



Lab Experiment – 5

Jenkins integration with SonarQube and GitHub

NAME -Divyaansh Jain

ROLL NO – R171218040

SAP ID – 500067134

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Submitted To:

Dr. Hitesh Kumar Sir

Experiment for demonstrating Jenkins integration with SonarQube and GitHub

- Start Jenkins using command prompt and in the Manage Jenkins, download the SonarQube plugin.

```
Directory of C:\Program Files\Jenkins
28-08-2020 11:43 <DIR> .
28-08-2020 11:43 <DIR> ..
13-10-2020 16:28      3,668 jenkins.err.log
25-08-2020 10:36     620,544 jenkins.exe
25-08-2020 12:31      228 jenkins.exe.config
28-08-2020 11:43        0 jenkins.out.log
25-08-2020 12:30    67,074,367 Jenkins.war
13-10-2020 16:27      5,936 jenkins.wrapper.log
28-08-2020 11:43      3,007 jenkins.xml
          7 File(s)      67,707,750 bytes
          2 Dir(s)  246,948,306,944 bytes free

C:\Program Files\Jenkins>java -jar jenkins.war
Running from: C:\Program Files\Jenkins\Jenkins.war
webroot: $user.home/.jenkins
2020-10-16 06:43:30.618+0000 [id=1] INFO org.eclipse.jetty.util.log.Log#initialized: Logging initialized @
2020-10-16 06:43:30.849+0000 [id=1] INFO winstone.Logger#logInternal: Beginning extraction from war file
2020-10-16 06:43:30.943+0000 [id=1] WARNING o.e.j.s.handler.ContextHandler#setContextPath: Empty contextPath
2020-10-16 06:43:31.014+0000 [id=1] INFO org.eclipse.jetty.server.Server#doStart: jetty-9.4.30.v20200611;
2020-10-16 06:43:34.310+0000 [id=1] INFO o.e.j.w.StandardDescriptorProcessor#visitServlet: NO JSP Support
2020-10-16 06:43:34.528+0000 [id=1] INFO o.e.j.s.s.DefaultSessionIdManager#doStart: DefaultSessionIdManager
2020-10-16 06:43:34.528+0000 [id=1] INFO o.e.j.s.s.DefaultSessionIdManager#doStart: No SessionScavenger se
2020-10-16 06:43:34.574+0000 [id=1] INFO o.e.j.server.session.HouseKeeper#startScavenging: node0 Scavengin
2020-10-16 06:43:35.642+0000 [id=1] INFO hudson.WebAppMain#contextInitialized: Jenkins home directory: C:\
2020-10-16 06:43:36.116+0000 [id=1] INFO o.e.j.s.handler.ContextHandler#doStart: Started w.@7975d1d8{Jenki
2020-10-16 06:43:36.223+0000 [id=1] INFO o.e.j.server.AbstractConnector#doStart: Started ServerConnector@5
2020-10-16 06:43:36.223+0000 [id=1] INFO org.eclipse.jetty.server.Server#doStart: Started @7530ms
2020-10-16 06:43:36.224+0000 [id=23] INFO winstone.Logger#logInternal: Winstone Servlet Engine running: cor
2020-10-16 06:43:37.746+0000 [id=29] INFO jenkins.InitReactorRunner$1#onAttained: Started initialization
2020-10-16 06:43:48.656+0000 [id=35] INFO jenkins.InitReactorRunner$1#onAttained: Listed all plugins
2020-10-16 06:43:58.038+0000 [id=32] INFO jenkins.InitReactorRunner$1#onAttained: Prepared all plugins
2020-10-16 06:43:58.046+0000 [id=34] INFO jenkins.InitReactorRunner$1#onAttained: Started all plugins
2020-10-16 06:44:00.082+0000 [id=30] INFO jenkins.InitReactorRunner$1#onAttained: Augmented all extensions
2020-10-16 06:44:00.230+0000 [id=31] INFO jenkins.InitReactorRunner$1#onAttained: System config loaded
2020-10-16 06:44:00.231+0000 [id=31] INFO jenkins.InitReactorRunner$1#onAttained: System config adapted
2020-10-16 06:44:00.796+0000 [id=31] INFO jenkins.InitReactorRunner$1#onAttained: Loaded all jobs
2020-10-16 06:44:00.797+0000 [id=35] INFO jenkins.InitReactorRunner$1#onAttained: Configuration for all job
2020-10-16 06:44:00.876+0000 [id=59] INFO hudson.model.AsyncPeriodicWork#lambda$doRun$0: Started Download m
2020-10-16 06:44:01.002+0000 [id=59] INFO hudson.util.Retrier#start: Attempt #1 to do the action check upda
2020-10-16 06:44:01.603+0000 [id=31] INFO o.s.c.s.AbstractApplicationContext#prepareRefresh: Refreshing org
plicationContext]; startup date [Fri Oct 16 12:14:01 IST 2020]; root of context hierarchy
2020-10-16 06:44:01.603+0000 [id=31] INFO o.s.c.s.AbstractApplicationContext#obtainFreshBeanFactory: Bean f
t@1eef420]: org.springframework.beans.factory.support.DefaultListableBeanFactory@244e5ddf
2020-10-16 06:44:01.614+0000 [id=31] INFO o.s.b.f.s.DefaultListableBeanFactory#preInstantiateSingletons: Pr
@244e5ddf: defining beans [authenticationManager]; root of factory hierarchy
2020-10-16 06:44:01.802+0000 [id=31] INFO o.s.c.s.AbstractApplicationContext#prepareRefresh: Refreshing org
pplicationContext]; startup date [Fri Oct 16 12:14:01 IST 2020]; root of context hierarchy
```

Updates	Available	Installed	Advanced
Install ↑	Name	Version	
<input checked="" type="checkbox"/>	<div>SonarQube Scanner</div> <div>External Site/Tool Integrations Build Reports</div> <div>This plugin allows an easy integration of SonarQube, the open source platform for Continuous Inspection of code quality.</div>	2.12	
<input type="checkbox"/>	<div>Sonar Gerrit</div> <div>External Site/Tool Integrations</div> <div>This plugin allows to submit issues from SonarQube to Gerrit as comments directly.</div> <div>Warning: This plugin version may not be safe to use. Please review the following security notices:<ul style="list-style-type: none">Credentials stored in plain text</div>	2.4.3	

- After the plugin is downloaded, go to the Configuration and provide the information of SonarQube.

Global properties

☐ Disable deferred wipeout on this node

☐ Environment variables

☐ Tool Locations

SonarQube servers

Environment variables ☐ Enable injection of SonarQube server configuration as build environment variables
If checked, job administrators will be able to inject a SonarQube server configuration as environment variables in the build.

SonarQube installations

Name

Server URL
Default is http://localhost:9000

Server authentication token

SonarQube authentication token. Mandatory when anonymous access is disabled.

List of SonarQube installations

- Make any maven project and upload it to your GitHub account in a repository, https://github.com/Divyaansh313/Apache_Maven

Divyaansh313 / Apache_Maven

<> Code ⓘ Issues 🔗 Pull requests ⚙️ Actions 📁 Projects 📖 Wiki 🔒 Security 📊 Insights ⚙️ Settings

🔑 master 1 branch 0 tags

File	Commit	Time
Divyaansh313 Set theme jekyll-theme-cayman	3f43fd7	on Apr 30 4 commits
.settings	First Class	5 months ago
src	Second class	5 months ago
target	Second class	5 months ago
.classpath	First Class	5 months ago
.project	First Class	5 months ago
_config.yml	Set theme jekyll-theme-cayman	5 months ago
pom.xml	First Class	5 months ago

Help people interested in this repository understand your project by adding a README.

- Create a new Freestyle Project. In this project, select Git in the Source Code Management Tab and give credentials if you are working with a private repository.

The screenshot shows the 'Source Code Management' tab of a Jenkins Freestyle Project configuration. At the top, there are tabs for 'General', 'Source Code Management' (selected), 'Build Triggers', 'Build Environment', 'Build', and 'Post-build Actions'. Below the tabs, the 'Source Code Management' section has two radio buttons: 'None' and 'Git' (selected). Under the 'Git' section, there are two main areas: 'Repositories' and 'Branches to build'. The 'Repositories' section contains a 'Repository URL' text field with the value 'https://github.com/Divyaansh313/Apache_Maven', a 'Credentials' dropdown menu set to '- none -', and an 'Add' button. Below these are 'Advanced...' and 'Add Repository' buttons. The 'Branches to build' section contains a 'Branch Specifier (blank for 'any')' text field with the value '*/master' and an 'Add Branch' button. There are also help icons (question marks) next to the 'Repository URL', 'Credentials', and 'Branch Specifier' fields.

- In the Build option, give the appropriate Root POM and goals and options.

The screenshot shows the 'Build' and 'Post Steps' sections of a Jenkins Freestyle Project configuration. The 'Build' section has a 'Root POM' text field with the value 'my-app/pom.xml' and a 'Goals and options' text field with the value 'clean install sonar:sonar -Dsonar.host.url=http://localhost:9000 -Dsonar.analysis.mode=publish'. Below these fields is an 'Advanced...' button. The 'Post Steps' section has three radio buttons: 'Run only if build succeeds', 'Run only if build succeeds or is unstable', and 'Run regardless of build result' (selected). Below the radio buttons is a text field with the value 'Should the post-build steps run only for successful builds, etc.'. At the bottom of the 'Post Steps' section is an 'Add post-build step' button. The 'Build Settings' section is partially visible at the bottom of the image.

- Saving this project and running/building this project. SonarQube will perform the static code analysis. The console output for the project is given below.

```
[INFO] ANALYSIS SUCCESSFUL, you can browse http://localhost:9000/dashboard?id=com.mycompany.app%3Amy-app
[INFO] Note that you will be able to access the updated dashboard once the server has processed the submitted analysis report
[INFO] More about the report processing at http://localhost:9000/api/ce/task?id=AXTrfwTL502Y9D3g-6\_V
[INFO] Analysis total time: 20.345 s
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 27.829 s
[INFO] Finished at: 2020-10-04T17:33:43+05:30
[INFO] -----
Waiting for Jenkins to finish collecting data
[JENKINS] Archiving C:\Users\ARJUN\.jenkins\workspace\CI-CD_check\my-app\pom.xml to com.mycompany.app/my-app/1.0-SNAPSHOT/my-app-1.0-SNAPSHOT.pom
[JENKINS] Archiving C:\Users\ARJUN\.jenkins\workspace\CI-CD_check\my-app\target\my-app-1.0-SNAPSHOT.jar to com.mycompany.app/my-app/1.0-SNAPSHOT/my-app-1.0-SNAPSHOT.jar
channel stopped
Finished: SUCCESS
```

- This project can be seen on SonarQube dashboard.

