**Cloud DevOps Capstone**

**Project Title: Capstone project for Udacity's "Cloud DevOps Engineer" Nanodegree Program.**

This is the Cloud DevOps Nanodegree final project from Udacity Implementation of blue/green development of "Hello World" website in AWS EC2 Instance by means of Jenkins.

**Objective**

* Working in AWS
* Using Jenkins to implement Continuous Integration and Continuous Deployment
* Building pipelines
* Working with Ansible and CloudFormation to deploy clusters
* Building Kubernetes clusters
* Building Docker containers in pipelines

Tools

* Git & GitHub
* AWS & AWS-CLI
* Python3
* Flask framework.
* pip3
* Pylint
* Docker & Docker-Hub Registery
* Jenkins
* Kubernetes CLI (kubectl)
* EKS
* CloudFormation
* BASH

**Development**

development of "Hello World" website in AWS EC2 Instance by means of Jenkins.

Project steps

* [Development](https://github.com/MahaAmin/Udacity-DevOps-Capstone#development)
* [Jenkins](https://github.com/MahaAmin/Udacity-DevOps-Capstone#jenkins)
* [Setup Kubernetes Cluster](https://github.com/MahaAmin/Udacity-DevOps-Capstone#setup-kubernetes-cluster)
* [CI/CD Pipeline](https://github.com/MahaAmin/Udacity-DevOps-Capstone#ci/cd-pipeline)
* EC2 instance with proper IAM roles
* Jenkins installed (also Blue Ocean plugin used)
* Docker installed
* eksctl installed (aws cli v2 used)

Cluster created by EKSCTL commend which creates cloud formation:

eksctl create cluster   
--name capstonecluster   
--version 1.16   
--region us-east-1   
--nodegroup-name standard-workers   
--node-type t2.small   
--nodes 2   
--nodes-min 1   
--nodes-max 3

Project created based on guidance from: <https://medium.com/@andresaaap/jenkins-pipeline-for-blue-green-deployment-using-aws-eks-kubernetes-docker-7e5d6a401021>