**AWS CodeDeploy**

AWS CodeDeploy is a fully managed deployment service that automates software deployments to compute services such as Amazon EC2, AWS Lambda, and your on-premises servers. AWS CodeDeploy makes it easier for you to rapidly release new features, helps you avoid downtime during application deployment, and handles the complexity of updating your applications.

**Blue Green Deployments:**

In AWS CodeDeploy, blue/green deployments help you minimize downtime during application updates. They allow you to launch a new version of your application alongside the old version and test the new version before you reroute traffic to it. You can also monitor the deployment process and, if there is an issue, quickly roll back.

**Blue Green Deployments via Code Deploy:**

We can use CloudFormation to perform ECS blue/green deployments through CodeDeploy. Blue/green deployments are a safe deployment strategy provided by AWS CodeDeploy for minimizing interruptions caused by changing application versions. This is accomplished by creating your new application environment, referred to as *green*, alongside your current application that is serving your live traffic, referred to as *blue*. This allows for a period of time for monitoring and testing of the green environment before your live traffic is routed from blue to green and subsequently turning off the blue resources.

When using CloudFormation to perform ECS blue/green deployments, you start by creating a stack template that defines the resources for both your blue and green application environments, including specifying the traffic routing and stabilization settings to use. Next, you create a stack from that template; this generates your blue (current) application.

CloudFormation only creates the blue resources during stack creation. Resources for a green deployment are not created until they are required.

**Advantage:**

When you make updates to your service, CodeDeploy triggers a deployment. This deployment, in coordination with Amazon ECS, deploys the new version of your service to the green target group, updates the listeners on your load balancer to allow you to test this new version, and performs the cutover if the health checks pass.

**Follow the below steps to handle Blue-Green Deployments in ECS via CodeDeploy:**

Create the below resources with the *blue-green-ecs-stack.yaml*.

* ECS Cluster
* ECS Task Definition
* ECS Service
* Application Load Balancer
* ALB Listener
* Two Target Groups
* Two Task Sets
* ECS Task Execution Role
* Security Group

Then, if in a future stack update you update the task definition or task set resources in your blue application, CloudFormation does the following:

* Generates all the necessary green application environment resources
* Shifts the traffic based on the specified traffic routing parameters
* Deletes the blue resources

If an error occurs at any point before the green deployment is successful and finalized, CloudFormation rolls the stack back to its state before the entire green deployment was initiated.

**Hook up the ECS Cluster with CodeDeploy:**

* Open CodeDeploy Console.
* Click on Applications tab -> Create Application
* Specify a name to your deployment and choose Amazon ECS under Compute Platform

