

SYNOPSIS**Table of Contents**

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1. Specifications:

1.1. Prerequisites:

- https://github.com/mahmoud254/jenkins_nodejs_example.git
- Branch: k8s_task

1.2. Task:

- 1- Install local K8s instance using Minikub.
- 2- K8s instance will have three Namespaces: Build, Dev and Test.
- 3- Build namespace will have two pods: one for Jenkins and another for Nexus Repository OSS (preferably installed using Terraform)
- 4- Dev and Test instances will run two pods: one for nodejs application and another for MySQL DB
- 5- Create a Jenkins pipeline job to do the following:
 - a- Allow user to choose commit to build using Github plugin
 - o Checkout code from https://github.com/mahmoud254/jenkins_nodejs_example.git
 - b- Build nodejs app using dockerfile
 - c- Create a Docker image
 - d- Upload Docker image to Nexus
- 6- Create another Jenkins pipeline job that would allow user to first choose either Dev or Test namespaces. After user chooses an environment, the job should run the Docker container on the requested environment from Nexus. The deployment/configurations should be handled by an Ansible script.
- 7- Configurations of micro-services should either be handled using Config maps or secrets in K8s.
- 8-

2. Expected Deliverables

A private Github repository containing:

- Installation guide in README.md file.
- Ansible scripts.
- Terraform scripts.
- Jenkins files.
- K8s deployment manifests.