**Complete any one of the project to get the certification**

**Project 1 or Project 2**

Steps to complete the Course end Project 1:

To provide the solution with screenshots

1. Provide the screenshot of your code repository in GIThub

Github – you will using the repository : <https://github.com/Sonal0409/DevOpsCodeDemo.git>

1. You will provide screenshot of Building the code using pipeline as Code in Jenkins

Create a pipeline with maven, java in Jenkins. You will create stages:

* Clone the repo
* Compile
* Test
* Package

1. You will also provide us screenshots of the console output of package job

And target folder with addressbook.war file

1. In the same pipeline create a new stage to build the image. The code repository includes your docker file. Use the same dockerfile to build the image , use the similar code:

stage('Build Image'){

steps{

sh “cp var/lib/Jenkins/jobane/workspace/target/addressbook.war .”

sh 'docker build -t myimagejenkins .'

}

}

1. Add one more stage to push image to dockerhub

stage('Push image to dockerhub'){

steps{

sh 'docker tag myimagejenkins edu123/myimagejenkins:$BUILD\_NUMBER'

sh 'docker login --username edu123 --password Edureka@123'

sh 'docker push edu123/myimagejenkins:$BUILD\_NUMBER'

}

}

1. Add a stage to create containers using the above image

|  |
| --- |
| Save the job |
|  |
| Go to instance to give jenkins permission to execute docker commands. As of now we are logged in as admin in jenkins and it doesnt have permission to run docker commands. |
|  |
| So go to |
| vim /etc/sudoers |
| I |
| add under root |
| Jenkins ALL=NOPASSWD: ALL |
| :wq! |
|  |
| Go back to jenkins and build now.  Provide screenshots of application deployed on container.  [Optional]   1. You may install ansible on the same server as that of Jenkins  * Create a reposiotyr with your docker playbook and inventory file just like this:   <https://github.com/Sonal0409/myansible.git>   1. You may continue in the same pipeline and add ansible playbook stage. 2. In the pipeline stage steps add:  * Clone the repo that has playbook and inventory * Steps to execute playbook, as done in the class  1. You will give screenshot of playbook , Console output of jenkins and container created on host machine   Steps for execute project 2:  Execute the same steps till docker as mentioned above  Once image is available, you can push the image to dockerhub  Then you will take the Kubernetes cluster (GKE or Lab)  You will create replicas of the image that was created in docker step   * You will screenshot of pods created   If you want you can also implement HPA to monitor and autoscale your pods  You will share screenshots of :   * HPA YAML * Autoscaling pod   You will then deploy Prometheus POD and give screenshot with some Prometheus queries  You will also set up Grafana and give us the screenshot of Kubernetes dashboard |

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