

Kubernetes Task-2

Task Description:

Create the K8s EKS, further you have to do the deployment of the Nginx application and access the application outside the cluster.

Techstacks needs to be used :

- AWS EKS
- EKSCtl
- Kubectl

Screenshots:

Google Drive Link :

https://docs.google.com/document/d/163y2Qkivrlszs6t_qwk3-yHviTa9eF98-d5iGSfGGDs/edit?usp=sharing

us-east-1.console.aws.amazon.com/iam/home?region=us-east-1#/users/details/poweruser01?section=security_credentials

Identity and Access Management (IAM)

Search IAM

- Dashboard
- Access management
 - User groups
 - Users**
 - Roles
 - Policies
 - Identity providers
 - Account settings
 - Root access management
- Access reports
 - Access Analyzer
 - External access
 - Unused access
 - Analyzer settings

Access keys (1)

Use access keys to send programmatic calls to AWS from the AWS CLI, AWS Tools for PowerShell, AWS SDKs, or direct AWS API calls. You can have a maximum of two access keys (active or inactive) at a time. [Learn more](#)

AKIA2OAJTS6CWWNV7RZC

Description: For-EKS

Status: Active

Last used: None

Created: 1 minute ago

Last used region: N/A

Last used service: N/A

[Actions](#)

SSH public keys for AWS CodeCommit (0)

Use SSH public keys to authenticate access to AWS CodeCommit repositories. You can have a maximum of five SSH public keys (active or inactive) at a time. [Learn more](#)

SSH Key ID	Uploaded	Status
No SSH public keys		

[Actions](#) [Upload SSH public key](#)

us-west-2.console.aws.amazon.com/ec2/home?region=us-west-2#Instances:v=3,\$case=tags:true%5C,client:false,\$regex=tags:false%5C,clie...

EC2 > Instances

Dashboard

EC2 Global View

Events

- Instances**
 - Instances**
 - Instance Types
 - Launch Templates
 - Spot Requests
 - Savings Plans
 - Reserved Instances
 - Dedicated Hosts
 - Capacity Reservations
- Images
 - AMIs
 - AMI Catalog
- Elastic Block Store
 - Volumes
 - Snapshots
 - Lifecycle Manager

Instances (1/1) Info

Find Instance by attribute or tag (case-sensitive)

All states

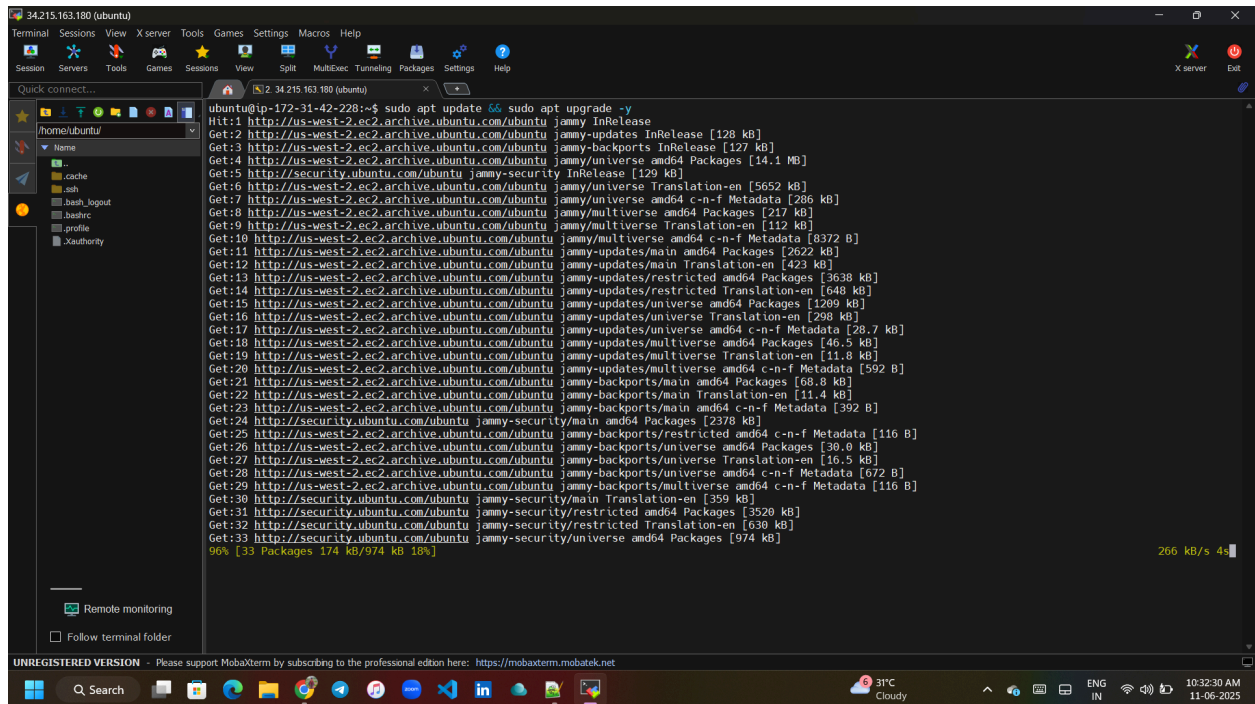
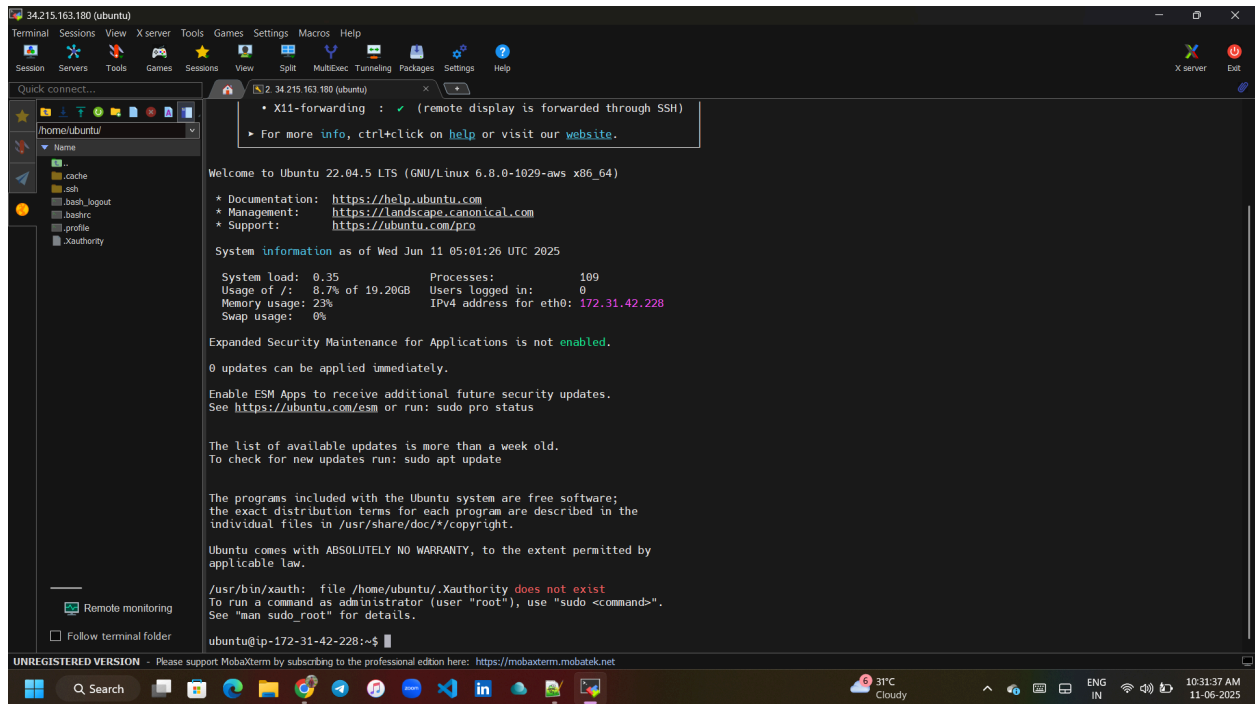
Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
EKS-Ubuntu	i-065d1a8f4ef66aa5e	Running	t2.micro	Initializing	View alarms +	us-west-2b	ec2-34-215-163-180.us...	34.215.163.18

i-065d1a8f4ef66aa5e (EKS-Ubuntu)

[Details](#) [Status and alarms](#) [Monitoring](#) [Security](#) [Networking](#) [Storage](#) [Tags](#)

Instance summary

Instance ID i-065d1a8f4ef66aa5e	Public IPv4 address 34.215.163.180 open address	Private IPv4 addresses 172.31.42.228
IPv6 address -	Instance state Running	Public DNS ec2-34-215-163-180.us-west-2.compute.amazonaws.com open address
Hostname type	Private IP DNS name (IPv4 only)	



```
34.215.163.180 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
/home/ubuntu
Name
  cache
  ash
  bash_logout
  bashrc
  profile
  xauthory
Remote monitoring
Follow terminal folder

ubuntu@ip-172-31-42-228:~$ sudo apt install unzip curl -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
curl is already the newest version (7.81.0-1ubuntu1.20).
curl set to manually installed.
Suggested packages:
  zip
The following NEW packages will be installed:
  unzip
0 upgraded, 1 newly installed, 0 to remove and 2 not upgraded.
Need to get 175 kB of archives.
After this operation, 386 kB of additional disk space will be used.
Get:1 http://us-west-2.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 unzip amd64 6.0-26ubuntu3.2 [175 kB]
Fetched 175 kB in 0s (6229 kB/s)
Selecting previously unselected package unzip.
(Reading database ... 65986 files and directories currently installed.)
Preparing to unpack .../unzip_6.0-26ubuntu3.2_amd64.deb ...
Unpacking unzip (6.0-26ubuntu3.2) ...
Setting up unzip (6.0-26ubuntu3.2) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Running kernel seems to be up-to-date.

Restarting services...
Service restarts being deferred:
/etc/needrestart/restart.d/dbus.service
systemctl restart getty@tty1.service
systemctl restart networkd-dispatcher.service
systemctl restart systemd-logind.service
systemctl restart unattended-upgrades.service
systemctl restart user@1000.service

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-42-228:~$
```

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31°C Cloudy 10:34:51 AM 11-06-2025

```
34.215.163.180 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
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Quick connect...
/home/ubuntu
Name
  cache
  ash
  bash_logout
  bashrc
  profile
  xauthory
Remote monitoring
Follow terminal folder

ubuntu@ip-172-31-42-228:~$ curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o awscli2.zip
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
100 62.9M 100 62.9M 0 0 4382k 0 0:00:14 0:00:14 --:--:-- 4416k
ubuntu@ip-172-31-42-228:~$ unzip awscli2.zip
Archive:  awscli2.zip
  creating: aws/
  creating: aws/dist/
  inflating: aws/README.md
  inflating: aws/install
  inflating: aws/THIRD_PARTY_LICENSES
  creating: aws/dist/awscli/
  creating: aws/dist/docutils/
  creating: aws/dist/lib-dynload/
  inflating: aws/dist/aws
  inflating: aws/dist/aws_completer
  inflating: aws/dist/libpython3.13.so.1.0
  inflating: aws/dist/_awscli.abi3.so
  inflating: aws/dist/_ruamel_yaml.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/libz.so.1
  inflating: aws/dist/libzma.so.5
  inflating: aws/dist/libbz2.so.1
  inflating: aws/dist/libffi.so.6
  inflating: aws/dist/libuuid.so.1
  inflating: aws/dist/libtinfo.so.5
  inflating: aws/dist/libreadline.so.6
  inflating: aws/dist/libsqlite3.so.0
  inflating: aws/dist/base_library.zip
  inflating: aws/dist/lib-dynload/_struct.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/_zlib.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/grp.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/math.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/select.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/_posixsubprocess.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/_fcntl.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/_datetree.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/_unicodedata.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/_csv.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/_statistics.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/_contextvars.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/_decimal.cpython-313-x86_64-linux-gnu.so
  inflating: aws/dist/lib-dynload/_pickle.cpython-313-x86_64-linux-gnu.so
```

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```
34.215.163.180 (ubuntu)
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Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
/home/ubuntu
Name
  cache
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  profile
  xauthory
Remote monitoring
Follow terminal folder

inflatng: aws/dist/awsccli/examples/translate/import-terminology.rst
inflatng: aws/dist/awsccli/examples/serverlessrepo/put-application-policy.rst
inflatng: aws/dist/awsccli/examples/dsql/generate-db-connect-auth-token.rst
inflatng: aws/dist/awsccli/examples/grafana/list-workspaces.rst
inflatng: aws/dist/awsccli/data/ac_index
inflatng: aws/dist/awsccli/data/metadata.json
inflatng: aws/dist/awsccli/data/cli.json
inflatng: aws/dist/awsccli/topics/ddb-expressions.rst
inflatng: aws/dist/awsccli/topics/config-vars.rst
inflatng: aws/dist/awsccli/topics/return-codes.rst
inflatng: aws/dist/awsccli/topics/s3-config.rst
inflatng: aws/dist/awsccli/topics/s3-faq.rst
inflatng: aws/dist/awsccli/topics/topic-tags.json
creatng: aws/dist/awsccli/customizations/sso/
creatng: aws/dist/awsccli/customizations/wizard/
inflatng: aws/dist/awsccli/customizations/sso/index.html
creatng: aws/dist/awsccli/customizations/wizard/wizards/
creatng: aws/dist/awsccli/customizations/wizard/wizards/configure/
creatng: aws/dist/awsccli/customizations/wizard/wizards/dynamodb/
creatng: aws/dist/awsccli/customizations/wizard/wizards/events/
creatng: aws/dist/awsccli/customizations/wizard/wizards/iam/
creatng: aws/dist/awsccli/customizations/wizard/wizards/lambda/
inflatng: aws/dist/awsccli/customizations/wizard/wizards/iam/new-role.yml
inflatng: aws/dist/awsccli/customizations/wizard/wizards/events/new-rule.yml
inflatng: aws/dist/awsccli/customizations/wizard/wizards/configure/_main.yml
inflatng: aws/dist/awsccli/customizations/wizard/wizards/dynamodb/new-table.yml
inflatng: aws/dist/awsccli/customizations/wizard/wizards/lambda/new-function.yml
ubuntu@ip-172-31-42-228:~$ ls -ltr
total 64508
drwxr-xr-x 3 ubuntu ubuntu 4096 Jun 10 18:10 aws
-rw-r--r-- 1 ubuntu ubuntu 66050300 Jun 11 05:05 awsccli.v2.zip
ubuntu@ip-172-31-42-228:~$ sudo ./aws-install
You can now run: /usr/local/bin/aws --version
ubuntu@ip-172-31-42-228:~$ aws --version
aws-cli/2.27.33 Python/3.13.3 Linux/6.8.0-1029-aws exe/x86_64.ubuntu.22
ubuntu@ip-172-31-42-228:~$
```

```
34.215.163.180 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
/home/ubuntu
Name
  cache
  ash
  bash_logout
  bashrc
  profile
  xauthory
Remote monitoring
Follow terminal folder

ubuntu@ip-172-31-42-228:~$ ls -ltr
total 64508
drwxr-xr-x 3 ubuntu ubuntu 4096 Jun 10 18:10 aws
-rw-r--r-- 1 ubuntu ubuntu 66050300 Jun 11 05:05 awsccli.v2.zip
ubuntu@ip-172-31-42-228:~$ aws --version
aws-cli/2.27.33 Python/3.13.3 Linux/6.8.0-1029-aws exe/x86_64.ubuntu.22
ubuntu@ip-172-31-42-228:~$ curl -LO "https://dl.k8s.io/release/v1.29.2/bin/linux/amd64/kubectl"
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
100 138 100 138 0 0 976 0 --:--:-- --:--:-- --:--:-- 971
100 47.4M 100 47.4M 0 0 4063k 0 0:00:11 0:00:11 --:--:-- 4146k
ubuntu@ip-172-31-42-228:~$ chmod +x kubectl
ubuntu@ip-172-31-42-228:~$ sudo mv kubectl /usr/local/bin/
ubuntu@ip-172-31-42-228:~$ kubectl version --client
Kustomize Version: v5.0.4-0.20230601165947-6ce0bf390ce3
Client Version: v1.29.2
ubuntu@ip-172-31-42-228:~$ curl --silent --location "https://github.com/weaveworks/eksctl/releases/latest/download/eksctl_${uname -s}_amd64.tar.gz" | sudo tar
xz -C /usr/local/bin
ubuntu@ip-172-31-42-228:~$ eksctl version
0.219.0
ubuntu@ip-172-31-42-228:~$
```

```
34.215.163.180 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
/home/ubuntu
Name
  cache
  ash
  bash_logout
  bashrc
  profile
  xauthory
Remote monitoring
Follow terminal folder

ubuntu@ip-172-31-42-228:~$ aws configure
AWS Access Key ID [*****]: *****7RZC
AWS Secret Access Key [*****]: *****t0L/
Default region name [us-west-2]: us-west-2
Default output format [None]:

ubuntu@ip-172-31-42-228:~$ aws configure list
Name Value Type Location
----
profile <not set> None None
access_key *****7RZC shared-credentials-file
secret_key *****t0L/ shared-credentials-file
region us-west-2 config-file ~/.aws/config

ubuntu@ip-172-31-42-228:~$ eksctl create cluster \
--name my-nginx-cluster \
--region us-west-2 \
--version 1.27 \
--nodegroup-name nginx-nodes \
--node-type t3.medium \
--nodes 2 \
--nodes-min 1 \
--nodes-max 3 \
--managed
2025-06-11 05:54:27 [0] eksctl version 0.210.0
2025-06-11 05:54:27 [0] using region us-west-2
2025-06-11 05:54:27 [1] Amazon EKS will no longer publish EKS-optimized Amazon Linux 2 (AL2) AMIs after November 26th, 2025. Additionally, Kubernetes version 1.32 is the last version for which Amazon EKS will release AL2 AMIs. From version 1.33 onwards, Amazon EKS will continue to release AL2023 and Bottlerocket based AMIs. The default AMI family when creating clusters and nodegroups in Eksctl will be changed to AL2023 in the future.
2025-06-11 05:54:28 [0] setting availability zones to [us-west-2c us-west-2a us-west-2d]
2025-06-11 05:54:28 [0] subnets for us-west-2c - public:192.168.0.0/19 private:192.168.96.0/19
2025-06-11 05:54:28 [0] subnets for us-west-2a - public:192.168.32.0/19 private:192.168.128.0/19
2025-06-11 05:54:28 [0] subnets for us-west-2d - public:192.168.64.0/19 private:192.168.160.0/19
2025-06-11 05:54:28 [0] nodegroup "nginx-nodes" will use "" [AmazonLinux2/1.27]
2025-06-11 05:54:28 [0] using Kubernetes version 1.27
2025-06-11 05:54:28 [0] creating EKS cluster "my-nginx-cluster" in "us-west-2" region with managed nodes
2025-06-11 05:54:28 [0] will create 2 separate CloudFormation stacks for cluster itself and the initial managed nodegroup
2025-06-11 05:54:28 [0] if you encounter any issues, check CloudFormation console or try 'eksctl utils describe-stacks --region=us-west-2 --cluster=my-nginx-cluster'
2025-06-11 05:54:28 [0] Kubernetes API endpoint access will use default of {publicAccess=true, privateAccess=false} for cluster "my-nginx-cluster" in "us-west-2"
2025-06-11 05:54:28 [0] CloudWatch logging will not be enabled for cluster "my-nginx-cluster" in "us-west-2"
2025-06-11 05:54:28 [0] you can enable it with 'eksctl utils update-cluster-logging --enable-types={SPECIFY-YOUR-LOG-TYPES-HERE (e.g. all)} --region=us-west-2 --cluster=my-nginx-cluster'

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```
34.215.163.180 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
/home/ubuntu
Name
  cache
  ash
  bash_logout
  bashrc
  profile
  xauthory
Remote monitoring
Follow terminal folder

2025-06-11 05:58:28 [0] waiting for CloudFormation stack "eksctl-my-nginx-cluster-cluster"
2025-06-11 05:59:28 [0] waiting for CloudFormation stack "eksctl-my-nginx-cluster-cluster"
2025-06-11 06:00:28 [0] waiting for CloudFormation stack "eksctl-my-nginx-cluster-cluster"
2025-06-11 06:01:28 [0] waiting for CloudFormation stack "eksctl-my-nginx-cluster-cluster"
2025-06-11 06:02:28 [0] waiting for CloudFormation stack "eksctl-my-nginx-cluster-cluster"
2025-06-11 06:03:28 [0] waiting for CloudFormation stack "eksctl-my-nginx-cluster-cluster"
2025-06-11 06:03:29 [0] creating addon: kube-proxy
2025-06-11 06:03:29 [0] successfully created addon: kube-proxy
2025-06-11 06:03:29 [0] creating addon: coredns
2025-06-11 06:03:30 [0] successfully created addon: coredns
2025-06-11 06:03:30 [0] creating addon: metrics-server
2025-06-11 06:03:30 [0] successfully created addon: metrics-server
2025-06-11 06:03:31 [1] 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 identity associations; after addon creation is completed, add all recommended policies to the config file, under "addon.PodIdentityAssociations", and run 'eksctl update addon'
2025-06-11 06:03:31 [0] creating addon: vpc-cni
2025-06-11 06:03:31 [0] successfully created addon: vpc-cni
2025-06-11 06:05:31 [0] building managed nodegroup stack "eksctl-my-nginx-cluster-nodegroup-nginx-nodes"
2025-06-11 06:05:32 [0] deploying stack "eksctl-my-nginx-cluster-nodegroup-nginx-nodes"
2025-06-11 06:06:32 [0] waiting for CloudFormation stack "eksctl-my-nginx-cluster-nodegroup-nginx-nodes"
2025-06-11 06:06:32 [0] waiting for CloudFormation stack "eksctl-my-nginx-cluster-nodegroup-nginx-nodes"
2025-06-11 06:06:58 [0] waiting for CloudFormation stack "eksctl-my-nginx-cluster-nodegroup-nginx-nodes"
2025-06-11 06:08:09 [0] waiting for CloudFormation stack "eksctl-my-nginx-cluster-nodegroup-nginx-nodes"
2025-06-11 06:08:09 [0] waiting for the control plane to become ready
2025-06-11 06:08:10 [0] saved kubeconfig as "/home/ubuntu/.kube/config"
2025-06-11 06:08:10 [0] no tasks
2025-06-11 06:08:10 [0] all EKS cluster resources for "my-nginx-cluster" have been created
2025-06-11 06:08:10 [0] nodegroup "nginx-nodes" has 2 node(s)
2025-06-11 06:08:10 [0] node "ip-192-168-57-137.us-west-2.compute.internal" is ready
2025-06-11 06:08:10 [0] node "ip-192-168-7-65.us-west-2.compute.internal" is ready
2025-06-11 06:08:10 [0] waiting for at least 1 node(s) to become ready in "nginx-nodes"
2025-06-11 06:08:10 [0] nodegroup "nginx-nodes" has 2 node(s)
2025-06-11 06:08:10 [0] node "ip-192-168-57-137.us-west-2.compute.internal" is ready
2025-06-11 06:08:10 [0] node "ip-192-168-7-65.us-west-2.compute.internal" is ready
2025-06-11 06:08:10 [0] created 1 managed nodegroup(s) in cluster "my-nginx-cluster"
2025-06-11 06:08:11 [0] kubectcl command should work with "/home/ubuntu/.kube/config", try 'kubectcl get nodes'
2025-06-11 06:08:11 [0] EKS cluster "my-nginx-cluster" in "us-west-2" region is ready
ubuntu@ip-172-31-42-228:~$ kubectcl get nodes
NAME STATUS ROLES AGE VERSION
ip-192-168-57-137.us-west-2.compute.internal Ready <none> 6m26s v1.27.16-eks-aead579
ip-192-168-7-65.us-west-2.compute.internal Ready <none> 6m28s v1.27.16-eks-aead579

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```

```
34.215.163.180 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
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Quick connect...
/home/ubuntu
  Name
  cache
  ash
  bash_logout
  bashrc
  profile
  xauthory
Remote monitoring
Follow terminal folder

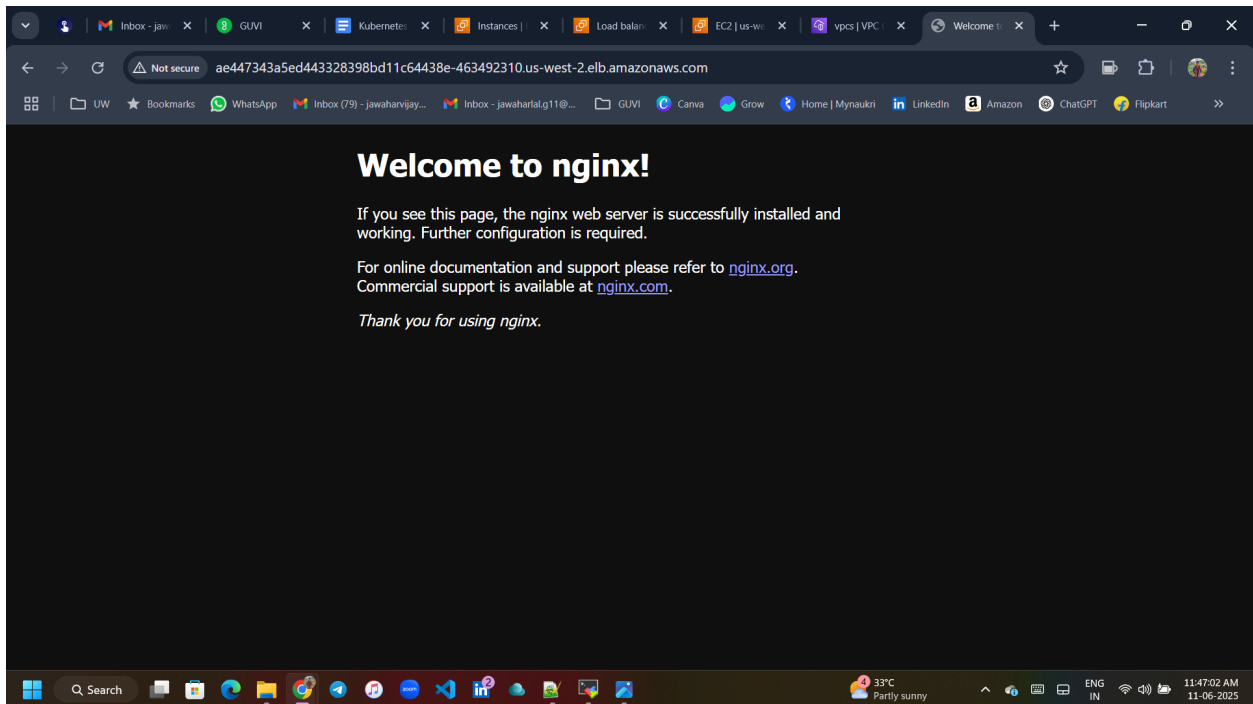
2025-06-11 06:08:10 [0] nodegroup "nginx-nodes" has 2 node(s)
2025-06-11 06:08:10 [0] node "ip-192-168-57-137.us-west-2.compute.internal" is ready
2025-06-11 06:08:10 [0] node "ip-192-168-7-65.us-west-2.compute.internal" is ready
2025-06-11 06:08:10 [0] waiting for at least 1 node(s) to become ready in "nginx-nodes"
2025-06-11 06:08:10 [0] nodegroup "nginx-nodes" has 2 node(s)
2025-06-11 06:08:10 [0] node "ip-192-168-57-137.us-west-2.compute.internal" is ready
2025-06-11 06:08:10 [0] node "ip-192-168-7-65.us-west-2.compute.internal" is ready
2025-06-11 06:08:11 [0] created 1 managed nodegroup(s) in cluster "my-nginx-cluster"
2025-06-11 06:08:11 [0] kubectrl command should work with "/home/ubuntu/.kube/config", try 'kubectrl get nodes'
2025-06-11 06:08:11 [0] EKS cluster "my-nginx-cluster" in "us-west-2" region is ready
ubuntu@ip-172-31-42-228:~$ kubectrl get nodes
NAME                                STATUS    ROLES    AGE    VERSION
ip-192-168-57-137.us-west-2.compute.internal Ready    <none>   6m26s  v1.27.16-eks-aead579
ip-192-168-7-65.us-west-2.compute.internal Ready    <none>   6m28s  v1.27.16-eks-aead579
ubuntu@ip-172-31-42-228:~$ nano nginx-deployment.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deployment
spec:
  replicas: 2
  selector:
    matchLabels:
      app: nginx
  template:
    metadata:
      labels:
        app: nginx
    spec:
      containers:
        - name: nginx
          image: nginx
          ports:
            - containerPort: 80
ubuntu@ip-172-31-42-228:~$ kubectrl apply -f nginx-deployment.yaml
deployment.apps/nginx-deployment created
ubuntu@ip-172-31-42-228:~$ kubectrl get pods
NAME                                READY    STATUS    RESTARTS  AGE
nginx-deployment-55f598f8d-dg7g2    1/1      Running   0          9s
nginx-deployment-55f598f8d-t5n6b    1/1      Running   0          9s
ubuntu@ip-172-31-42-228:~$
```

```
34.215.163.180 (ubuntu)
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Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
/home/ubuntu
  Name
  cache
  ash
  bash_logout
  bashrc
  profile
  xauthory
Remote monitoring
Follow terminal folder

ubuntu@ip-172-31-42-228:~$ nano nginx-deployment.yaml
ubuntu@ip-172-31-42-228:~$ cat nginx-deployment.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deployment
spec:
  replicas: 2
  selector:
    matchLabels:
      app: nginx
  template:
    metadata:
      labels:
        app: nginx
    spec:
      containers:
        - name: nginx
          image: nginx
          ports:
            - containerPort: 80
ubuntu@ip-172-31-42-228:~$ kubectrl apply -f nginx-deployment.yaml
deployment.apps/nginx-deployment created
ubuntu@ip-172-31-42-228:~$ kubectrl get pods
NAME                                READY    STATUS    RESTARTS  AGE
nginx-deployment-55f598f8d-dg7g2    1/1      Running   0          9s
nginx-deployment-55f598f8d-t5n6b    1/1      Running   0          9s
ubuntu@ip-172-31-42-228:~$ nano nginx-service.yaml
ubuntu@ip-172-31-42-228:~$ cat nginx-service.yaml
apiVersion: v1
kind: Service
metadata:
  name: nginx-service
spec:
  selector:
    app: nginx
  type: LoadBalancer
  ports:
    - protocol: TCP
      port: 80
      targetPort: 80
ubuntu@ip-172-31-42-228:~$
```

```
34.215.163.180 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
/home/ubuntu
Name
  cache
  ash
  bash_logout
  bashrc
  profile
  xauthonly
Remote monitoring
Follow terminal folder

spec:
  selector:
    app: nginx
  type: LoadBalancer
  ports:
    - protocol: TCP
      port: 80
      targetPort: 80
ubuntu@ip-172-31-42-228:~$ kubectl apply -f nginx-service.yaml
service/nginx-service created
ubuntu@ip-172-31-42-228:~$ kubectl get svc nginx-service
NAME      TYPE      CLUSTER-IP      EXTERNAL-IP      PORT(S)      AGE
nginx-service  LoadBalancer  10.100.117.180   ae447343a5ed443328398bd11c64438e-463492310.us-west-2.elb.amazonaws.com  80:30389/TCP  14s
ubuntu@ip-172-31-42-228:~$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
nginx-deployment-55f598f8d-d97g2    1/1     Running   0           73s
nginx-deployment-55f598f8d-t5n6b    1/1     Running   0           73s
ubuntu@ip-172-31-42-228:~$ curl ae447343a5ed443328398bd11c64438e-463492310.us-west-2.elb.amazonaws.com
<!DOCTYPE html>
<html>
<head>
<title>Welcome to nginx!</title>
<style>
html { color-scheme: light dark; }
body { width: 35em; margin: 0 auto;
font-family: Tahoma, Verdana, Arial, sans-serif; }
</style>
</head>
<body>
<h1>Welcome to nginx!</h1>
<p>If you see this page, the nginx web server is successfully installed and working. Further configuration is required.</p>
<p>For online documentation and support please refer to
<a href="http://nginx.org/">nginx.org</a>.<br/>
Commercial support is available at
<a href="http://nginx.com/">nginx.com</a>.</p>
<p><em>Thank you for using nginx.</em></p>
</body>
</html>
ubuntu@ip-172-31-42-228:~$
```




```
34.215.163.180 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
/home/ubuntu
Name
cache
ssh
bash_logout
bashrc
profile
xauthory
Remote monitoring
Follow terminal folder

~/body>
~/html>
ubuntu@ip-172-31-42-228:~$ kubectl get nodes
NAME                                STATUS    ROLES    AGE   VERSION
ip-192-168-57-137.us-west-2.compute.internal Ready    <none>   10m   v1.27.16-eks-a6ac579
ip-192-168-7-65.us-west-2.compute.internal Ready    <none>   10m   v1.27.16-eks-a6ac579
ubuntu@ip-172-31-42-228:~$ kubectl get pods
NAME                                READY    STATUS    RESTARTS   AGE
nginx-deployment-55f598f8d-dg7g2    1/1      Running   0           3m10s
nginx-deployment-55f598f8d-t9n6b    1/1      Running   0           3m10s
ubuntu@ip-172-31-42-228:~$ aws sts get-caller-identity && aws eks list-clusters --region us-west-2 && aws ec2 describe-reservations --region us-west-2
{
  "UserId": "AIDA20AJTS6C3A7VMHC6F",
  "Account": "717279696773",
  "Arn": "arn:aws:iam::717279696773:user/poweruser01"
}
{
  "clusters": [
    "my-nginx-cluster"
  ]
}
{
  "Reservations": [
    {
      "ReservationId": "r-013c887509865d07d",
      "OwnerId": "717279696773",
      "RequesterId": "414886884714",
      "Groups": [],
      "Instances": [
        {
          "Architecture": "x86_64",
          "BlockDeviceMappings": [
            {
              "DeviceName": "/dev/xvda",
              "Ebs": {
                "AttachTime": "2025-06-11T06:06:30+00:00",
                "DeleteOnTermination": true,
                "Status": "attached",
                "VolumeId": "vol-01034617998f65e54"
              }
            }
          ]
        }
      ]
    }
  ],
  "ClientToken": "fleet-928583a4-a194-c1b4-2690-a688d3b01b08-0",
  "EbsOptimized": false,
  "EnaSupport": true,
  "Hypervisor": "xen",
  "IamInstanceProfile": {
    "Arn": "arn:aws:iam::717279696773:instance-profile/eks-cccbaecc-2a03-6e8e-f5df-0a946e075b1e",
    "Id": "AIPA20AJTS6CWOFT6WCCS"
  },
  "NetworkInterfaces": [
    {
      "Association": {
        "IpOwnerId": "amazon",
        "PublicDnsName": "ec2-35-89-53-155.us-west-2.compute.amazonaws.com",
        "PublicIp": "35.89.53.155"
      },
      "Attachment": {
        "AttachTime": "2025-06-11T06:06:37+00:00",
        "AttachmentId": "eni-attach-074e8555f38d1bc82",
        "DeleteOnTermination": true,
        "DeviceIndex": 0,

```

```
34.215.163.180 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
/home/ubuntu
Name
cache
ssh
bash_logout
bashrc
profile
xauthory
Remote monitoring
Follow terminal folder

{
  "Reservations": [
    {
      "ReservationId": "r-013c887509865d07d",
      "OwnerId": "717279696773",
      "RequesterId": "414886884714",
      "Groups": [],
      "Instances": [
        {
          "Architecture": "x86_64",
          "BlockDeviceMappings": [
            {
              "DeviceName": "/dev/xvda",
              "Ebs": {
                "AttachTime": "2025-06-11T06:06:30+00:00",
                "DeleteOnTermination": true,
                "Status": "attached",
                "VolumeId": "vol-01034617998f65e54"
              }
            }
          ]
        }
      ]
    }
  ],
  "ClientToken": "fleet-928583a4-a194-c1b4-2690-a688d3b01b08-0",
  "EbsOptimized": false,
  "EnaSupport": true,
  "Hypervisor": "xen",
  "IamInstanceProfile": {
    "Arn": "arn:aws:iam::717279696773:instance-profile/eks-cccbaecc-2a03-6e8e-f5df-0a946e075b1e",
    "Id": "AIPA20AJTS6CWOFT6WCCS"
  },
  "NetworkInterfaces": [
    {
      "Association": {
        "IpOwnerId": "amazon",
        "PublicDnsName": "ec2-35-89-53-155.us-west-2.compute.amazonaws.com",
        "PublicIp": "35.89.53.155"
      },
      "Attachment": {
        "AttachTime": "2025-06-11T06:06:37+00:00",
        "AttachmentId": "eni-attach-074e8555f38d1bc82",
        "DeleteOnTermination": true,
        "DeviceIndex": 0,

```