Project Structure  
Project summary  
Build a CI/CD server and an environment server that will build and deploy docker images.  
The application in scope is Drupal with a PostgreSQL database.  
The docker images will be executed on the environment server  
Project layout  
The github project needs to be public  
Folder structure:

* environment / vagrantfile
* dockerfiles / load\_balancer / dockerfile
* / application / dockerfile
* / database / dockerfile
* (or) dockerfile / dockerfile.load\_balancer;
* / dockerfile.application;
* / dockerfile.database
* jenkinsfiles / load\_balancer / Jenkinsfile
* / application / Jenkinsfile
* / database / Jenkinsfile

Infrastructure

* Virtualbox
* Vagrant

Through a vagrant script we will provision the infrastructure  
Infrastructure requirement

* 2 servers
* CI/CD Server
* Jenkins
* Docker (optional)
* Environment Server
* Docker

What happens on the CI/CD server  
Install and configure Jenkins  
Jenkins will be accessible on port 8080  
Have jobs to do the following:

* Creates docker images
* we need to have jobs that creates the images
* 1 for load balancer
* 1 for application
* 1 for database
* for the database you are allowed to use official images (mysql / postgres)
* extra challange - to create your own database image
* Once the images are create they need to be pushed into docker hub
* Deploys the docker images from Docker Hub into the environment server

Stages of a Jenkins file

* (checkout) from git
* (build) / create docker image
* (push) to docker hub
* (deploy) image to environment

Number of jobs (3)

* load balancer
* application
* database

Extra challanges

* create database docker images
* automatically create jenkins jobs

What happens on the Environment server  
Install and configure docker  
The application will be accessible on port 80 through the Load Balancer