

How to preserve primary ENI (eth0) on AWS EC2 instances

Have you been in a situation where an instance associated with MAC/IP address is terminated but you needed to preserve the address beyond instance lifecycle? For instance, applications licenced by MAC/IP address or static routes/firewall port openings.

HeleCloud reveals its approach to preserve primary ENI on Amazon EC2 using AWS Console in few simple steps.

1. Create a new EC2 instance with one new ENI (eth0). The network interface option is available when subnet is specified. The instance is named EC2_Instance1.

Step 3: Configure Instance Details

Number of Instances [Launch into Auto Scaling Group](#)

Purchasing option ☐ Request Spot instances

Network [Create new VPC](#)

Subnet [Create new subnet](#)
4091 IP Addresses available

Auto-assign Public IP

Placement group ☐ Add instance to placement group.

IAM role [Create new IAM role](#)

Shutdown behavior

Enable termination protection ☐ Protect against accidental termination

Monitoring ☐ Enable CloudWatch detailed monitoring
[Additional charges apply.](#)

Tenancy [Additional charges will apply for dedicated tenancy.](#)

T2 Unlimited ☐ Enable
[Additional charges may apply](#)

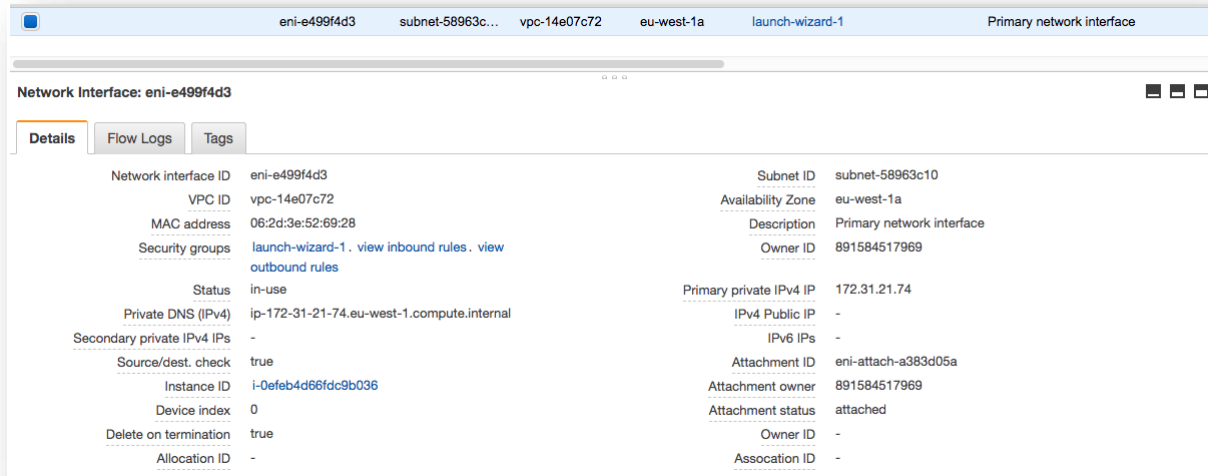
Network interfaces

Device	Network Interface	Subnet	Primary IP	Secondary IP addresses	IPv6 IPs
eth0	<input type="text" value="New network interface"/>	<input type="text" value="subnet-58963c10"/>	<input type="text" value="Auto-assign"/>	Add IP	Add IP

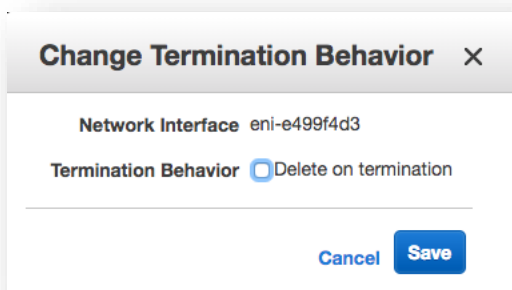
2. When created, the instance gets IP automatically assigned: 172.31.21.74.

EC2_Instance1	i-0efeb4d66fdc9b036	t2.micro	eu-west-1a	running	Initializing	None
Instance: i-0efeb4d66fdc9b036 (EC2_Instance1) Private IP: 172.31.21.74						

- The ENI created for the instance is visible with status attached in the Network Interfaces section of EC2 console.



- Change the termination behaviour, so the ENI is protected against instance termination.



- The EC2_Instance1 is terminated and its primary interface remains available with clear Attachment status.

Name	Schedule	Instance ID	Instance Type	Availability Zone	Instance State
EC2_Instance1		i-0efeb4d66fdc9b036	t2.micro	eu-west-1a	terminated

eni-e499f4d3 subnet-58963c... vpc-14e07c72 eu-west-1a launch-wizard-1			
Network Interface: eni-e499f4d3			
Details Flow Logs Tags			
Network interface ID	eni-e499f4d3	Subnet ID	subnet-58963c10
VPC ID	vpc-14e07c72	Availability Zone	eu-west-1a
MAC address	06:2d:3e:52:69:28	Description	Primary network interface
Security groups	launch-wizard-1 . view inbound rules . view outbound rules	Owner ID	891584517969
Status	available	Primary private IPv4 IP	172.31.21.74
Private DNS (IPv4)	ip-172-31-21-74.eu-west-1.compute.internal	IPv4 Public IP	-
Secondary private IPv4 IPs	-	IPv6 IPs	-
Source/dest. check	true	Attachment ID	-
Instance ID	-	Attachment owner	-
Device index	-	Attachment status	-
Delete on termination	-	Owner ID	-
Allocation ID	-	Association ID	-

6. The ENI is available for assignment to instances provisioned into the same subnet.

Step 3: Configure Instance Details

more.

Number of instances ⓘ 1 Launch into Auto Scaling Group ⓘ

Purchasing option ⓘ ☐ Request Spot instances

Network ⓘ vpc-14e07c72 (default) ⚙ Create new VPC

Subnet ⓘ subnet-58963c10 | Default in eu-west-1a ⚙ Create new subnet
4090 IP Addresses available

Auto-assign Public IP ⓘ Disable

Placement group ⓘ ☐ Add instance to placement group.

IAM role ⓘ None ⚙ Create new IAM role

Shutdown behavior ⓘ Stop

Enable termination protection ⓘ ☐ Protect against accidental termination

Monitoring ⓘ ☐ Enable CloudWatch detailed monitoring
Additional charges apply.

Tenancy ⓘ Shared - Run a shared hardware instance
Additional charges will apply for dedicated tenancy.

T2 Unlimited ⓘ ☐ Enable
Additional charges may apply

▼ Network interfaces ⓘ

Device	Network Interface	Subnet	Primary IP	Secondary IP addresses
eth0	eni-e499f4d3 eu-west-1a	subnet-58963c10	Auto-assign	

7. The newly provisioned EC2 instance named EC2_Instance2 has the same IP

addresses as the one terminated: 172.31.21.74.

EC2_Instance2		i-0e58eaf21e69bad97	t2.micro	eu-west-1a	running	Initializing	None
EC2_Instance1		i-0af5b1d468f4c9b038	t2.micro	eu-west-1a	terminated		None
Instance: i-0e58eaf21e69bad97 (EC2_Instance2)		Private IP: 172.31.21.74					
<div>DescriptionStatus ChecksMonitoringTags</div>							
Instance ID	i-0e58eaf21e69bad97			Public DNS (IPv4)	-		
Instance state	running			IPv4 Public IP	-		
Instance type	t2.micro			IPv6 IPs	-		
Elastic IPs				Private DNS	ip-172-31-21-74.eu-west-1.compute.internal		
Availability zone	eu-west-1a (2)			Private IPs	172.31.21.74		
Security groups	launch-wizard-1 · view inbound rules · view outbound rules			Secondary private IPs			
Scheduled events	No scheduled events			VPC ID	vpc-14e07c72		
AMI ID	amzn2-ami-hvm-2.0.20180622.1-x86_64-gp2 (ami-466768ac)			Subnet ID	subnet-58963c10		
Platform	-			Network interfaces	eth0		
IAM role	-			Source/dest. check	True		
Key pair name	-			T2 Unlimited	Disabled		
				Owner	891584517969		