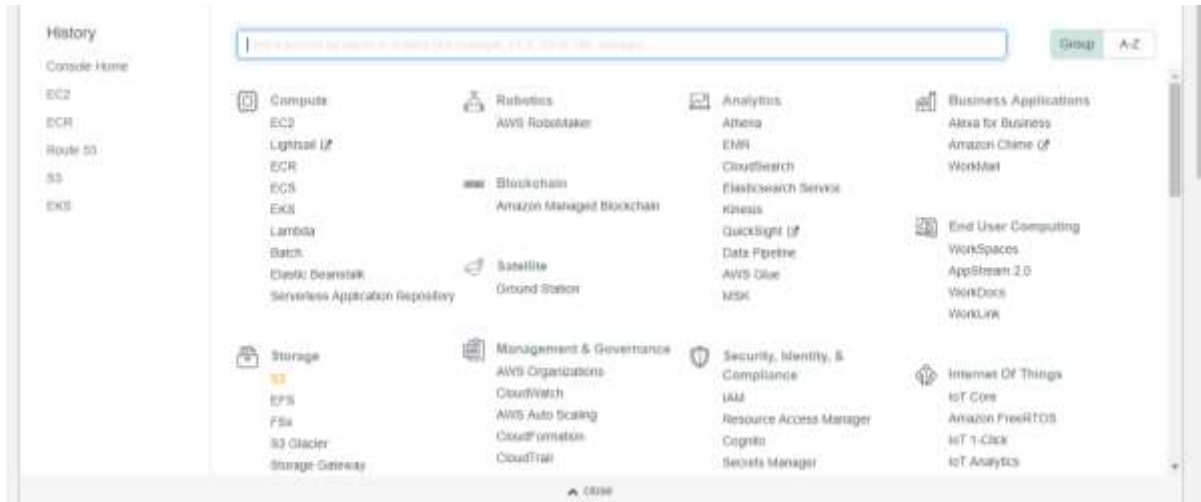
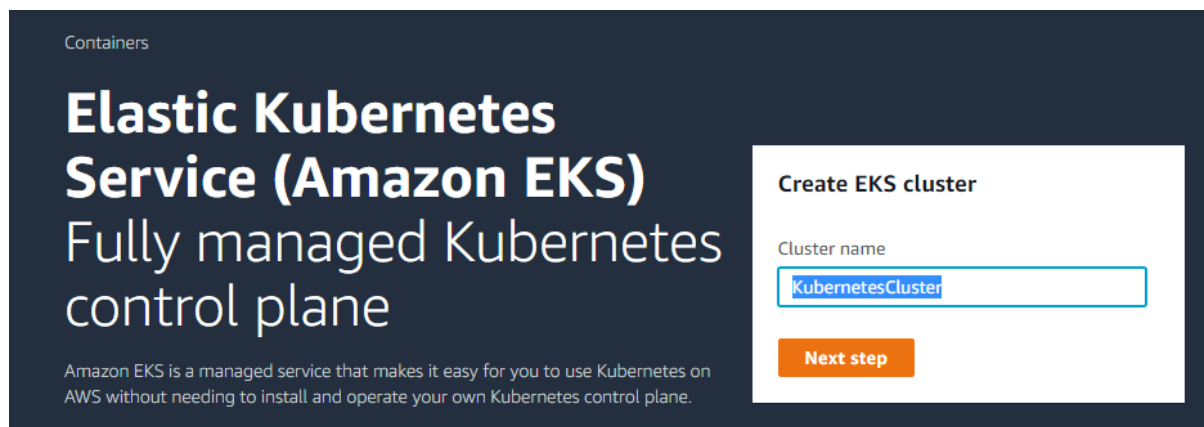


Creating an AWS EKS cluster

- Connect to AWS console and navigate to EKS service to create an EKS cluster.



- Provide a cluster name and click on **Next Step**.



- Configure **Role name** used by EKS rest.

Role name [↗](#)

Select the IAM Role to allow Amazon EKS and the Kubernetes control plane to manage AWS resources on your behalf.

- Click on **Create Role** and provide the policy details. Select **EKS** from the service list.

Create role

1 2 3 4

Select type of trusted entity

 **AWS service**
EC2, Lambda and others

 **Another AWS account**
Belonging to you or 3rd party

 **Web identity**
Cognito or any OpenID provider

 **SAML 2.0 federation**
Your corporate directory

Allows AWS services to perform actions on your behalf. [Learn more](#)

Choose the service that will use this role

EC2

Allows EC2 instances to call AWS services on your behalf.

Lambda

Allows Lambda functions to call AWS services on your behalf.

API Gateway	Comprehend	ElastiCache	Lex	SMS
AWS Backup	Config	Elastic Beanstalk	License Manager	SNS
AWS Support	Connect	Elastic Container Service	Machine Learning	SWF
Amplify	DMS	Elastic Transcoder	Macie	SageMaker

Create role

1 2 3 4

Attached permissions policies

The type of role that you selected requires the following policy.

Filter policies <input type="text" value="Search"/>			Showing 2 results
Policy name	Used as	Description	
 AmazonEKSClusterPolicy	None	This policy provides Kubernetes the permissio...	
 AmazonEKSServicePolicy	None	This policy allows Amazon Elastic Container S...	

Create role

1 2 3 4

Review

Provide the required information below and review this role before you create it.

Role name*

EKSRoleName

Use alphanumeric and '+', '=', '@', '-', '_' characters. Maximum 64 characters.

Role description

Allows EKS to manage clusters on your behalf.

Maximum 1000 characters. Use alphanumeric and '+', '=', '@', '-', '_' characters.

Trusted entities

AWS service: eks.amazonaws.com

Policies

 AmazonEKSClusterPolicy [↗](#)

 AmazonEKSServicePolicy [↗](#)

* Required

Cancel

Previous

Create role

- Select the newly created role name from the list while creating the EKS cluster.

General configuration

Cluster name

Enter a unique name for your Amazon EKS cluster.

Kubernetes Version

Select the Kubernetes version to install.

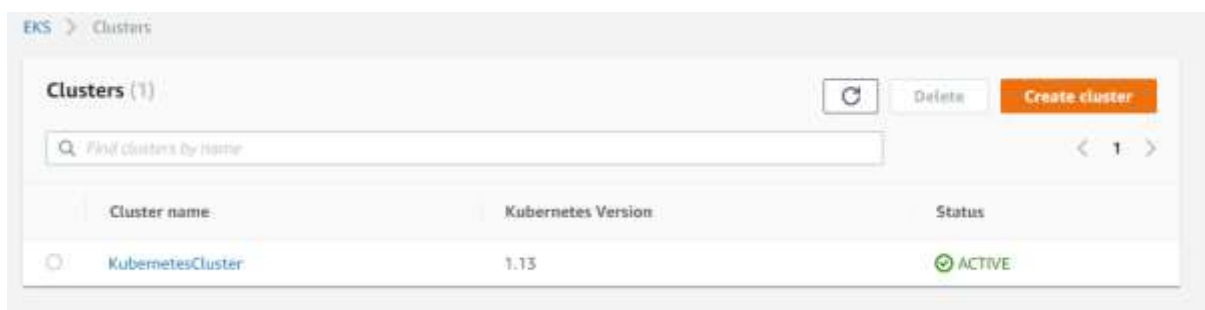
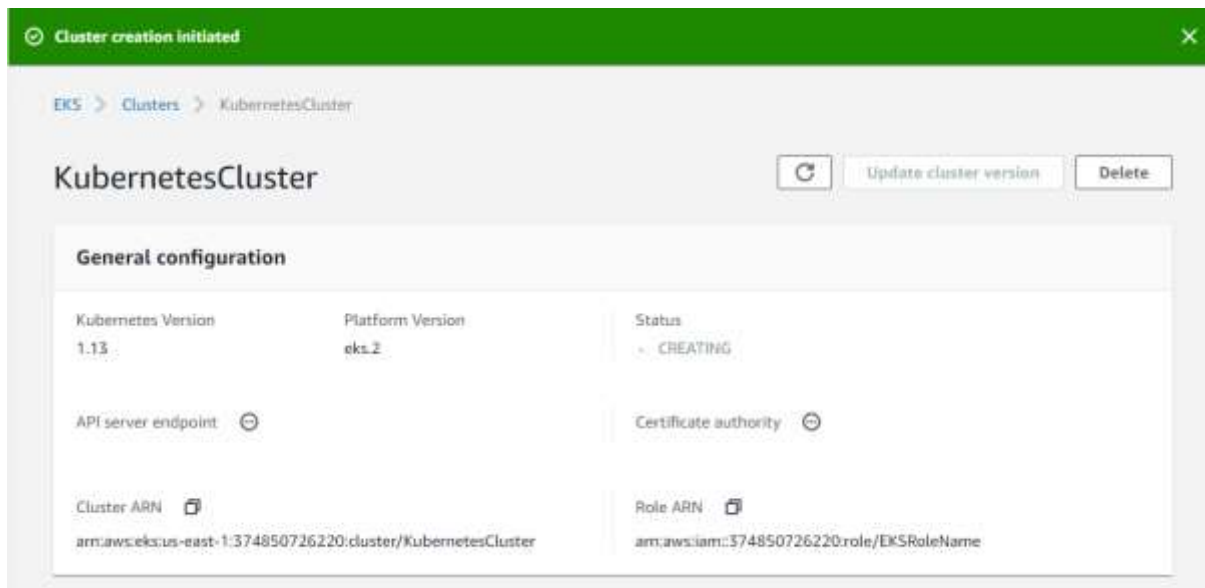
1.13 ▼

Role name [↗](#)

Select the IAM Role to allow Amazon EKS and the Kubernetes control plane to manage AWS resources on your behalf.

EKSRoleName ▼

Please Note: Once configurations are saved and the EKS cluster is created, it may take some time to bring the cluster online. Configure **kubect**l command line only when EKS will be completely online.



Setting up kubectl command line with EKS cluster

Please Note: Amazon EKS clusters require kubectl and kubelet binaries and the AWS IAM Authenticator for Kubernetes to allow IAM authentication for our Kubernetes cluster.

- Download the Amazon EKS-vended kubectl binary from Amazon S3:

Linux: <https://amazon-eks.s3-us-west-2.amazonaws.com/1.10.3/2018-07-26/bin/linux/amd64/kubectl>

- Follow steps as shown in the screenshot below.

```
wget https://amazon-eks.s3-us-west-2.amazonaws.com/1.10.3/2018-07-26/bin/linux/amd64/kubectl
```

```
chmod +x kubectl
```

./kubectl

```
root@ip-172-31-17-73:~# wget https://amazon-eks.s3-us-west-2.amazonaws.com/1.10.3/2018-07-26/bin/linux/amd64/kubectl
--2018-07-28 02:03:07-- https://amazon-eks.s3-us-west-2.amazonaws.com/1.10.3/2018-07-26/bin/linux/amd64/kubectl
Resolving amazon-eks.s3-us-west-2.amazonaws.com (amazon-eks.s3-us-west-2.amazonaws.com)... 52.210.253.65
Connecting to amazon-eks.s3-us-west-2.amazonaws.com (amazon-eks.s3-us-west-2.amazonaws.com)|52.210.253.65|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 54146332 (52M) [binary/octet-stream]
Saving to: 'kubectl'

kubectl                                100%[=====>] 51.64M  7.63MB/s
2018-07-28 02:03:14 (7.41 MB/s) - 'kubectl' saved [54146332/54146332]

root@ip-172-31-17-73:~# ./kubectl
-bash: ./kubectl: Permission denied
root@ip-172-31-17-73:~# chmod +x kubectl
root@ip-172-31-17-73:~# ./kubectl
kubectl controls the Kubernetes cluster manager.

Find more information at: https://kubernetes.io/docs/reference/kubectl/overview/
```

- Configure **kubectl** in **PATH** variable to call **kubectl** command globally. Follow the set of commands mentioned below to configure **PATH** variable.

mkdir bin

cp ./kubectl \$HOME/bin/kubectl && export PATH=\$HOME/bin:\$PATH

kubectl version

kubectl version --short --client

```
root@ip-172-31-17-73:~# mkdir bin
root@ip-172-31-17-73:~# cp ./kubectl $HOME/bin/kubectl && export PATH=$HOME/bin:$PATH
root@ip-172-31-17-73:~# kubectl version
Client Version: version.Info{Major:"1", Minor:"10", GitVersion:"v1.10.3", GitCommit:"2bba0
-26T20:40:11Z", GoVersion:"go1.9.3", Compiler:"gc", Platform:"linux/amd64"}
```

- Configure AWS CLI and **aws-iam-authenticator**. Download the Amazon EKS-vended aws-iam-authenticator binary from Amazon S3:

Linux: <https://amazon-eks.s3-us-west-2.amazonaws.com/1.10.3/2018-07-26/bin/linux/amd64/aws-iam-authenticator>

wget https://amazon-eks.s3-us-west-2.amazonaws.com/1.10.3/2018-07-26/bin/linux/amd64/aws-iam-authenticator

chmod +x ./aws-iam-authenticator

cp ./aws-iam-authenticator \$HOME/bin/aws-iam-authenticator && export PATH=\$HOME/bin:\$PATH

aws-iam-authenticator help

```

root@ip-172-31-17-73:~# wget https://amazon-eks.s3-us-west-2.amazonaws.com/1.10.3/2019-07-26/bin/linux/amd64/aws-iam-authenticator
--2019-07-28 02:11:02-- https://amazon-eks.s3-us-west-2.amazonaws.com/1.10.3/2019-07-26/bin/linux/amd64/aws-iam-authenticator
Resolving amazon-eks.s3-us-west-2.amazonaws.com (amazon-eks.s3-us-west-2.amazonaws.com)... 52.218.193.133
Connecting to amazon-eks.s3-us-west-2.amazonaws.com (amazon-eks.s3-us-west-2.amazonaws.com)|52.218.193.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 26349462 (25M) [binary/octet-stream]
Saving to: 'aws-iam-authenticator'

aws-iam-authenticator 100%[=====]
2019-07-28 02:11:05 (9.03 MB/s) - 'aws-iam-authenticator' saved [26349462/26349462]

root@ip-172-31-17-73:~# chmod +x ./aws-iam-authenticator
root@ip-172-31-17-73:~# cp ./aws-iam-authenticator $HOME/bin/aws-iam-authenticator && export PATH=$HOME/bin:$PATH
root@ip-172-31-17-73:~# aws-iam-authenticator help
A tool to authenticate to Kubernetes using AWS IAM credentials

```

- Install AWS CLI using the sequence of commands mentioned below.

apt install python-pip

pip install awscli

aws --version

- Create **Access keys** in AWS IAM Console.

Access keys

Use access keys to make secure REST or HTTP Query protocol requests to AWS service APIs. For your protection, you should never share your secret keys with anyone. As a best practice, we recommend frequent key rotation. [Learn more](#)

Create access key

Access key ID	Created	Last used	Status	
AKIAVORWYFFGC3WVPNWC	2019-07-24 08:26 UTC+0530	2019-07-26 13:51 UTC+0530 with sts in us-east-1	Active	Make inactive ✕

Please Note: Create Access keys and keep them saved in a document.

Create access key

Access key ID	Created	Last used	Status	
AKIAVORWYFFGC3WVPNWC	2019-07-24 08:26 UTC+0530	2019-07-26 13:51 UTC+0530 with sts in us-east-1	Active	Make inactive ✕
AKIAVORWYFFGE3YTFZFZ	2019-07-28 07:49 UTC+0530	N/A	Active	Make inactive ✕

- Configure AWS CLI and provide **Access Keys** and **Secret Access Keys** while configuring it.

```
root@ip-172-31-17-73:~# aws configure
AWS Access Key ID [None]: AKIAVORWYFFGE3YTFZFZ
AWS Secret Access Key [None]: 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
Default region name [None]: us-east-1
Default output format [None]: json
root@ip-172-31-17-73:~#
```

- Update the local **kubeconfig** to configure locally installed **kubectl** with EKS configurations.

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

```
kubectl get svc
```

```
root@ip-172-31-17-73:~# aws eks --region us-east-1 update-kubeconfig --name KubernetesCluster
Updated context arn:aws:eks:us-east-1:374850726220:cluster/KubernetesCluster in /root/.kube/config
root@ip-172-31-17-73:~# kubectl get svc
NAME          TYPE          CLUSTER-IP    EXTERNAL-IP    PORT(S)    AGE
kubernetes    ClusterIP     10.100.0.1    <none>         443/TCP    32m
root@ip-172-31-17-73:~#
```