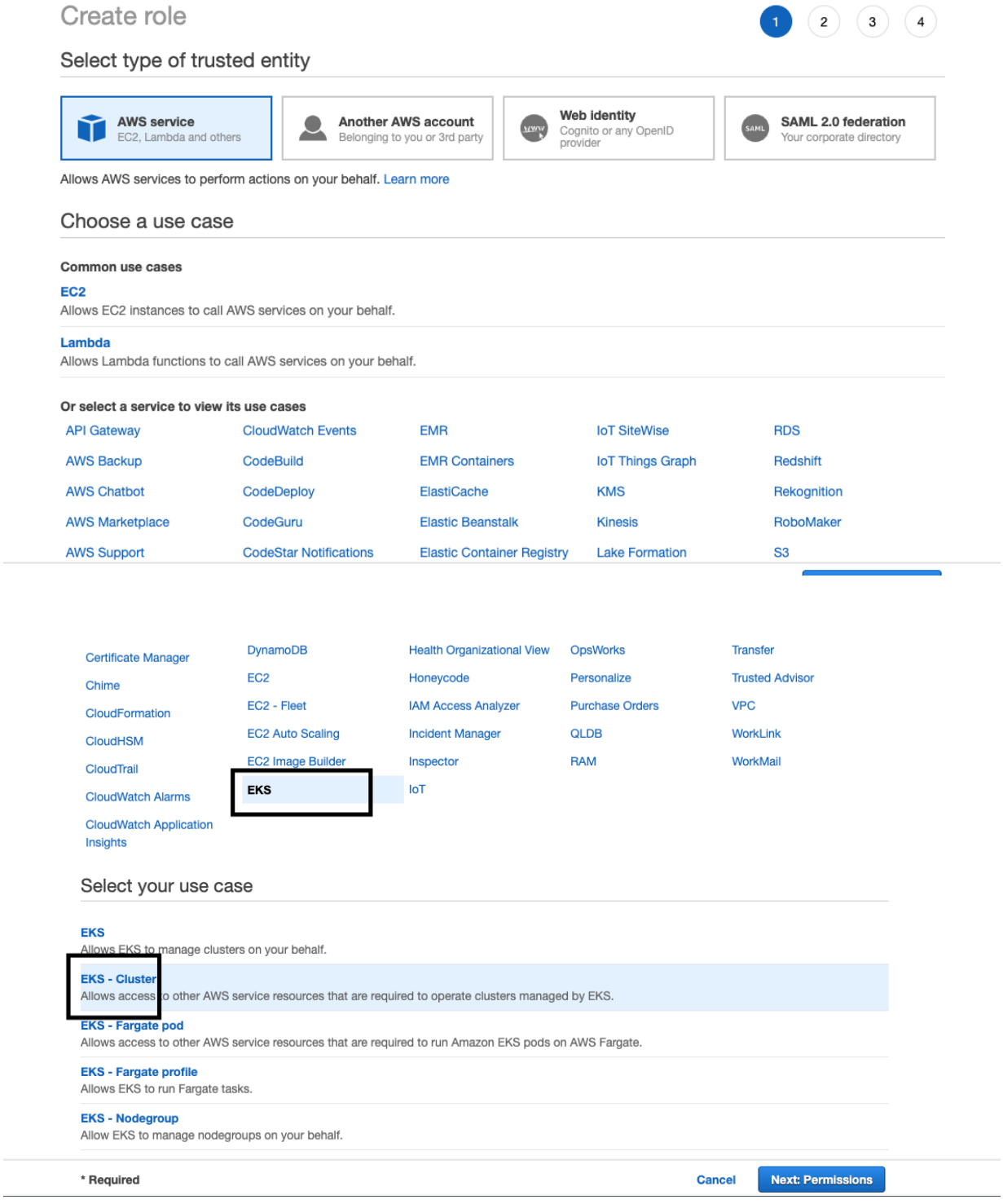
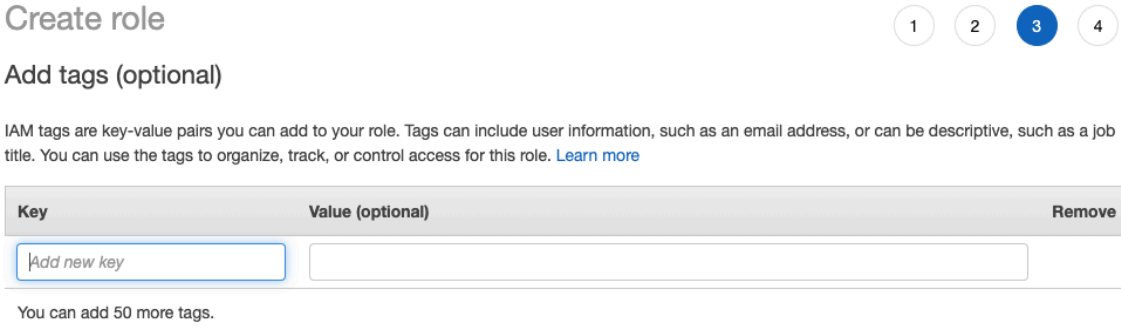
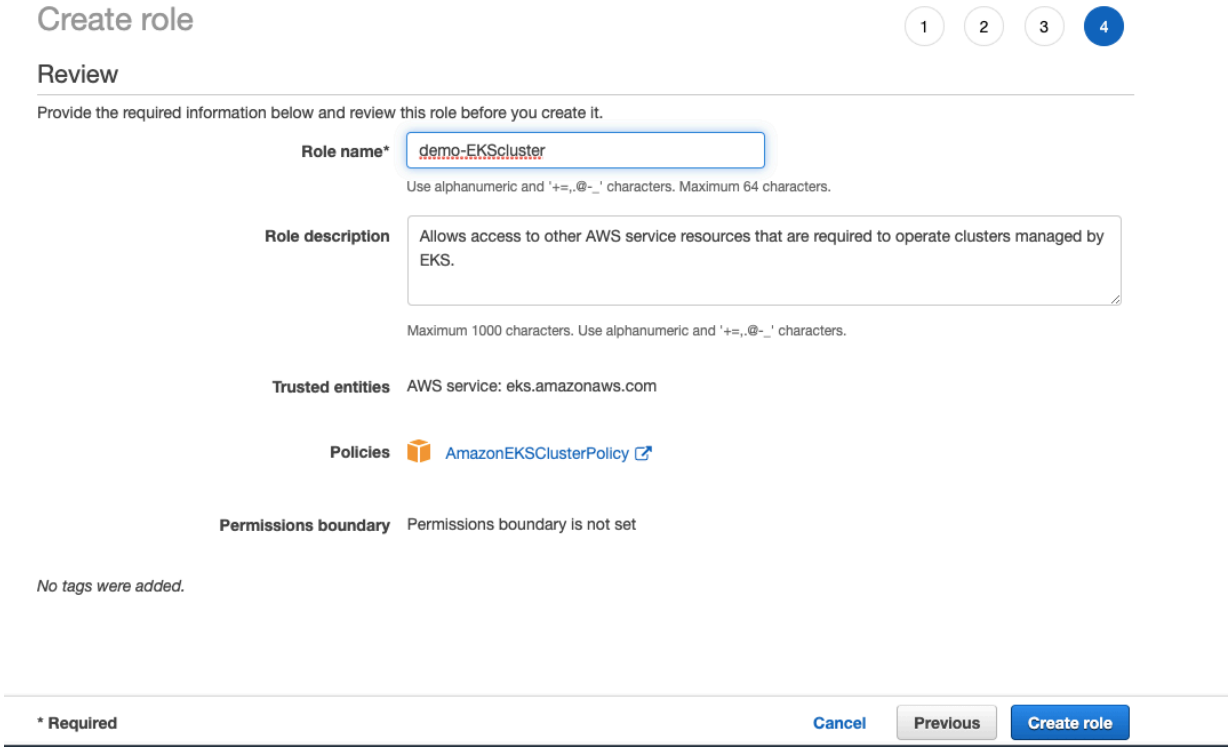
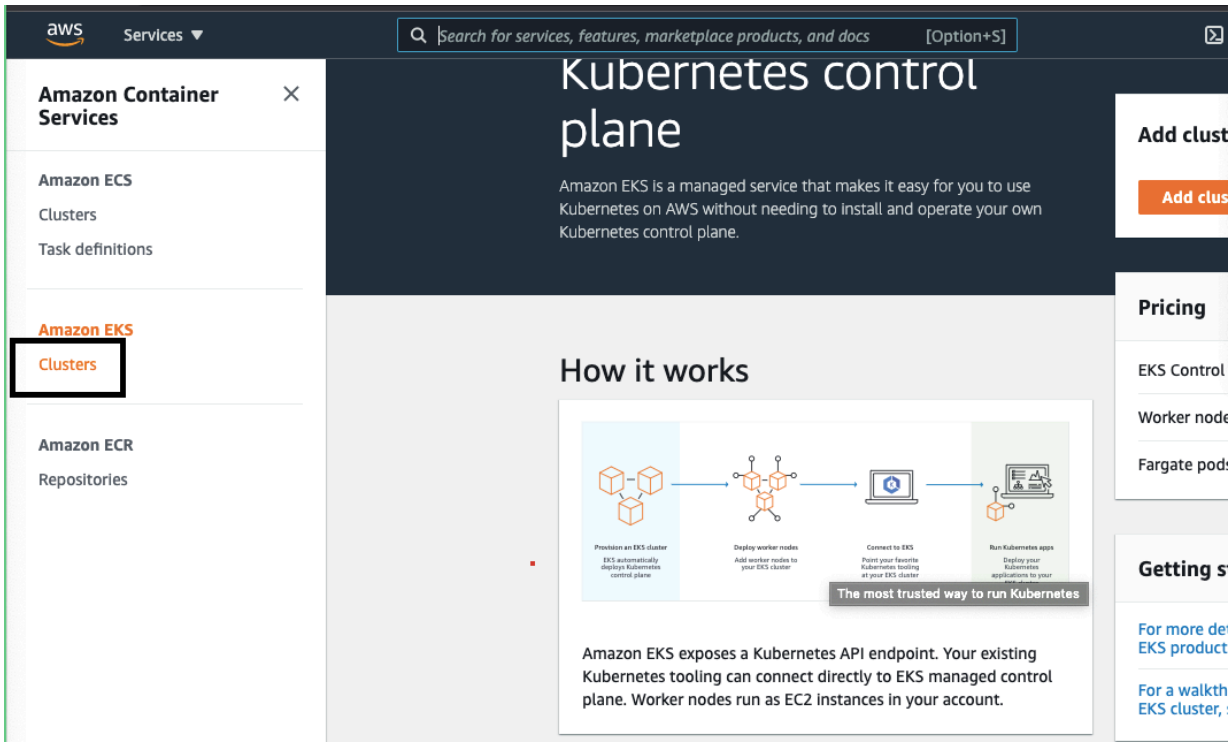
EKS

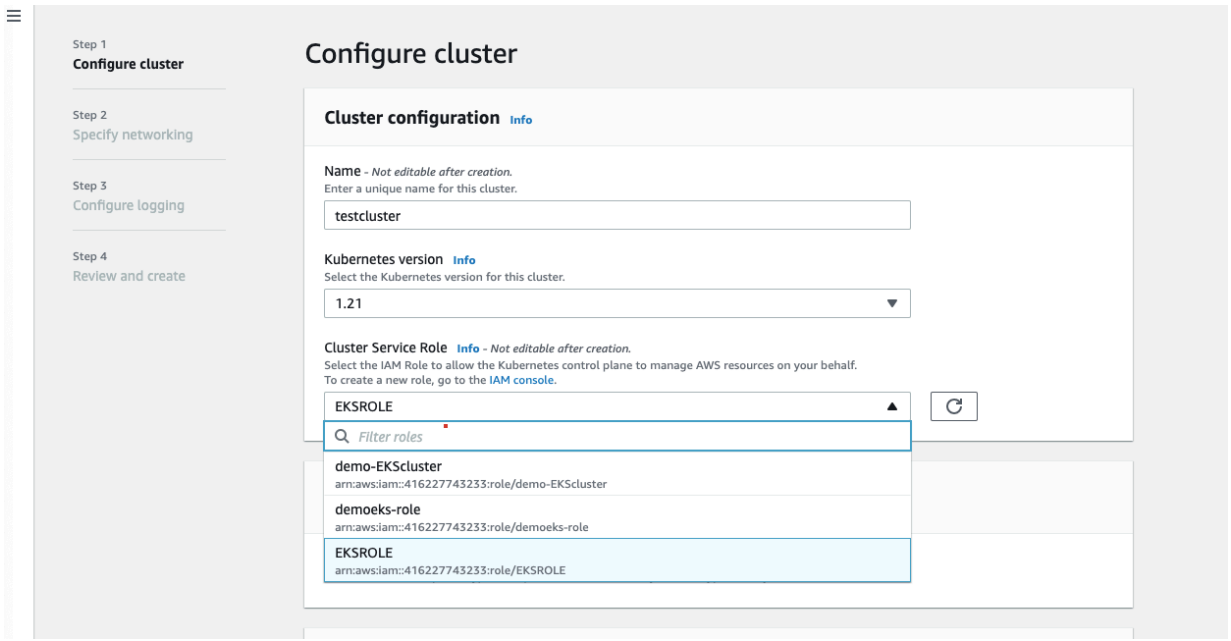

Create role
1
2
3
4
Select type of trusted entity
AWS service
EC2, Lambda and others
Another AWS account
Belonging to you or 3rd party
Web identity
Cognito or any OpenID provider
SAML 2.0 federation
Your corporate directory
Allows AWS services to perform actions on your behalf. Learn more
Choose a use case
Common use cases
EC2
Allows EC2 instances to call AWS services on your behalf.
Lambda
Allows Lambda functions to call AWS services on your behalf.
Or select a service to view its use cases
API Gateway
AWS Backup
AWS Chatbot
AWS Marketplace
AWS Support
CloudWatch Events
CodeBuild
CodeDeploy
CodeGuru
CodeStar Notifications
EMR
EMR Containers
ElastiCache
Elastic Beanstalk
Elastic Container Registry
IoT SiteWise
IoT Things Graph
KMS
Kinesis
Lake Formation
RDS
Redshift
Rekognition
RoboMaker
S3
Certificate Manager
Chime
CloudFormation
CloudHSM
CloudTrail
CloudWatch Alarms
CloudWatch Application Insights
DynamoDB
EC2
EC2 - Fleet
EC2 Auto Scaling
EC2 Image Builder
EKS
Health Organizational View
Honeycode
IAM Access Analyzer
Incident Manager
Inspector
IoT
OpsWorks
Personalize
Purchase Orders
QLDB
RAM
Transfer
Trusted Advisor
VPC
WorkLink
WorkMail
Select your use case
EKS
Allows EKS to manage clusters on your behalf.
EKS - Cluster
Allows access to other AWS service resources that are required to operate clusters managed by EKS.
EKS - Fargate pod
Allows access to other AWS service resources that are required to run Amazon EKS pods on AWS Fargate.
EKS - Fargate profile
Allows EKS to run Fargate tasks.
EKS - Nodegroup
Allow EKS to manage nodegroups on your behalf.
* Required
Cancel
Next: Permissions

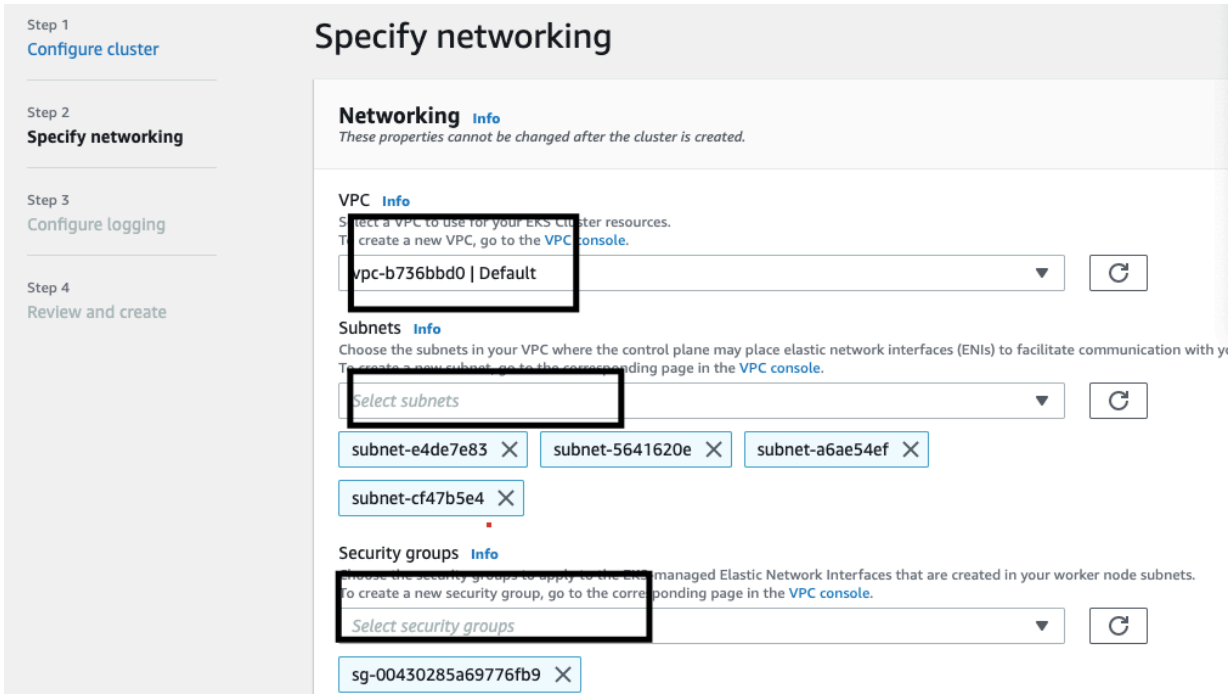

Create role
1
2
3
4
Attached permissions policies
The type of role that you selected requires the following policy.
Filter policies
Search
Showing 1 result
Policy name
Used as
Description
AmazonEKSClusterPolicy
Permissions policy (1)
This policy provides Kubernetes the permissio…

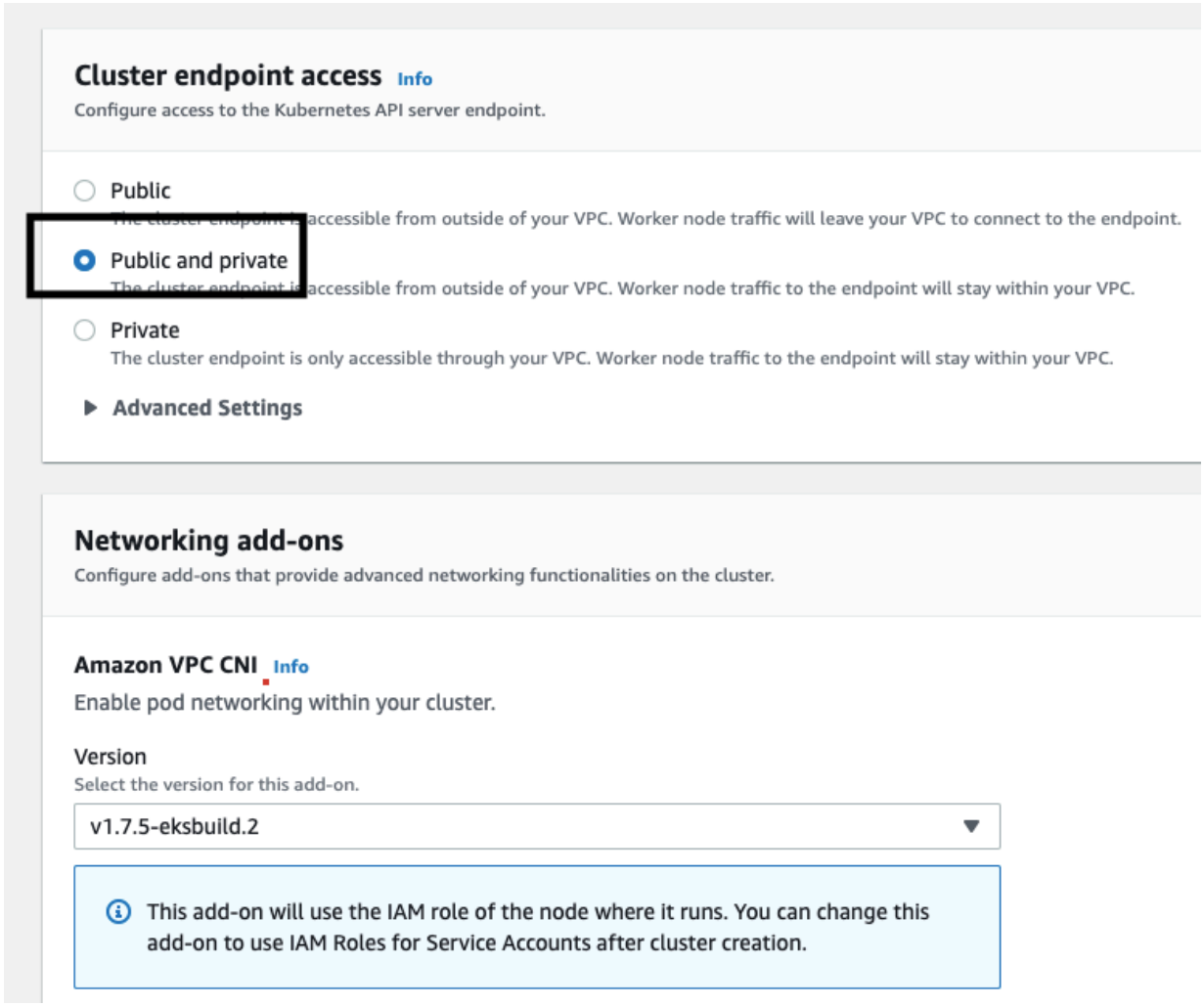

Create role
1
2
3
4
Add tags (optional)
IAM tags are key-value pairs you can add to your role. Tags can include user information, such as an email address, or can be descriptive, such as a job title. You can use the tags to organize, track, or control access for this role. Learn more
Key
Value (optional)
Remove
Add new key
You can add 50 more tags.

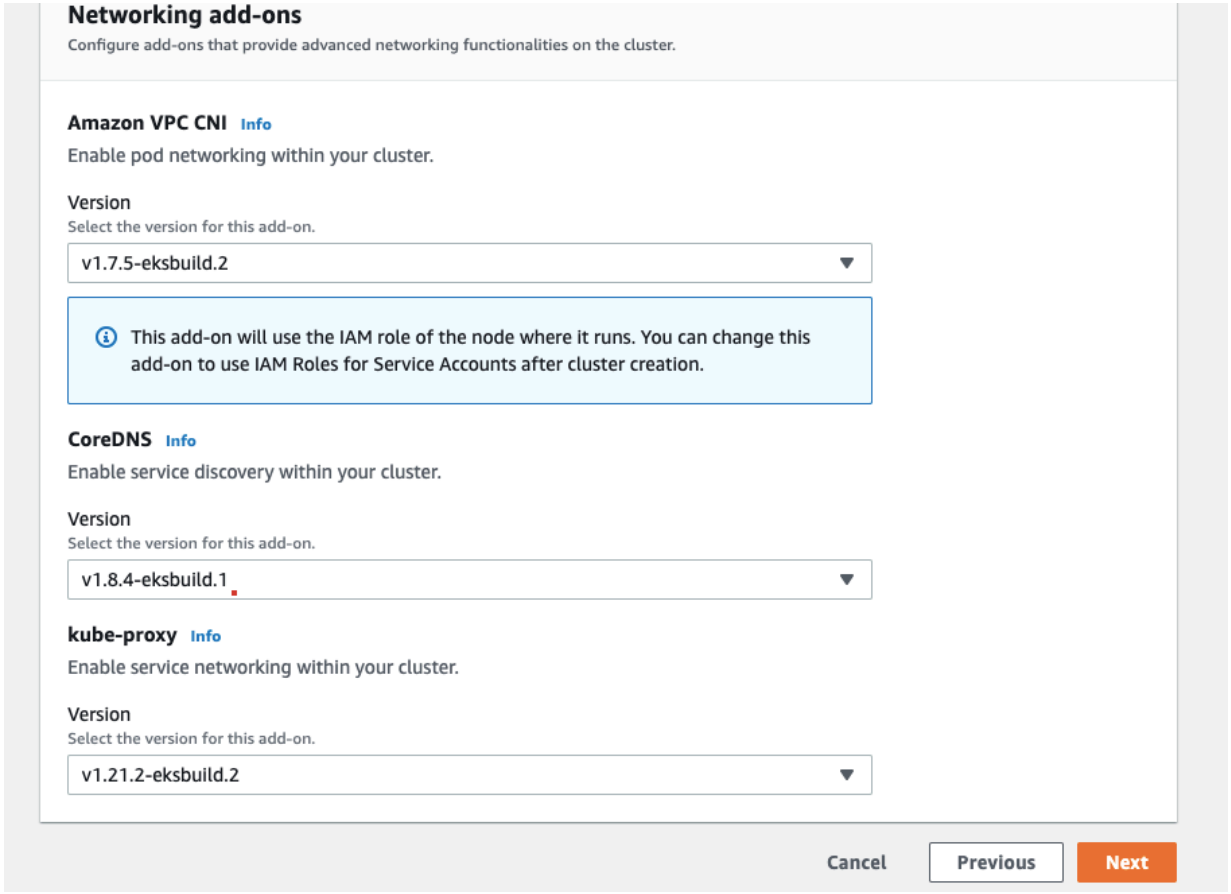

Create role
1
2
3
4
Review
Provide the required information below and review this role before you create it.
Role name*
demo-EKScluster
Use alphanumeric and '+=,.@-_' characters. Maximum 64 characters.
Role description
Allows access to other AWS service resources that are required to operate clusters managed by EKS.
Maximum 1000 characters. Use alphanumeric and '+=,.@-_' characters.
Trusted entities
AWS service: eks.amazonaws.com
Policies
AmazonEKSClusterPolicy
Permissions boundary
Permissions boundary is not set
No tags were added.
* Required
Cancel
Previous
Create role

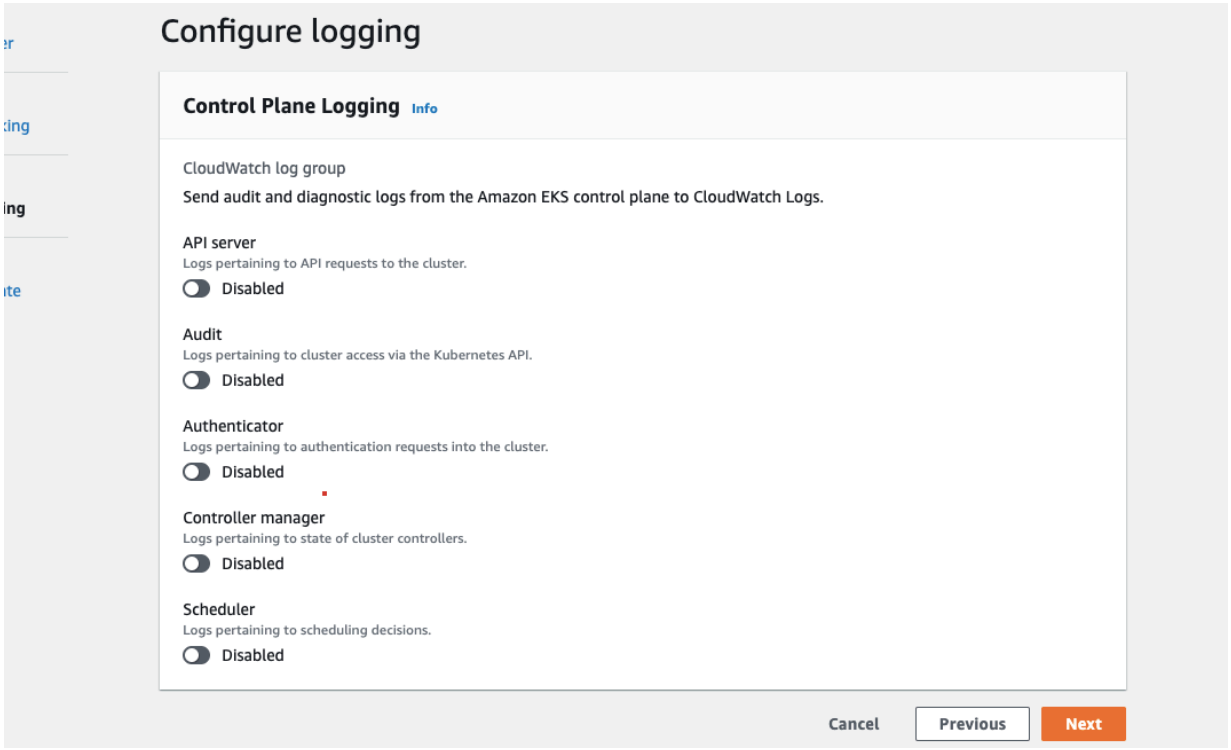

aws
Services
Search for services, features, marketplace products, and docs
[Option+S]
Amazon Container Services
Amazon ECS
Clusters
Task definitions
Amazon EKS
Clusters
Amazon ECR
Repositories
Kubernetes control plane
Amazon EKS is a managed service that makes it easy for you to use Kubernetes on AWS without needing to install and operate your own Kubernetes control plane.
Add clust
Add clus
Pricing
EKS Control
Worker node
Fargate pods
How it works
The most trusted way to run Kubernetes
Amazon EKS exposes a Kubernetes API endpoint. Your existing Kubernetes tooling can connect directly to EKS managed control plane. Worker nodes run as EC2 instances in your account.
Getting s
For more de
EKS product
For a walkth
EKS cluster,


Step 1
Configure cluster
Step 2
Specify networking
Step 3
Configure logging
Step 4
Review and create
Configure cluster
Cluster configuration Info
Name - Not editable after creation.
Enter a unique name for this cluster.
testcluster
Kubernetes version Info
Select the Kubernetes version for this cluster.
1.21
Cluster Service Role Info - Not editable after creation.
Select the IAM Role to allow the Kubernetes control plane to manage AWS resources on your behalf.
To create a new role, go to the IAM console.
EKSROLE
Filter roles
demo-EKScluster
arn:aws:iam::416227743233:role/demo-EKScluster
demoeks-role
arn:aws:iam::416227743233:role/demoeks-role
EKSROLE
arn:aws:iam::416227743233:role/EKSROLE


Step 1
Configure cluster
Step 2
Specify networking
Step 3
Configure logging
Step 4
Review and create
Specify networking
Networking Info
These properties cannot be changed after the cluster is created.
VPC Info
create a new VPC, go to the VPC console.
vpc-b736bbd0 | Default
Subnets Info
Choose the subnets in your VPC where the control plane may place elastic network interfaces (ENIs) to facilitate communication with y
Select subnets
subnet-e4de7e83
subnet-5641620e
subnet-a6ae54ef
subnet-cf47b5e4
Security groups Info
managed Elastic Network Interfaces that are created in your worker node subnets.
To create a new security group, go to the corresponding page in the VPC console.
Select security groups
sg-00430285a69776fb9


Cluster endpoint access Info
Configure access to the Kubernetes API server endpoint.
Public
accessible from outside of your VPC. Worker node traffic will leave your VPC to connect to the endpoint.
Public and private
accessible from outside of your VPC. Worker node traffic to the endpoint will stay within your VPC.
Private
The cluster endpoint is only accessible through your VPC. Worker node traffic to the endpoint will stay within your VPC.
Advanced Settings
Networking add-ons
Configure add-ons that provide advanced networking functionalities on the cluster.
Amazon VPC CNI Info
Enable pod networking within your cluster.
Version
Select the version for this add-on.
v1.7.5-eksbuild.2
This add-on will use the IAM role of the node where it runs. You can change this add-on to use IAM Roles for Service Accounts after cluster creation.


Networking add-ons
Configure add-ons that provide advanced networking functionalities on the cluster.
Amazon VPC CNI Info
Enable pod networking within your cluster.
Version
Select the version for this add-on.
v1.7.5-eksbuild.2
This add-on will use the IAM role of the node where it runs. You can change this add-on to use IAM Roles for Service Accounts after cluster creation.
CoreDNS Info
Enable service discovery within your cluster.
Version
Select the version for this add-on.
v1.8.4-eksbuild.1
kube-proxy Info
Enable service networking within your cluster.
Version
Select the version for this add-on.
v1.21.2-eksbuild.2
Cancel
Previous
Next

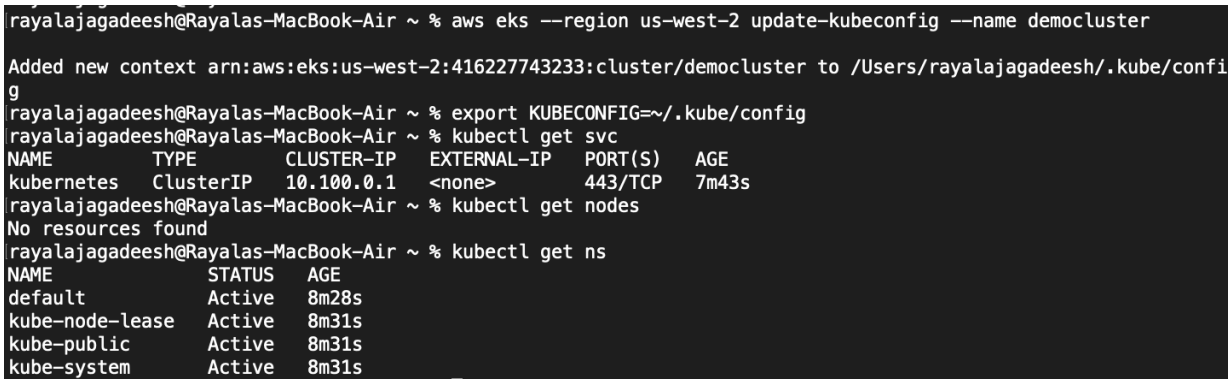

Configure logging
Control Plane Logging Info
CloudWatch log group
Send audit and diagnostic logs from the Amazon EKS control plane to CloudWatch Logs.
API server
Logs pertaining to API requests to the cluster.
Disabled
Audit
Logs pertaining to cluster access via the Kubernetes API.
Disabled
Authenticator
Logs pertaining to authentication requests into the cluster.
Disabled
Controller manager
Logs pertaining to state of cluster controllers.
Disabled
Scheduler
Logs pertaining to scheduling decisions.
Disabled
Cancel
Previous
Next

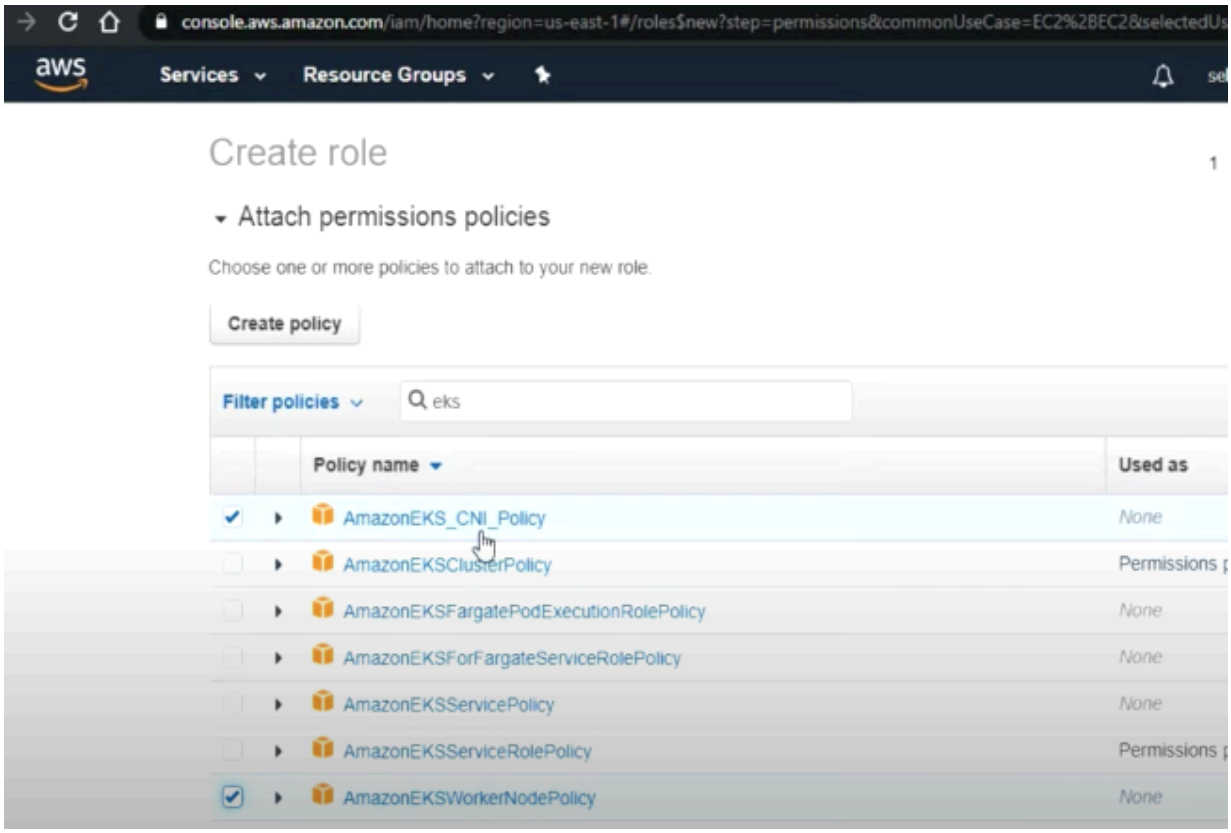
NOte : 15Min

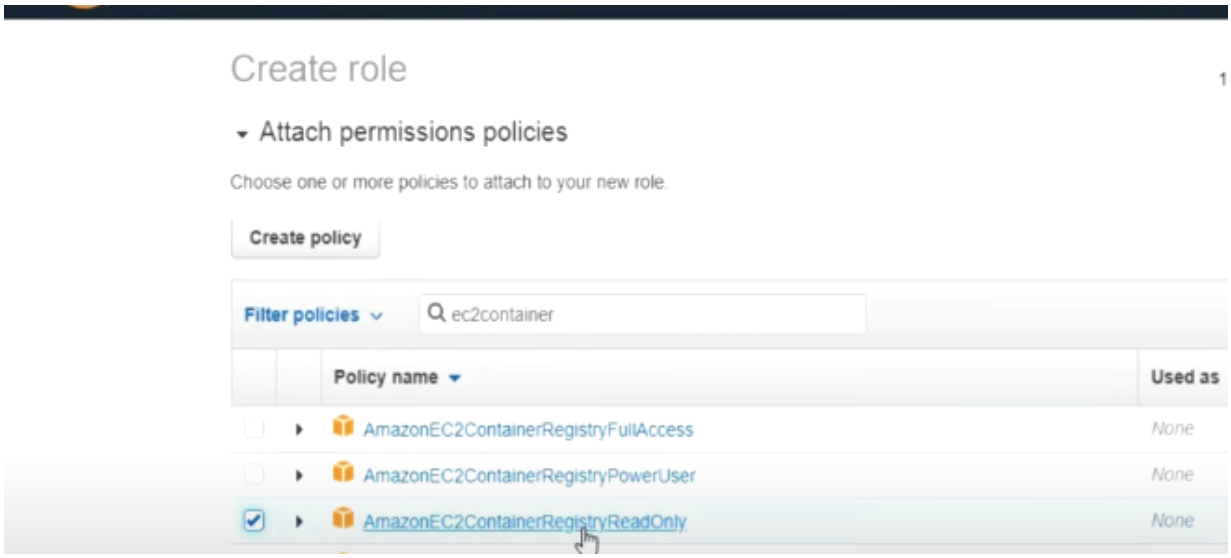
Install AWS CLI
https://docs.aws.amazon.com/cli/latest/userguide/install-cliv2-windows.html

install AWS IAM authenticator
https://docs.aws.amazon.com/eks/latest/userguide/install-aws-iam-authenticator.html

aws iam list-users
aws sts get-caller-identity
kubectl version --short --client
kubectl get svc
aws eks —region us-west-2 update-kubeconfig —name democluster
export KUBECONFIG=~/.kube/config




console.aws.amazon.com/iam/home?region=us-east-1#/roles$new?step=permissions&commonUseCase=EC2%2BEC2&selectedUs
aws
Services
Resource Groups
Create role
1
Attach permissions policies
Choose one or more policies to attach to your new role.
Create policy
Filter policies
eks
Policy name
Used as
AmazonEKS_CNI_Policy
None
AmazonEKSClusterPolicy
Permissions
AmazonEKSFargatePodExecutionRolePolicy
None
AmazonEKSForFargateServiceRolePolicy
None
AmazonEKSServicePolicy
None
AmazonEKSServiceRolePolicy
Permissions
AmazonEKSWorkerNodePolicy
None


Create role
1
Attach permissions policies
Choose one or more policies to attach to your new role.
Create policy
Filter policies
ec2container
Policy name
Used as
AmazonEC2ContainerRegistryFullAccess
None
AmazonEC2ContainerRegistryPowerUser
None
AmazonEC2ContainerRegistryReadOnly
None

Create role

1 2 3 4

Review

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

Role name* EKSWORKERNODEROLE

Use alphanumeric and '+=,.@-_' characters. Maximum 64 characters.
A role named "EKSWORKERNODEROLE" already exists

Role description Allows EC2 instances to call AWS services on your behalf.

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

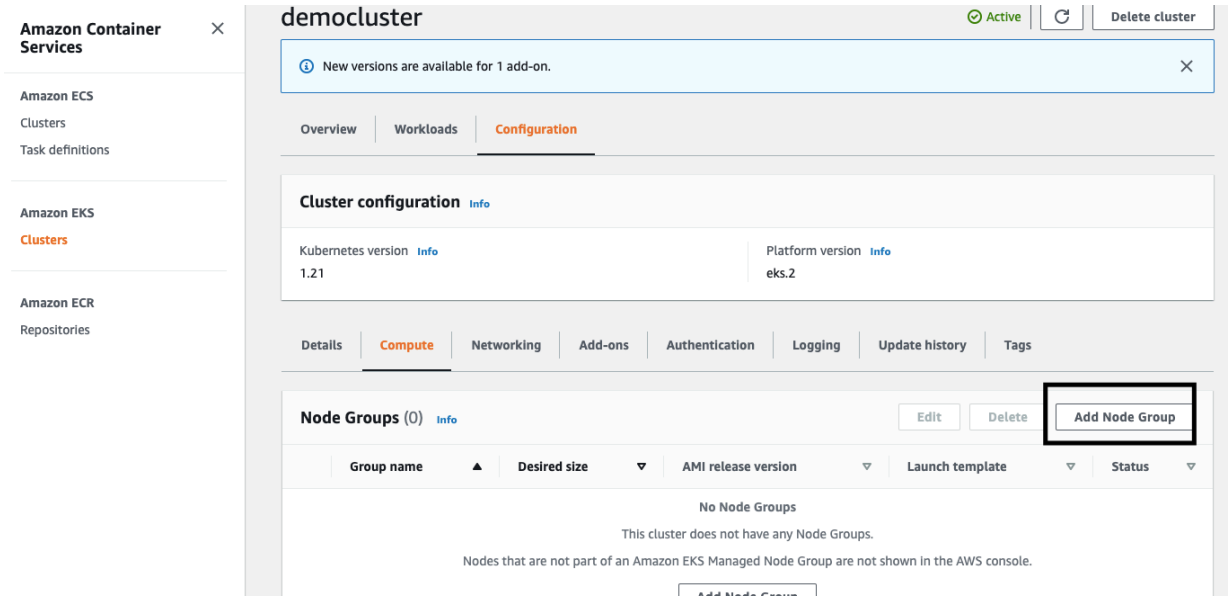
Trusted entities AWS service: ec2.amazonaws.com

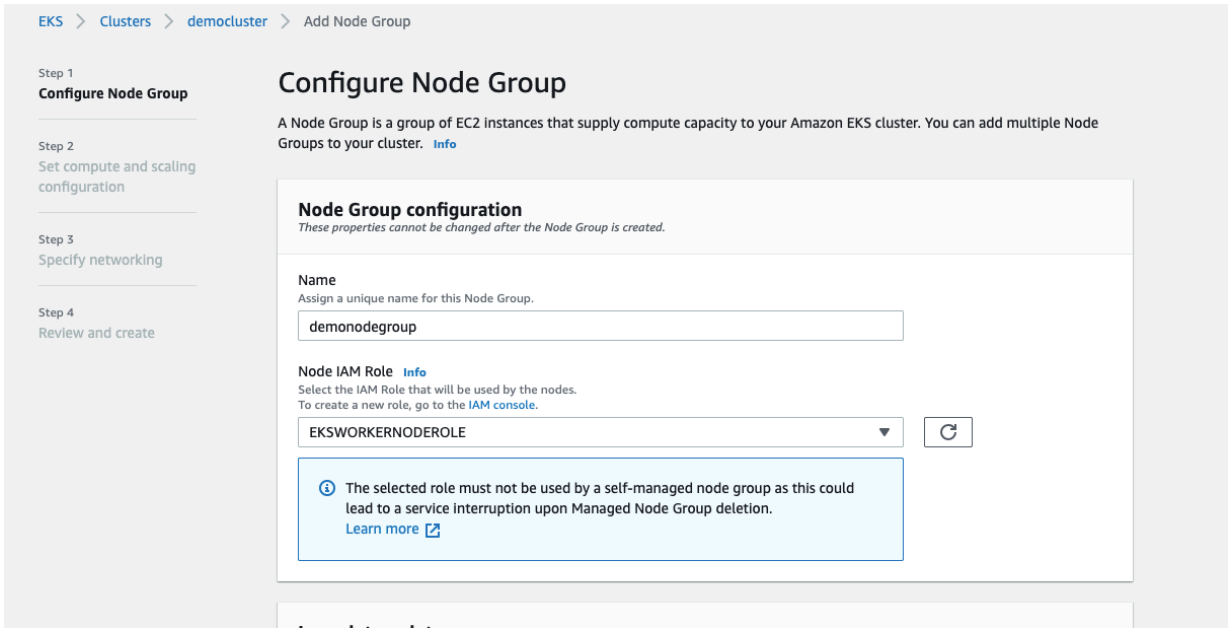
Policies
- AmazonEKS_CNI_Policy
- AmazonElasticContainerRegistryPublicReadOnly
- AmazonEKSWorkerNodePolicy

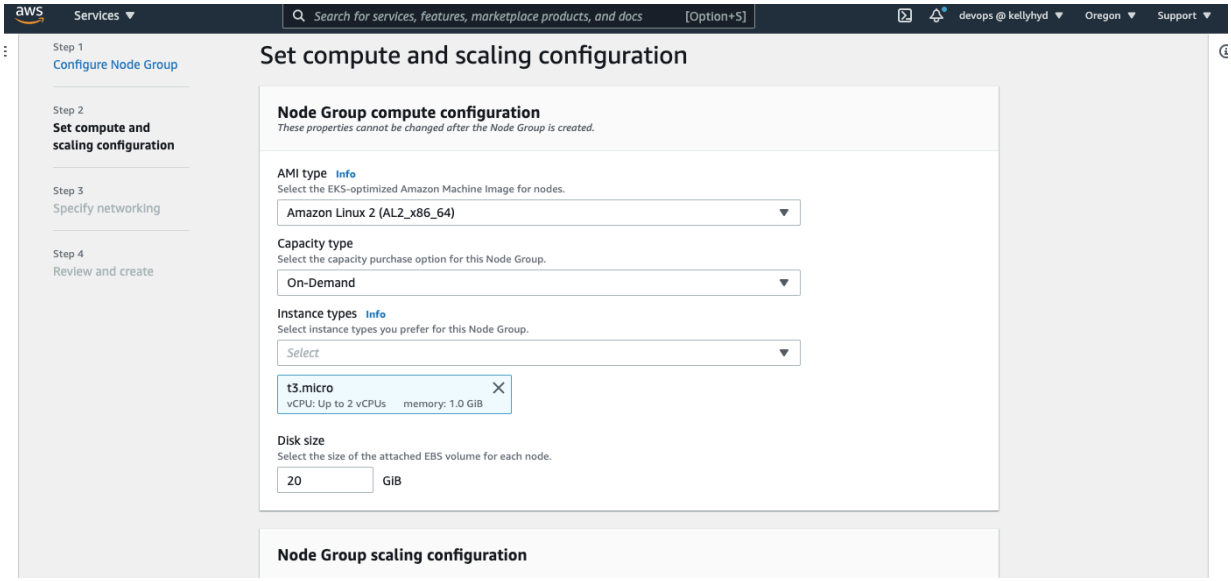
Permissions boundary Permissions boundary is not set

No tags were added.

*** Required** Cancel Previous Create role




EKS > Clusters > democluster > Add Node Group
Step 1
Configure Node Group
Step 2
Set compute and scaling configuration
Step 3
Specify networking
Step 4
Review and create
Configure Node Group
A Node Group is a group of EC2 instances that supply compute capacity to your Amazon EKS cluster. You can add multiple Node Groups to your cluster. Info
Node Group configuration
These properties cannot be changed after the Node Group is created.
Name
Assign a unique name for this Node Group.
demonodegroup
Node IAM Role Info
Select the IAM Role that will be used by the nodes.
To create a new role, go to the IAM console.
EKSWORKERNODEROLE
The selected role must not be used by a self-managed node group as this could lead to a service interruption upon Managed Node Group deletion.
Learn more


aws
Services
Search for services, features, marketplace products, and docs [Option+S]
devops @ kellyhyd
Oregon
Support
Step 1
Configure Node Group
Step 2
Set compute and scaling configuration
Step 3
Specify networking
Step 4
Review and create
Set compute and scaling configuration
Node Group compute configuration
These properties cannot be changed after the Node Group is created.
AMI type Info
Select the EKS-optimized Amazon Machine Image for nodes.
Amazon Linux 2 (AL2_x86_64)
Capacity type
Select the capacity purchase option for this Node Group.
On-Demand
Instance types Info
Select instance types you prefer for this Node Group.
Select
t3.micro
vCPU: Up to 2 vCPUs memory: 1.0 GiB
Disk size
Select the size of the attached EBS volume for each node.
20
GiB
Node Group scaling configuration

Node Group scaling configuration

Minimum size
Set the minimum number of nodes that the group can scale in to.

2 nodes

Minimum node size must be greater than or equal to 0

Maximum size
Set the maximum number of nodes that the group can scale out to.

2 nodes

Maximum node size must be greater than or equal to 1 and cannot be lower than the minimum size

Desired size
Set the desired number of nodes that the group should launch with initially.

2 nodes

Desired node size must be greater than or equal to 0

Node Group update configuration

Maximum unavailable
Set the maximum number or percentage of unavailable nodes to be tolerated during the node group version update.

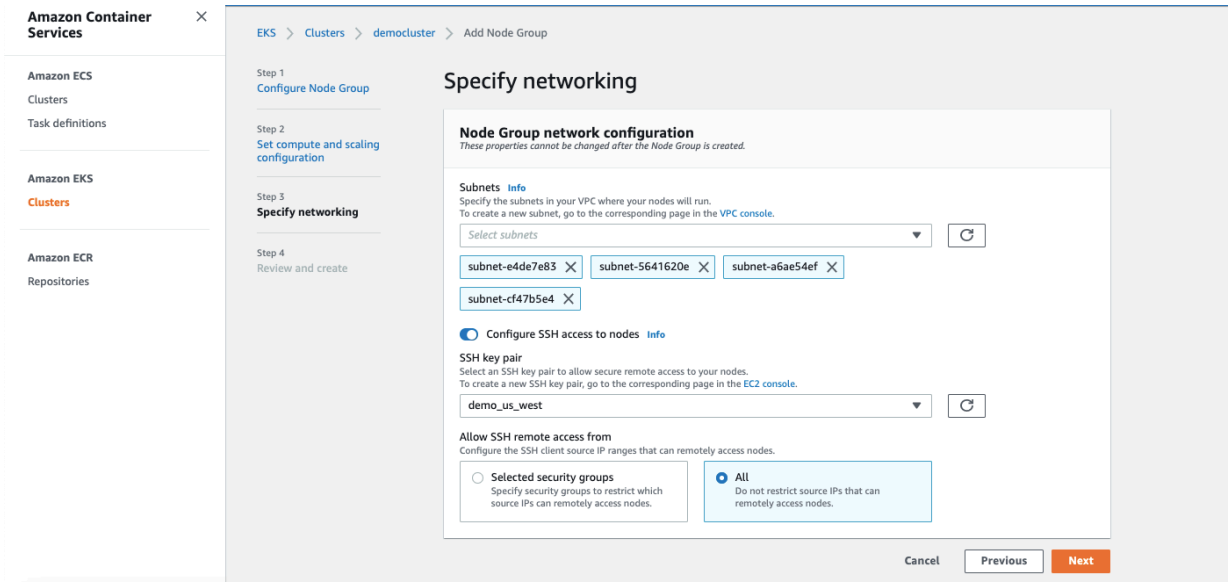
- (•) Number — Enter a number
- ( ) Percentage — Specify a percentage

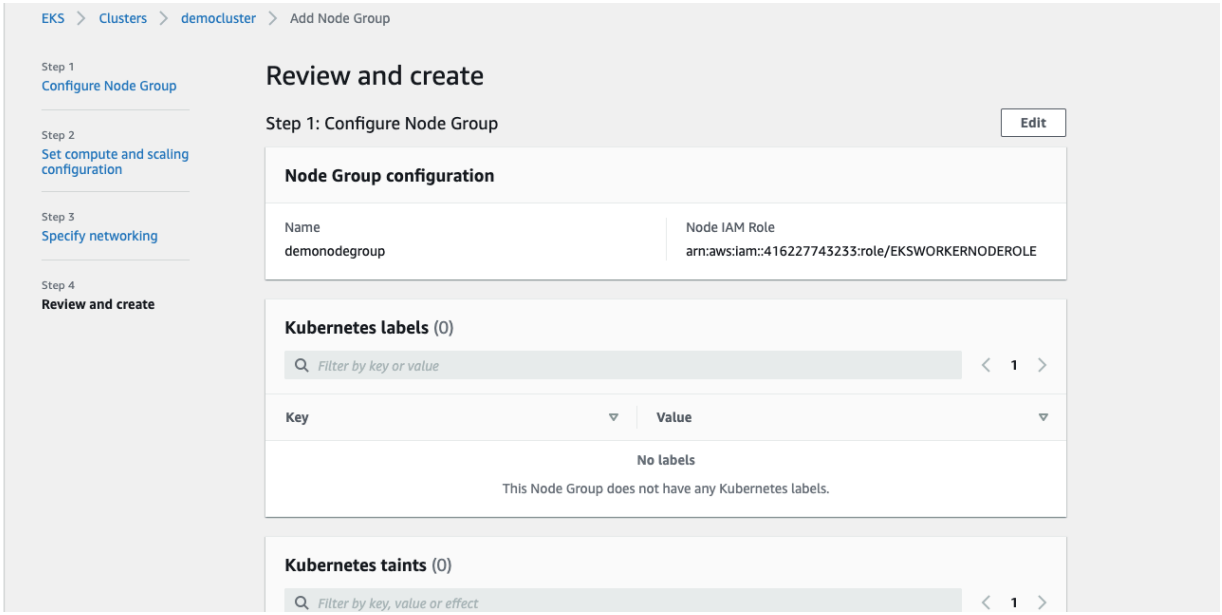
Value

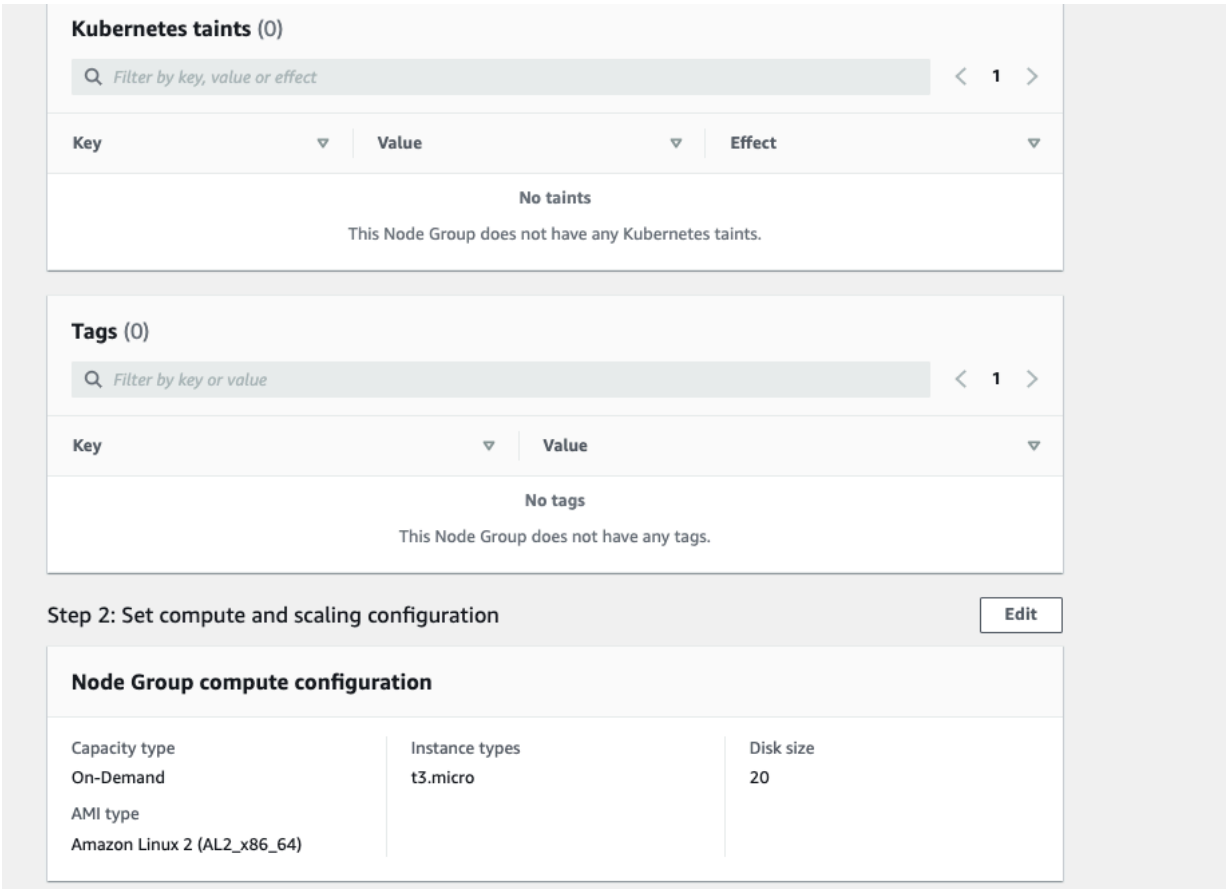
1 node

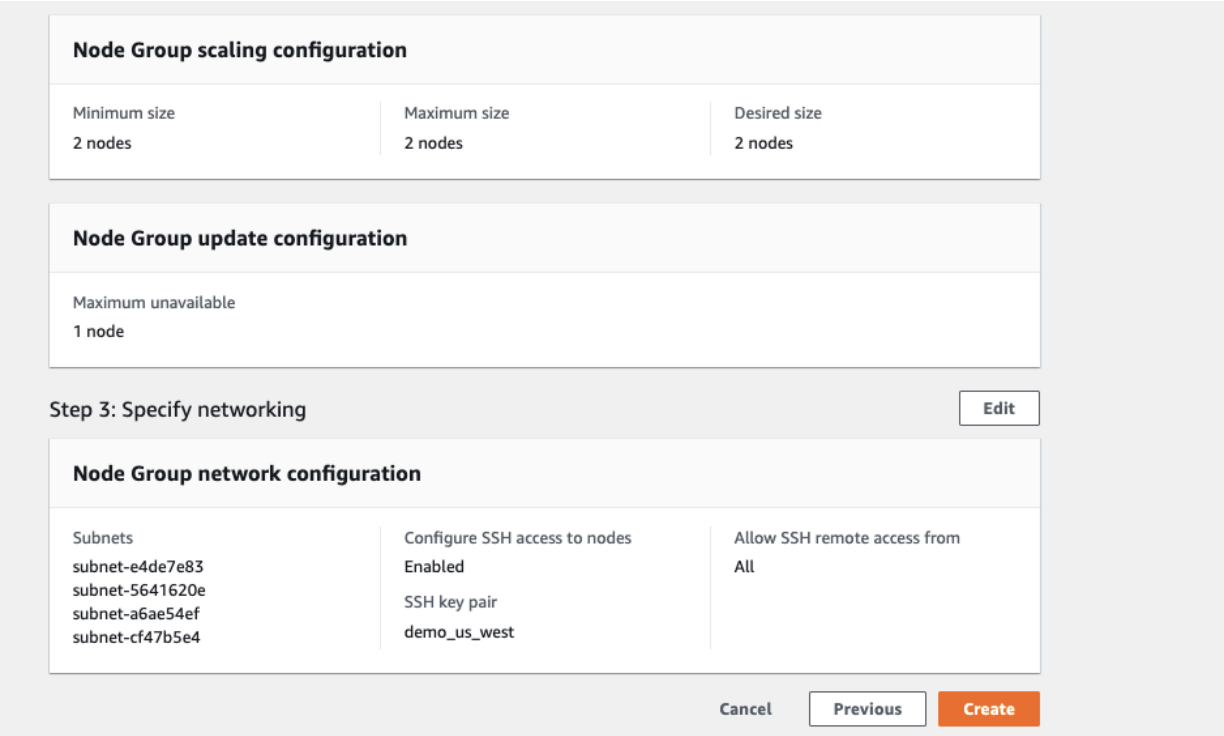
Node count must be greater than 0.

Cancel | Previous | Next




EKS > Clusters > democluster > Add Node Group
Step 1
Configure Node Group
Step 2
Set compute and scaling configuration
Step 3
Specify networking
Step 4
Review and create
Review and create
Step 1: Configure Node Group
Edit
Node Group configuration
Name
demonodegroup
Node IAM Role
arn:aws:iam::416227743233:role/EKSWORKERNODEROLE
Kubernetes labels (0)
Filter by key or value
1
Key
Value
No labels
This Node Group does not have any Kubernetes labels.
Kubernetes taints (0)
Filter by key, value or effect
1


Kubernetes taints (0)
Filter by key, value or effect
1
Key
Value
Effect
No taints
This Node Group does not have any Kubernetes taints.
Tags (0)
Filter by key or value
1
Key
Value
No tags
This Node Group does not have any tags.
Step 2: Set compute and scaling configuration
Edit
Node Group compute configuration
Capacity type
On-Demand
AMI type
Amazon Linux 2 (AL2_x86_64)
Instance types
t3.micro
Disk size
20




```
rayalajagadeesh@Rayalas-MacBook-Air ~ % kubectl get nodes --watch
NAME                                          STATUS   ROLES    AGE   VERSION
ip-172-31-63-192.us-west-2.compute.internal   Ready    <none>   70s   v1.21.2-eks-55daa9d
ip-172-31-9-121.us-west-2.compute.internal    Ready    <none>   77s   v1.21.2-eks-55daa9d
```

```
rayalajagadeesh@Rayalas-MacBook-Air kubernetes-knote % kubectl apply -f mongo.yaml
deployment.apps/mongo created
service/mongo created
rayalajagadeesh@Rayalas-MacBook-Air kubernetes-knote % kubectl apply -f knote.yaml
deployment.apps/knote created
service/knote created
rayalajagadeesh@Rayalas-MacBook-Air kubernetes-knote % kubectl get svc
NAME         TYPE           CLUSTER-IP       EXTERNAL-IP
       PORT(S)        AGE
knote        LoadBalancer   10.100.11.93     a6d0649f35e9e4a789d0cd7ddd905201-486091927.us-west-2.elb.amazonaw
s.com   80:30000/TCP   39s
kubernetes   ClusterIP      10.100.0.1       <none>
       443/TCP        42m
mongo        ClusterIP      10.100.232.184   <none>
       27017/TCP      68s
rayalajagadeesh@Rayalas-MacBook-Air kubernetes-knote % kubectl get pods -o wide
NAME                     READY   STATUS    RESTARTS   AGE    IP             NODE
          NOMINATED NODE   READINESS GATES
knote-db5699ccb-nsctr    1/1     Running   0          85s    172.31.53.59   ip-172-31-63-192.us-west-2.compute
.internal   <none>           <none>
mongo-58ff9c9df4-8rvlg   1/1     Running   0          113s   172.31.4.166   ip-172-31-9-121.us-west-2.compute.
internal    <none>           <none>
rayalajagadeesh@Rayalas-MacBook-Air kubernetes-knote %
```

```
rayalajagadeesh@Rayalas-MacBook-Air kubernetes-knote % nslookup a6d0649f35e9e4a789d0cd7ddd905201-486091927.us-
west-2.elb.amazonaws.com
Server:         2405:201:c037:e00d::c0a8:1d01
Address:        2405:201:c037:e00d::c0a8:1d01#53

Non-authoritative answer:
Name:   a6d0649f35e9e4a789d0cd7ddd905201-486091927.us-west-2.elb.amazonaws.com
Address: 44.236.253.106
Name:   a6d0649f35e9e4a789d0cd7ddd905201-486091927.us-west-2.elb.amazonaws.com
Address: 52.39.168.28

rayalajagadeesh@Rayalas-MacBook-Air kubernetes-knote % curl a6d0649f35e9e4a789d0cd7ddd905201-486091927.us-west
-2.elb.amazonaws.com
<html><head><title></title><link rel="stylesheet" href="tachyons.min.css"/></head><body class="ph3 pt0 pb4 mw7
 center sans-serif"><h1 class="f2 mb0"><span class="gold">k</span>note</h1><p class="f5 mt1 mb4 lh-copy">A sim
ple note-taking app.</p><form action="/note" method="POST" enctype="multipart/form-data"><ol class="list pl0">
<li class="mv3"><label class="f6 b db mb2" for="image">Upload an image</label><input class="f6 link dim br1 ba
 b--black-20 ph3 pv2 mb2 dib black bg-white pointer" type="file" name="image"/><input class="f6 link dim br1 b
a bw1 ph3 pv2 mb2 dib black bg-white pointer ml2" type="submit" value="Upload" name="upload"/></li><li class="
mv3"><label class="f6 b db mb2" for="description">Write your content here</label><textarea class="f4 db border
-box hover-black w-100 measure ba b--black-20 pa2 br2 mb2" rows="5" name="description"></textarea><input class
="f6 link dim br1 ba bw1 ph3 pv2 mb2 dib black bg-white pointer" type="submit" value="Publish" name="publish"/
></li></ol></form><p class="lh-copy f6">You don't have any notes yet.</p></body></html>%
rayalajagadeesh@Rayalas-MacBook-Air kubernetes-knote %
```