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# **ECS Deployment Demystified: A Practical Approach**

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# \$whoami

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# Agenda

- 1 Quick overview about containers
- 2 Introduction to ECS & its components
- 3 Demo 1 : Simple web server deployment on ECS
- 4 Demo 2 : Three tier application deployment on ECS
- 5 Useful tips

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# Quick Overview About Containers

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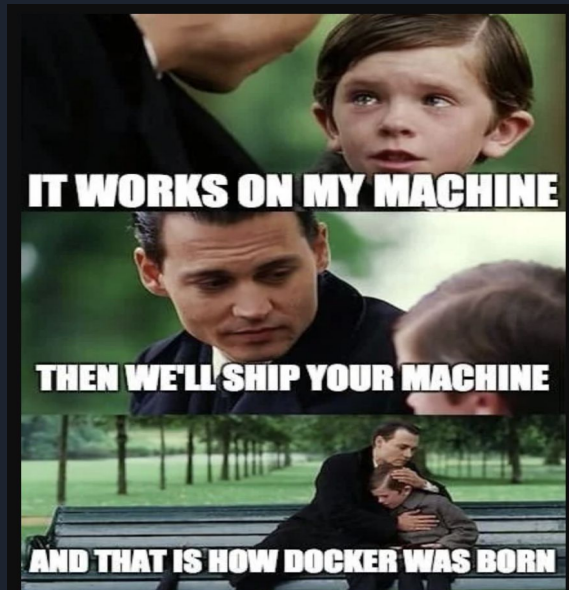


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# Containers



- Containers are a lightweight and portable way to package and run applications and their dependencies.
- A container is an isolated environment that includes everything the application needs to run, such as code, libraries, and system tools.

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# Introduction to ECS & its components

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# Introduction To ECS



- Amazon Elastic Container Service (ECS) is a fully managed container orchestration service provided by Amazon Web Services (AWS).
- ECS allows developers to easily run and manage Docker containers on a scalable and highly available infrastructure.
- ECS also integrates with other AWS services, such as Elastic Load Balancing, Amazon VPC, and Amazon CloudWatch, to provide a complete solution for containerized applications.

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# ECS Launch Types

Amazon Elastic Container Service (ECS) supports two launch types: EC2 launch type and Fargate launch type.

## EC2 Launch Type

EC2 launch type allows you to run Docker containers on a cluster of Amazon Elastic Compute Cloud (EC2) instances. With EC2 launch type, you are responsible for managing and scaling the underlying EC2 instances. This gives you more control over the infrastructure, but also requires more management overhead.

## Fargate Launch Type

Fargate launch type, AWS manages the infrastructure, including the underlying EC2 instances, and you only pay for the resources you use. Fargate launch type is a serverless compute engine for containers, which means that it automatically scales based on the resources required by your containers.

## ECS Anywhere

Amazon ECS Anywhere is a new capability that allows you to run and manage containerized applications on any infrastructure, including on-premises servers, virtual machines, and other cloud providers. ECS Anywhere extends the capabilities of Amazon ECS to support hybrid and multi-cloud architectures.

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# ECS Components

01

## Task Definitions

A task definition is a blueprint for your container that describes how to launch and configure the container.

02

## Tasks

A task is an instance of a task definition that is running on an ECS cluster.

03

## Services

A service is a way to ensure that a specified number of tasks are running and available. ECS maintains the desired number of tasks in a service by automatically starting or stopping tasks based on demand.

04

## Clusters

A cluster is a logical grouping of EC2 instances or Fargate tasks that are used to run containerized applications.

05

## Load Balancers

Amazon ECS integrates with Elastic Load Balancing (ELB) to distribute traffic to your containers.

06

## Container Instances

A container instance is an EC2 instance or Fargate task that has the Amazon ECS container agent running on it. The container agent is responsible for registering the instance with the ECS cluster, and for launching and stopping tasks on the instance.

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# Get Started with AWS ECS

## Simple Guide

1



Create a VPC  
network

2



Create an ECS  
cluster

3



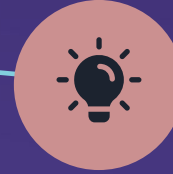
Create a task  
definition

4



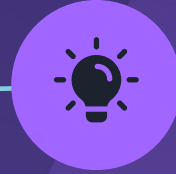
Create a  
service

5



Deploy a  
Container

6



Monitor &  
Manage  
Container



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# Demo 1 : Simple web server deployment on ECS Fargate

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# Demo 2 : Three tier application deployment on ECS Fargate

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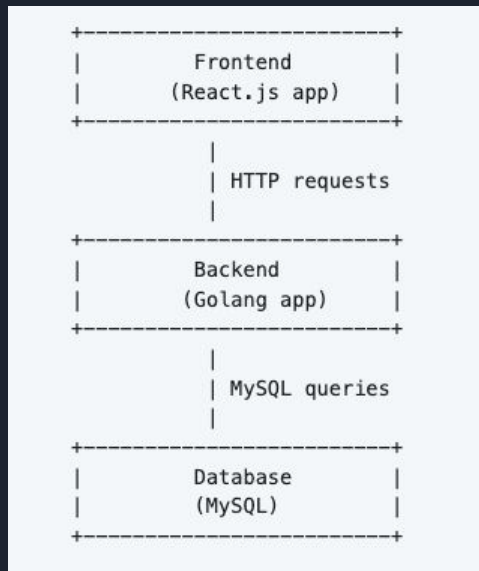
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In this architecture diagram, our application has three components: the frontend (React.js app), the backend (Golang app), and the database (MySQL). The frontend communicates with the backend via HTTP requests, and the backend communicates with the database via MySQL queries.

The frontend is responsible for rendering the user interface and handling user input. The backend provides APIs for the frontend to interact with, and handles the business logic of the application. The database stores and retrieves data for the application.

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# Github Repository



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# Clean AWS Resources After Practice.



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# Thank you!

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