Amazon Elastic Kubernetes Service (AWS EKS)

## Service Overview

[Amazon Elastic Kubernetes Service (Amazon EKS)](https://docs.aws.amazon.com/eks/latest/userguide/what-is-eks.html) is a managed service that you can use to run Kubernetes on AWS without needing to install, operate, and maintain your own Kubernetes control plane or nodes. Kubernetes is an open-source system for automating the deployment, scaling, and management of containerized applications.

Note: if you are not familiar with Kubernetes(k8s), check out [k8s description](https://kubernetes.io/docs/concepts/overview/what-is-kubernetes/) and [brief overview of components](https://kubernetes.io/docs/concepts/overview/components/).

Your Amazon EKS cluster can schedule pods on any combination of [Self-managed nodes](https://docs.aws.amazon.com/eks/latest/userguide/worker.html), Amazon EKS [Managed node groups](https://docs.aws.amazon.com/eks/latest/userguide/managed-node-groups.html), and [AWS Fargate](https://docs.aws.amazon.com/eks/latest/userguide/fargate.html).

EKS cluster [uses VPC](https://docs.aws.amazon.com/eks/latest/userguide/eks-networking.html) to setup networking in cluster.

## Use cases / Considerations

If your project uses micro-service architecture and relies on AWS, EKS is a good choice for such cases. There is also an option for on-prem clusters with [EKS Anywhere](https://aws.amazon.com/eks/eks-anywhere/).

Several other tools for creating k8s clusters exist like Kops, Kubespray, Kubeadm, however, EKS offers a fully managed experience without the need to worry about setting up everything from scratch.

## Governance

Amazon EKS regularly backs up all managed clusters, and mechanisms exist to recover clusters if necessary. Due to a big amount of k8s resources, I recommend to monitor [control planes](https://docs.aws.amazon.com/eks/latest/userguide/control-plane-logs.html). Here is [a bit more info](https://docs.aws.amazon.com/eks/latest/userguide/logging-monitoring.html) you might want to know.

## Cautions

*By default, EKS cluster is public, which means that anyone can connect to it. Be sure to* [*setup secure access to it*](https://docs.aws.amazon.com/eks/latest/userguide/cluster-endpoint.html)

## Pricing considerations

With AWS EKS, you have to pay for:

1. EC2/Fargate instances deployed
2. Volumes attached to them
3. EKS cluster itself

More info can be found on [AWS EKS pricing page](https://aws.amazon.com/eks/pricing/)

## More details

[*https://www.youtube.com/watch?v=7vxDWDD2YnM*](https://www.youtube.com/watch?v=7vxDWDD2YnM)