

Create generic container images that knows nothing about the environments

- Should the container contain hardcoded IP?
- Should the container contain password?
- Should the container be tagged/designed with strings like "qa" or "dev"?

Answer is NO to all these (following 12-factor app)

configmap: aws-auth ARN IAM service Authn
Kubernetes RBAC Authz

Security

needs kubeconfig file kubectl
eksctl

Tools

create cluster
create and manage node groups
create fargate profiles
tagging
control plane servers are in the service VPC

EKS API is used to

Managed Control Plane

Self managed
managed node group
Fargate scheduler Fargate profile AWS Fargate

Data Plane

Worker node servers are in customer's VPC
Amazon EKS optimized Linux AMI
Custom AMI
Bottlerocket

Worker nodes are created by:

AWS mgmt console

AWS CLI

cloudformation

sdk

AWS CDK

We can create an EKS cluster by:

HashiCorp Terraform, Red Hat Ansible, Rancher

EKS

EKS Course

Kubernetes Architecture

Data Plane
Kube-proxy
docker containers daemon
kubelet
pods

Control Plane

Pod Scheduler
Pod Scheduler
Predicates
Resource Reqs
Topology
Taints and Tolerations
Affinity
DaemonSet
Priorities
Manager
Cloud controller
custom controllers
API server
etcd

Kubernetes

Container orchestration tools
Scheduling
Placement
Cloud friendly
Networking and LB
Storage
Security
Monitoring and Logging
Declarative
Pod
Services
PV/PVC
Container Storage Interface (CSI)
Volume
EBS
EFS
FSx for Luster
ConfigMap
Secrets
Namespace
Deployment
ReplicaSet
PodDisruptionBudget
PriorityClass
RequestQuota
DaemonSet
NetworkPolicy
Objects
To increase resiliency