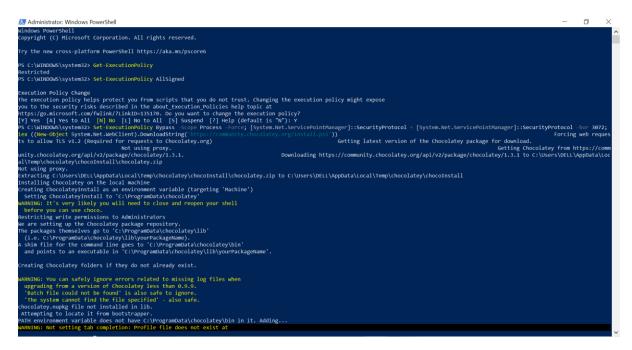
\*Install chocolatey

First, ensure that you are using an administrative shell

- \*To install the latest minikube stable release on x86-64 Windows using Chocolatey:
- \*With PowerShell, you must ensure <u>Get-ExecutionPolicy</u> is not Restricted. We suggest using **Bypass** to bypass the policy to get things installed or **AllSigned** for quite a bit more security.
  - Run Get-ExecutionPolicy. If it returns Restricted, then run Set-ExecutionPolicy AllSigned or Set-ExecutionPolicy Bypass -Scope Process.



Now run the following command:

Set-ExecutionPolicy Bypass -Scope Process -Force;
[System.Net.ServicePointManager]::SecurityProtocol =
[System.Net.ServicePointManager]::SecurityProtocol -bor 3072; iex ((New-Object System.Net.WebClient).DownloadString('https://community.chocolatey.org/install.ps1'))

```
**Section 1.** Administrator Windows PowerStati

**Section 1.** Section 1.** Sectio
```

- \*Now chocolatey is installed.
- \*You can now install minikube and Kubernetes-cli

To install minikube use the command:

#### choco install minikube

```
wername, Requires explicit proxy ("--proxy" or config setting) and user
name. Overrides the default proxy passeord (encrypted in setting) if
set), Available for config setting in 0.0.9.9+, this CLI option
available in 0.10.4+.
--proxy-bypass.list="Name of the proxy of the proxy
```

- \*Both minikube and Kubernetes-cli are installed successfully.
- \*Now install eksctl

# chocolatey install eksctl

```
A consideration (Windows PowerShell

There Commands:

Completion (Secretar Command Completion for a shell litense of Outputs the Litenses of dependencies to a directory 

Due "ministude (Commands -help" for more information about a given command.

"" C. Vintonon-toys carbos) conconstall ainistude kolementes cil " y

Installing the following packages:

Ministude; Index of the packages.

Ministude; Index of the packages of the packages.

Ministude; Index of the package
```

\*Once the eksctl is installed check the version using below command:

#### eksctl version

\*to check the version of kubectl use the below command.

## kubectl version -short -client

```
A minister initialize vi.30.1 already installed.

Juse --force to reinistude vi.30.1 already installed.

Juse --force --force
```

#### \*Start minikube

## minikube start --driver=virtualbox --no-vtx-check

```
Administrator: Windows PowerShell
                                                                                                                                                                                                           X
PS C:\WINDOWS\system32> minikube start --driver=virtualbox --no-vtx-check
  minikube v1.30.1 on Microsoft Windows 10 Home Single Language 10.0.19044.2846 Build 19044.2846
   Using the virtualbox driver based on user configuration
   Downloading VM boot image ...
      > minikube-v1.30.1-amd64.iso....: 65 B / 65 B [--] 100.00% 583 B p/s 300ms
> minikube-v1.30.1-amd64.iso: 282.84 MiB / 282.84 MiB 100.00% 789.45 KiB
   Starting control plane node minikube in cluster minikube
   Downloading Kubernetes v1.26.3 preload ...
       > preloaded-images-k8s-v18-v1...: 136.89 MiB / 397.02 MiB 34.48% 639.24 K_
Administrator: Windows PowerShell
  Documentation: https://minikube.sigs.k8s.io/docs/reference/drivers/virtualbox/
 PS C:\WINDOWS\system32> <mark>minikube</mark> start --driver=virtualbox --no-vtx-check
* minikube v1.30.1 on Microsoft Windows 10 Home Single Language 10.0.19044.2846 Build 19044.2846
  Using the virtualbox driver based on user configuration
 Using the virtualbox driver based on user configuration
Downloading VM boot image ...

> minikube-v1.30.1-amd64.iso...: 65 B / 65 B [--] 100.00% 583 B p/s 300ms

> minikube-v1.30.1-amd64.iso: 282.84 MiB / 282.84 MiB 100.00% 789.45 KiB
Starting control plane node minikube in cluster minikube
Downloading Kubernetes v1.26.3 preload ...

> preloaded-images-k8s-v18-v1...: 397.02 MiB / 397.02 MiB 100.00% 1.05 Mi
Creating virtualbox VM (CPUs=2, Memory=2200MB, Disk=20000MB) ...
This VM is having trouble accessing https://registry.k8s.io
To null new external images, you may need to configure a proxy: https://miniku
  To pull new external images, you may need to configure a proxy: https://minikube.sigs.k8s.io/docs/reference/networking/proxy/Preparing Kubernetes v1.26.3 on Docker 20.10.23 ...
- Generating certificates and keys ...
  - Booting up control plane ...
- Configuring RBAC rules ...
Configuring bridge CNI (Container Networking Interface) ...
  - Using image gcr.io/k8s-minikube/storage-provisioner:v5
Verifying Kubernetes components...
 * Enabled addons: storage-provisioner, default-storageclass
* Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
PS C:\WINDOWS\system32>
 PS C:\WINDOWS\system32>
 S C:\WINDOWS\system32>
 S C:\WINDOWS\system32>
 S C:\WINDOWS\system32> _
```

# \*Interact with your cluster

If you already have kubectl installed, you can now use it to access your shiny new cluster:

## kubectl get po -A

```
Administrator: Windows PowerShell
PS C:\WINDOWS\system32> kubectl get po
NAMESPACE
             NAME
                                                  READY
                                                          STATUS
                                                                    RESTARTS
                                                                                    AGE
kube-system
              coredns-787d4945fb-6g6f5
                                                  1/1
                                                          Running
                                                                                     2m9s
kube-system
                                                          Running
             etcd-minikube
                                                  1/1
                                                                    0
                                                                                    2m20s
kube-system
              kube-apiserver-minikube
                                                  1/1
                                                          Running
                                                                    0
                                                                                     2m20s
kube-system
             kube-controller-manager-minikube
                                                  1/1
                                                          Running
                                                                    1 (2m50s ago)
                                                                                    2m20s
kube-system
             kube-proxy-2fbwf
                                                  1/1
                                                          Running
                                                                                    2m10s
kube-system
             kube-scheduler-minikube
                                                  1/1
                                                          Running
                                                                                     2m20s
             storage-provisioner
                                                  1/1
                                                                    1 (57s ago)
kube-system
                                                          Running
                                                                                    107s
PS C:\WINDOWS\system32> _
```

#### minikube kubectl -- get po -A

```
----- 100.00% ? p/s 0s
   > kubectl.exe.sha256: 64 B / 64 B [--
   > kubectl.exe: 46.49 MiB / 46.49 MiB [-----] 100.00% 272.88 KiB p/s 2m55s
          NAME
                                             READY
                                                    STATUS
                                                              RESTARTS
                                                                             AGE
                                             1/1
                                                     Running
kube-system coredns-787d4945fb-6g6f5
                                                              0
                                                                             5m38s
kube-system
            etcd-minikube
                                             1/1
                                                     Running
                                                              0
                                                                             5m49s
                                                     Running
            kube-apiserver-minikube
                                             1/1
                                                                             5m49s
kube-system
                                                              0
kube-system
            kube-controller-manager-minikube
                                             1/1
                                                     Running
                                                              1 (6m19s ago)
                                                                             5m49s
            kube-proxy-2fbwf
                                                                             5m39s
kube-system
                                             1/1
                                                     Running
                                                              0
            kube-scheduler-minikube
kube-system
                                             1/1
                                                     Running
                                                              0
                                                                             5m49s
kube-system
            storage-provisioner
                                                     Running
                                                              1 (4m26s ago)
                                                                             5m16s
```

kubectl create deployment hello-minikube --image=kicbase/echo-server:1.0 kubectl expose deployment hello-minikube --type=NodePort --port=8080

It may take a moment, but your deployment will soon show up when you run:

## kubectl get services hello-minikube

```
Administrator: Windows PowerShell
PS C:\WINDOWS\system32>
PS C:\WINDOWS\system32>
PS C:\WINDOWS\system32> kubectl create deployment hello-minikube --image=kicbase/echo-server:1.0
deployment.apps/hello-minikube created
PS C:\WINDOWS\system32> <mark>kubectl expose deployment hello-minikube</mark> --type=NodePort --port=8080
service/hello-minikube exposed
PS C:\WINDOWS\system32> kubectl get services hello-minikube
NAME
                                                             PORT(S)
                             CLUSTER-TP
                                              EXTERNAL-IP
                                                                               AGF
                 TYPE
hello-minikube
                 NodePort
                             10.110.176.237
                                               <none>
                                                             8080:31960/TCP
```

The **kubectl get pods** command is used to get the list of pods running in the default namespace of your Kubernetes cluster.

use kubectl to forward the port:

<sup>\*</sup>Alternatively, minikube can download the appropriate version of kubectl and you should be able to use it like this:

<sup>\*</sup>Create a sample deployment and expose it on port 8080:

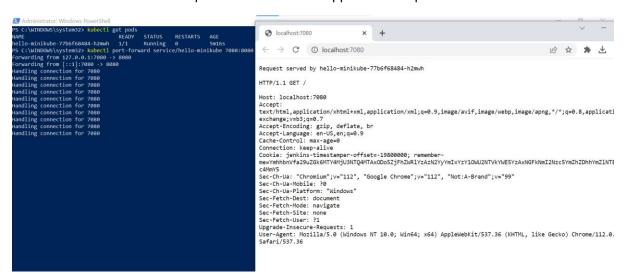
## kubectl port-forward service/hello-minikube 7080:8080

```
Administrator: Windows PowerShell
PS C:\WINDOWS\system32> kubectl
                                 get pods
NAME
                                    READY
                                            STATUS
                                                       RESTARTS
                                                                   AGE
hello-minikube-77b6f68484-h2mwh
                                    1/1
                                            Running
PS C:\WINDOWS\system32> <mark>kubectl</mark> port-forward service/hello-minikube 7080:8080
Forwarding from 127.0.0.1:7080 -> 8080
Forwarding from [::1]:7080 -> 8080
Handling connection for 7080
Handling connection for 7080
```

\*Your application is now available at <a href="http://localhost:7080/">http://localhost:7080/</a>



\*You can be able to see the request metadata in the application output.



- \*Create an IAM user in your aws management console and create an access key.
- \*Give aws configure command to configure and give access key id ,secret access key and region name.
- \*To create a cluster using eksctl give the command:

# eksctl create cluster --name <cluster-name> --region <region>

```
# Actional Materials and Configure

We Not Visional Materials and Configure

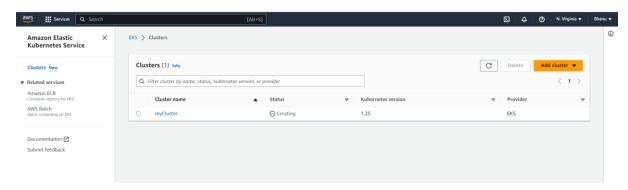
We Not Visional Materials and Configure

We Not Materials and Configure

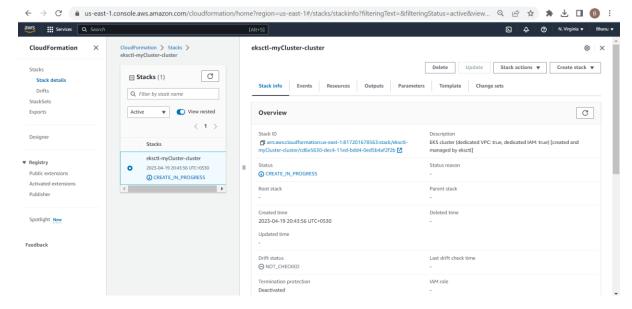
We Note that A we would and Configure

We Note that A we would and Confi
```

\*Now go to EKS in AWS management console, then you will find the cluster.



\*Open cloud formation to check the process of creation of a cluster.



\*Now the cluster is active and we have successfully created a cluster using eksctl.

```
### SCIANDONSLYSTENDS | excel version 157.0 |

2023-04-19 2013147 [2] | using region us-east-1 |

2023-04-19 2013147 [2] | using region us-east-1 |

2023-04-19 2013147 [2] | using region us-east-1 |

2023-04-19 2013150 [3] | summets for us-east-1a | publicity zones to [us-east-1a | us-east-1c] |

2023-04-19 2013150 [3] | summets for us-east-1a | publicity zones to [us-east-1a | us-east-1c] |

2023-04-19 2013150 [3] | summets for us-east-1a | publicity zones to [us-east-1a | us-east-1c] |

2023-04-19 2013150 [3] | using bulernets | use-east-1a | us-east-1c] |

2023-04-19 2013150 [3] | using bulernets | use-east-1a | use-east-1c] |

2023-04-19 2013150 [3] | using bulernets | use-east-1a | use-east-1c] |

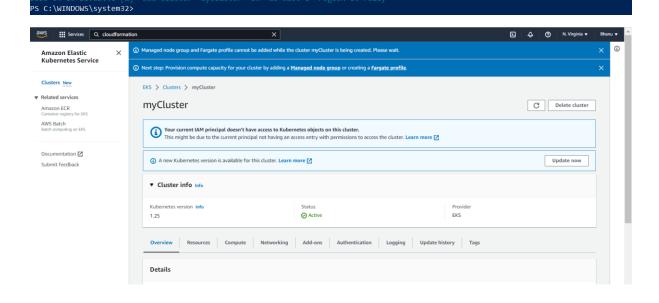
2023-04-19 2013150 [3] | using bulernets | use-east-1a | use-east-1c] |

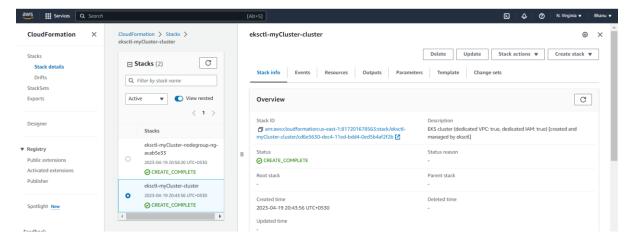
2023-04-19 2013150 [3] | using bulernets | use-east-1a | use-east-1c] |

2023-04-19 2013150 [3] | using bulernets | use-east-1a | us-east-1c] |

2023-04-19 2013150 [3] | using bulernets | use-east-1a | us-east-1c] |

2023-04-19 2013150 [3] | use-east-1a | use-east-1a | us-east-1a | us-
```





\*Open the Ec2 dashboard and you can see the running instances.

\*Now Once the cluster is created, you can use the **kubectl** command-line tool to interact with it. Before you can do this, you need to update your **kubectl** configuration to point to the new EKS cluster. To do this, run the following command:

# aws eks --region <region> update-kubeconfig --name <cluster-name>

```
Administrator: Windows PowerShell
PS C:\WINDOWS\system32>
PS C:\WINDOWS\system32> <mark>aws</mark> eks --region us-east-1 update-kubeconfig --name myCluster
Added new context arn:aws:eks:us-east-1:817201678563:cluster/myCluster to C:\Users\DELL\.kube\config
PS C:\WINDOWS\system32> kubectl get nodes
NAME
                                 STATUS ROLES
                                                   AGE
                                                            VERSION
ip-192-168-2-74.ec2.internal
                                 Ready
                                          <none>
                                                    4m25s
                                                            v1.25.7-eks-a59e1f0
ip-192-168-34-132.ec2.internal
                                                          v1.25.7-eks-a59e1f0
                                 Ready
                                          <none>
                                                   4m23s
PS C:\WINDOWS\system32> _
```

\*After you have tested your EKS cluster, you can delete it to avoid incurring any ongoing costs. To delete your EKS cluster, run the following command:

eksctl delete cluster --name <cluster-name>

```
PS C:\WINDOWS\system32> eksctl delete cluster --name myCluster

2023-04-19 21:05:25 [0] deleting EKS cluster "myCluster"

2023-04-19 21:05:28 [0] starting parallel draining, max in-flight of 1

2023-04-19 21:05:30 [0] deleted 0 Fargate profile(s)

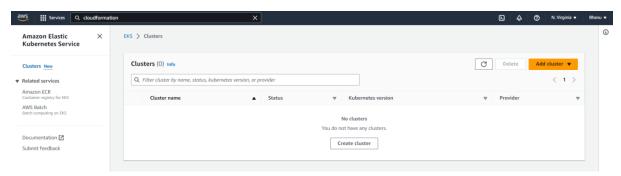
2023-04-19 21:05:37 [0] kubeconfig has been updated

2023-04-19 21:05:37 [0] claning up AWS load balancers created by Kubernetes objects of Kind Service or Ingress

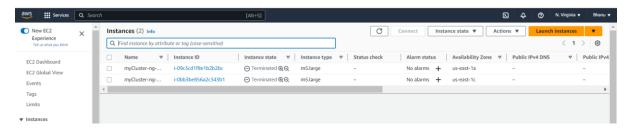
2023-04-19 21:05:36 [0] sequential tasks: { delete nodegroup "ng-acab5e33", delete cluster control plane "myCluster" [async] }

2023-04-19 21:05:55 [0] will delete stack "eksctl-myCluster-nodegroup-ng-acab5e33" waiting for CloudFormation stack "eksctl-myCluster-nodegroup-ng-acab5e33" waiting for Clou
```

\*Now go to AWS management console and go to EKS there are no clusters.



\*Instances will terminated automatically once cluster is deleted.



\*Creating the second cluster.

For creation of second cluster, use command mentioned below:

eksctl create cluster -n cluster1 --nodegroup-name ng1 --region us-east-1 --node-type t2.micro - -nodes 2

```
Administrator: Windows ProwerShell

S. C:\WINDOWS\systems2> eksctl create cluster -n cluster1 --nodegroup-name ngl --region us-east-1 --node-type t2.micro --nodes 2

2223-04-19 211111:03 [3] using region us-east-11

2223-04-19 211111:03 [3] using region us-east-12

2223-04-19 211111:03 [3] using region us-east-12

2223-04-19 211111:03 [3] usinets for us-east-12 - publicity2.1610.16.06.0/39 private:192.168.64.0/19

2223-04-19 211111:03 [3] usinets for us-east-12 - publicity2.1610.17.0/19 private:192.168.64.0/19

2223-04-19 211111:03 [3] usinets for us-east-12 - publicity2.1610.17.0/19 private:192.168.64.0/19

2223-04-19 211111:03 [3] usinets for us-east-12 - publicity2.161.07.0/19 private:192.168.64.0/19

2223-04-19 211111:03 [3] usinets for us-east-12 - publicity2.161.07.0/19 private:192.168.64.0/19

2223-04-19 21111:03 [3] usinets for us-east-12 - publicity2.161.07.0/19 private:192.168.64.0/19

2223-04-19 21111:03 [3] usinets for us-east-12 - publicity2.161.07.0/19 private:192.168.64.0/19

2223-04-19 21111:03 [3] usine gibbours and use a
```

#### Administrator: Windows PowerShell

```
create managed nodegroup "ng1",

}

2023-04-19 21:18:06 [B] building cluster stack "eksctl-cluster1-cluster"

2023-04-19 21:18:10 [B] deploying stack "oksctl-cluster1-cluster"

2023-04-19 21:18:10 [B] waiting for Cloudformation stack "eksctl-cluster1-cluster"

2023-04-19 21:21:19:12 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:21:15 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:21:15 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:22:15 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:22:12 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:22:22 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:26:26 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:26:26 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:27:27 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:28:29 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:28:29 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:29:31 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:29:33 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:30:33 [B] waiting for Cloudformation stack sectl-cluster1-cluster"

2023-04-19 21:32:54 [B] waiting for Cloudformation stack sectl-cluster1-nodegroup-ng1"

2023-04-19 21:32:54 [B] waiting for Cloudformation stack sectl-cluster1-nodegroup-ng1"

2023-04-19 21:34:55 [B] waiting for Cloudformation stack sectl-cluster1-nodegroup-ng1"

2023-04-19 21:34:56 [B] waiting for Cloudformation stack sectl-cluster1-nodegroup-ng1"

2023-04-19 21:34:56 [B] waiting for Cloudformation stack sectl-cluster1-nodegroup-ng1"

2023-04-19 21:34:56 [B] waiting for cloudformation stack sectl-cluster1-nodegroup-ng1"

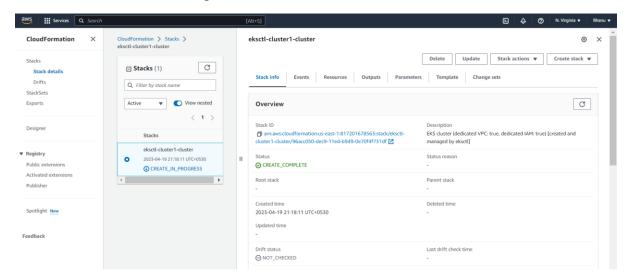
2023-04-19 21:36:22 [B] not asks

2023-04-19 21:36:22 [B] not asks

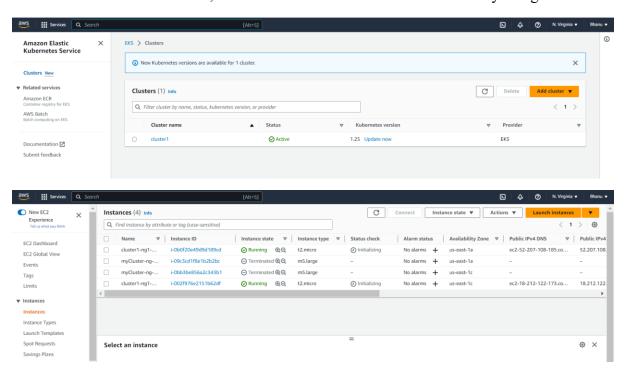
2023-04-19 21:36:22 [B] not asks

2023
```

\*Once the cluster is created, go to EKS and check whether cluster is there or not.



\*The cluster1 is in active state ,that means the cluster is created successfully using eksctl.



\*delete the cluster using below command.

eksctl delete cluster --name <cluster-name>

