

## <u>Lab Experiment – 5</u> <u>Jenkins integration with SonarQube and GitHub</u>

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**COURSE** – B. Tech CSE- DevOps Batch 1

**SUBJECT** – Continuous Integration and Deployment

**SEMESTER** – 5<sup>th</sup> semester

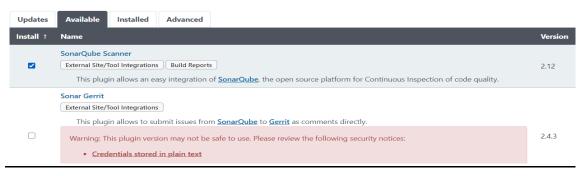
## **Submitted To:**

Dr. Hitesh Kumar Sir

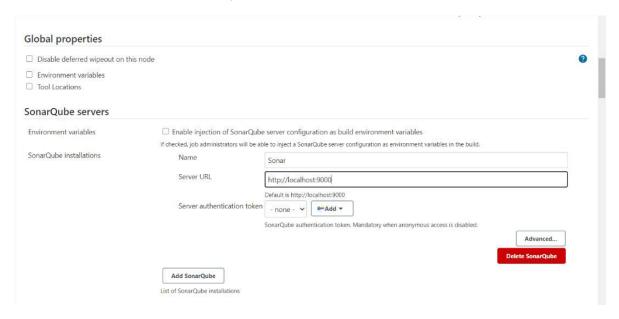
## **Experiment for demonstrating Jenkins integration with SonarQube and GitHub**

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

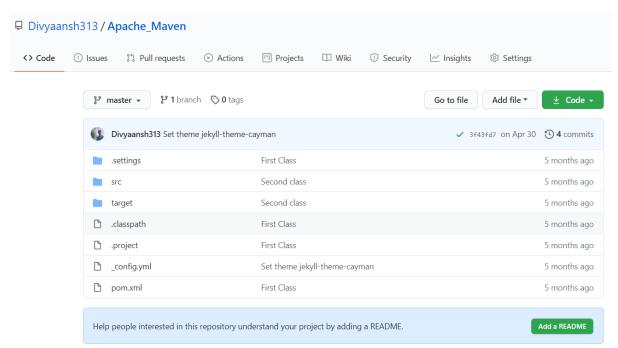
```
Directory of C:\Program Files\Jenkins
28-08-2020
                 11:43
                                <DIR>
28-08-2020
                  11:43
                                <DTR>
13-10-2020
                                              3,668 jenkins.err.log
                  16:28
25-08-2020
                  10:36
                                           620,544 jenkins.exe
25-08-2020
                  12:31
                                                 228 jenkins.exe.config
28-08-2020
                  11:43
                                                       jenkins.out.log
                                      67,074,367 Jenkins.war
25-08-2020
                  12:30
13-10-2020
                  16:27
                                              5,936 jenkins.wrapper.log
28-08-2020
                  11:43
                                              3,007 jenkins.xml
                                            67,707,750 bytes
                       7 File(s)
                       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]
                                                                          org.eclipse.jetty.util.log.Log#initialized: Logging initialized
                                                             INFO
2020-10-16 06:43:30.849+0000 [id=1]
                                                             TNFO
                                                                          winstone.Logger#logInternal: Beginning extraction from war file
2020-10-16 06:43:30.943+0000
                                                              WARNING o.e.j.s.handler.ContextHandler#setContextPath: Empty contextPath
                                                                          org.eclipse.jetty.server.Server#doStart: jetty-9.4.30.v20200611;
2020-10-16 06:43:31.014+0000
                                                             INFO
                                             [id=1]
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
                                                              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 s
2020-10-16 06:43:34.574+0000
                                             [id=1]
                                                              INFO
                                                                          o.e.j.server.session.HouseKeeper#startScavenging: node0 Scavengi
2020-10-16 06:43:35.642+0000
                                                              INFO
                                                                          hudson.WebAppMain#contextInitialized: Jenkins home directory: C
2020-10-16 06:43:36.116+0000
                                                              INFO
                                                                          o.e.j.s.handler.ContextHandler#doStart: Started w.@7975d1d8{Jenk
                                             [id=1]
2020-10-16 06:43:36.223+0000
                                             [id=1]
                                                              INFO
                                                                          o.e.j.server.AbstractConnector#doStart: Started ServerConnector@
2020-10-16 06:43:36.223+0000
                                                              INFO
                                                                          org.eclipse.jetty.server.Server#doStart: Started @7530ms
2020-10-16 06:43:36.224+0000
                                                              INFO
                                                                          winstone.Logger#logInternal: Winstone Servlet Engine running: cor
                                             [id=23]
                                                                          jenkins.InitReactorRunner$1#onAttained: Started initialization
2020-10-16 06:43:37.746+0000
                                             [id=29]
                                                              INFO
2020-10-16 06:43:48.656+0000
                                                              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
                                                              INFO
                                                                          jenkins.InitReactorRunner$1#onAttained: System config loaded
                                             [id=31]
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
                                                              INFO
                                                                           jenkins.InitReactorRunner$1#onAttained: Loaded all jobs
2020-10-16 06:44:00.797+0000 [id=35]
                                                              INFO
                                                                          jenkins.InitReactorRunner$1#onAttained: Configuration for all jo
2020-10-16 06:44:00.876+0000 [id=59]
                                                              TNFO
                                                                          hudson.model.AsyncPeriodicWork#lambda$doRun$0: Started Download
2020-10-16 06:44:01.002+0000
                                             [id=59]
                                                              INFO
                                                                          hudson.util.Retrier#start: Attempt #1 to do the action check upd
2020-10-16 06:44:01.603+0000 [id=31]
                                                              INFO
                                                                          o.s.c.s.AbstractApplicationContext#prepareRefresh: Refreshing or
plicationContext]; startup date [Fri Oct 16 12:14:01 IST 2020]; root of context hierarchy
                                                                          o.s.c.s.AbstractApplicationContext#obtainFreshBeanFactory: Bean
2020-10-16 06:44:01.603+0000 [id=31]
                                                              INFO
t@1eef420]: org.springframework.beans.
                                                           factory.support.DefaultListableBeanFactory@244e5ddf
                                                                          o.s.b.f.s. Default Listable Bean Factory \#preInstantiate Single tons: Property of the proper
2020-10-16 06:44:01.614+0000 [id=31]
                                                              TNFO
 244e5ddf: defining beans [authenticationManager]; root of factory hierarchy
2020-10-16 06:44:01.802+0000 [id=31]
                                                                          o.s.c.s.AbstractApplicationContext#prepareRefresh: Refreshing org
                                                             INFO
pplicationContext]; startup date [Fri Oct 16 12:14:01 IST 2020]; root of context hierarchy
```



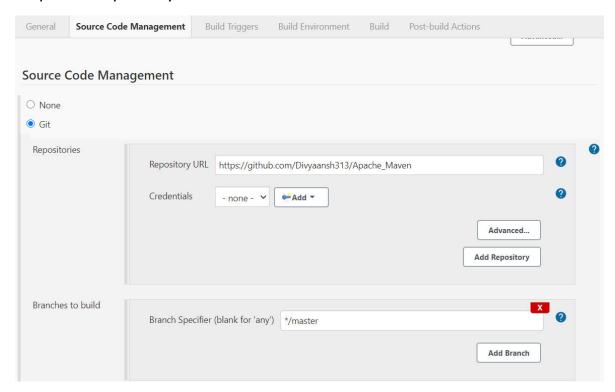
 After the plugin is downloaded, go to the Configuration and provide the information of SonarQube.



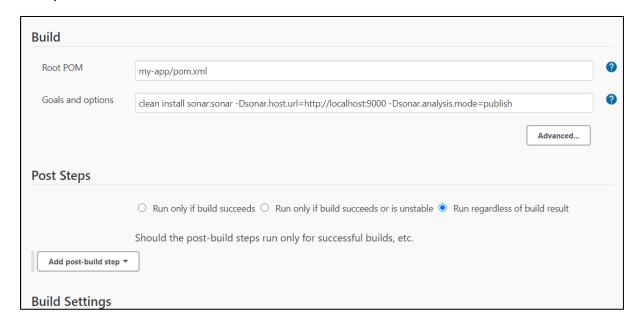
 Make any maven project and upload it to your GitHub account in a repository, <a href="https://github.com/Divyaansh313/Apache Maven">https://github.com/Divyaansh313/Apache Maven</a>



• 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.



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



 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 <a href="http://localhost:9000/dashboard?id=com.mycompany.app%3Amy-app">http://localhost:9000/dashboard?id=com.mycompany.app%3Amy-app</a>
[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 <a href="http://localhost:9000/api/ce/task?id=AXTzfwtLS02Y9D3g-6_V">http://localhost:9000/api/ce/task?id=AXTzfwtLS02Y9D3g-6_V</a>
[INFO] Analysis total time: 20.345 s
[INFO] BUILD SUCCESS
[INFO] Total time: 27.829 s
[INFO] Finished at: 2020-10-04T17:33:43+05:30
[INFO] Finished at: 2020-10-04T17:33:43+05:30
[INFO] 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.jom
[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.

