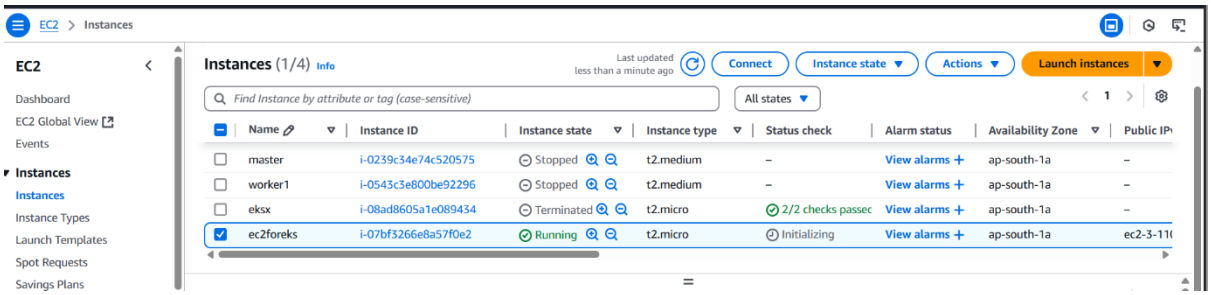
Steps for creating EKS cluster using aws cli

Create EC2 instance and connect ec2 instance using putty but passing keypair



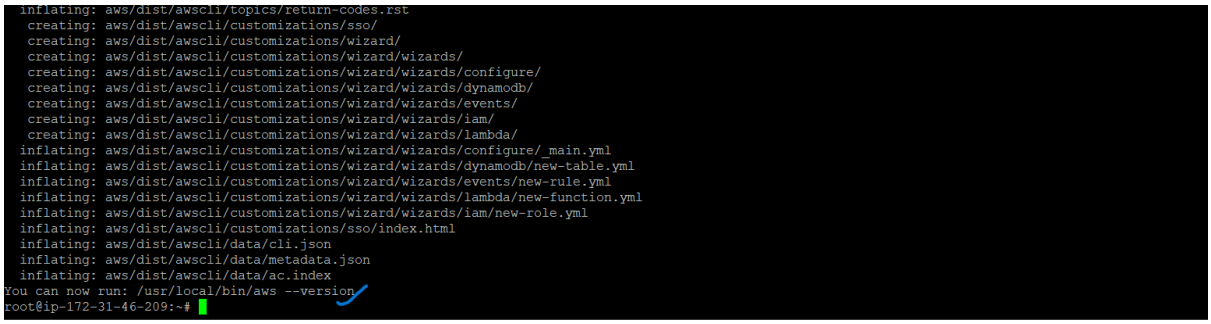
Install aws cli using below commands.

curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"

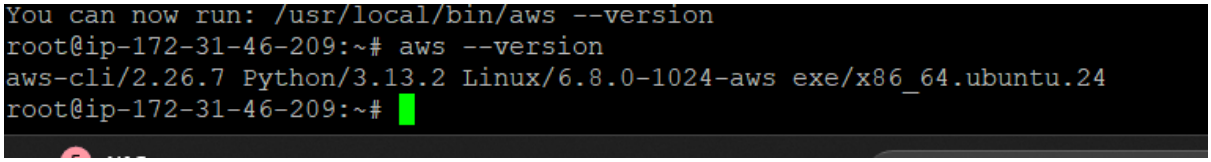
apt install unzip

unzip awscliv2.zip

sudo ./aws/install



After installing cli check the version of aws cli using below command



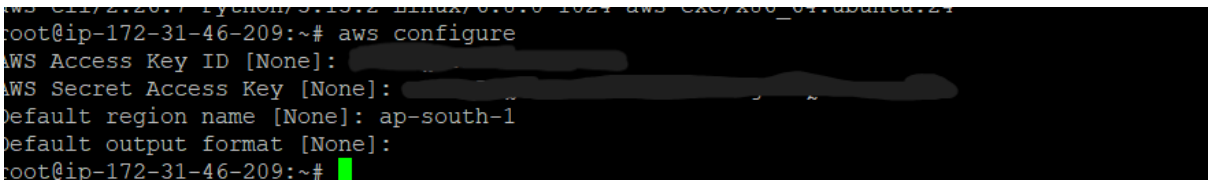
Configure aws cli using aws configure

For this we need to create iam user and attach below polices.

aws AmazonEKSClusterPolicy and AmazonEKSServicePolicy

then create access key and secreat key.

Using this access key and secreat key configure aws cli.



Install kubectl to interact with Kubernetes cluster bu suing below commands.

curl -LO "https://dl.k8s.io/release/**$(**curl -L -s https://dl.k8s.io/release/stable.txt**)**/bin/linux/amd64/kubectl"

chmod +x ./kubectl

cp kubectl /usr/local/bin

```
ubuntu@ip-172-31-46-209:~$ sudo su -
root@ip-172-31-46-209:~# curl -LO "https://dl.k8s.io/release/$(curl -L -s
https://dl.k8s.io/release/stable.txt)/bin/linux/amd64/kubectl"
curl: (2) no URL specified
curl: try 'curl --help' or 'curl --manual' for more information
-bash: https://dl.k8s.io/release/stable.txt: No such file or directory
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100   138  100   138    0     0    451      0 --:--:-- --:--:-- --:--:--   452
100   238  100   238    0     0    391      0 --:--:-- --:--:-- --:--:--  2453
root@ip-172-31-46-209:~# chmod +x ./kubectl
root@ip-172-31-46-209:~# cp kubectl /usr/local/bin
root@ip-172-31-46-209:~# ls
aws  awscliv2.zip  kubectl  snap
root@ip-172-31-46-209:~# cd /usr/local/bin
root@ip-172-31-46-209:/usr/local/bin# ls
aws  aws_completer  kubectl
root@ip-172-31-46-209:/usr/local/bin# ~
```

After installing kubectl check the version using kubectl version

```
root@ip-172-31-46-209:~# kubectl version
Client Version: v1.32.4
Kustomize Version: v5.5.0
The connection to the server localhost:8080 was refused - did you specify the right host or port?
root@ip-172-31-46-209:~#
```

Install EKS using below commands

for ARM systems, set ARCH to: `arm64`, `armv6` or `armv7`

ARCH=amd64

PLATFORM=$(uname -s)_$ARCH

curl -sLO "https://github.com/eksctl-io/eksctl/releases/latest/download/eksctl_$PLATFORM.tar.gz"

(Optional) Verify checksum

curl -sL "https://github.com/eksctl-io/eksctl/releases/latest/download/eksctl_checksums.txt" | grep $PLATFORM | sha256sum --check

tar -xzf eksctl_$PLATFORM.tar.gz -C /tmp && rm eksctl_$PLATFORM.tar.gz

sudo mv /tmp/eksctl /usr/local/bin

```
he connection to the server localhost:8080 was refused - did you specify the right host or port?
oot@ip-172-31-46-209:~# # for ARM systems, set ARCH to: `arm64`, `armv6` or `armv7`
RCH=amd64
LATFORM=$(uname -s)_$ARCH

url -sLO "https://github.com/eksctl-io/eksctl/releases/latest/download/eksctl_$PLATFORM.tar.gz"

 (Optional) Verify checksum
url -sL "https://github.com/eksctl-io/eksctl/releases/latest/download/eksctl_checksums.txt" | grep $PLATFORM | sha256sum --check

ar -xzf eksctl_$PLATFORM.tar.gz -C /tmp && rm eksctl_$PLATFORM.tar.gz

udo mv /tmp/eksctl /usr/local/bin
ksctl_Linux_amd64.tar.gz: OK
oot@ip-172-31-46-209:~#
```

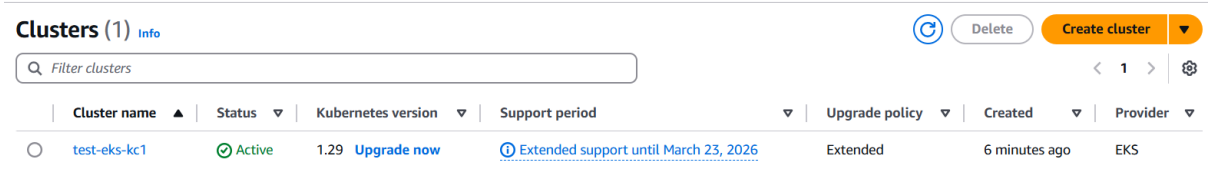
Check the eks installation version

```
root@ip-172-31-46-209:~# eksctl version
0.207.0
```

Now create eks cluster using below command

eksctl create cluster --name test-eks-kc --version 1.29 --region ap-south-1 --nodegroup-name worker-nodes --node-type t2.medium --nodes 1

```
root@ip-172-31-46-209:~# eksctl delete cluster --name test-eks-kc --region ap-south-1
Error: unable to describe cluster control plane: operation error EKS: DescribeCluster, https response error StatusCode: 404, RequestID: f01a5677-a1cc-4607-a3a3-5035796
dException: No cluster found for name: test-eks-kc.
root@ip-172-31-46-209:~# eksctl create cluster --name test-eks-kc1 --version 1.29 --region ap-south-1 --nodegroup-name worker-nodes --node-type t2.medium --nodes 1
2025-04-23 10:43:21 [ℹ]  eksctl version 0.207.0
2025-04-23 10:43:21 [ℹ]  using region ap-south-1
2025-04-23 10:43:22 [ℹ]  skipping ap-south-1c from selection because it doesn't support the following instance type(s): t2.medium
2025-04-23 10:43:22 [ℹ]  setting availability zones to [ap-south-1a ap-south-1b]
2025-04-23 10:43:22 [ℹ]  subnets for ap-south-1a - public:192.168.0.0/19 private:192.168.64.0/19
2025-04-23 10:43:22 [ℹ]  subnets for ap-south-1b - public:192.168.32.0/19 private:192.168.96.0/19
2025-04-23 10:43:22 [ℹ]  nodegroup "worker-nodes" will use "" [AmazonLinux2/1.29]
2025-04-23 10:43:22 [ℹ]  using Kubernetes version 1.29
2025-04-23 10:43:22 [ℹ]  creating EKS cluster "test-eks-kc1" in "ap-south-1" region with managed nodes
2025-04-23 10:43:22 [ℹ]  will create 2 separate CloudFormation stacks for cluster itself and the initial managed nodegroup
2025-04-23 10:43:22 [ℹ]  if you encounter any issues, check CloudFormation console or try 'eksctl utils describe-stacks --region=ap-south-1 --cluster=test-eks-kc1'
2025-04-23 10:43:22 [ℹ]  Kubernetes API endpoint access will use default of {publicAccess=true, privateAccess=false} for cluster "test-eks-kc1" in "ap-south-1"
2025-04-23 10:43:22 [ℹ]  CloudWatch logging will not be enabled for cluster "test-eks-kc1" in "ap-south-1"
2025-04-23 10:43:22 [ℹ]  you can enable it with 'eksctl utils update-cluster-logging --enable-types={SPECIFY-YOUR-LOG-TYPES-HERE (e.g. all)} --region=ap-south-1 --clus
2025-04-23 10:43:22 [ℹ]  default addons vpc-cni, kube-proxy, coredns, metrics-server were not specified, will install them as EKS addons
2025-04-23 10:43:22 [ℹ]
2 sequential tasks: { create cluster control plane "test-eks-kc1",
    2 sequential sub-tasks: {
        2 sequential sub-tasks: {
            1 task: { create addons },
            wait for control plane to become ready,
        },
        create managed nodegroup "worker-nodes",
    }
}
2025-04-23 10:43:22 [ℹ]  building cluster stack "eksctl-test-eks-kc1-cluster"
```



.Update kube config with below command in CLI

aws eks --region aws eks --region ap-southeast-1 update-kubeconfig --name test-eks-kc1

```
root@ip-172-31-46-209:~# kubectl get nodes
NAME                                        STATUS   ROLES    AGE     VERSION
ip-192-168-6-29.ap-south-1.compute.internal   Ready    <none>   6m47s   v1.29.13-eks-5d632ec
root@ip-172-31-46-209:~# aws eks --region ap-south-1 update-kubeconfig --name testing-eks

An error occurred (ResourceNotFoundException) when calling the DescribeCluster operation: No cluster found for name: testing-eks.
root@ip-172-31-46-209:~# aws eks --region ap-south-1 update-kubeconfig --name test-eks-kc1
Added new context arn:aws:eks:ap-south-1:448049823362:cluster/test-eks-kc1 to /root/.kube/config
root@ip-172-31-46-209:~# kubectl get nodes
NAME                                        STATUS   ROLES    AGE     VERSION
ip-192-168-6-29.ap-south-1.compute.internal   Ready    <none>   8m14s   v1.29.13-eks-5d632ec
root@ip-172-31-46-209:~#
```

Delete eks cluster:

eksctl delete cluster --name test-eks-kc1 --region ap-southeast-1