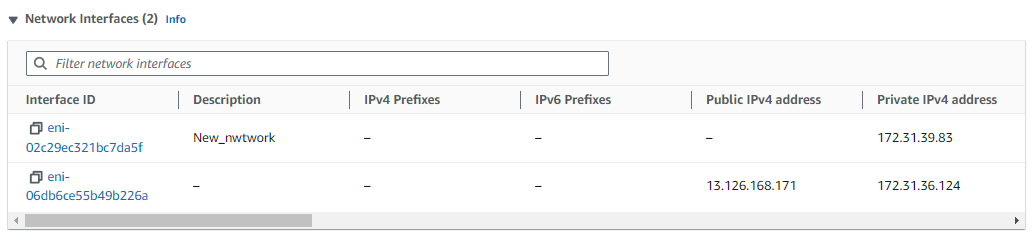
**4. Documentation:  
   - Provide a step-by-step guide with screenshots for creating a NIC, associating it with an EC2 instance, and verifying the configuration.  
   - Include outputs or confirmation messages from the console.**

**Ans:**





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**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.**

**Ans:**

root@DESKTOP-Q1VPUEC:~# aws ec2 create-network-interface --description NIC --groups sg-0f2f43ec49dbd5e51 --subnet-id subnet-04b2f5518f2e3ad65

{

"NetworkInterface": {

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

"Description": "NIC",

"Groups": [

{

"GroupName": "default",

"GroupId": "sg-0f2f43ec49dbd5e51"

}

],

"InterfaceType": "interface",

"Ipv6Addresses": [],

"MacAddress": "02:45:47:3d:69:bd",

"NetworkInterfaceId": "eni-052c076ea10f0481a",

"OwnerId": "842313196830",

"PrivateDnsName": "ip-172-31-43-19.ap-south-1.compute.internal",

"PrivateIpAddress": "172.31.43.19",

"PrivateIpAddresses": [

{

"Primary": true,

"PrivateDnsName": "ip-172-31-43-19.ap-south-1.compute.internal",

"PrivateIpAddress": "172.31.43.19"

}

],

"RequesterId": "AIDA4IHOHMUPAWRRIYEQN",

"RequesterManaged": false,

"SourceDestCheck": true,

"Status": "pending",

"SubnetId": "subnet-04b2f5518f2e3ad65",

"TagSet": [],

"VpcId": "vpc-03c7f996950265179"

}

}

root@DESKTOP-Q1VPUEC:~# aws ec2 attach-network-interface --instance-id i-0686bb4d80ca7a317 --network-interface-id eni-052c076ea10f0481a --device-index 1

{

"AttachmentId": "eni-attach-08abf1573e5be8b10",

"NetworkCardIndex": 0

}

root@DESKTOP-Q1VPUEC:~# aws ec2 describe-network-interfaces --network-interface-ids eni-052c076ea10f0481a

{

"NetworkInterfaces": [

{

"Attachment": {

"AttachTime": "2024-01-18T11:07:44.000Z",

"AttachmentId": "eni-attach-08abf1573e5be8b10",

"DeleteOnTermination": false,

"DeviceIndex": 1,

"NetworkCardIndex": 0,

"InstanceId": "i-0686bb4d80ca7a317",

"InstanceOwnerId": "842313196830",

"Status": "attached"

},

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

"Description": "NIC",

"Groups": [

{

"GroupName": "default",

"GroupId": "sg-0f2f43ec49dbd5e51"

}

],

"InterfaceType": "interface",

"Ipv6Addresses": [],

"MacAddress": "02:45:47:3d:69:bd",

"NetworkInterfaceId": "eni-052c076ea10f0481a",

"OwnerId": "842313196830",

"PrivateDnsName": "ip-172-31-43-19.ap-south-1.compute.internal",

"PrivateIpAddress": "172.31.43.19",

"PrivateIpAddresses": [

{

"Primary": true,

"PrivateDnsName": "ip-172-31-43-19.ap-south-1.compute.internal",

"PrivateIpAddress": "172.31.43.19"

}

],

"RequesterId": "AIDA4IHOHMUPAWRRIYEQN",

"RequesterManaged": false,

"SourceDestCheck": true,

"Status": "in-use",

"SubnetId": "subnet-04b2f5518f2e3ad65",

"TagSet": [],

"VpcId": "vpc-03c7f996950265179"

}

]

}

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**QUESTION NO: 02**

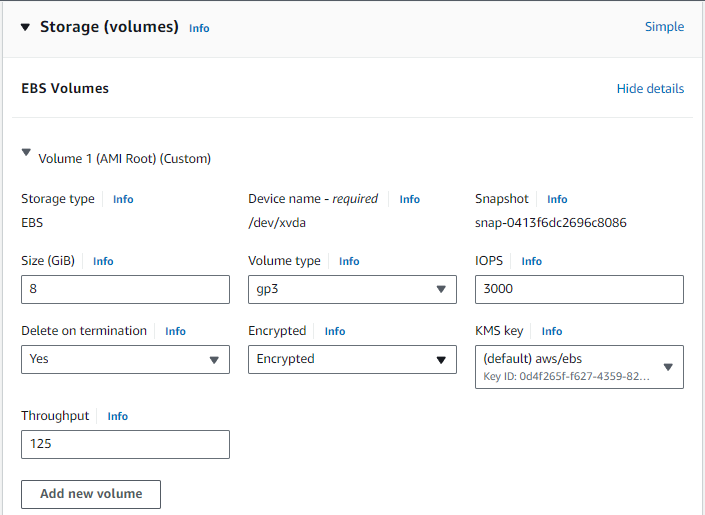
**Console:**

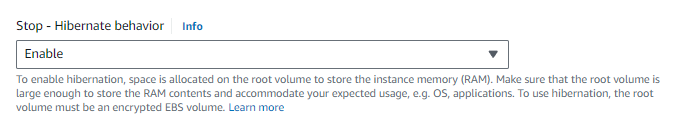
**1. Hibernate EC2 Instance on Console:  
   - Launch a new EC2 instance using the AWS Management Console.  
   - Access the console to hibernate the running instance.  
   - Confirm the status change to "hibernating."**

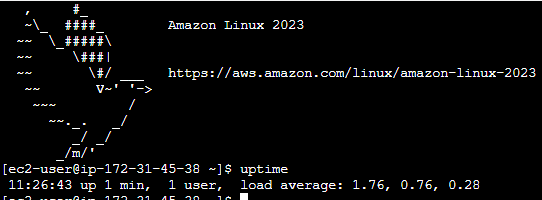
**2. Resume Hibernated EC2 Instance:  
   - Resume the hibernated instance using the console.  
   - Confirm the instance state changes to "running."  
  
3. Verify Instance State:  
   - Check the instance state using the console to ensure successful hibernation and resumption.**

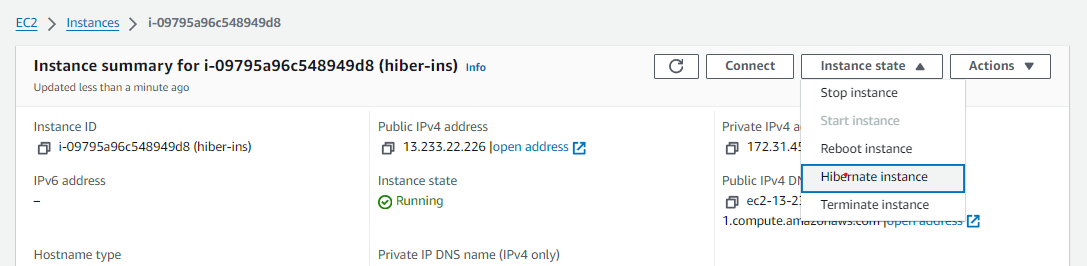
**4. Documentation:  
   - Provide a step-by-step guide with screenshots for hibernating and resuming an EC2 instance using the console.  
   - Include outputs or confirmation messages from the console.**

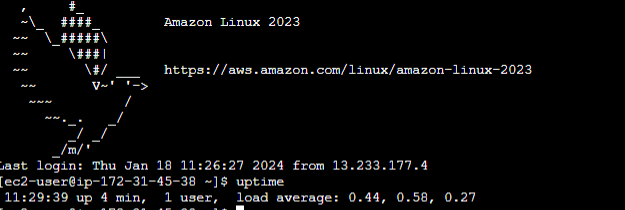
**Ans:**

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**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.**

**Ans:**

root@DESKTOP-Q1VPUEC:~# aws ec2 run-instances --image-id ami-0005e0cfe09cc9050 --instance-type t2.micro --key-name newkey --subnet-id subnet-091bb33c91a6992c8 --hibernation-options Configured=true --block-device-mappings '[{"DeviceName":"/dev/xvda","Ebs":{"VolumeSize":30,"VolumeType":"gp2","Encrypted":true}}]' --tag-specifications 'ResourceType=instance,Tags=[{Key=Name,Value=MY-HIBERNATE-INSTANCE}]'

{

"Groups": [],

"Instances": [

{

"AmiLaunchIndex": 0,

"ImageId": "ami-0005e0cfe09cc9050",

"InstanceId": "i-041525e86343e0476",

"InstanceType": "t2.micro",

"KeyName": "newkey",

"LaunchTime": "2024-01-18T11:52:55.000Z",

"Monitoring": {

"State": "disabled"

},

"Placement": {

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

"GroupName": "",

"Tenancy": "default"

},

"PrivateDnsName": "ip-172-31-38-35.ec2.internal",

"PrivateIpAddress": "172.31.38.35",

"ProductCodes": [],

"PublicDnsName": "",

"State": {

"Code": 0,

"Name": "pending"

},

"StateTransitionReason": "",

"SubnetId": "subnet-091bb33c91a6992c8",

"VpcId": "vpc-0e40e229396d8047f",

"Architecture": "x86\_64",

"BlockDeviceMappings": [],

"ClientToken": "0b540773-cdc4-4fe0-9678-8a2dd79e3b84",

"EbsOptimized": false,

"EnaSupport": true,

"Hypervisor": "xen",

"NetworkInterfaces": [

{

"Attachment": {

"AttachTime": "2024-01-18T11:52:55.000Z",

"AttachmentId": "eni-attach-07f080ecf55f495ae",

"DeleteOnTermination": true,

"DeviceIndex": 0,

"Status": "attaching",

"NetworkCardIndex": 0

},

"Description": "",

"Groups": [

{

"GroupName": "default",

"GroupId": "sg-0cc769aee28fac070"

}

],

"Ipv6Addresses": [],

"MacAddress": "0e:40:24:23:0e:e3",

"NetworkInterfaceId": "eni-076a48f9230990173",

"OwnerId": "842313196830",

"PrivateDnsName": "ip-172-31-38-35.ec2.internal",

"PrivateIpAddress": "172.31.38.35",

"PrivateIpAddresses": [

{

"Primary": true,

"PrivateDnsName": "ip-172-31-38-35.ec2.internal",

"PrivateIpAddress": "172.31.38.35"

}

],

"SourceDestCheck": true,

"Status": "in-use",

"SubnetId": "subnet-091bb33c91a6992c8",

"VpcId": "vpc-0e40e229396d8047f",

"InterfaceType": "interface"

}

],

"RootDeviceName": "/dev/xvda",

"RootDeviceType": "ebs",

"SecurityGroups": [

{

"GroupName": "default",

"GroupId": "sg-0cc769aee28fac070"

}

],

"SourceDestCheck": true,

"StateReason": {

"Code": "pending",

"Message": "pending"

},

"Tags": [

{

"Key": "Name",

"Value": "MY-HIBERNATE-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": "842313196830",

"ReservationId": "r-0df7008740509aee3"

}

root@DESKTOP-Q1VPUEC:~# aws ec2 stop-instances --instance-ids i-041525e86343e0476 --hibernate

{

"StoppingInstances": [

{

"CurrentState": {

"Code": 64,

"Name": "stopping"

},

"InstanceId": "i-041525e86343e0476",

"PreviousState": {

"Code": 16,

"Name": "running"

}

}

]

}

root@DESKTOP-Q1VPUEC:~# aws ec2 start-instances --instance-ids i-041525e86343e0476

{

"StartingInstances": [

{

"CurrentState": {

"Code": 0,

"Name": "pending"

},

"InstanceId": "i-041525e86343e0476",

"PreviousState": {

"Code": 80,

"Name": "stopped"

}

}

]

}

root@DESKTOP-Q1VPUEC:~# aws ec2 describe-instances --instance-ids i-041525e86343e0476 --query 'Reservations[\*].Instances[\*].[InstanceId,State.Name]'

[

[

[

"i-041525e86343e0476",

"running"

]

]

]

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