

Milestone Assessment -2

Solution document

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Requiremts : CI/CD pipeline System

• Git - local version control system.

• GitHub - As Distributed version control system.

• Jenkins - Continous Integration tool.

• Maven - As a Build Tool.

• Anisible - Configuration Management & Deployment tool.

• docker -Containerization

• Kubernetes - As Container Management Tool.

**Build and Deploy on Developer Server.**

Setup CI/CD with GitHub,Jenkins,Maven&Tomcat

• Setup Jenkins

• Setup & Configure Maven , Git.

• Setup Tomcat Server.

• Integrating GitHub,Maven ,Tomcat Server with Jenkins

• Create a CI and CD Job.

• Test the Deployment.

**Setup Developer Server**

• Setup a Linux EC2 instance

• Install Java

• Install Git

• Push java code

• Acces code in github

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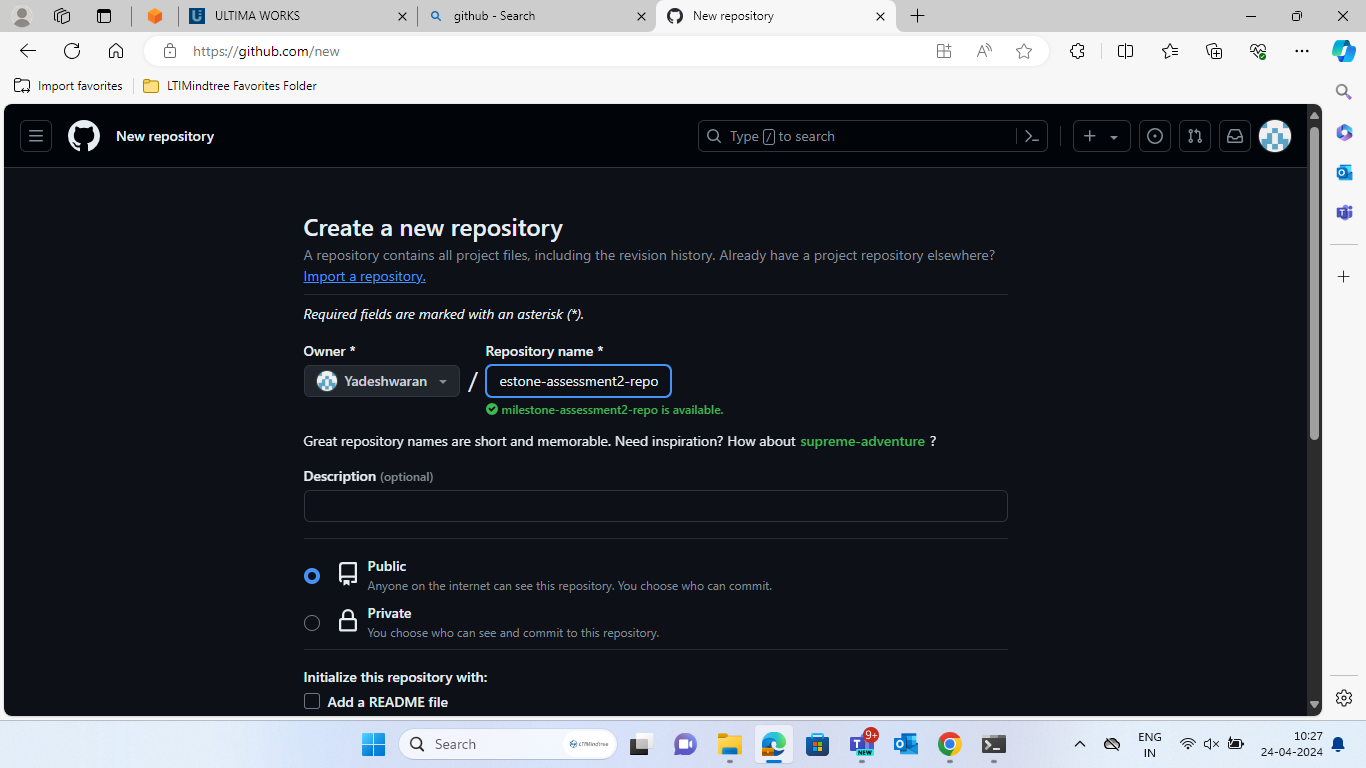
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**🡪 Setup a Developer-server EC2 instance**

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* **Generate SSH key to connect with git**

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**🡪 Create a repository in github.**

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* **Add the sshkey in github to provide authentication.**

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* **Commands to push the code into the github**

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* **The java file gets commited into the github.**

**Build and Deploy on Tomcat Server.**

Setup CI/CD with GitHub, Jenkins, Maven & Tomcat.

• Setup Jenkins

• Setup & Configure Maven , Git

.

• Setup Tomcat Server

.

• Integrating GitHub,Maven ,Tomcat Server with Jenkins

• Create a CI and CD Job.

• Test the Deployment.

**Setup Jenkins Server**

• Setup a Linux EC2 instance

• Install Java

• Install Jenkins

• Start Jenkins

• Access Web UI on port 8080

**A screenshot of a computer

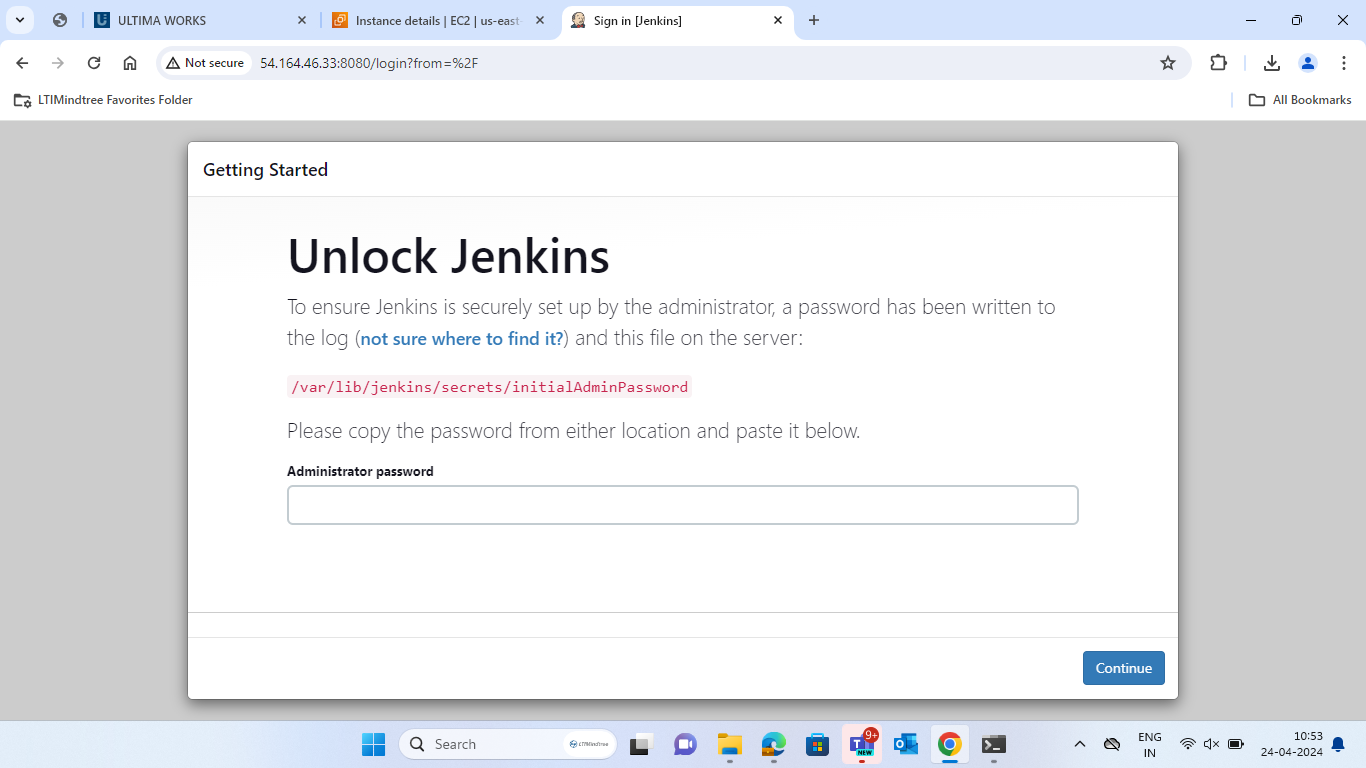
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* **Instance to create a jenkins-server.**

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* **Install jenkins and start the jenkins.**

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* **Access Web UI on port 8080**

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* **Create the admin and setup password for the adminuser**

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* **Add webhook to provide integration from github and jenkins**

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* **Webhook has been added succesfully.**

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* **Run First Jenkins Job**

**Integrate Tomcat in CI/CD pipeline:**

• Setup Tomcat Server

• Setup a Linux EC2 Instance

• Install Java

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* **Download Tomcat server in developer server.**
* **A screenshot of a computer screen

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* **Installed tomcat server.**

• Configure Tomcat

• Start Tomcat Server

• Access Web UI on port 8080

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* **Host tomcat server in the web.**

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**Tomcat server has been depolyed in the web and the web-app which has been deployed in the developer server has been deployed here.**

**Prepare Ansible Server:**

**• Setup EC2 Instance**

**• Setup hostname**

**• Create ansadmin users**

**• Add Users to sudoers file**

**• Generate ssh keys**

**• Enable Password Based Login**

**• Install Ansible**

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* **Create ansible server instance.**

**Configure ansible and jenkins**

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**A screenshot of a computer

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* **Jenkins and ansible server has been connected successfully**

**Now create a new item in jenkins for ansible job**

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**EKS installation procedure**

**Kubernetes Setup using eksctl**

**Pre-requisites:**

**• an EC2 Instance**

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**• Install AWSCLI latest version**

**🡪Setup kubectl**

**🡪Create an IAM Role and attach it to EC2 instance**

**🡪 Note:**

create IAM user with programmatic access if your bootstrap system is outside of AWS IAM user should have access to

IAM

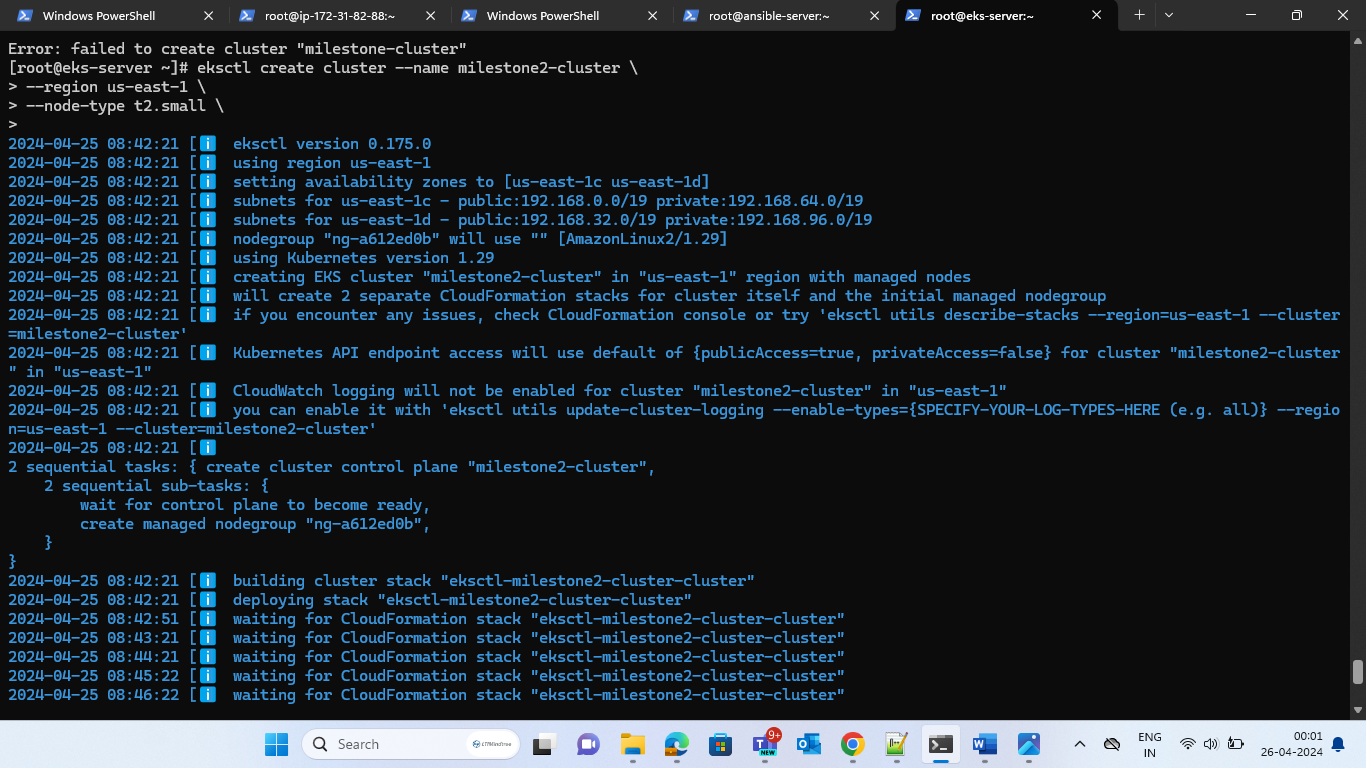
EC2

CloudFormation

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🡪Create your cluster and nodes



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**Creating playbook:**

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• On Ansible Node

• Add to host file

• Copy ssh keys

• Test the Connection

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**ad84523ddd709444f975b234daef362e-1856731511.us-east-1.elb.amazonaws.com**

* **Expose this command link to the browser and youll get the desired output.**

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