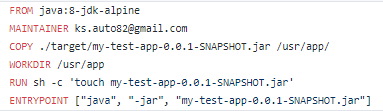
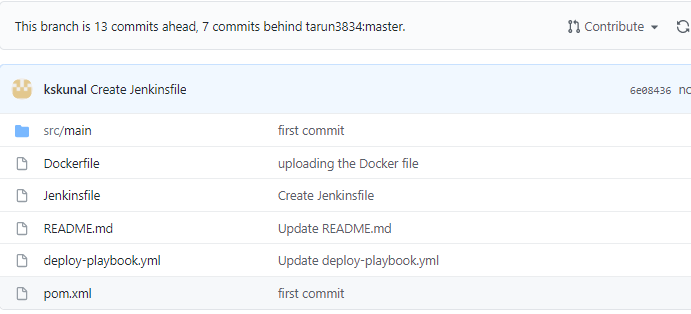
DevOps Bootcamp – Case Study

1. Name: **Harsh Gupta**
2. Employee Id: **1035141**
3. Email Id: **harsh.gupta5@tcs.com**
4. Your Git Repository URL**: https://github.com/kskunal/batch10.git**
5. Attach the screenshot of your Dockerfile.



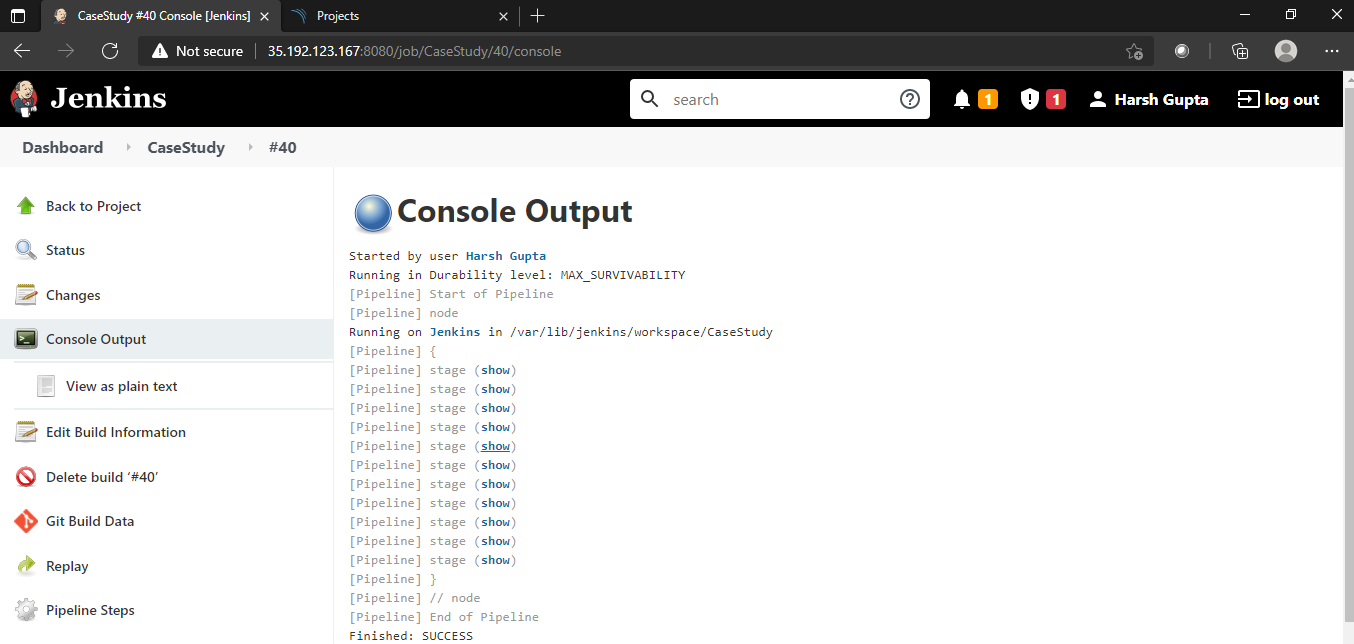
1. Attach the screenshot of your Jenkinsfile.



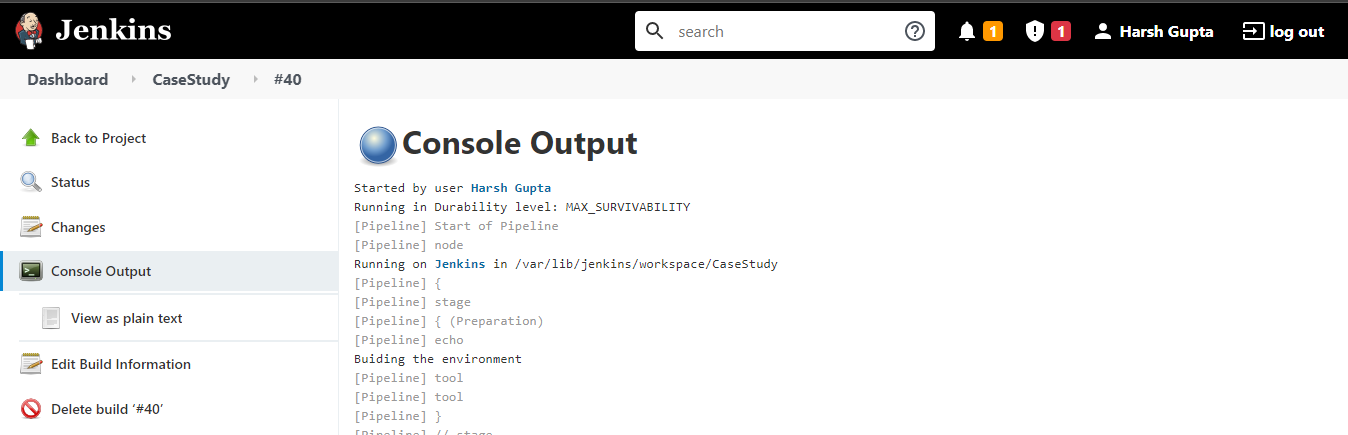
**Jenkinsfile**

|  |
| --- |
| node{ |
|  | def mavenHome |
|  | def mavenCMD |
|  | def dockerHome |
|  | def dockerCMD |
|  | def tagName = "1.0" |
|  |  |
|  | stage('Preparation'){ |
|  | try{ |
|  | echo "Buiding the environment" |
|  | mavenHome = tool name: 'Maven3.6', type: 'maven' |
|  | mavenCMD = "${mavenHome}/bin/mvn" |
|  | dockerHome = tool name: 'docker', type: 'dockerTool' |
|  | dockerCMD = "${dockerHome}/bin/docker" |
|  | } |
|  | catch(Exception err){ |
|  | echo "Exception occured during Preparation Of Jenkins step..." |
|  | currentBuild.result="FAILURE" |
|  | mail body: 'Hi Team, \n \n Please go to ${BUILD\_URL} for more details and verify the cause for the build failure. \n Error: $err \n\n Thanks', subject: 'Job ${JOB\_NAME} (${BUILD\_NUMBER}) is Failed at step - Preparation Of Building Environment', to: 'ks.auto82@gmail.com' |
|  | throw err |
|  | } |
|  | } |
|  |  |
|  | stage('Code Checkout'){ |
|  | try{ |
|  | echo "Checking out the code from git repository" |
|  | git 'https://github.com/kskunal/batch10.git' |
|  | } |
|  | catch(Exception err){ |
|  | echo "Exception occured during code checkout step..." |
|  | currentBuild.result="FAILURE" |
|  | mail body: 'Hi Team, \n\n Kindly go to ${BUILD\_URL} for more info and check the cause for the build failure. \n Error: $err \n\n Thanks', subject: 'Job ${JOB\_NAME} (${BUILD\_NUMBER}) is Failed at step - Code checking', to: 'ks.auto82@gmail.com' |
|  | throw err |
|  | } |
|  | } |
|  |  |
|  | stage('Build and Complie'){ |
|  | try{ |
|  | echo "Building and Complie the checkout code" |
|  | sh "${mavenCMD} clean package" |
|  | } |
|  | catch(Exception err){ |
|  | echo "Exception occured during Building and Compile step..." |
|  | currentBuild.result="FAILURE" |
|  | mail body: 'Hi Team, \n\n Kindly go to ${BUILD\_URL} for more info and check the cause for the build failure. \n Error: $err \n\n Thanks', subject: 'Job ${JOB\_NAME} (${BUILD\_NUMBER}) is Failed at step - Building and Complie', to: 'ks.auto82@gmail.com' |
|  | throw err |
|  | } |
|  | } |
|  |  |
|  | stage('Test the Build Package'){ |
|  | try{ |
|  | echo "Test the Build project" |
|  | sh "${mavenCMD} test" |
|  | } |
|  | catch(Exception err){ |
|  | echo "Exception occured during Test the Build step..." |
|  | currentBuild.result="FAILURE" |
|  | mail body: 'Hi Team, \n\n Kindly go to ${BUILD\_URL} for more info and check the cause for the build failure. \n Error: $err \n\n Thanks', subject: 'Job ${JOB\_NAME} (${BUILD\_NUMBER}) is Failed at step - Building and Complie', to: 'ks.auto82@gmail.com' |
|  | throw err |
|  | } |
|  | } |
|  |  |
|  | stage('Generate UnitTest Report'){ |
|  | try{ |
|  | echo "Generating Report" |
|  | sh "${mavenCMD} surefire-report:report-only" |
|  | } |
|  | catch(Exception err){ |
|  | echo "Exception occured during Generating UnitTest Report..." |
|  | currentBuild.result="FAILURE" |
|  | mail body: 'Hi Team, \n\n Kindly go to ${BUILD\_URL} for more info and check the cause for the build failure. \n Error: $err \n\n Thanks', subject: 'Job ${JOB\_NAME} (${BUILD\_NUMBER}) is Failed at step - Generate UnitTest Report', to: 'ks.auto82@gmail.com' |
|  | throw err |
|  | } |
|  | } |
|  |  |
|  | stage('Sonarqube Scanner'){ |
|  | try{ |
|  | echo 'Scanning the application' |
|  | sh "${mavenCMD} sonar:sonar -Dsonar.projectKey=sonar -Dsonar.login=admin -Dsonar.password=harsh0786 -Dsonar.host.url=http://35.192.123.167:9000/" |
|  | } |
|  | catch(Exception err){ |
|  | echo "Exception occured during Sonarqube Scanner step..." |
|  | currentBuild.result="FAILURE" |
|  | mail body: 'Hi Team, \n\n Kindly go to ${BUILD\_URL} for more info and check the cause for the build failure. \n Error: $err \n\n Thanks', subject: 'Job ${JOB\_NAME} (${BUILD\_NUMBER}) is Failed at step - Sonarqube Scanner', to: 'ks.auto82@gmail.com' |
|  | throw err |
|  | } |
|  | } |
|  |  |
|  | stage('Publish Report'){ |
|  | try{ |
|  | echo " Publishing HTML report.." |
|  | publishHTML([allowMissing: false, alwaysLinkToLastBuild: false, keepAll: false, reportDir: 'target/site/', reportFiles: 'surefire-report.html', reportName: 'HTML\_Test\_Report', reportTitles: '']) |
|  | } |
|  | catch(Exception err){ |
|  | echo "Exception occured during Publishing Report ..." |
|  | currentBuild.result="FAILURE" |
|  | mail body: 'Hi Team, \n\n Kindly go to ${BUILD\_URL} for more info and check the cause for the build failure. \n Error: $err \n\n Thanks', subject: 'Job ${JOB\_NAME} (${BUILD\_NUMBER}) is Failed at step - Publishing Report', to: 'ks.auto82@gmail.com' |
|  | throw err |
|  | } |
|  | } |
|  |  |
|  | stage('Build Docker Image'){ |
|  | try{ |
|  | echo "Building the Image" |
|  | sh "${dockerCMD} build -t ksauto82/casestudy:${tagName} ." |
|  | } |
|  | catch(Exception err){ |
|  | echo "Exception occured during Buidling the Image ..." |
|  | currentBuild.result="FAILURE" |
|  | mail body: 'Hi Team, \n\n Kindly go to ${BUILD\_URL} for more info and check the cause for the build failure. \n Error: $err \n\n Thanks', subject: 'Job ${JOB\_NAME} (${BUILD\_NUMBER}) is Failed at step - Building Image', to: 'ks.auto82@gmail.com' |
|  | throw err |
|  | } |
|  | } |
|  |  |
|  | stage('Push Image to Docker Repository'){ |
|  | try{ |
|  | withCredentials([usernamePassword(credentialsId: 'Dockerpwd', passwordVariable: 'dockerpwd', usernameVariable: 'dockeruid')]) { |
|  | echo "login into the DockerHub" |
|  | sh "docker login -u ksauto82 -p ${dockerpwd}" |
|  | echo "Pushing the Image to the DockerHub" |
|  | sh "${dockerCMD} push ksauto82/casestudy:${tagName}" |
|  | } |
|  | } |
|  | catch(Exception err){ |
|  | echo "Exception occured during Login and Pushing the Image ..." |
|  | currentBuild.result="FAILURE" |
|  | mail body: 'Hi Team, \n\n Kindly go to ${BUILD\_URL} for more info and check the cause for the build failure. \n Error: $err \n\n Thanks', subject: 'Job ${JOB\_NAME} (${BUILD\_NUMBER}) is Failed at step - Building Image', to: 'ks.auto82@gmail.com' |
|  | throw err |
|  | } |
|  | } |
|  |  |
|  | stage('Deploying Application using Ansible'){ |
|  | try{ |
|  | echo "Deploying Application using Anisble script" |
|  | ansiblePlaybook credentialsId: 'Ansible', disableHostKeyChecking: true, installation: 'Ansible2.9.22', inventory: '/etc/ansible/hosts', playbook: 'deploy-playbook.yml' |
|  | } |
|  | catch(Exception err){ |
|  | echo "Exception occured during Deploying Application..." |
|  | currentBuild.result="FAILURE" |
|  | mail body: 'Hi Team, \n\n Kindly go to ${BUILD\_URL} for more info and check the cause for the build failure. \n Error: $err \n\n Thanks', subject: 'Job ${JOB\_NAME} (${BUILD\_NUMBER}) is Failed at step - Deploying Application', to: 'ks.auto82@gmail.com' |
|  | throw er |
|  | } |
|  | } |
|  |  |
|  | stage('Workspace Cleanup'){ |
|  | try{ |
|  | echo "Cleaning up the Workspace" |
|  | cleanWs() |
|  | } |
|  | catch(Exception err){ |
|  | echo "Exception occured during Cleaning Up Workspace..." |
|  | currentBuild.result="FAILURE" |
|  | mail body: 'Hi Team, \n\n Kindly go to ${BUILD\_URL} for more info and check the cause for the build failure. \n Error: $err \n\n Thanks', subject: 'Job ${JOB\_NAME} (${BUILD\_NUMBER}) is Failed at step - Cleaning Up Workspace', to: 'ks.auto82@gmail.com' |
|  | throw er |
|  | } |
|  | finally{ |
|  | echo "Sucessfully Deployed" |
|  | mail body: 'Hi Team, \n\n The Build ${BUILD\_URL} has sucesfully deployed. \n\n Thanks', subject: 'Job ${JOB\_NAME} (${BUILD\_NUMBER}) is sucessful', to: 'ks.auto82@gmail.com' |
|  | } |
|  | } |
|  | } |

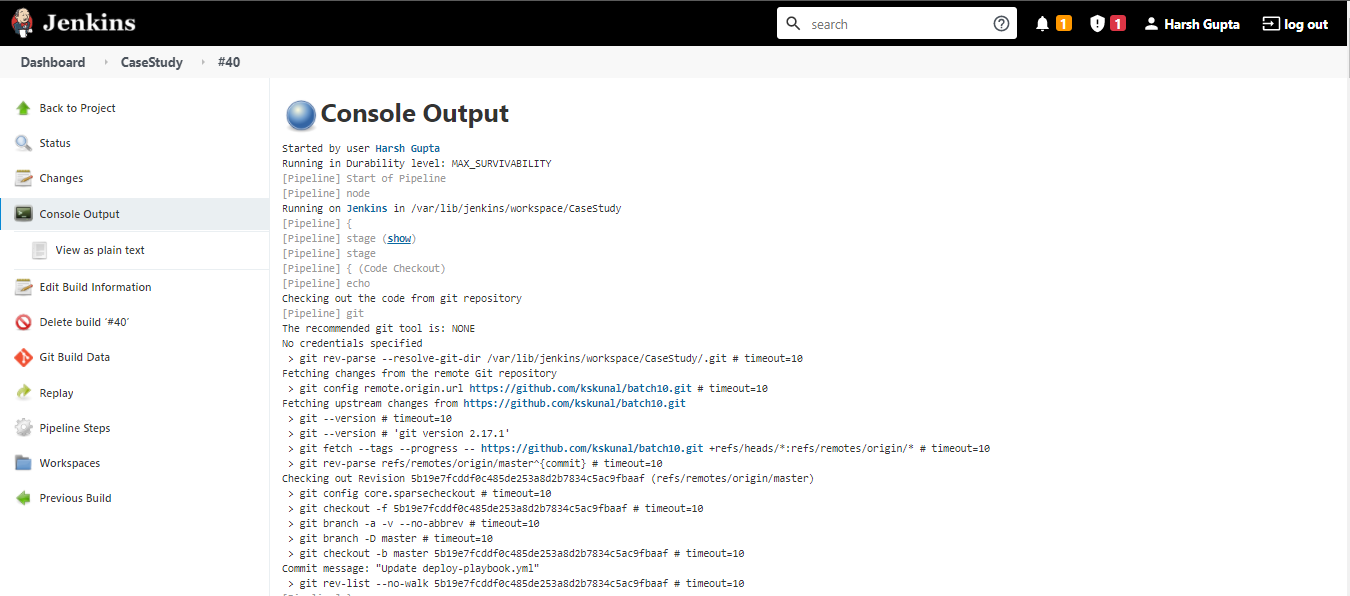
1. Upload your Jenkins Log file in the Repo. (Complete log file should display your name on top).



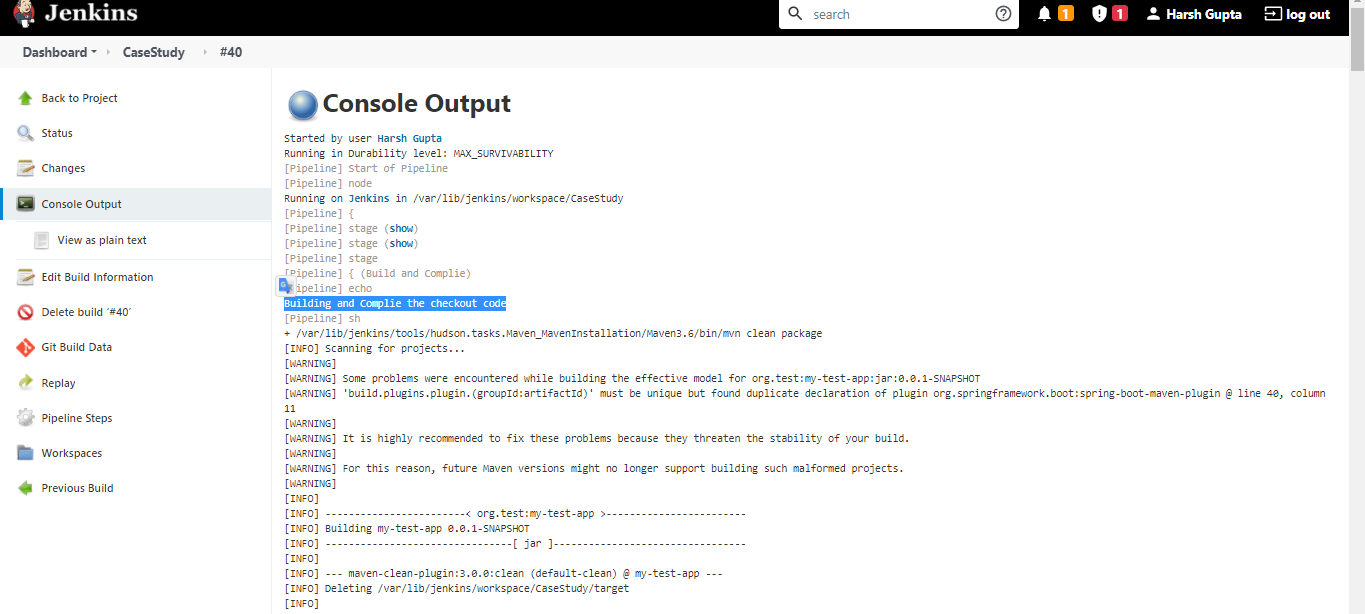
* **Building the environment**

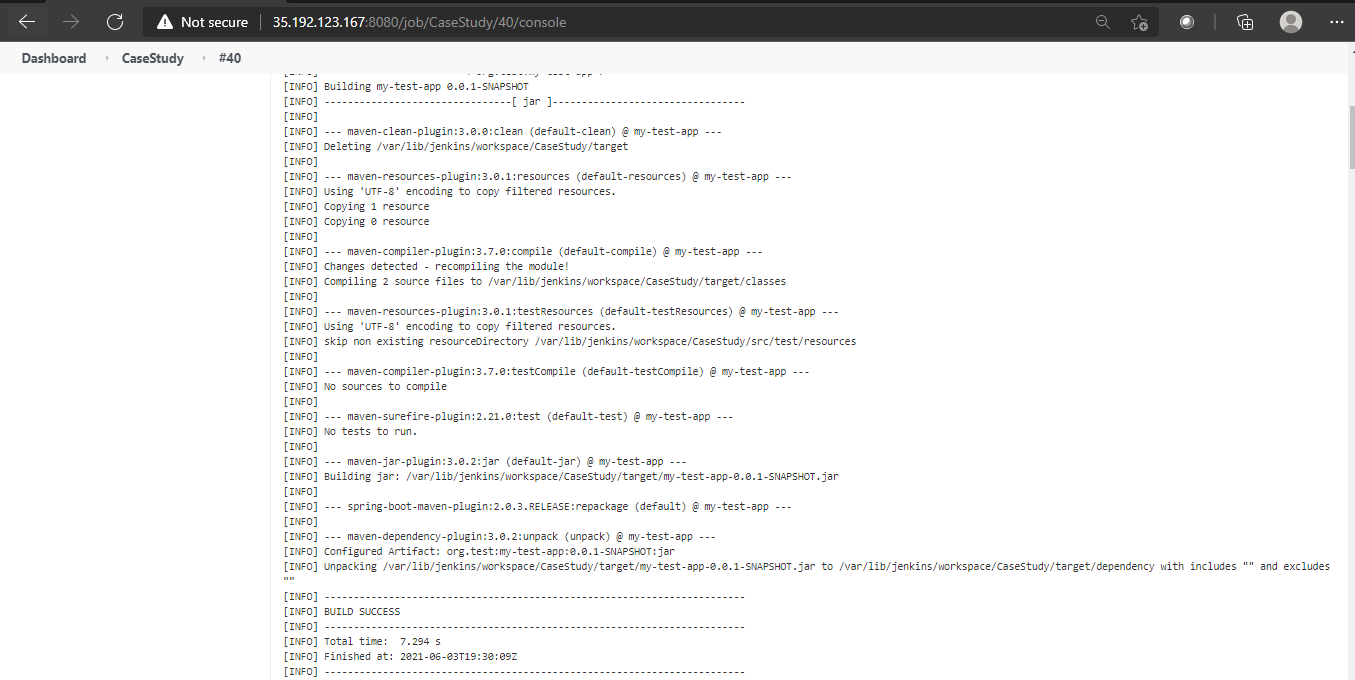


* **Checking out the code from git repository**

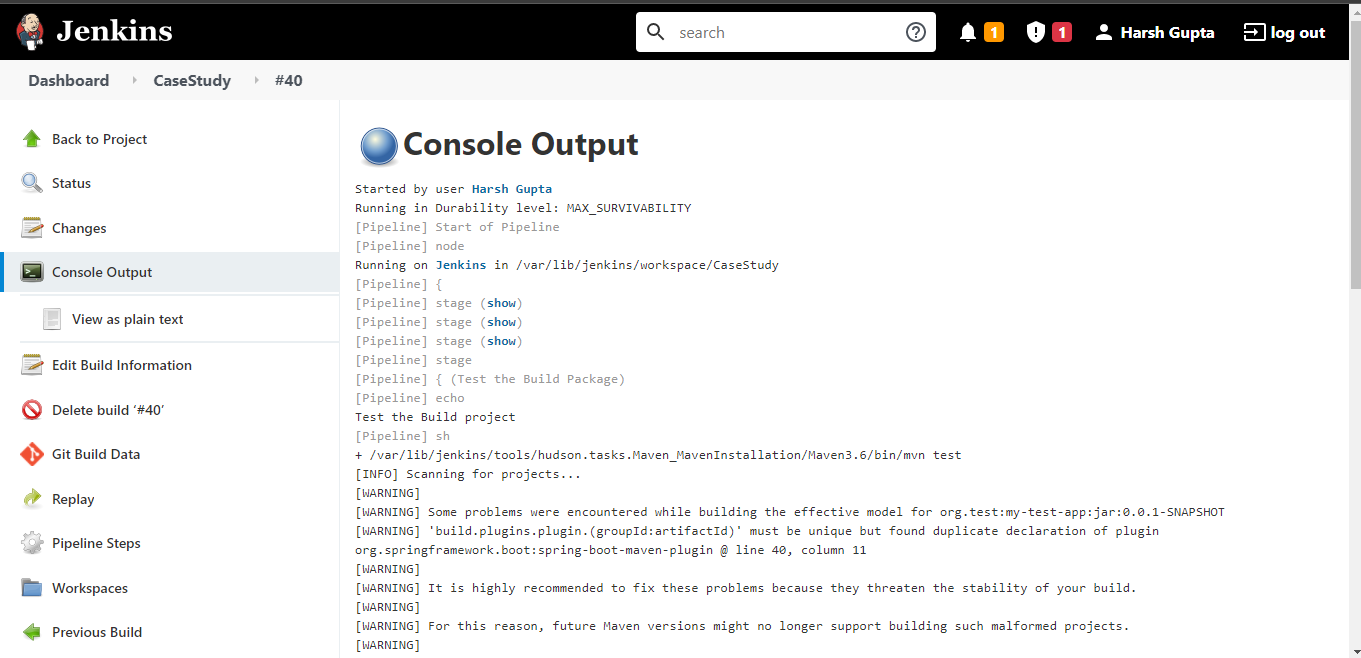


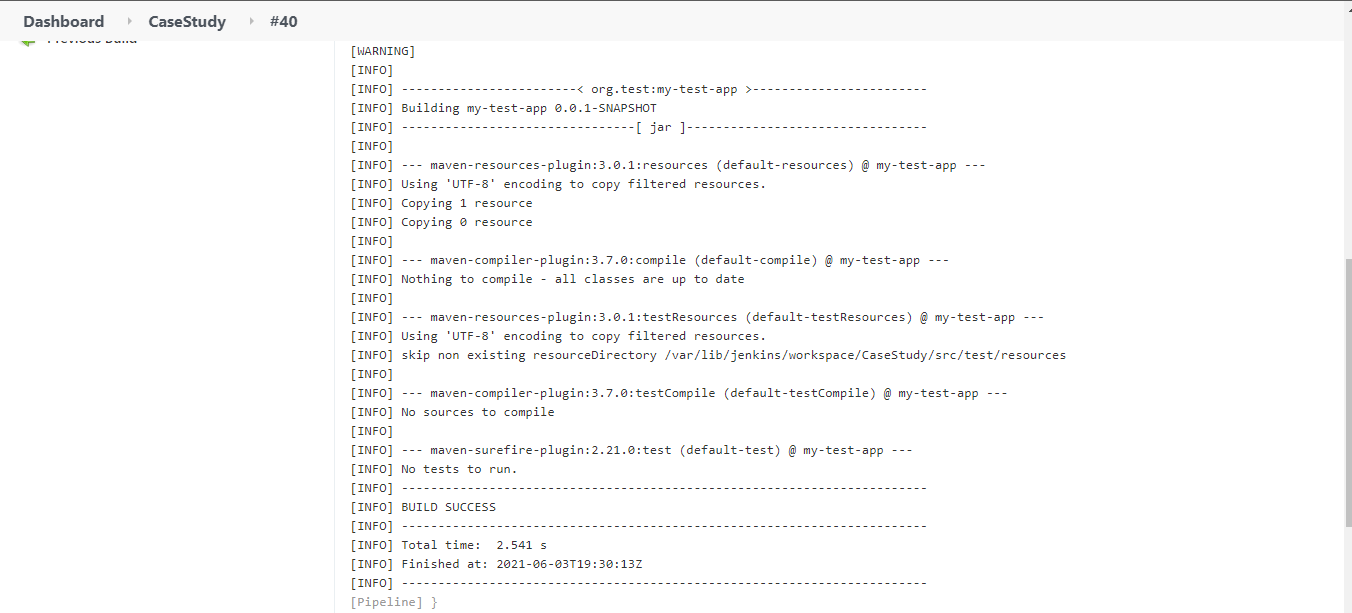
* **Building and Compile the Checkout Code**



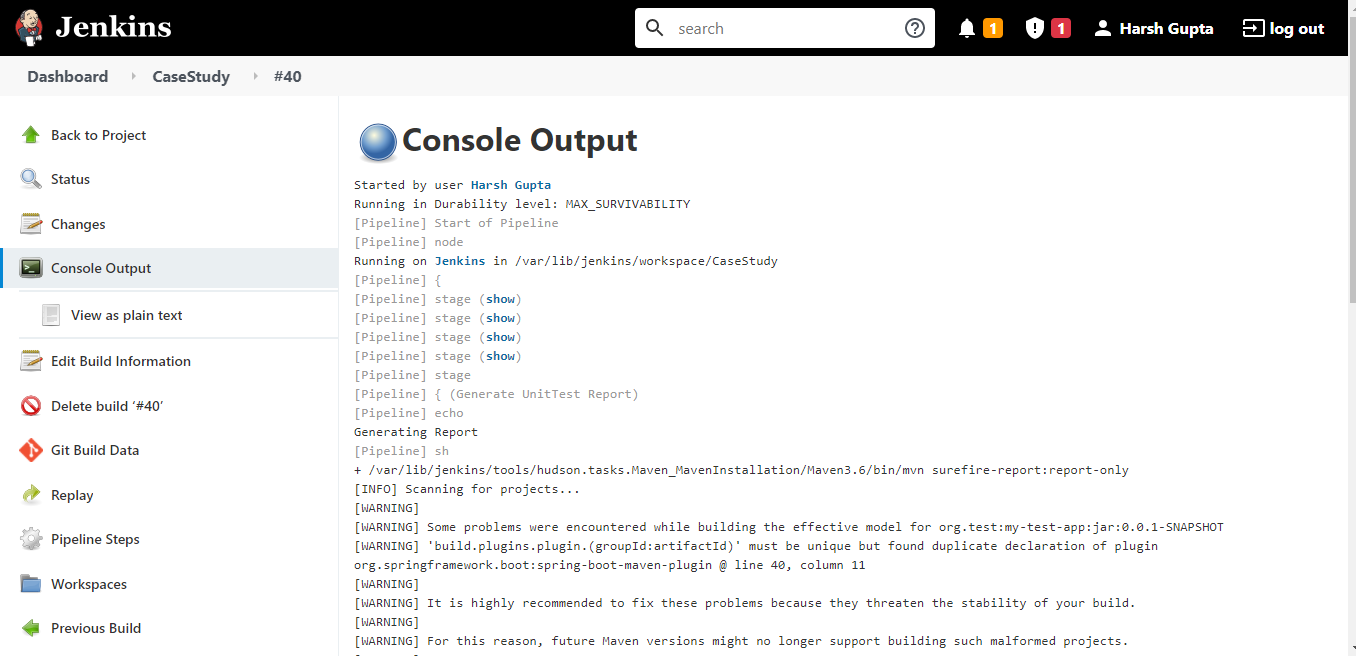


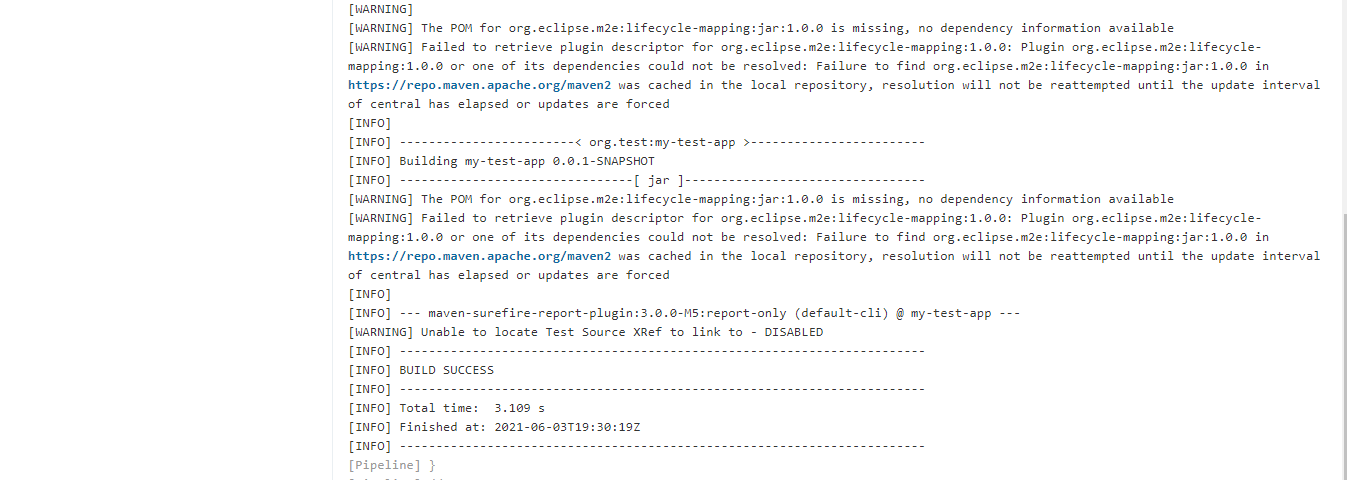
* **Test the Build Project**



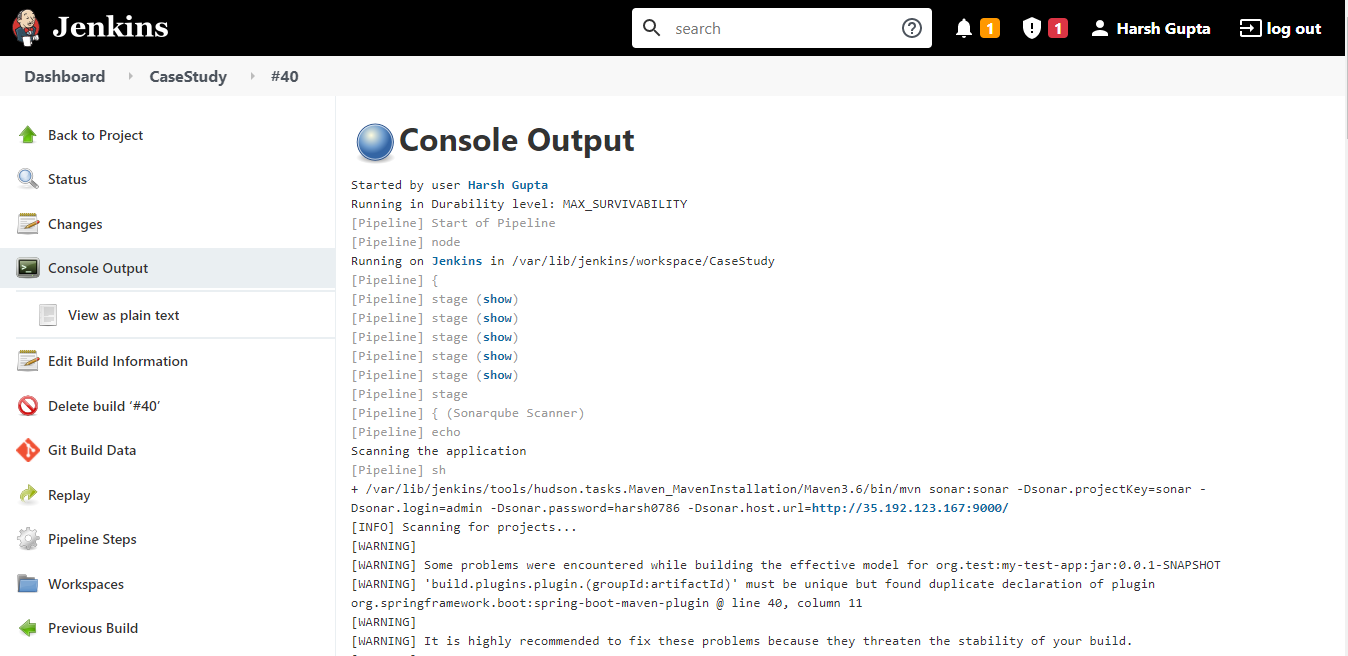


* **Generating UnitTest Report**



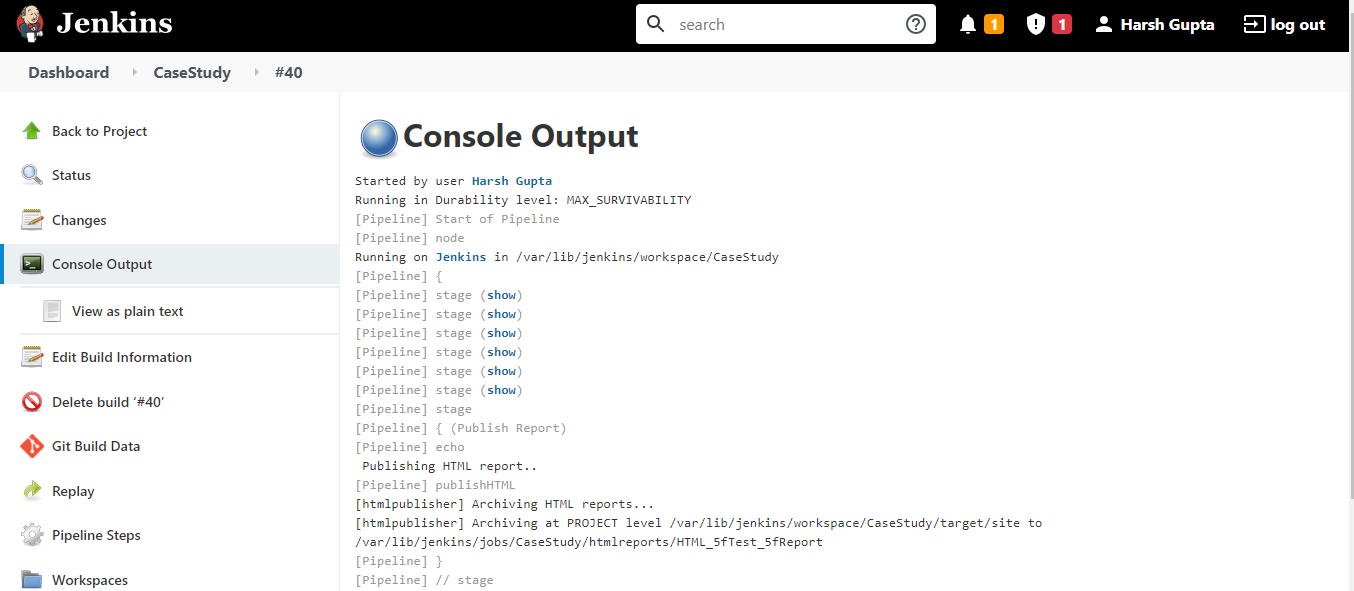


* **Scanning the Application**

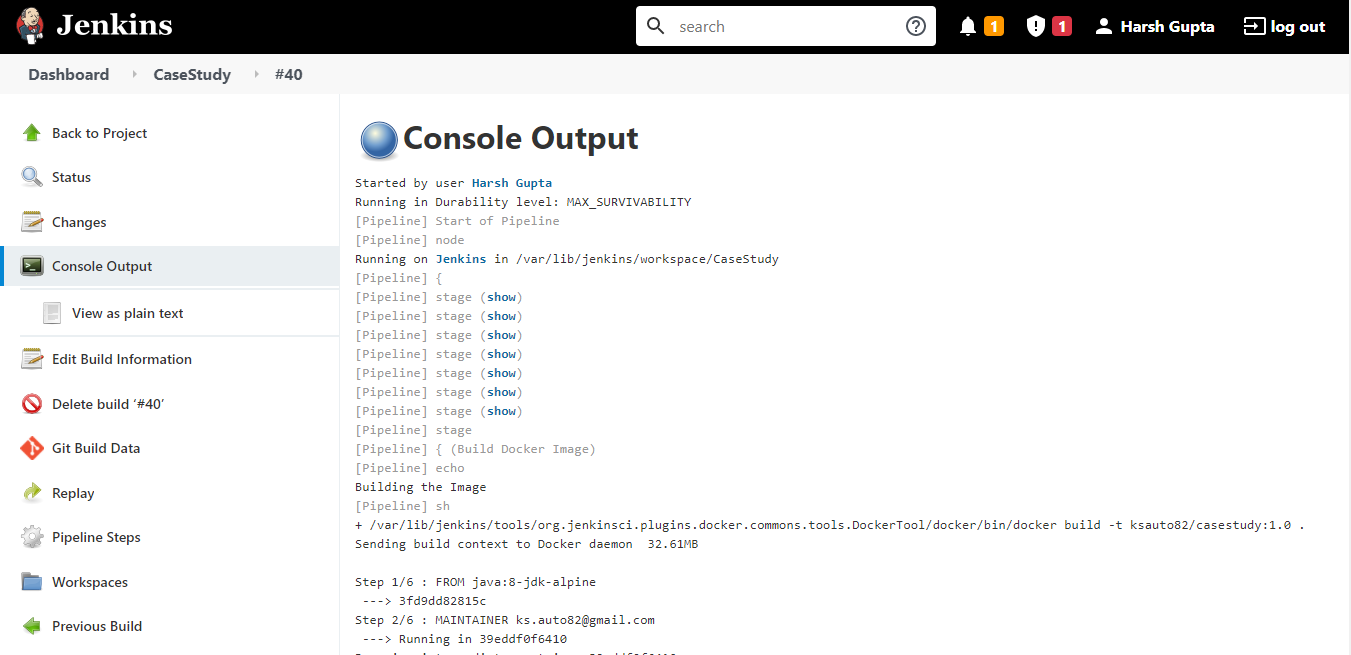




* **Publishing HTML Report**

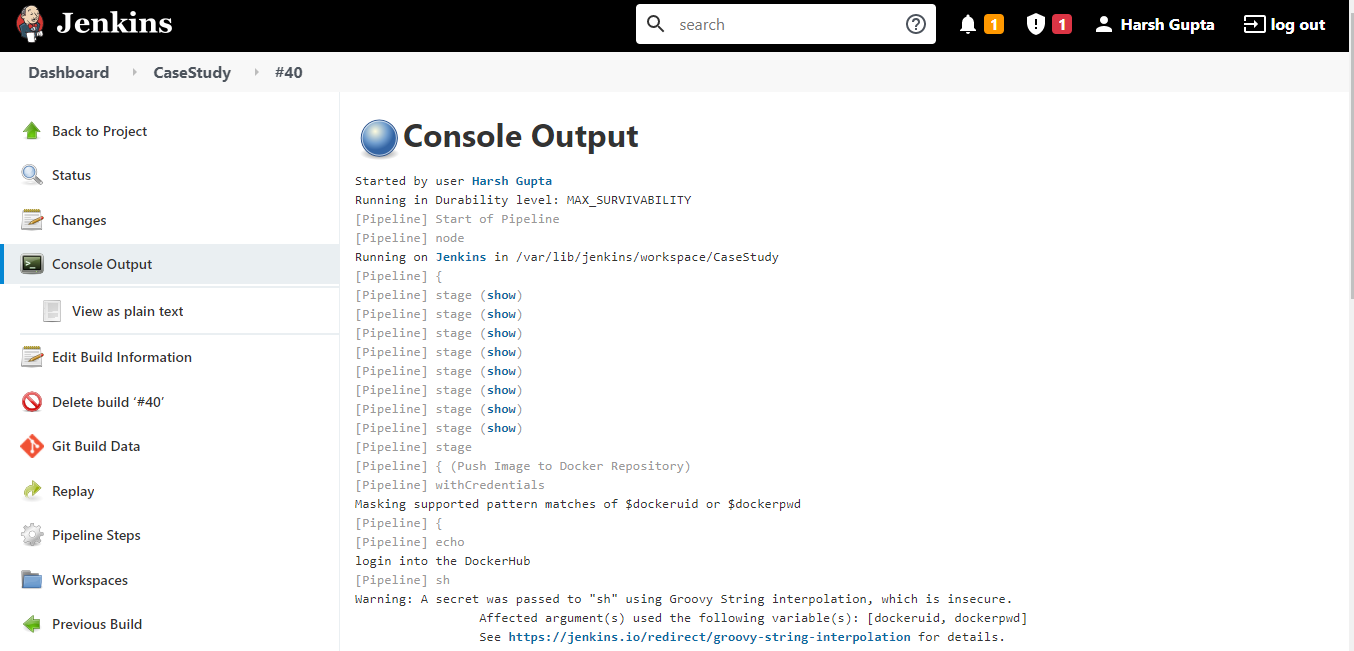


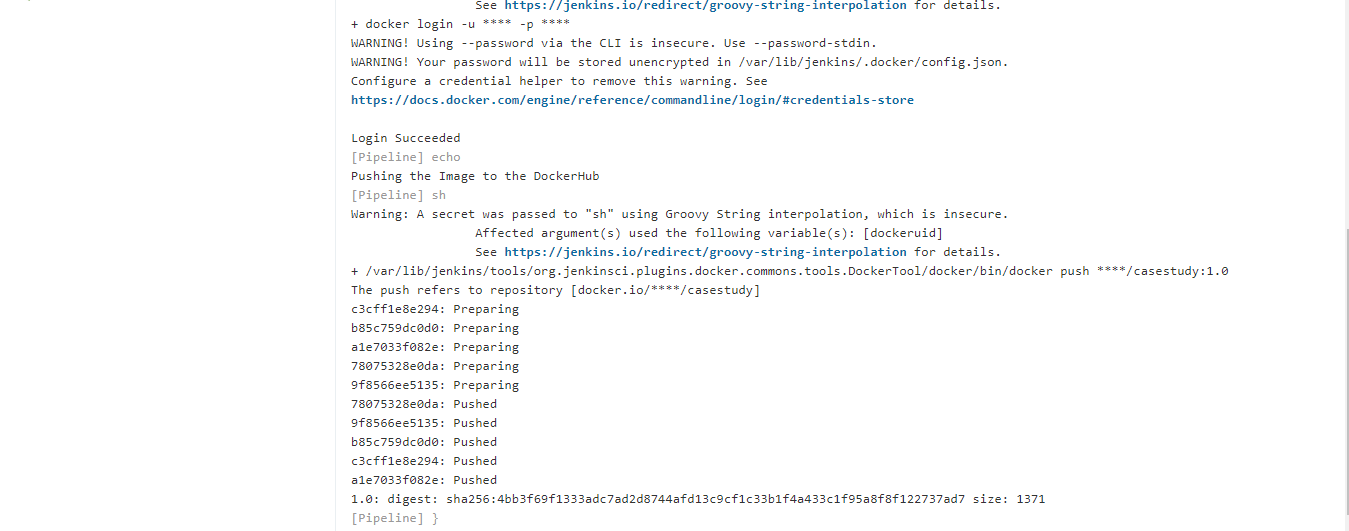
* **Building the Image**

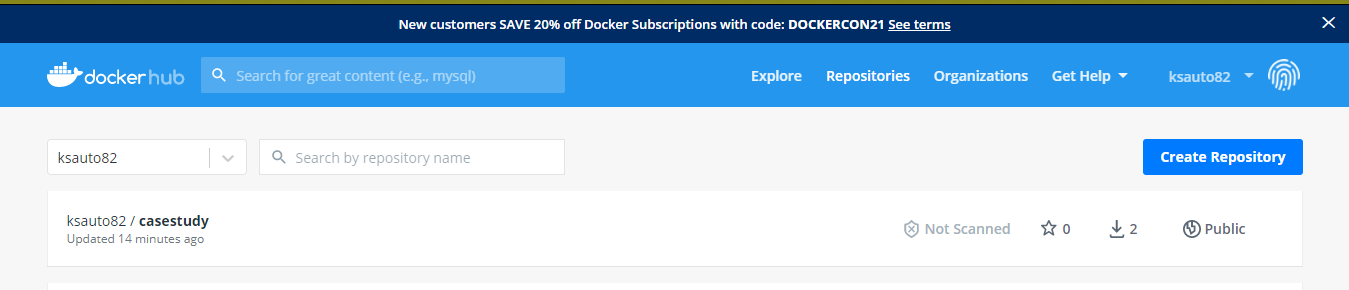




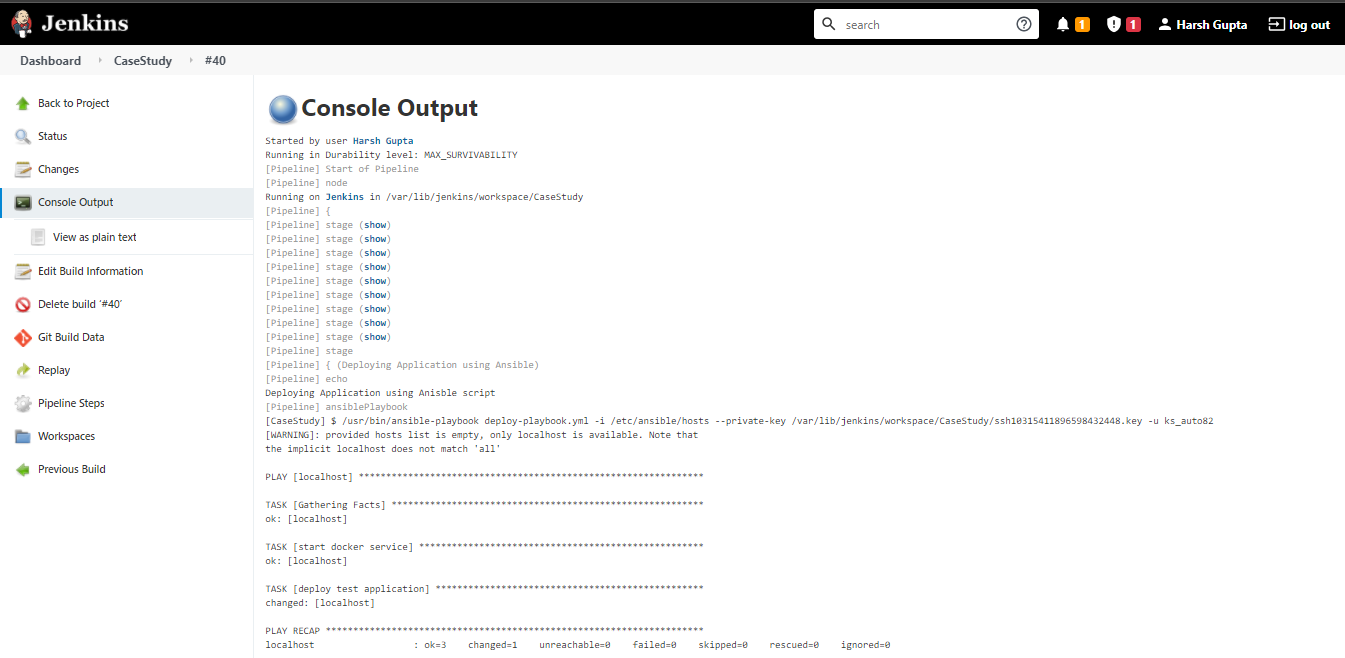
* **Push Image to Docker Repository**



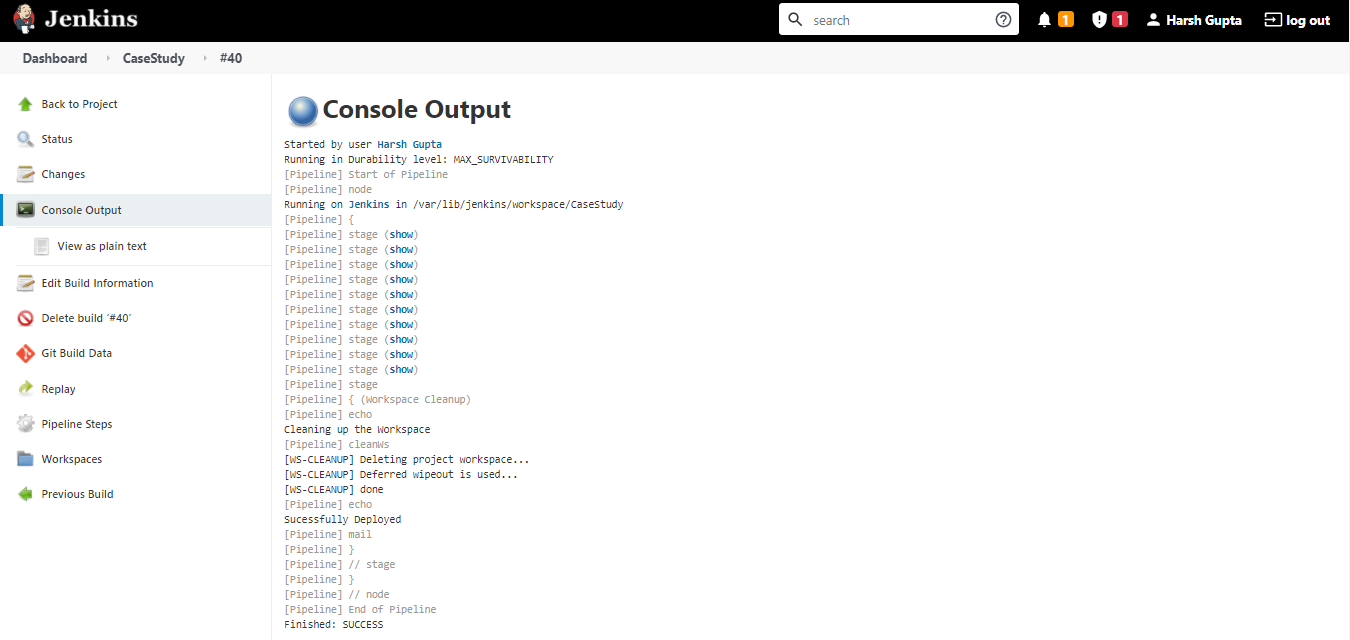




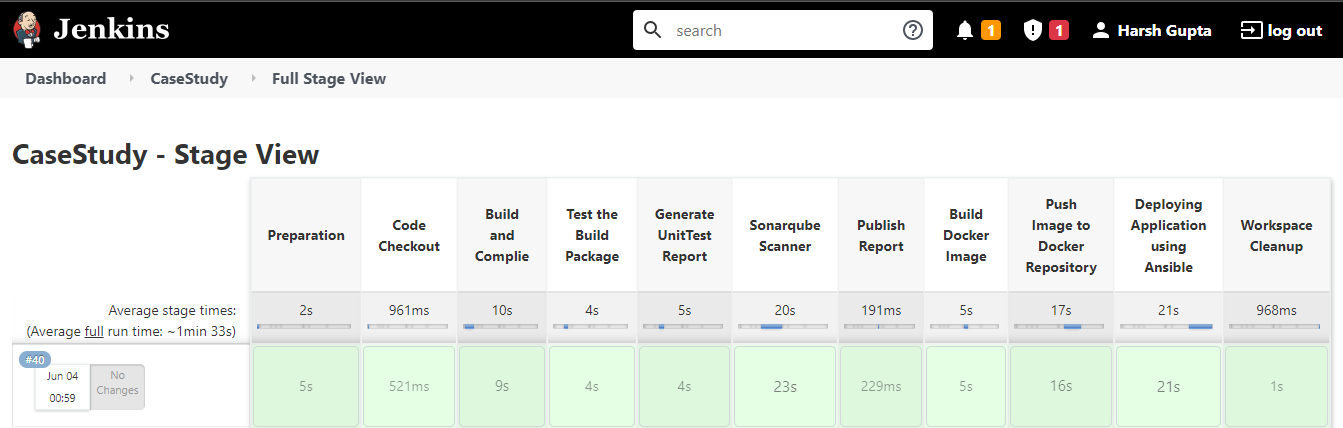
* **Deploying Application using Ansible script**



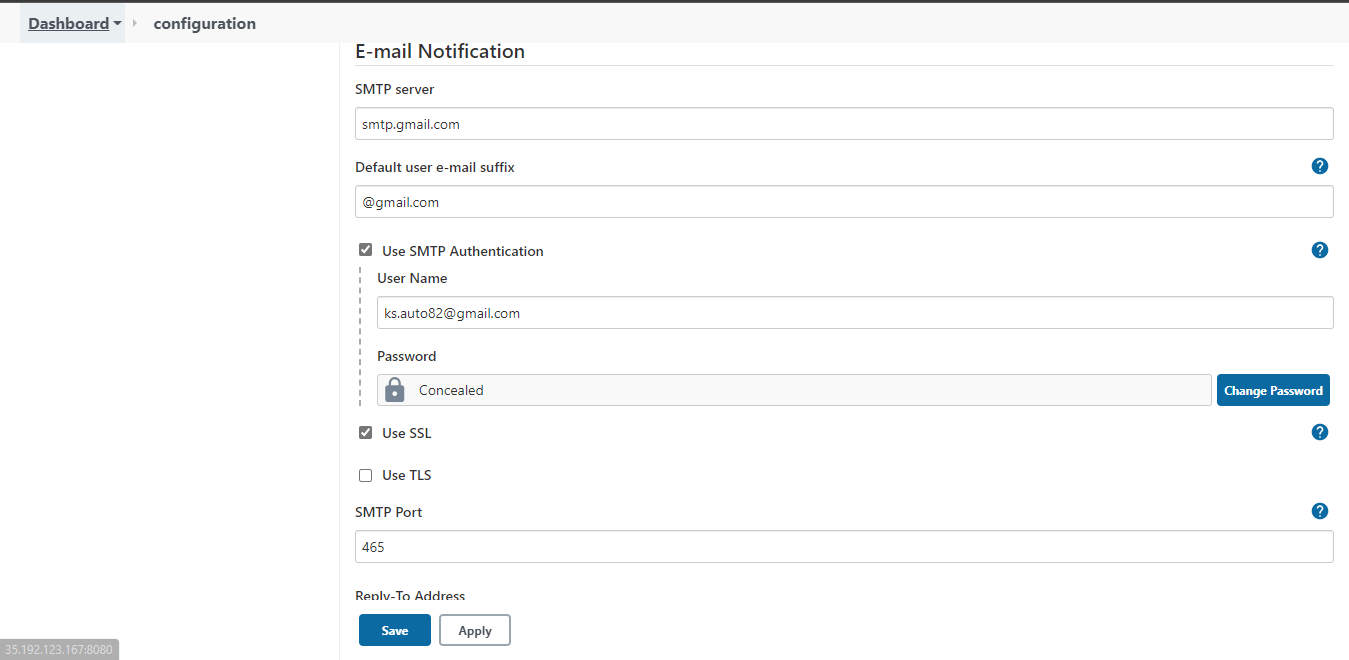
* **Cleaning up the Workspace and successful mail**



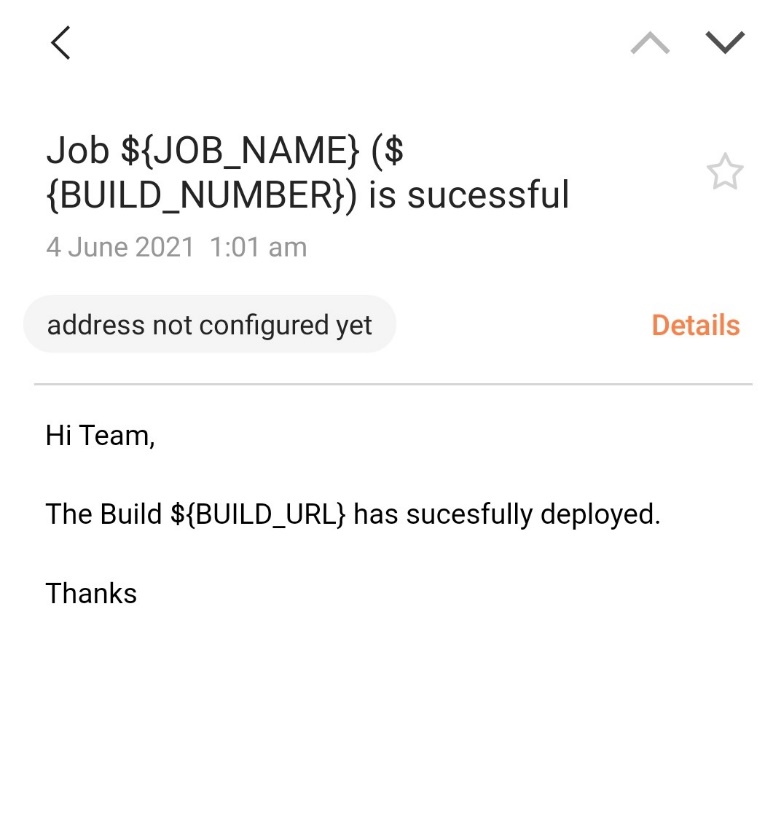
1. Attach the screenshot of Jenkins pipeline job status. (All boxes should be green)



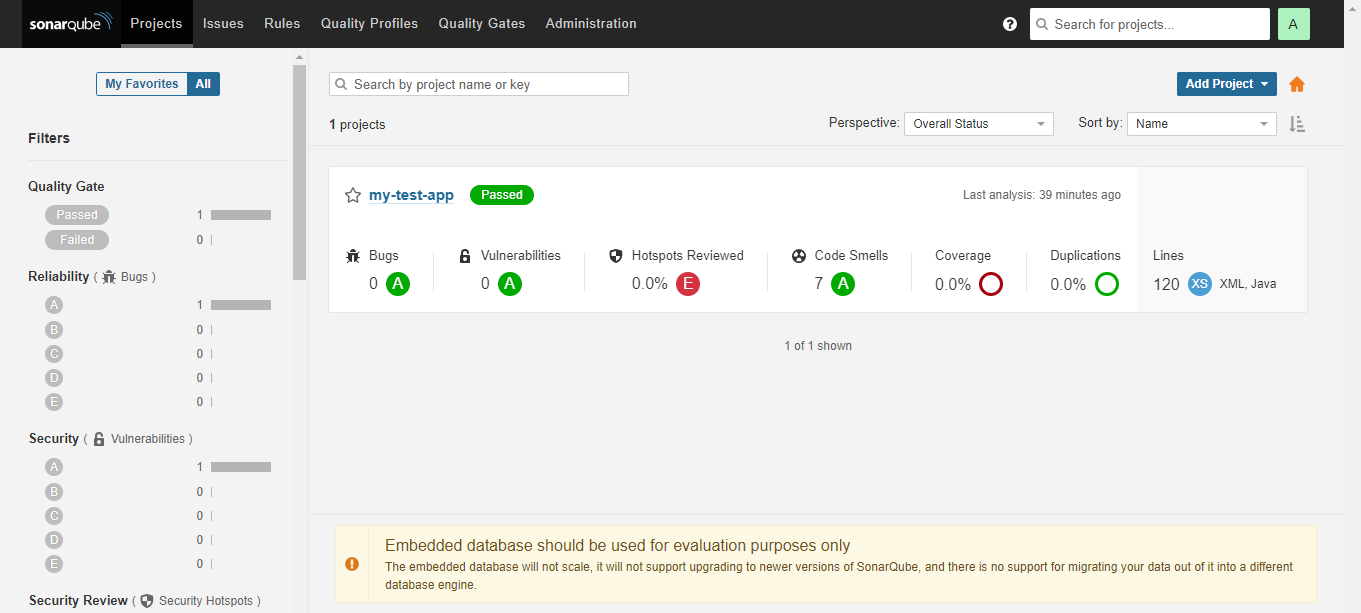
1. Attach screenshots of email notification for the Jenkins build.



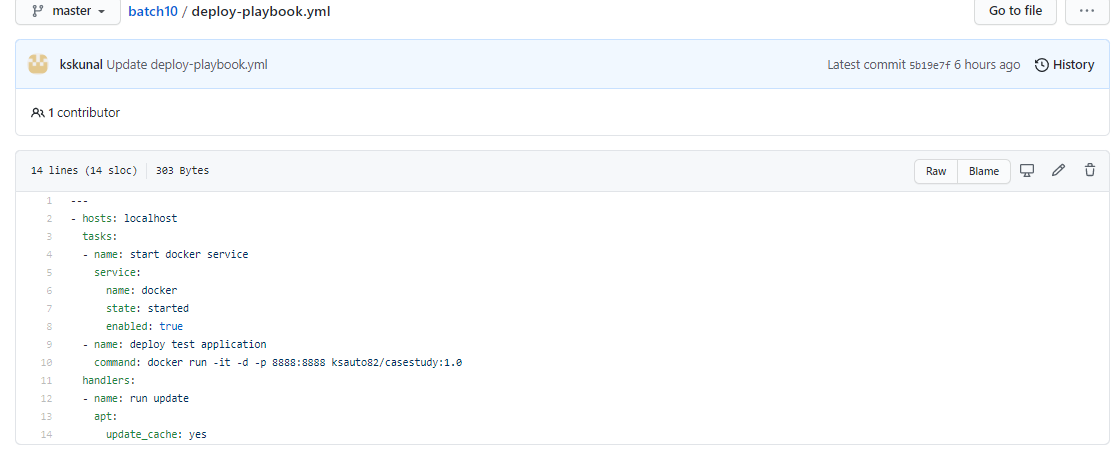
* **Successful build mail notification**



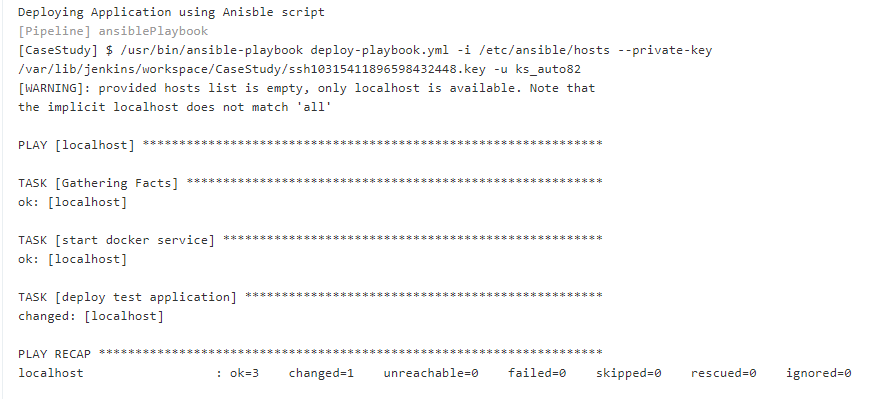
1. Attach screenshot of the SonarQube Report.



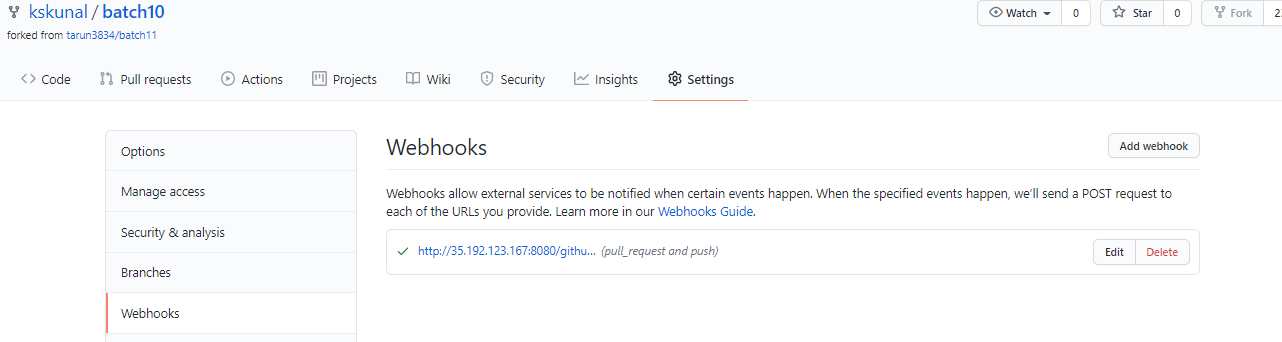
1. Attach screenshot of your Ansible Playbook execution logs.



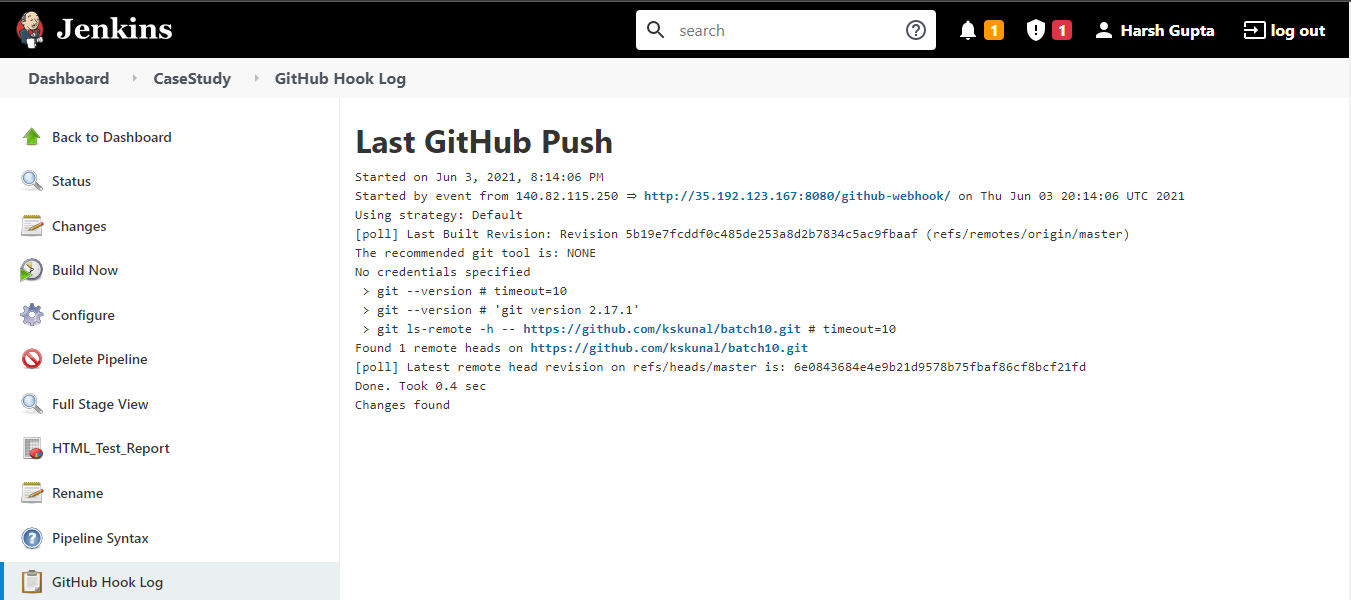
* **Execution logs**



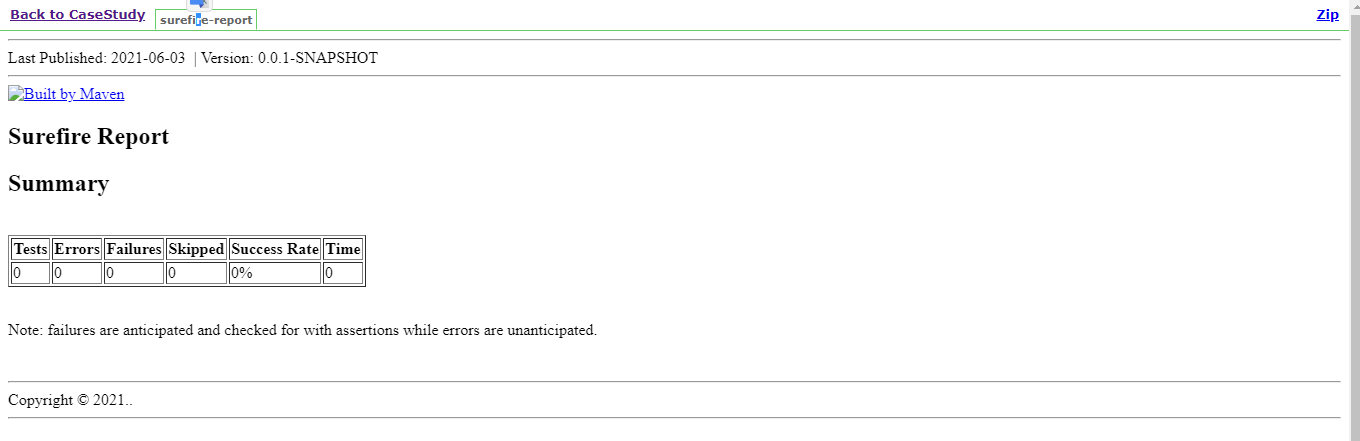
1. Webhook implementation



* **Execution trigger log**

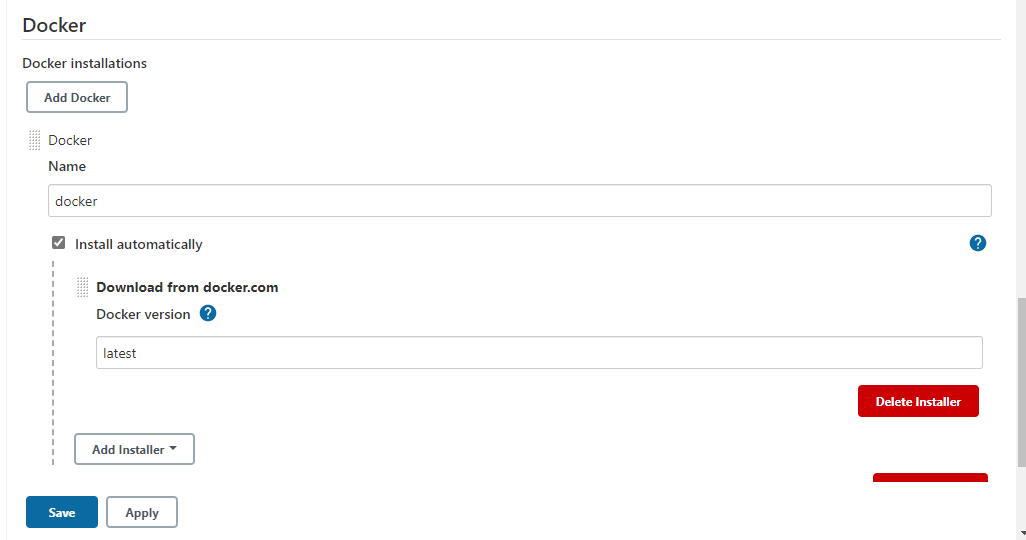


1. Publishing the HTML Report

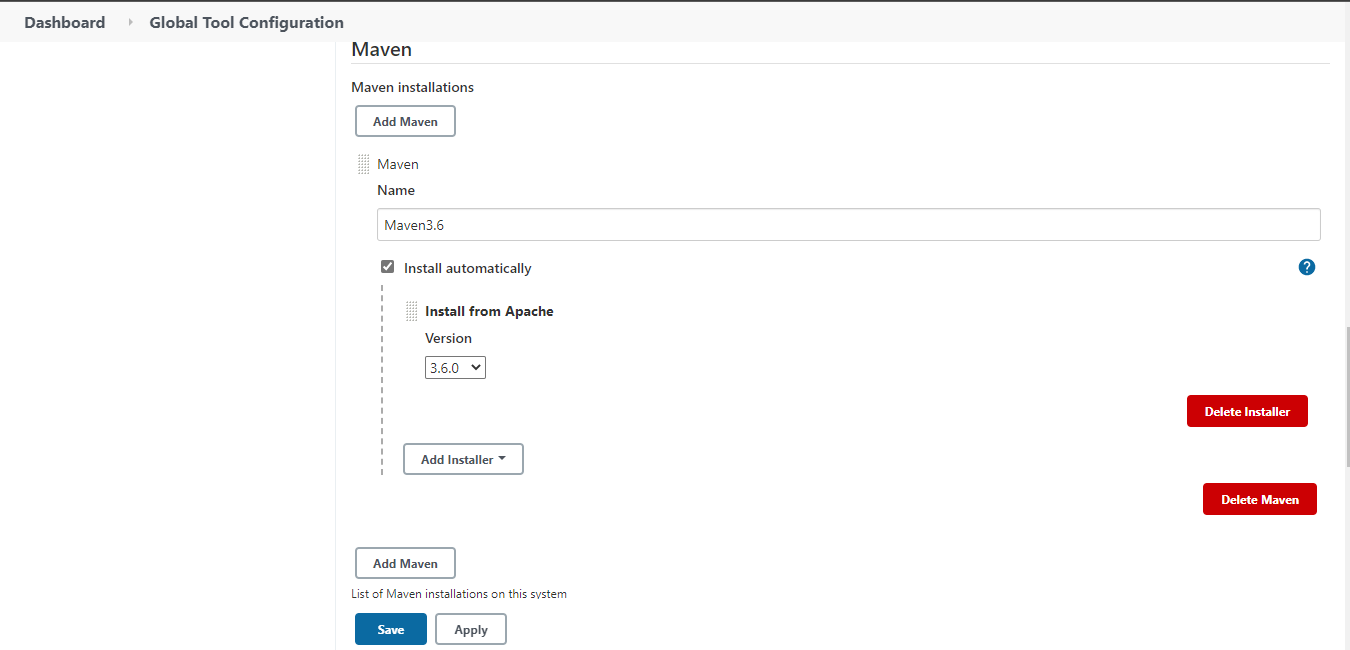


1. Jenkins tools plugin configuration

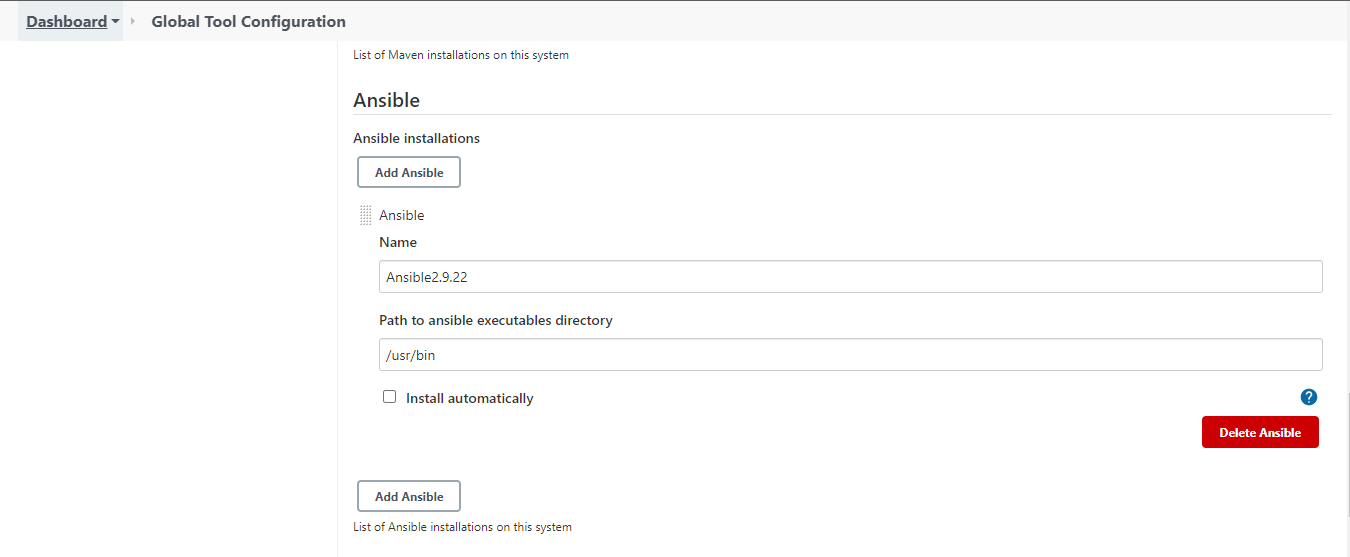
* **Docker**



* **Maven**



* **Ansible**



1. Attach screenshot of the working application home page on AWS/GCP/Azure.

