# Connection to AWS Cluster

Get your credentials from the instructor. Don’t use from the output below.

Configure AWS CLI:

$ aws configure  
AWS Access Key ID [None]: AKIA5D6UABM3EEY4VVME  
AWS Secret Access Key [None]: /WMZ03HIDVFhA75jZofGgi/l9E6ARuBk1Spg05zK  
Default region name [None]: eu-central-1  
Default output format [None]: yaml

Check your identity:

$ aws sts get-caller-identity  
Account: '901850860342'  
Arn: arn:aws:iam::901850860342:user/kube-user00  
UserId: AKIA5D6UABM3EEY4VVME

Get your kubernetes config:

$ aws eks update-kubeconfig --name kube-training-cluster  
Added new context arn:aws:eks:eu-central-1:901850860342:  
 cluster/kube-training-cluster to /home/myuser/.kube/config

Test your connection to AWS cluster:

$ kubectl get nodes  
NAME STATUS ROLES AGE VERSION  
ip-10-0-1-158.eu-central-1.compute.internal Ready <none> 120m v1.20.4-eks-6b7464  
ip-10-0-2-189.eu-central-1.compute.internal Ready <none> 121m v1.20.4-eks-6b7464

Check the current context and set it to minikube:

$ kubectl config use-context minikube  
Switched to context "minikube".

Get list of nodes in the cluster:

$ kubectl get nodes  
NAME STATUS ROLES AGE VERSION  
minikube Ready control-plane,master 1h v1.20.2

Then inside $HOME/.kube/config:

1. Rename AWS user from long name to aws-user.
2. Rename AWS cluster from long name to aws-cluster.
3. Rename AWS context from long name to aws-context and update current context accordingly.
4. Check kubectl config get-contexts output (it should be pretty).
5. Check kubectl get nodes output (it should work).

🧨 Don’t rename minikube context name itself (but you can rename components of the context: user, cluster name).

It could lead the unexpected errors while working with minikube.

$ minikube tunnel  
  
❌ Exiting due to MK\_K8S\_CLIENT: client config: context "minikube" does not exist  
  
╭─────────────────────────────────────────────────────────────────────╮  
│ │  
│ 😿 If the above advice does not help, please let us know: │  
│ 👉 https://github.com/kubernetes/minikube/issues/new/choose │  
│ │  
│ Please attach the following file to the GitHub issue: │  
│ - C:\Users\myuser\AppData\Local\Temp\minikube\_tunnel.log │  
│ │  
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Compare output of the following commands:

$ kubectl config view  
$ kubectl config view --minify

The first command shows whole config. The second command shows only the current context.

## Solution

Configure AWS CLI:

$ aws configure  
AWS Access Key ID [None]: AKIA5D6UABM3D3MZC4  
AWS Secret Access Key [None]: UvyMm/IqwgqXt4/5hhaaqEhvenC/RGo3xSNSn4BP  
Default region name [None]: eu-central-1  
Default output format [None]: yaml

Check your identity:

$ aws sts get-caller-identity  
Account: '901850860342'  
Arn: arn:aws:iam::901850860342:user/kube-user02  
UserId: AKIA5D6UABM3D3MZC4

Get your kubernetes config:

AWS CLI may require time sync:  
$ aws eks update-kubeconfig --name kube-training-cluster  
An error occurred (InvalidSignatureException) when calling the DescribeCluster operation: Signature not yet current: 20210321T222024Z is still later than 20210321T221644Z (20210321T221144Z + 5 min.)  
  
$ sudo ntpdate -u ntp3.stratum2.ru  
  
$ aws eks update-kubeconfig --name kube-training-cluster  
Added new context arn:aws:eks:eu-central-1:901850860342:cluster/kube-training-cluster to C:\Users\Maxx\.kube\config

Test your connection to AWS cluster:

$ kubectl get nodes  
NAME STATUS ROLES AGE VERSION  
ip-10-0-1-158.eu-central-1.compute.internal Ready <none> 120m v1.20.4-eks-6b7464  
ip-10-0-2-189.eu-central-1.compute.internal Ready <none> 121m v1.20.4-eks-6b7464

Check the current context and set it to minikube:

$ kubectl config use-context minikube  
Switched to context "minikube".

Get list of nodes in the cluster:

$ kubectl get nodes  
NAME STATUS ROLES AGE VERSION  
minikube Ready control-plane,master 1h v1.20.2

Then inside $HOME/.kube/config:

1. Rename AWS user from long name to aws-user.
2. Rename AWS cluster from long name to aws-cluster.
3. Rename AWS context from long name to aws-context and update current context accordingly.

Old content:

apiVersion: v1  
clusters:  
- cluster:  
 certificate-authority-data: LS0t...tCg==  
 server: https://2207171C1ECBF97E190D04D873FDB5FA.gr7.eu-central-1.eks.amazonaws.com  
 name: arn:aws:eks:eu-central-1:901850860342:cluster/kube-training-cluster  
- cluster:  
 certificate-authority: C:\Users\Maxx\.minikube\ca.crt  
 extensions:  
 - extension:  
 last-update: Fri, 11 Jun 2021 09:15:21 MSK  
 provider: minikube.sigs.k8s.io  
 version: v1.20.0  
 name: cluster\_info  
 server: https://127.0.0.1:55318  
 name: minikube  
contexts:  
- context:  
 cluster: minikube  
 extensions:  
 - extension:  
 last-update: Fri, 11 Jun 2021 09:15:21 MSK  
 provider: minikube.sigs.k8s.io  
 version: v1.20.0  
 name: context\_info  
 namespace: default  
 user: minikube  
 name: minikube  
- context:  
 cluster: arn:aws:eks:eu-central-1:901850860342:cluster/kube-training-cluster  
 user: arn:aws:eks:eu-central-1:901850860342:cluster/kube-training-cluster  
 name: arn:aws:eks:eu-central-1:901850860342:cluster/kube-training-cluster  
current-context: arn:aws:eks:eu-central-1:901850860342:cluster/kube-training-cluster  
kind: Config  
preferences: {}  
users:  
- name: arn:aws:eks:eu-central-1:901850860342:cluster/kube-training-cluster  
 user:  
 exec:  
 apiVersion: client.authentication.k8s.io/v1alpha1  
 args:  
 - --region  
 - eu-central-1  
 - eks  
 - get-token  
 - --cluster-name  
 - kube-training-cluster  
 command: aws  
 env:  
 - name: AWS\_PROFILE  
 value: kube-msuslov  
- name: minikube  
 user:  
 client-certificate: C:\Users\Maxx\.minikube\profiles\minikube\client.crt  
 client-key: C:\Users\Maxx\.minikube\profiles\minikube\client.key

New content:

apiVersion: v1  
clusters:  
- cluster:  
 certificate-authority-data: LS0t...tCg==  
 server: https://2207171C1ECBF97E190D04D873FDB5FA.gr7.eu-central-1.eks.amazonaws.com  
 name: aws-cluster  
- cluster:  
 certificate-authority: C:\Users\Maxx\.minikube\ca.crt  
 extensions:  
 - extension:  
 last-update: Fri, 11 Jun 2021 09:15:21 MSK  
 provider: minikube.sigs.k8s.io  
 version: v1.20.0  
 name: cluster\_info  
 server: https://127.0.0.1:55318  
 name: minikube  
contexts:  
- context:  
 cluster: minikube  
 extensions:  
 - extension:  
 last-update: Fri, 11 Jun 2021 09:15:21 MSK  
 provider: minikube.sigs.k8s.io  
 version: v1.20.0  
 name: context\_info  
 namespace: default  
 user: minikube  
 name: minikube  
- context:  
 cluster: aws-cluster  
 user: aws-user  
 name: aws-context  
current-context: aws-context  
kind: Config  
preferences: {}  
users:  
- name: aws-user  
 user:  
 exec:  
 apiVersion: client.authentication.k8s.io/v1alpha1  
 args:  
 - --region  
 - eu-central-1  
 - eks  
 - get-token  
 - --cluster-name  
 - kube-training-cluster  
 command: aws  
 env:  
 - name: AWS\_PROFILE  
 value: kube-msuslov  
- name: minikube  
 user:  
 client-certificate: C:\Users\Maxx\.minikube\profiles\minikube\client.crt  
 client-key: C:\Users\Maxx\.minikube\profiles\minikube\client.key

1. Check kubectl config get-contexts output (it should be pretty).

$ kubectl config get-contexts  
CURRENT NAME CLUSTER AUTHINFO NAMESPACE  
\* aws-context aws-cluster aws-user  
 minikube minikube minikube default

1. Check kubectl get nodes output (it should work).

$ kubectl get nodes  
NAME STATUS ROLES AGE VERSION  
ip-10-0-1-158.eu-central-1.compute.internal Ready <none> 151m v1.20.4-eks-6b7464  
ip-10-0-2-189.eu-central-1.compute.internal Ready <none> 151m v1.20.4-eks-6b7464

Compare output of the following commands:

$ kubectl config view  
>kubectl config view  
apiVersion: v1  
clusters:  
- cluster:  
 certificate-authority-data: DATA+OMITTED  
 server: https://2207171C1ECBF97E190D04D873FDB5FA.gr7.eu-central-1.eks.amazonaws.com  
 name: aws-cluster  
- cluster:  
 certificate-authority: C:\Users\Maxx\.minikube\ca.crt  
 extensions:  
 - extension:  
 last-update: Fri, 11 Jun 2021 09:15:21 MSK  
 provider: minikube.sigs.k8s.io  
 version: v1.20.0  
 name: cluster\_info  
 server: https://127.0.0.1:55318  
 name: minikube  
contexts:  
- context:  
 cluster: aws-cluster  
 user: aws-user  
 name: aws-context  
- context:  
 cluster: minikube  
 extensions:  
 - extension:  
 last-update: Fri, 11 Jun 2021 09:15:21 MSK  
 provider: minikube.sigs.k8s.io  
 version: v1.20.0  
 name: context\_info  
 namespace: default  
 user: minikube  
 name: minikube  
current-context: aws-context  
kind: Config  
preferences: {}  
users:  
- name: aws-user  
 user:  
 exec:  
 apiVersion: client.authentication.k8s.io/v1alpha1  
 args:  
 - --region  
 - eu-central-1  
 - eks  
 - get-token  
 - --cluster-name  
 - kube-training-cluster  
 command: aws  
 env:  
 - name: AWS\_PROFILE  
 value: kube-msuslov  
 provideClusterInfo: false  
- name: minikube  
 user:  
 client-certificate: C:\Users\Maxx\.minikube\profiles\minikube\client.crt  
 client-key: C:\Users\Maxx\.minikube\profiles\minikube\client.key  
  
$ kubectl config view --minify  
apiVersion: v1  
clusters:  
- cluster:  
 certificate-authority-data: DATA+OMITTED  
 server: https://2207171C1ECBF97E190D04D873FDB5FA.gr7.eu-central-1.eks.amazonaws.com  
 name: aws-cluster  
contexts:  
- context:  
 cluster: aws-cluster  
 user: aws-user  
 name: aws-context  
current-context: aws-context  
kind: Config  
preferences: {}  
users:  
- name: aws-user  
 user:  
 exec:  
 apiVersion: client.authentication.k8s.io/v1alpha1  
 args:  
 - --region  
 - eu-central-1  
 - eks  
 - get-token  
 - --cluster-name  
 - kube-training-cluster  
 command: aws  
 env:  
 - name: AWS\_PROFILE  
 value: kube-msuslov  
 provideClusterInfo: false