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# Managing Kubernetes Cluster with AWS EKS

# Kubernetes Installation




Google Cloud

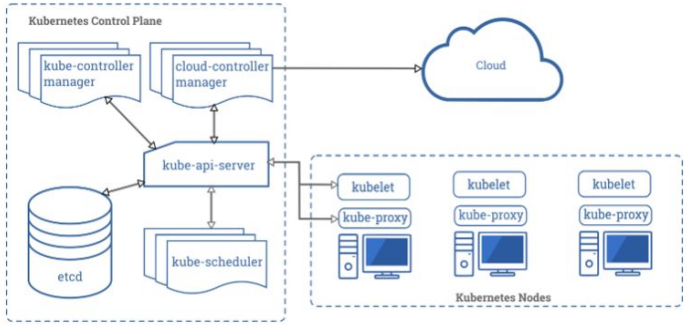


# Container Orchestration on AWS


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.

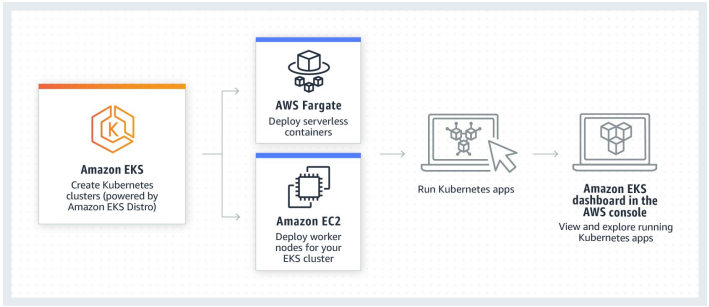

Amazon ECS is a fully managed container orchestration service that makes it easy for you to deploy, manage, and scale containerized applications.

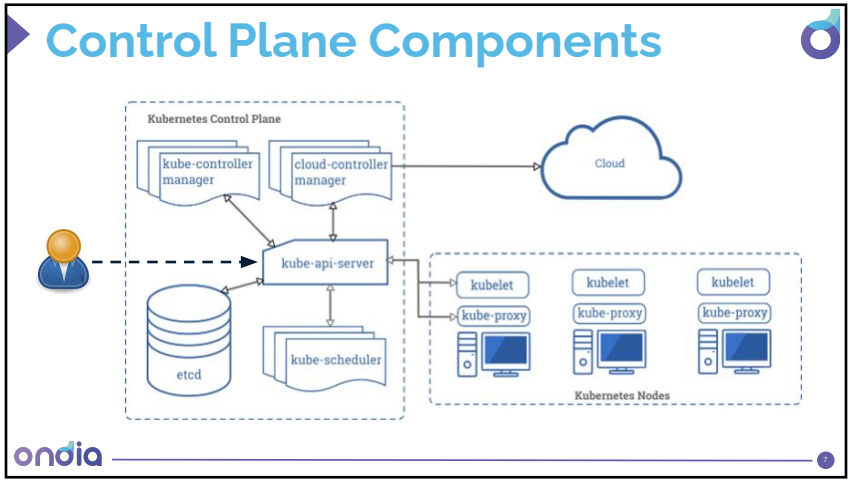
# Control Plane Components






# Container Orchestration on AWS




Control Plane Components
Kubernetes Control Plane
kube-controller manager
cloud-controller manager
Cloud
kube-api-server
etcd
kube-scheduler
kubelet
kube-proxy
kubelet
kube-proxy
kubelet
kube-proxy
Kubernetes Nodes
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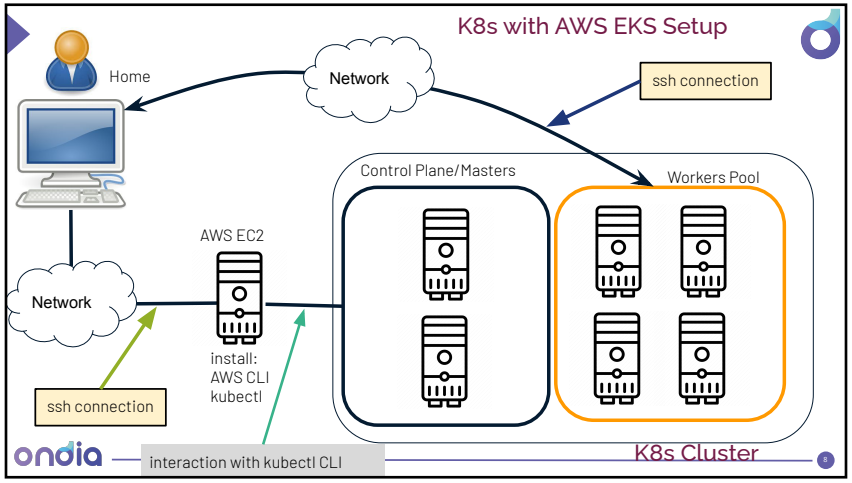
K8s with AWS EKS Setup
Home
Network
ssh connection
Control Plane/Masters
Workers Pool
AWS EC2
Network
install:
AWS CLI
kubectl
ssh connection
interaction with kubectl CLI
K8s Cluster
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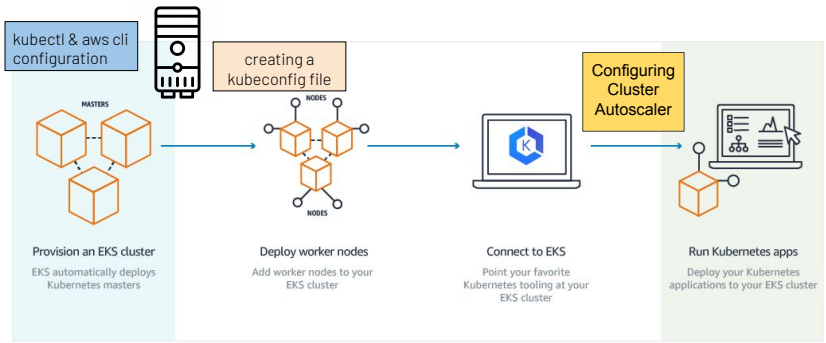
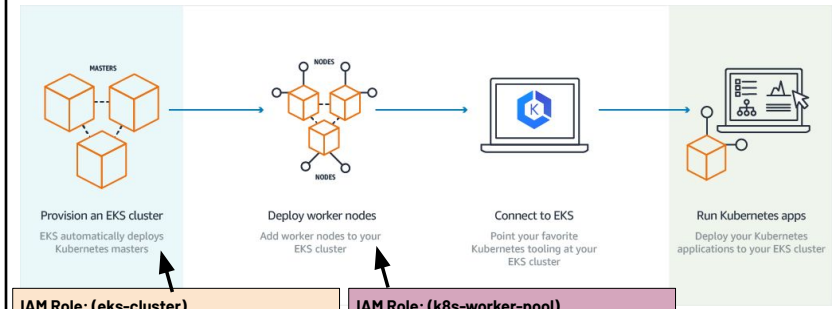
# Provision of K8s with AWS EKS

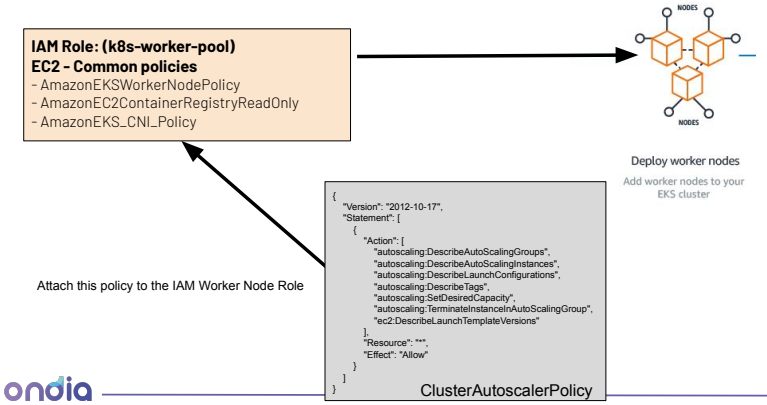





# Role & Policies

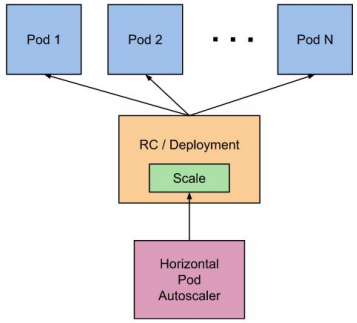


# Attach ClusterAutoscalerPolicy to Role






# HorizontalPodAutoscaler



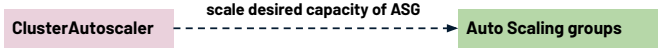

```
apiVersion: autoscaling/v1
kind: HorizontalPodAutoscaler
metadata:
  name: php-apache
spec:
  scaleTargetRef:
    apiVersion: apps/v1
    kind: Deployment
    name: php-apache
  minReplicas: 2
  maxReplicas: 10
    targetCPUUtilizationPercentage:
```

**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.



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# THANKS!

**Any questions?**

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# Networking

flannel

vmware NSX

cilium

When a kubernetes cluster is setup, kubernetes does not automatically setup any kind of networking to handle network issues.



# Provision of K8s with AWS EKS