

Containers in the Cloud with AWS

Presentation by Wyatt Zacharias
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Fargate vs EC2 vs EKS

- **Fargate**
 - Serverless architecture
 - No OS level access to container hosts
- **EC2 (Elastic Container Service)**
 - Uses host nodes deployed in EC2
 - OS level access available for tuning and security
- **EKS (Elastic Kubernetes Service)**
 - Can run on top of either Fargate or EC2 nodes
 - Full Kubernetes functionality
 - Provisioning of host nodes fully automated

ECR (Elastic Container Registry)

- Highly available container registry service for storing private container images
- Supports IAM access control for fine grained permissions
- Repositories can be public or private. Globally accessible for container hosts outside of AWS

Clusters

- Provides a logical grouping of tasks or services
- Defines the backend for tasks that are launched ie.
Fargate or EC2
- Offers scheduling of tasks to run automatically

Tasks

- Defines one or more containers that will be run together on a single allocation of compute/memory
- Each task is assigned its own IP address and security groups
- Defines the VPC and Subnet the container will be run in.

Services

- A desired state for one or more copies of a task that should be running
- Stores all of the parameters required to run a task
- Performs automatic health checking to maintain desired state.
- Auto-scaling can be enabled to increase or decrease the number of tasks based on load
- Integrates with load balancers to scale capacity or replace dead tasks