

EKS ENVIRONMENT

- **Prerequisites**

- Linux distribution (CentOS 9 in this case)
- AWS CLI installed
- EKSCTL installed
- helm installed
- Root account in AWS platform

- **Setting up the AWS EKS environment**

- Setting up the connection with AWS console executing the next command:

aws configure

```
[luis@vbox ~]$ aws configure
AWS Access Key ID [*****FN4L]: 
AWS Secret Access Key [*****Bxtg]: 
Default region name [us-east-1]: 
Default output format [json]:
```

- Creating a EKS cluster with the next command:

eksctl create cluster --name environment1eks --region us-east-1 --fargate

```
[luis@vbox ~]$ eksctl create cluster --name environment1eks --region us-east-1 --fargate
2025-04-24 13:40:36 [i] eksctl version 0.207.0
2025-04-24 13:40:36 [i] using region us-east-1
2025-04-24 13:40:37 [i] setting availability zones to [us-east-1f us-east-1d]
2025-04-24 13:40:37 [i] subnets for us-east-1f - public:192.168.0.0/19 private:192.168.64.0/19
2025-04-24 13:40:37 [i] subnets for us-east-1d - public:192.168.32.0/19 private:192.168.96.0/19
2025-04-24 13:40:37 [i] using Kubernetes version 1.32
2025-04-24 13:40:37 [i] creating EKS cluster "environment1eks" in "us-east-1" region with Fargate profile
2025-04-24 13:40:37 [i] if you encounter any issues, check CloudFormation console or try 'eksctl utils describe-stacks --region=us-east-1 --cluster=environment1eks'
2025-04-24 13:40:37 [i] Kubernetes API endpoint access will use default of {publicAccess=true, privateAccess=false} for cluster "environment1eks" in "us-east-1"
2025-04-24 13:40:37 [i] CloudWatch logging will not be enabled for cluster "environment1eks" in "us-east-1"
2025-04-24 13:40:37 [i] you can enable it with 'eksctl utils update-cluster-logging --enable-types={SPECIFY-YOUR-LOG-TYPES-HERE (e.g. all)} --region=us-east-1 --cluster=environment1eks'
2025-04-24 13:40:37 [i] default add-ons kube-proxy, coredns, metrics-server, vpc-cni were not specified, will install them as EKS add-ons
2025-04-24 13:40:37 [i]
2 sequential tasks: { create cluster control plane "environment1eks",
  3 sequential sub-tasks: {
    1 task: { create add-ons },
    wait for control plane to become ready,
    create fargate profiles,
  }
}
2025-04-24 13:40:37 [i] building cluster stack "eksctl-environment1eks-cluster"
2025-04-24 13:40:38 [i] deploying stack "eksctl-environment1eks-cluster"
2025-04-24 13:41:08 [i] waiting for CloudFormation stack "eksctl-environment1eks-cluster"
2025-04-24 13:41:38 [i] waiting for CloudFormation stack "eksctl-environment1eks-cluster"
2025-04-24 13:42:39 [i] waiting for CloudFormation stack "eksctl-environment1eks-cluster"
2025-04-24 13:43:40 [i] waiting for CloudFormation stack "eksctl-environment1eks-cluster"
2025-04-24 13:44:40 [i] waiting for CloudFormation stack "eksctl-environment1eks-cluster"
2025-04-24 13:45:41 [i] waiting for CloudFormation stack "eksctl-environment1eks-cluster"
```

```

2025-04-24 13:46:41 [i] waiting for CloudFormation stack "eksctl-environmentleeks-cluster"
2025-04-24 13:47:42 [i] waiting for CloudFormation stack "eksctl-environmentleeks-cluster"
2025-04-24 13:48:42 [i] waiting for CloudFormation stack "eksctl-environmentleeks-cluster"
2025-04-24 13:48:44 [i] creating addon: kube-proxy
2025-04-24 13:48:45 [i] successfully created addon: kube-proxy
2025-04-24 13:48:45 [i] creating addon: coredns
2025-04-24 13:48:46 [i] successfully created addon: coredns
2025-04-24 13:48:46 [i] creating addon: metrics-server
2025-04-24 13:48:47 [i] successfully created addon: metrics-server
2025-04-24 13:48:47 [!] recommended policies were found for "vpc-cni" addon, but since OIDC is disabled on the cluster, eksctl
cannot configure the requested permissions; the recommended way to provide IAM permissions for "vpc-cni" addon is via pod id
entity associations; after addon creation is completed, add all recommended policies to the config file, under 'addon.PodIdent
ityAssociations', and run 'eksctl update addon'
2025-04-24 13:48:47 [i] creating addon: vpc-cni
2025-04-24 13:48:48 [i] successfully created addon: vpc-cni
2025-04-24 13:50:50 [i] creating Fargate profile "fp-default" on EKS cluster "environmentleeks"
2025-04-24 13:53:01 [i] created Fargate profile "fp-default" on EKS cluster "environmentleeks"
2025-04-24 13:53:31 [i] "coredns" is now schedulable onto Fargate
2025-04-24 13:54:36 [i] "coredns" is now scheduled onto Fargate
2025-04-24 13:54:36 [i] "coredns" pods are now scheduled onto Fargate
2025-04-24 13:54:36 [i] waiting for the control plane to become ready
2025-04-24 13:54:38 [✓] saved kubeconfig as "/home/luis/.kube/config"
2025-04-24 13:54:38 [i] no tasks
2025-04-24 13:54:38 [✓] all EKS cluster resources for "environmentleeks" have been created
2025-04-24 13:54:42 [i] kubectl command should work with "/home/luis/.kube/config", try 'kubectl get nodes'
2025-04-24 13:54:42 [✓] EKS cluster "environmentleeks" in "us-east-1" region is ready

```

This command will trigger the creation of service roles, public subnet, and private subnet. In the private subnet we will place the application.

- Checking the AWS console we can see the EKS cluster created

The screenshot shows the AWS Management Console interface for the Amazon Elastic Kubernetes Service (EKS). The main heading is "Clusters (1) Info". Below this, there is a table listing the clusters. The table has columns for Cluster name, Status, Kubernetes version, Support period, and Upgrade policy. One cluster is listed: "environment1eks" with a status of "Active", Kubernetes version "1.32", and support until "March 20, 2026". The left sidebar contains navigation links for "Settings", "Amazon EKS Anywhere", and "Related services".

Cluster name	Status	Kubernetes version	Support period	Upgrade policy
environment1eks	Active	1.32	Standard support until March 20, 2026	Extended

The screenshot shows the Amazon Elastic Kubernetes Service (EKS) console for the cluster 'environment1eks'. The left sidebar contains navigation links for Clusters, Settings, Amazon EKS Anywhere, and Related services. The main content area is divided into two sections. The top section, 'Workloads: Pods (4)', shows a list of pods with columns for Name and Created. The bottom section, 'Cluster info', displays the cluster's status as 'Active', Kubernetes version as '1.32', and support period until March 20, 2026. Below this, the 'Nodes (2)' section shows two Fargate nodes, both with a status of 'Ready'.

- Downloading the kubeconfig file with the next command:

```
aws eks update-kubeconfig --name environment1eks --region us-east-1
```

```
[luis@vbox ~]$ aws eks update-kubeconfig --name environment1eks --region us-east-1
Added new context arn:aws:eks:us-east-1:390402579510:cluster/environment1eks to /home/luis/.kube/config
[luis@vbox ~]$
```

- Creating a fargate profile with the next command:

```
eksctl create fargateprofile \
  --cluster demo-cluster \
  --region us-east-1 \
  --name alb-sample-app \
  --namespace game-2048
```

```
[luis@vbox ~]$ eksctl create fargateprofile \
  --cluster environment1eks \
  --region us-east-1 \
  --name alb-sample-app \
  --namespace game-2048
2025-04-24 16:17:51 [i] creating Fargate profile "alb-sample-app" on EKS cluster "environment1eks"
2025-04-24 16:18:25 [i] created Fargate profile "alb-sample-app" on EKS cluster "environment1eks"
[luis@vbox ~]$
```

Checking in the AWS console

The screenshot shows the AWS Management Console for the Amazon Elastic Kubernetes Service (EKS) console. The left sidebar contains navigation options: Settings, Amazon EKS Anywhere, and Related services. The main content area displays the 'environment1eks' cluster details. Under 'Node groups', it states 'No node groups' and provides a link to 'Add node group'. Below this, the 'Fargate profiles (2)' section is visible, showing a table with the following data:

Profile name	Namespaces	Status
alb-sample-app	game-2048	Active
fp-default	default, kube-system	Active

A red arrow points to the 'game-2048' namespace in the first row of the table.

- Deploying the application from repository with the next command:
`kubectl apply -f https://raw.githubusercontent.com/kubernetes-sigs/aws-load-balancer-controller/v2.5.4/docs/examples/2048/2048_full.yaml`

Here is the content of the deployment yaml file (2048_full.yaml)

```
---
apiVersion: v1
kind: Namespace
metadata:
  name: game-2048
---
apiVersion: apps/v1
kind: Deployment
metadata:
  namespace: game-2048
  name: deployment-2048
spec:
  selector:
    matchLabels:
      app.kubernetes.io/name: app-2048
  replicas: 5
  template:
    metadata:
      labels:
        app.kubernetes.io/name: app-2048
    spec:
      containers:
        - image: public.ecr.aws/l6m2t8p7/docker-2048:latest
          imagePullPolicy: Always
          name: app-2048
          ports:
            - containerPort: 80
```

```

---
apiVersion: v1
kind: Service
metadata:
  namespace: game-2048
  name: service-2048
spec:
  ports:
    - port: 80
      targetPort: 80
      protocol: TCP
  type: NodePort
  selector:
    app.kubernetes.io/name: app-2048
---
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  namespace: game-2048
  name: ingress-2048
  annotations:
    alb.ingress.kubernetes.io/scheme: internet-facing
    alb.ingress.kubernetes.io/target-type: ip
spec:
  ingressClassName: alb
  rules:
    - http:
        paths:
          - path: /
            pathType: Prefix
            backend:
              service:
                name: service-2048
                port:
                  number: 80

```

This is the output

```

[luis@vbox ~]$ kubectl apply -f https://raw.githubusercontent.com/kubernetes-sigs/aws-load-balancer-controller/v2.5.4/docs/examples/2048/2048_full.yaml
namespace/game-2048 created
deployment.apps/deployment-2048 created
service/service-2048 created
ingress.networking.k8s.io/ingress-2048 created
[luis@vbox ~]$

```

Checking the pods status with:

kubectl get pods -n game-2048

```

[luis@vbox ~]$ kubectl get pods -n game-2048

```

NAME	READY	STATUS	RESTARTS	AGE
deployment-2048-bdbddc878-27xhf	1/1	Running	0	67s
deployment-2048-bdbddc878-2b77h	1/1	Running	0	67s
deployment-2048-bdbddc878-cw8wm	1/1	Running	0	67s
deployment-2048-bdbddc878-h7jbr	1/1	Running	0	67s
deployment-2048-bdbddc878-tzxx9	1/1	Running	0	67s

```

[luis@vbox ~]$

```

Checking the service with:

kubectl get svc -n game-2048

```
[luis@vbox ~]$ kubectl get svc -n game-2048
```

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
service-2048	NodePort	10.100.154.41	<none>	80:32048/TCP	2m25s

Checking the ingress created with:

kubectl get ingress -n game-2048

```
[luis@vbox ~]$ kubectl get ingress -n game-2048
```

NAME	CLASS	HOSTS	ADDRESS	PORTS	AGE
ingress-2048	alb	*		80	4m33s

- Creating an ingress controller to get the proper access, with the next command:

eksctl utils associate-iam-oidc-provider --cluster environment1eks --approve

```
[luis@vbox ~]$ eksctl utils associate-iam-oidc-provider --cluster environment1eks --approve
2025-04-24 16:43:45 [i] will create IAM Open ID Connect provider for cluster "environment1eks" in "us-east-1"
2025-04-24 16:43:46 [✓] created IAM Open ID Connect provider for cluster "environment1eks" in "us-east-1"
[luis@vbox ~]$
```

- Downloading IAM policy

curl -O https://raw.githubusercontent.com/kubernetes-sigs/aws-load-balancer-controller/v2.11.0/docs/install/iam_policy.json

iam_policy.json content here:

```

{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "iam:CreateServiceLinkedRole"
      ],
      "Resource": "*",
      "Condition": {
        "StringEquals": {
          "iam:AWSServiceName": "elasticloadbalancing.amazonaws.com"
        }
      }
    },
    {
      "Effect": "Allow",
      "Action": [
        "ec2:DescribeAccountAttributes",
        "ec2:DescribeAddresses",
        "ec2:DescribeAvailabilityZones",
        "ec2:DescribeInternetGateways",
        "ec2:DescribeVpcs",
        "ec2:DescribeVpcPeeringConnections",
        "ec2:DescribeSubnets",
        "ec2:DescribeSecurityGroups",
        "ec2:DescribeInstances",
        "ec2:DescribeNetworkInterfaces",
        "ec2:DescribeTags",
        "ec2:GetCoipPoolUsage",
        "ec2:DescribeCoipPools",
        "ec2:GetSecurityGroupsForVpc",
        "elasticloadbalancing:DescribeLoadBalancers",
        "elasticloadbalancing:DescribeLoadBalancerAttributes",
        "elasticloadbalancing:DescribeListeners",
        "elasticloadbalancing:DescribeListenerCertificates",
        "elasticloadbalancing:DescribeSSLPolicies",
        "elasticloadbalancing:DescribeRules",
        "elasticloadbalancing:DescribeTargetGroups",
        "elasticloadbalancing:DescribeTargetGroupAttributes",
        "elasticloadbalancing:DescribeTargetHealth",
        "elasticloadbalancing:DescribeTags",
        "elasticloadbalancing:DescribeTrustStores",
        "elasticloadbalancing:DescribeListenerAttributes",
        "elasticloadbalancing:DescribeCapacityReservation"
      ],
    },
  ],
}

```



```

    "Resource": "*"
  },
  {
    "Effect": "Allow",
    "Action": [
      "cognito-idp:DescribeUserPoolClient",
      "acm:ListCertificates",
      "acm:DescribeCertificate",
      "iam:ListServerCertificates",
      "iam:GetServerCertificate",
      "waf-regional:GetWebACL",
      "waf-regional:GetWebACLForResource",
      "waf-regional:AssociateWebACL",
      "waf-regional:DisassociateWebACL",
      "wafv2:GetWebACL",
      "wafv2:GetWebACLForResource",
      "wafv2:AssociateWebACL",
      "wafv2:DisassociateWebACL",
      "shield:GetSubscriptionState",
      "shield:DescribeProtection",
      "shield:CreateProtection",
      "shield>DeleteProtection"
    ],
    "Resource": "*"
  },
  {
    "Effect": "Allow",
    "Action": [
      "ec2:AuthorizeSecurityGroupIngress",
      "ec2:RevokeSecurityGroupIngress"
    ],
    "Resource": "*"
  },
  {
    "Effect": "Allow",
    "Action": [
      "ec2:CreateSecurityGroup"
    ],
    "Resource": "*"
  },
  {
    "Effect": "Allow",
    "Action": [
      "ec2:CreateTags"
    ],
    "Resource": "arn:aws:ec2:*:*:security-group/*",
    "Condition": {
      "StringEquals": {

```

```

        "ec2:CreateAction": "CreateSecurityGroup"
    },
    "Null": {
        "aws:RequestTag/elbv2.k8s.aws/cluster": "false"
    }
},
{
    "Effect": "Allow",
    "Action": [
        "ec2:CreateTags",
        "ec2:DeleteTags"
    ],
    "Resource": "arn:aws:ec2:*:*:security-group/*",
    "Condition": {
        "Null": {
            "aws:RequestTag/elbv2.k8s.aws/cluster": "true",
            "aws:ResourceTag/elbv2.k8s.aws/cluster": "false"
        }
    }
},
{
    "Effect": "Allow",
    "Action": [
        "ec2:AuthorizeSecurityGroupIngress",
        "ec2:RevokeSecurityGroupIngress",
        "ec2:DeleteSecurityGroup"
    ],
    "Resource": "*",
    "Condition": {
        "Null": {
            "aws:ResourceTag/elbv2.k8s.aws/cluster": "false"
        }
    }
},
{
    "Effect": "Allow",
    "Action": [
        "elasticloadbalancing:CreateLoadBalancer",
        "elasticloadbalancing:CreateTargetGroup"
    ],
    "Resource": "*",
    "Condition": {
        "Null": {
            "aws:RequestTag/elbv2.k8s.aws/cluster": "false"
        }
    }
}
}

```

```

    },
    {
      "Effect": "Allow",
      "Action": [
        "elasticloadbalancing:CreateListener",
        "elasticloadbalancing:DeleteListener",
        "elasticloadbalancing>CreateRule",
        "elasticloadbalancing>DeleteRule"
      ],
      "Resource": "*"
    },
    {
      "Effect": "Allow",
      "Action": [
        "elasticloadbalancing:AddTags",
        "elasticloadbalancing:RemoveTags"
      ],
      "Resource": [
        "arn:aws:elasticloadbalancing:*:*:targetgroup/*/*",
        "arn:aws:elasticloadbalancing:*:*:loadbalancer/net/*/*",
        "arn:aws:elasticloadbalancing:*:*:loadbalancer/app/*/*"
      ],
      "Condition": {
        "Null": {
          "aws:RequestTag/elbv2.k8s.aws/cluster": "true",
          "aws:ResourceTag/elbv2.k8s.aws/cluster": "false"
        }
      }
    },
    {
      "Effect": "Allow",
      "Action": [
        "elasticloadbalancing:AddTags",
        "elasticloadbalancing:RemoveTags"
      ],
      "Resource": [
        "arn:aws:elasticloadbalancing:*:*:listener/net/*/*/*",
        "arn:aws:elasticloadbalancing:*:*:listener/app/*/*/*",
        "arn:aws:elasticloadbalancing:*:*:listener-rule/net/*/*/*",
        "arn:aws:elasticloadbalancing:*:*:listener-rule/app/*/*/*"
      ]
    },
    {
      "Effect": "Allow",
      "Action": [
        "elasticloadbalancing:ModifyLoadBalancerAttributes",
        "elasticloadbalancing:SetIpAddressType",
        "elasticloadbalancing:SetSecurityGroups",

```

```

        "elasticloadbalancing:SetSubnets",
        "elasticloadbalancing:DeleteLoadBalancer",
        "elasticloadbalancing:ModifyTargetGroup",
        "elasticloadbalancing:ModifyTargetGroupAttributes",
        "elasticloadbalancing:DeleteTargetGroup",
        "elasticloadbalancing:ModifyListenerAttributes",
        "elasticloadbalancing:ModifyCapacityReservation"
    ],
    "Resource": "*",
    "Condition": {
        "Null": {
            "aws:ResourceTag/elbv2.k8s.aws/cluster": "false"
        }
    }
},
{
    "Effect": "Allow",
    "Action": [
        "elasticloadbalancing:AddTags"
    ],
    "Resource": [
        "arn:aws:elasticloadbalancing:*:*:targetgroup/*/*",
        "arn:aws:elasticloadbalancing:*:*:loadbalancer/net/*/*",
        "arn:aws:elasticloadbalancing:*:*:loadbalancer/app/*/*"
    ],
    "Condition": {
        "StringEquals": {
            "elasticloadbalancing:CreateAction": [
                "CreateTargetGroup",
                "CreateLoadBalancer"
            ]
        },
        "Null": {
            "aws:RequestTag/elbv2.k8s.aws/cluster": "false"
        }
    }
},
{
    "Effect": "Allow",
    "Action": [
        "elasticloadbalancing:RegisterTargets",
        "elasticloadbalancing:DeregisterTargets"
    ],
    "Resource": "arn:aws:elasticloadbalancing:*:*:targetgroup/*/*"
},
{
    "Effect": "Allow",
    "Action": [
        "elasticloadbalancing:SetWebAcl",
        "elasticloadbalancing:ModifyListener",
        "elasticloadbalancing:AddListenerCertificates",
        "elasticloadbalancing:RemoveListenerCertificates",
        "elasticloadbalancing:ModifyRule"
    ],
    "Resource": "*"
}
]
}

```

Executing the command:

```

[luis@vbox ~]$ curl -O https://raw.githubusercontent.com/kubernetes-sigs/aws-load-balancer-controller/v2.11.0/docs/install/iam_policy.json
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left     Speed
100 8759  100 8759    0     0  18286      0 --:--:-- --:--:-- --:--:-- 18286
[luis@vbox ~]$

```

- Creating IAM policy

*aws iam create-policy *

```
--policy-name AWSLoadBalancerControllerIAMPolicy \
--policy-document file://iam_policy.json
```

```
[luis@vbox ~]$ aws iam create-policy \
--policy-name AWSLoadBalancerControllerIAMPolicy \
--policy-document file://iam_policy.json
{
  "Policy": {
    "PolicyName": "AWSLoadBalancerControllerIAMPolicy",
    "PolicyId": "ANPAVVZ00TQ3HQELVRTAM",
    "Arn": "arn:aws:iam::390402579510:policy/AWSLoadBalancerControllerIAMPolicy",
    "Path": "/",
    "DefaultVersionId": "v1",
    "AttachmentCount": 0,
    "PermissionsBoundaryUsageCount": 0,
    "IsAttachable": true,
    "CreateDate": "2025-04-24T22:53:06+00:00",
    "UpdateDate": "2025-04-24T22:53:06+00:00"
  }
}
[luis@vbox ~]$
```

on the AWS console

The screenshot shows the AWS IAM console interface. On the left is a navigation sidebar with sections: Identity and Access Management (IAM), Access management, and Access reports. The main content area displays the details for the policy 'AWSLoadBalancerControllerIAMPolicy'. It includes a 'Policy details' section with fields for Type (Customer managed), Creation time (April 24, 2025, 16:53 UTC-06:00), Edited time (April 24, 2025, 16:53 UTC-06:00), and ARN (arn:aws:iam::390402579510:policy/AWSLoadBalancerControllerIAMPolicy). Below this is a tabbed interface with 'Permissions' selected, showing 'Permissions defined in this policy'. The bottom of the console shows a footer with 'CloudShell', 'Feedback', and copyright information for Amazon Web Services, Inc.

- Creating an IAM role, service account attached to the role

```
eksctl create iamserviceaccount \
--cluster=environment1eks \
--namespace=kube-system \
--name=aws-load-balancer-controller \
--role-name AmazonEKSLoadBalancerControllerRole \
--attach-policy-
arn=arn:aws:iam::390402579510:policy/AWSLoadBalancerControllerIAMPolicy \
--approve
```

```
[luis@vbox ~]$ eksctl create iamserviceaccount \
--cluster=environmentleks \
--namespace=kube-system \
--name=aws-load-balancer-controller \
--role-name AmazonEKSLoadBalancerControllerRole \
--attach-policy-arn=arn:aws:iam::390402579510:policy/AWSLoadBalancerControllerIAMPolicy \
--approve
2025-04-24 16:57:48 [i] 1 iamserviceaccount (kube-system/aws-load-balancer-controller) was included (based on the include/exclude rules)
2025-04-24 16:57:48 [i] serviceaccounts that exist in Kubernetes will be excluded, use --override-existing-serviceaccounts to override
2025-04-24 16:57:48 [i] 1 task: {
  2 sequential sub-tasks: {
    create IAM role for serviceaccount "kube-system/aws-load-balancer-controller",
    create serviceaccount "kube-system/aws-load-balancer-controller",
  } }
2025-04-24 16:57:48 [i] building iamserviceaccount stack "eksctl-environmentleks-addon-iamserviceaccount-kube-system-aws-load-balancer-controller"
2025-04-24 16:57:48 [i] deploying stack "eksctl-environmentleks-addon-iamserviceaccount-kube-system-aws-load-balancer-controller"
2025-04-24 16:57:48 [i] waiting for CloudFormation stack "eksctl-environmentleks-addon-iamserviceaccount-kube-system-aws-load-balancer-controller"
2025-04-24 16:58:19 [i] waiting for CloudFormation stack "eksctl-environmentleks-addon-iamserviceaccount-kube-system-aws-load-balancer-controller"
2025-04-24 16:58:19 [i] created serviceaccount "kube-system/aws-load-balancer-controller"
[luis@vbox ~]$
```

on the aws console

- Adding the repo for creating application load balancer with:

`helm repo add eks https://aws.github.io/eks-charts`

```
[luis@vbox ~]$ helm repo add eks https://aws.github.io/eks-charts
"eks" has been added to your repositories
[luis@vbox ~]$
```

- Installing aws balancer controller

```
helm install aws-load-balancer-controller eks/aws-load-balancer-controller -n kube-system \
--set clusterName=environment1eks \
--set serviceAccount.create=false \
--set serviceAccount.name=aws-load-balancer-controller \
--set region=us-east-1 \
--set vpcId=vpc-0898b30b384bed685
```

```
[luis@vbox ~]$ helm install aws-load-balancer-controller eks/aws-load-balancer-controller -n kube-system \
--set clusterName=environment1eks \
--set serviceAccount.create=false \
--set serviceAccount.name=aws-load-balancer-controller \
--set region=us-east-1 \
--set vpcId=vpc-0898b30b384bed685
NAME: aws-load-balancer-controller
LAST DEPLOYED: Thu Apr 24 17:24:58 2025
NAMESPACE: kube-system
STATUS: deployed
REVISION: 1
TEST SUITE: None
NOTES:
AWS Load Balancer controller installed!
[luis@vbox ~]$
```

Verifying that the deployments are running:

kubectl get deployment -n kube-system aws-load-balancer-controller

```
[luis@vbox ~]$ kubectl get deployment -n kube-system aws-load-balancer-controller
NAME                                READY    UP-TO-DATE    AVAILABLE    AGE
aws-load-balancer-controller        2/2      2              2            103s
[luis@vbox ~]$
```

Checking the load balancer in the AWS Console:

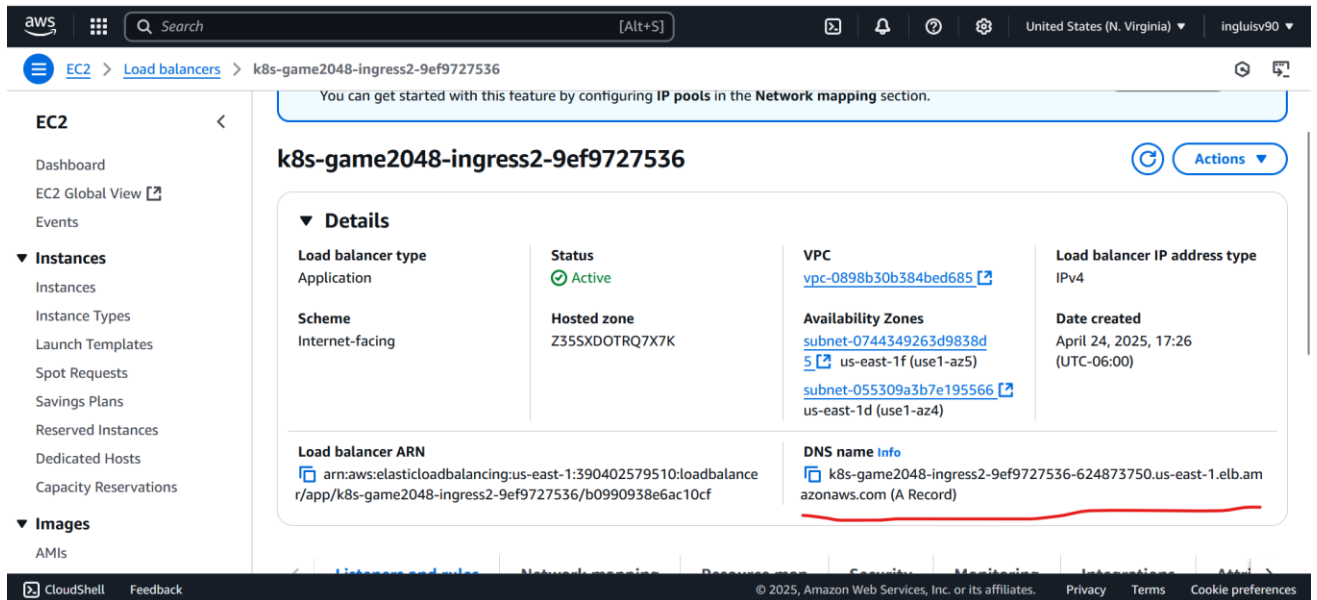
The screenshot shows the AWS Management Console interface. On the left is a sidebar with navigation links for EC2, Instances, and Images. The main content area is titled 'Load balancers (1)' and shows a table with one entry: 'k8s-game2048-ingress2...' with a state of 'Active'. Below the table, it says '0 load balancers selected' and 'Select a load balancer above.' The top of the console has a search bar and various utility icons.

With the load balancer created we have now an address:

kubectl get ingress -n game-2048

```
[luis@vbox ~]$ kubectl get ingress -n game-2048
NAME          CLASS    HOSTS          ADDRESS                                                                 PORTS    AGE
ingress-2048  alb     *             k8s-game2048-ingress2-9ef9727536-624873750.us-east-1.elb.amazonaws.com  80      60m
[luis@vbox ~]$
```

Looking for the same address in the AWS console:



- Finally we have our application running

<http://k8s-game2048-ingress2-9ef9727536-624873750.us-east-1.elb.amazonaws.com/>

