

**DATE : 23.04.2025**  
**DT/NT : DT**  
**LESSON : KUBERNETES**  
**SUBJECT: MANAGING KUBERNETES  
CLUSTER WITH AWS EKS**  
**BATCH : B 303**

**AWS-DEVOPS**



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# Kubernetes Installation



minikube



kubeadm



Google Cloud

# Container Orchestration on AWS



## Amazon EKS

Create Kubernetes clusters (powered by Amazon EKS Distro)

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.



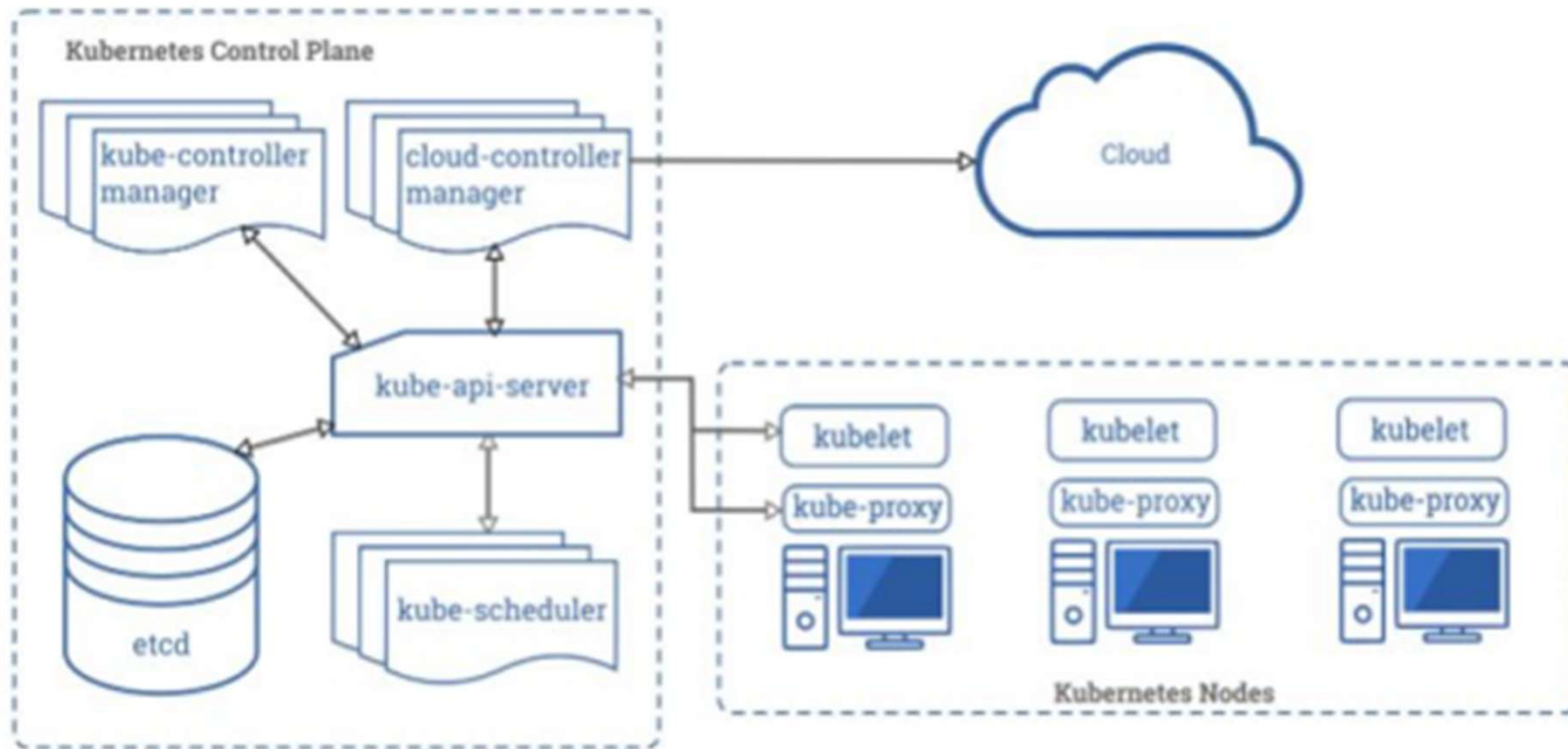
## Amazon Elastic Container Service

Amazon ECS is a fully managed container orchestration service that makes it easy for you to deploy, manage, and scale containerized applications.

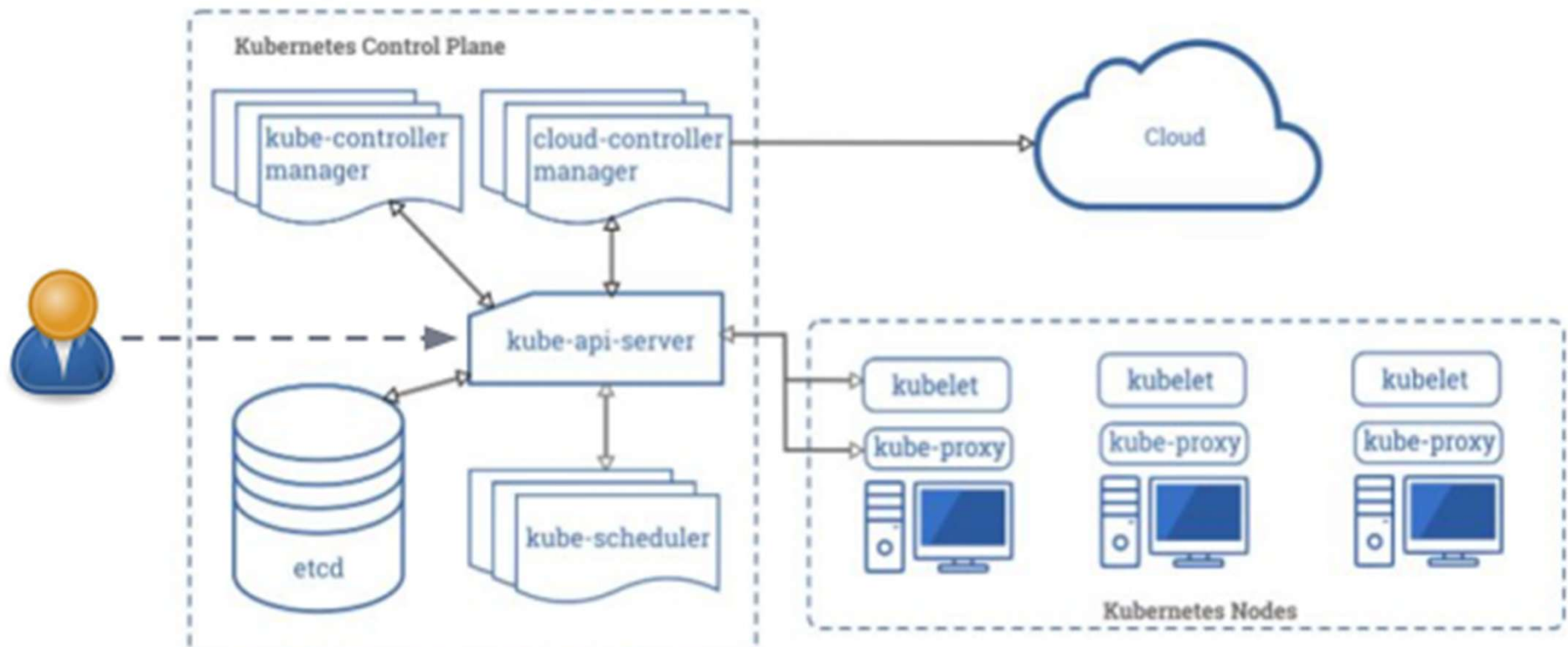
# Container Orchestration on AWS



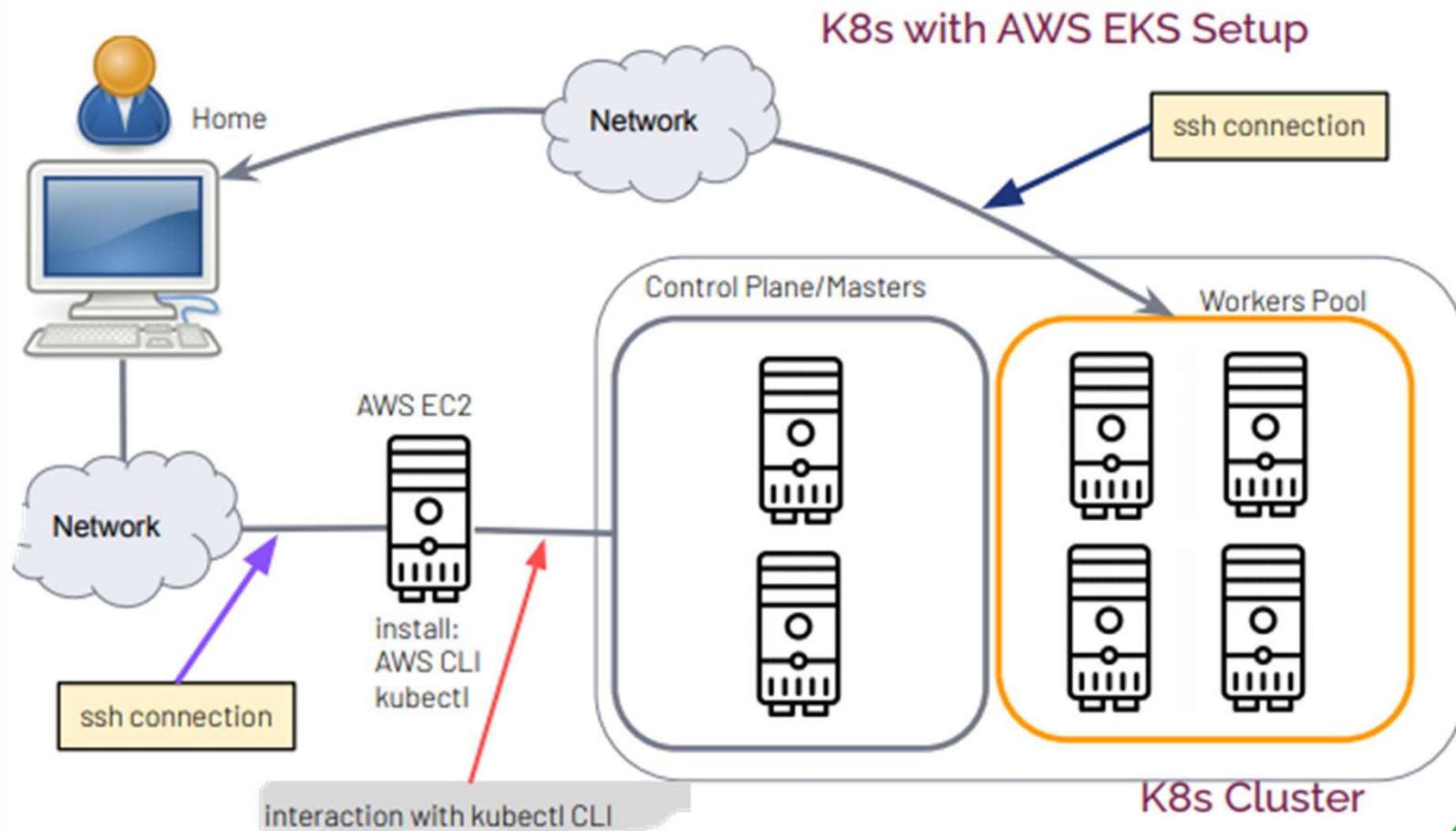
# Control Plane Components



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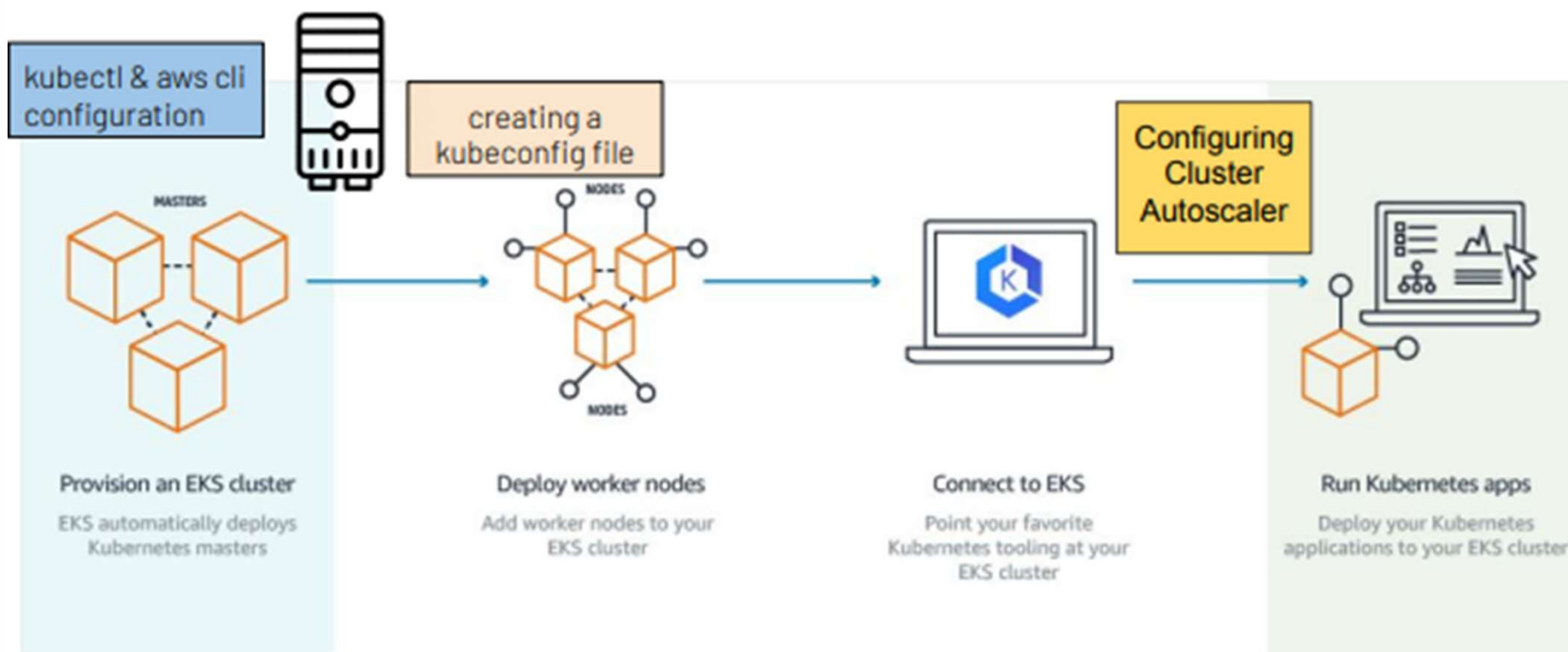


# Provision of K8s with AWS EKS



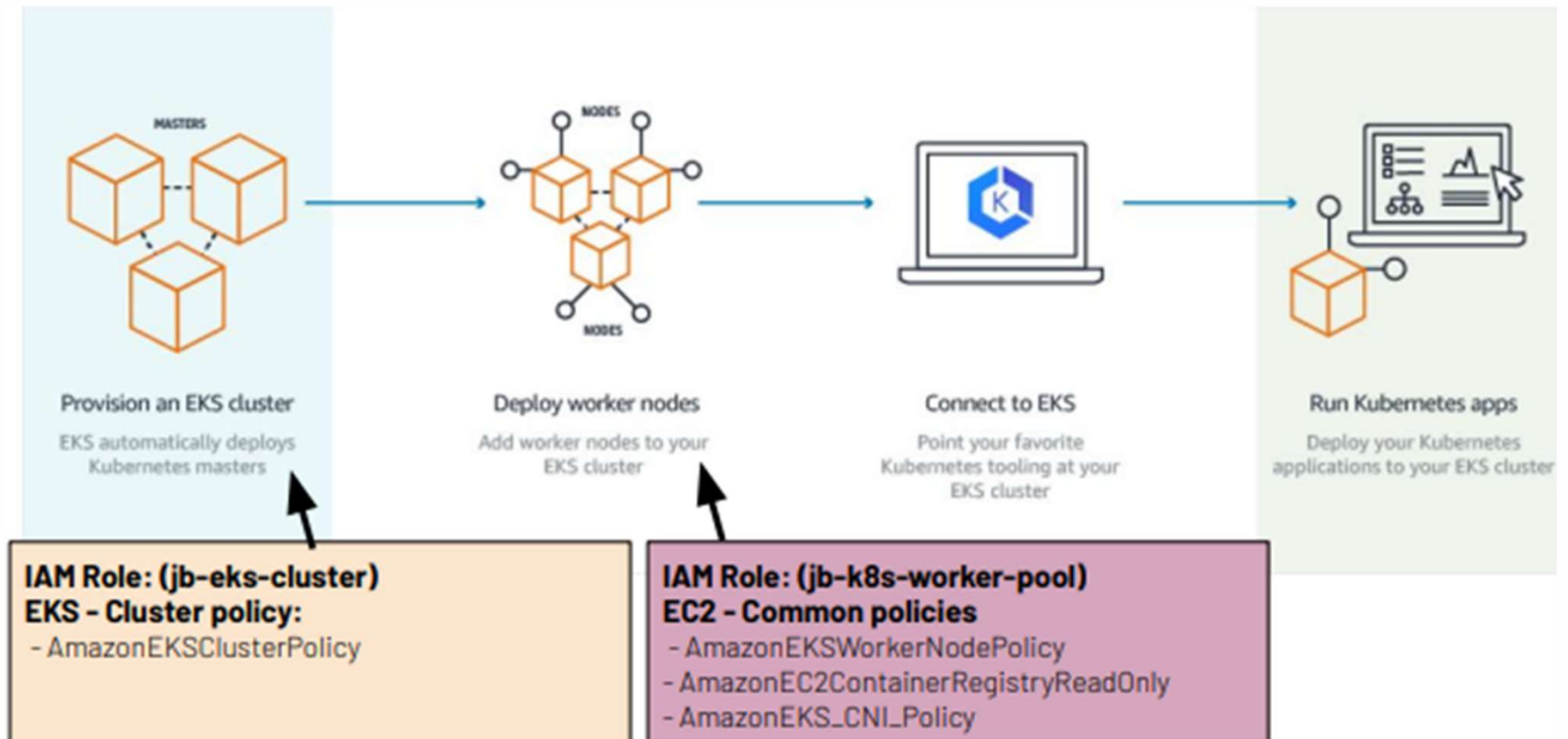


# Provision of K8s with AWS EKS

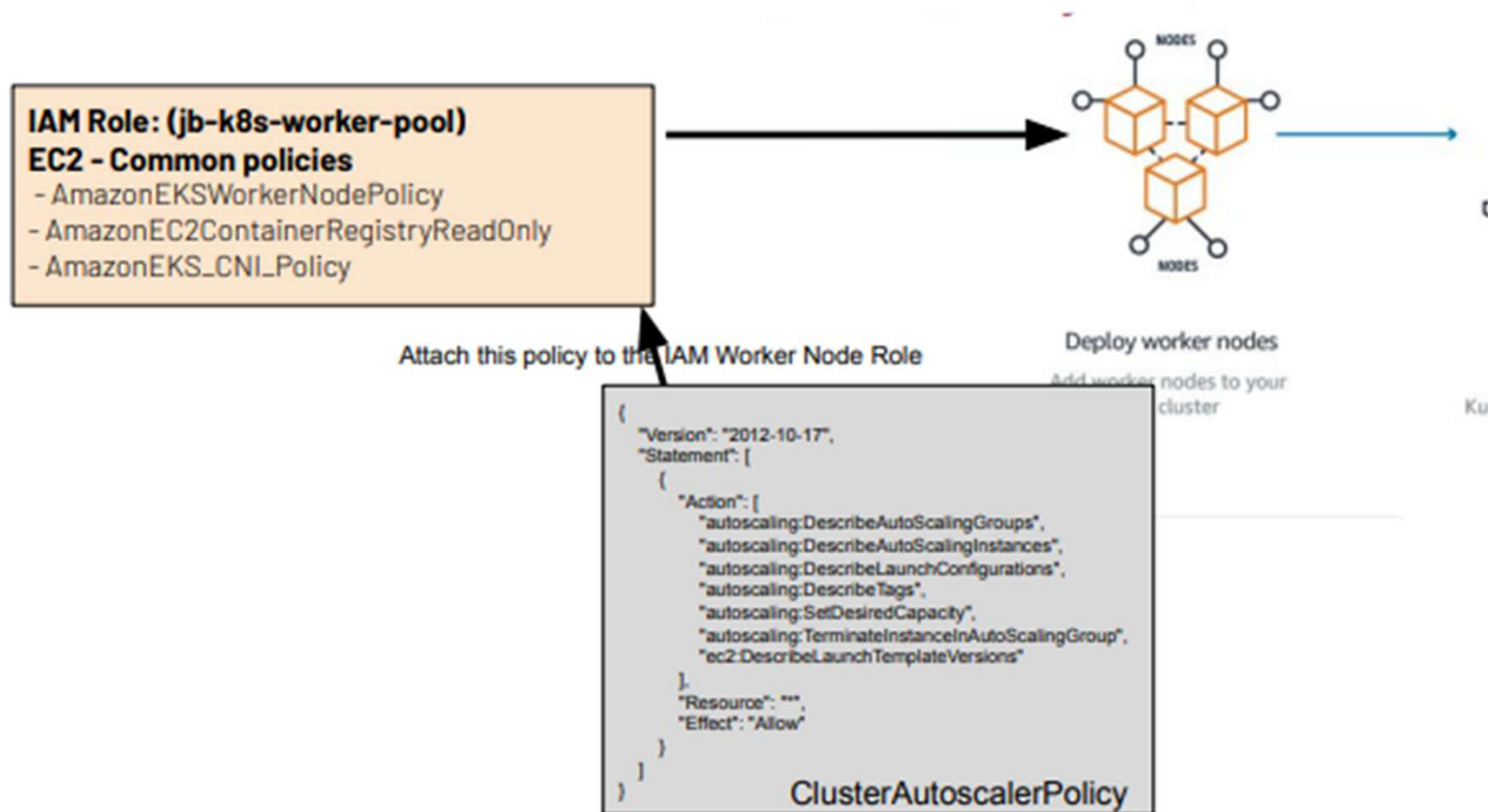




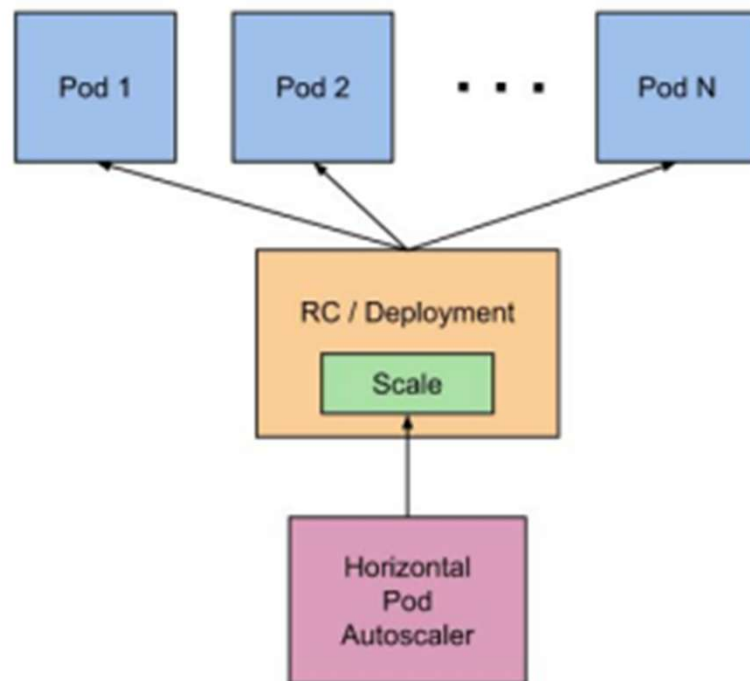
# Role & Policies



# Attach ClusterAutoscalerPolicy to Role



# HorizontalPodAutoscaler



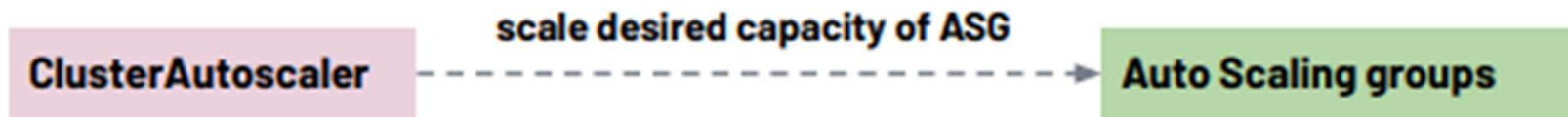
```
apiVersion: autoscaling/v1
kind: HorizontalPodAutoscaler
metadata:
  name: php-apache
spec:
  scaleTargetRef:
    apiVersion: apps/v1
    kind: Deployment
    name: php-apache
  minReplicas: 2
  maxReplicas: 10
  targetCPUUtilizationPercentage:
```

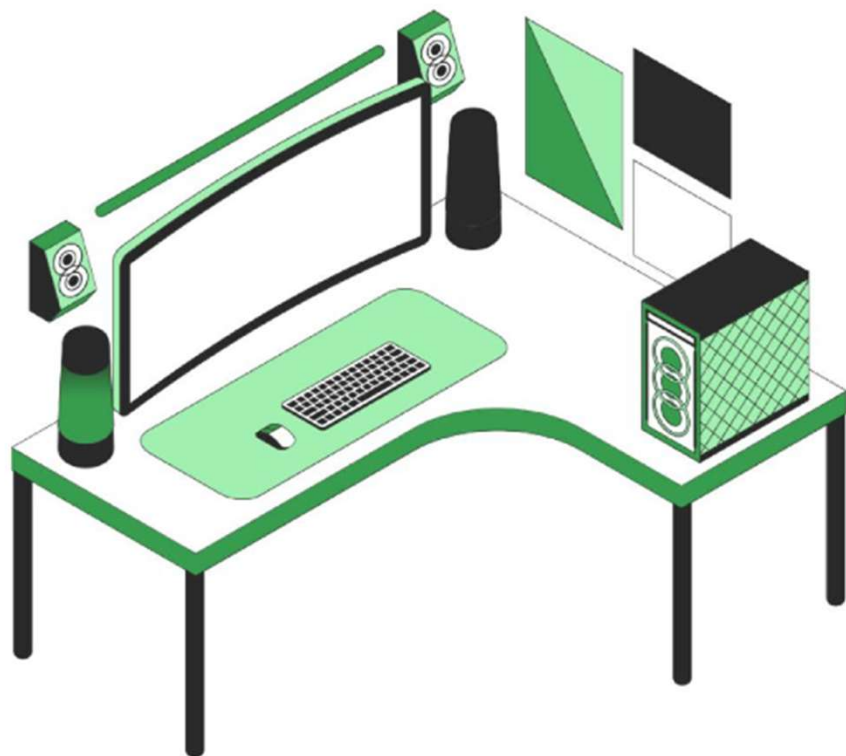
**HorizontalPodAutoscaler** controls the scale of a Deployment and its ReplicaSet.

# Cluster Autoscaler

Cluster Autoscaler is a tool that automatically adjusts the size of the Kubernetes cluster when one of the following conditions is true:

- there are pods that failed to run in the cluster due to insufficient resources.
- there are nodes in the cluster that have been underutilized for an extended period of time and their pods can be placed on other existing nodes.





# Do you have any questions?

Send it to us! We hope you learned something new.