TCS

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**DevOps Project**

05/05/2023

**Goals**

To implement Continuous Integration & Continuous Deployment with DevOps using following tools:

**Git** - For version control and Source code Management.

**Jenkins** - For continuous integration and continuous deployment

**Docker** - For deploying containerized applications.

**Ansible** - Configuration management tools

**GitHub**

Fork completed.

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Git Clone done.

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**Jenkins**

**Pipeline Creation**

Creating Edureka-Project pipeline in Jenkins for CI/CD.

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Pipeline script using maven for,

* Clone the repo.
* Compile
* Test
* Package

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**Build History and Console Output**

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**Workspace**

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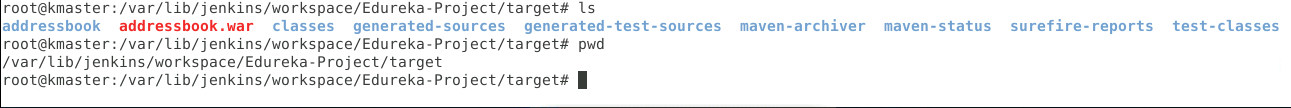
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Addressbook.war is created successfully.

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Workspace location in server which contains .war file.



**Jenkins**

Steps to build Docker image with custom .war and pushing it to Docker repo with an image tag.

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Please find the attachment for the steps to deploy the docker container with custom docker image.

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Docker Container deployed successfully.

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**Ansible Plugin**

**Goals**

To Deploy Docker container in the remote server using ansible playbook, dockerfile and Jenkins pipeline.

**Jenkins**

Installing Ansible plugin in Jenkins

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Configuring Ansible.

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**GitHub**

Configuring Ansible Inventory file.

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Configuring dockerfile for Ansible deployment using Jenkins.

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Configuring Ansible playbook for Ansible deployment in Ubuntu server.

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**Jenkins**

Adding steps for Ansible Deployment in the Edureka-Project pipeline.

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Build and Console Output for Edureka-Project with Ansible Deployment.

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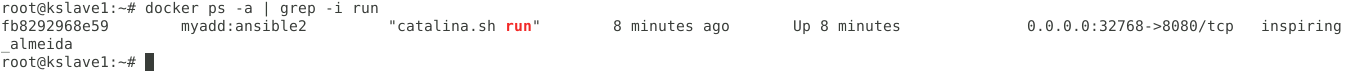
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Docker image is deployed successfully in the slave server using Ansible in Jenkins Pipeline.



**Summary**

**Git** – we have successfully used GitHub for version control, for tracking changes and updating the code files.

**Jenkins** – we have successfully installed, configured and added agents in Jenkins and created Jenkins Pipeline for continuous integration and for continuous deployment.

**Docker** – We have successfully installed and configures docker. We have created custom Docker image using Dockerfile and deployed the docker image using Jenkins pipeline for containerized applications.

**Ansible** – We have successfully built the Docker image using dockerfile and ansible playbook for Configuration management.