PS Assignment - ECS

💡 **Read the instructions, go step by step and perform the instructions as written.**

Introduction:

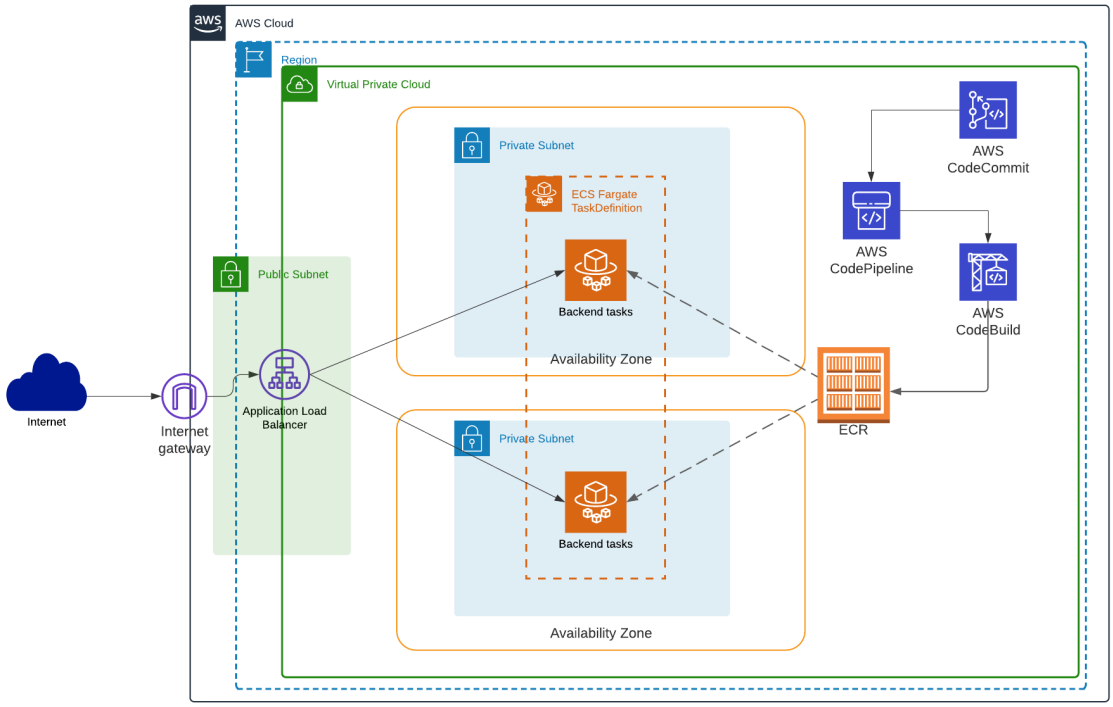
In this assignment, you will be asked to perform three tasks to deploy a simple "Hello World" web application.

💡 IMPORTANT:
* Please do not share this task with your friends.
* You shouldn't ask anyone to help you with this task.

TASK 1:

Create an automation that will deploy the following infrastructure on the AWS cloud, you can choose any Infrastructure as a code platform you prefer.

Architecture:



Resources:

- VPC.
- 4 Subnets - 2 Private subnets, 2 Public subnets and route tables.
- Internet Gateway.
- Security Groups - for ALB and ECS.
- Application Load Balancer - Internet-facing (public subnets).
- ECR - you may create the ECR repository manually and use data to import the existing resource.
    - Build a "Hello World" docker image from a Dockerfile and push it to ECR.
    - Private ECR (internal access).
    - Encrypted ECR.
    - Private endpoint. (created by Terraform)
- ECS -
    - Task definition with a container - private subnets.
    - Service with 2 desired containers.

Notes:

- Resources should be highly available (2 AZs).
- Application Load Balancer is the only resource that can be accessed from the Internet.
- Use variable for all the dynamic parameters such as region, AZs, CIDR block ETC.
- You may search Google for anything you need.

TASK 2:

Create an end-to-end CI/CD pipeline with Amazon ECR and AWS CodePipeline.

- CodeBuild:
  - Create the CodeBuild service role.
  - Create Build projects and buildspec.yaml that includes:
    - docker build and tag with short commit ID.
    - docker push to ECR.
    - create a new task with the new image.
    - update ECS service to use the new task.
- CodePipeline:
  - Create a new pipeline.
  - Configure the branch to trigger the pipeline.
  - Run CodeBuild with the Build projects.

TASK 3:

Documentation

Please write readme documentation of the written code and push your code to a git repository.

Please feel free to contact me if you need any further information.

Good luck!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by matrix