

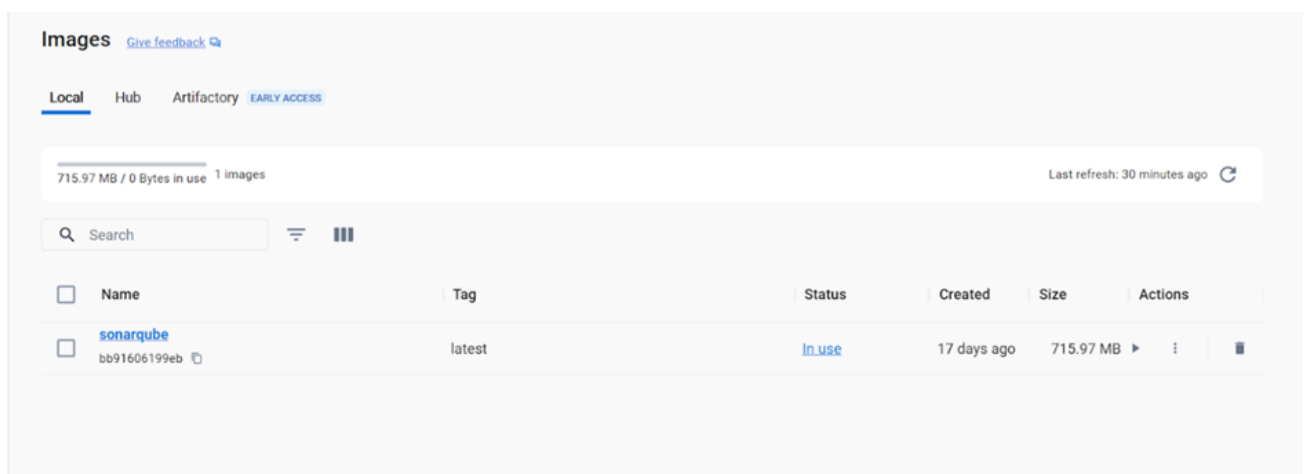
Experiment No 7

AIM: Installing SonarQube from the Docker Image

```
$ docker run -d --name sonarqube -e SONAR_ES_BOOTSTRAP_CHECKS_DISABLE=true -p 9000:9000
```

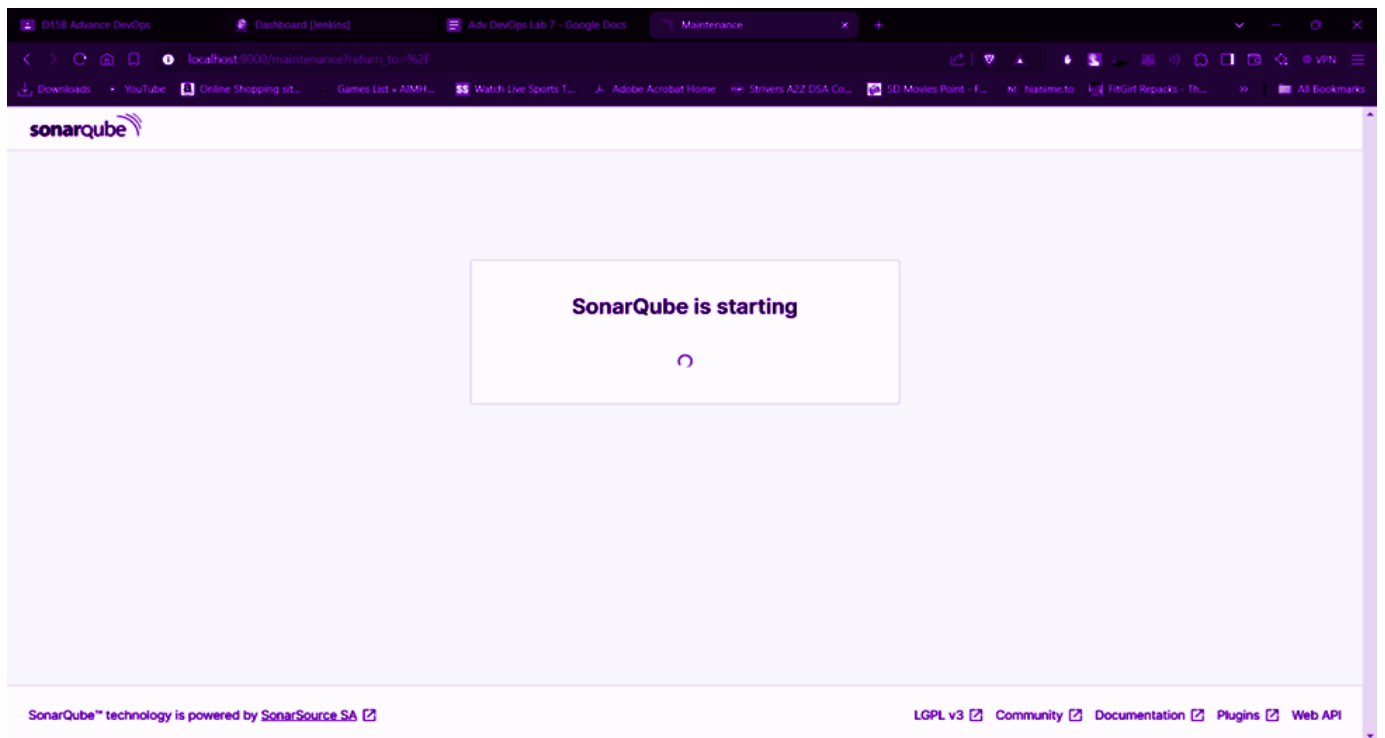
Sonarqube:latest

```
Windows PowerShell
PS C:\Users\susha> docker run -d --name sonarqube -e SONAR_ES_BOOTSTRAP_CHECKS_DISABLE=true -p 9000:9000 sonarqube:latest
Unable to find image 'sonarqube:latest' locally
latest: Pulling from library/sonarqube
7478e0ac0f23: Pull complete
90a925ab929a: Pull complete
7d9a34308537: Pull complete
80338217a4ab: Pull complete
1a5fd5c7e184: Pull complete
7b87d6fa783d: Pull complete
bd819c9b5ead: Pull complete
4f4fb700ef54: Pull complete
Digest: sha256:72e9feec71242af83faf65f95a40d5e3bb2822a6c3b2cda8568790f3d31aecd
Status: Downloaded newer image for sonarqube:latest
076e31dcde3ee9f521b91997bc0acce7d36dfee8dfafbcd325053fd99eff67ca
PS C:\Users\susha> |
```

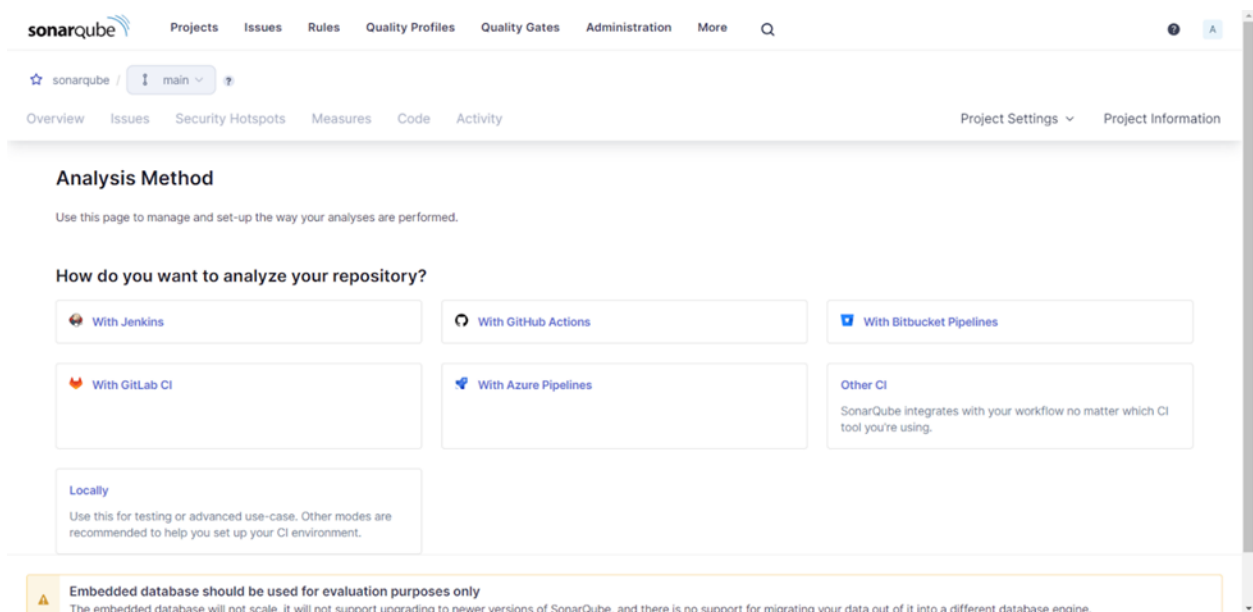


go to the SonarQube page by typing:

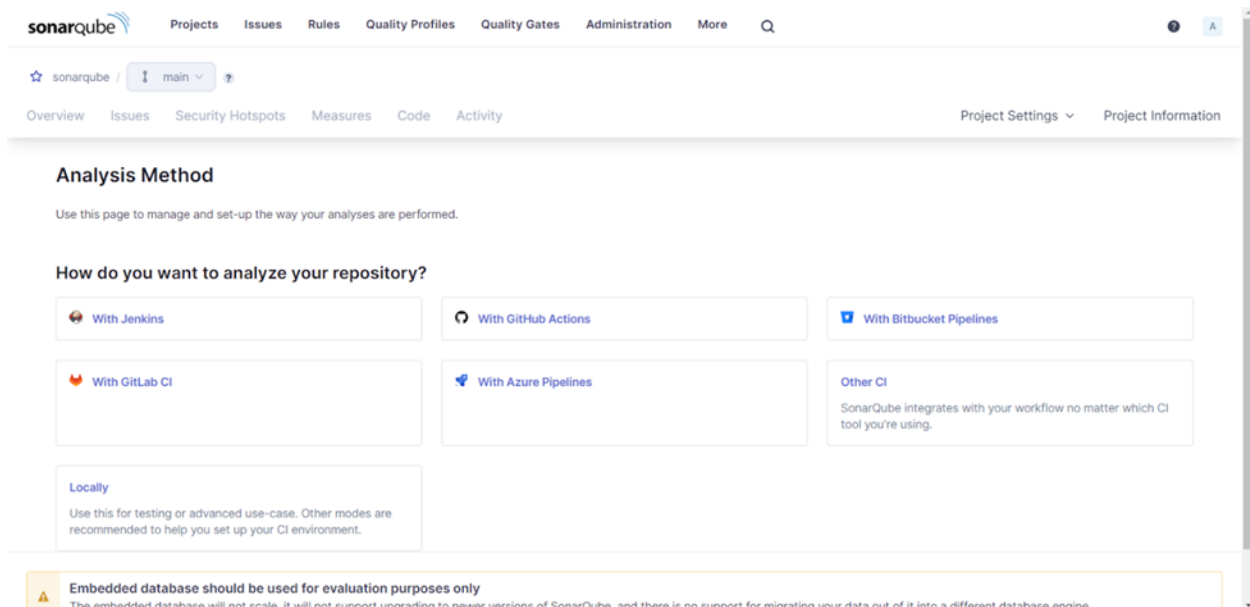
http://localhost:9000/ on your browser.



Installation is successful if you see this page



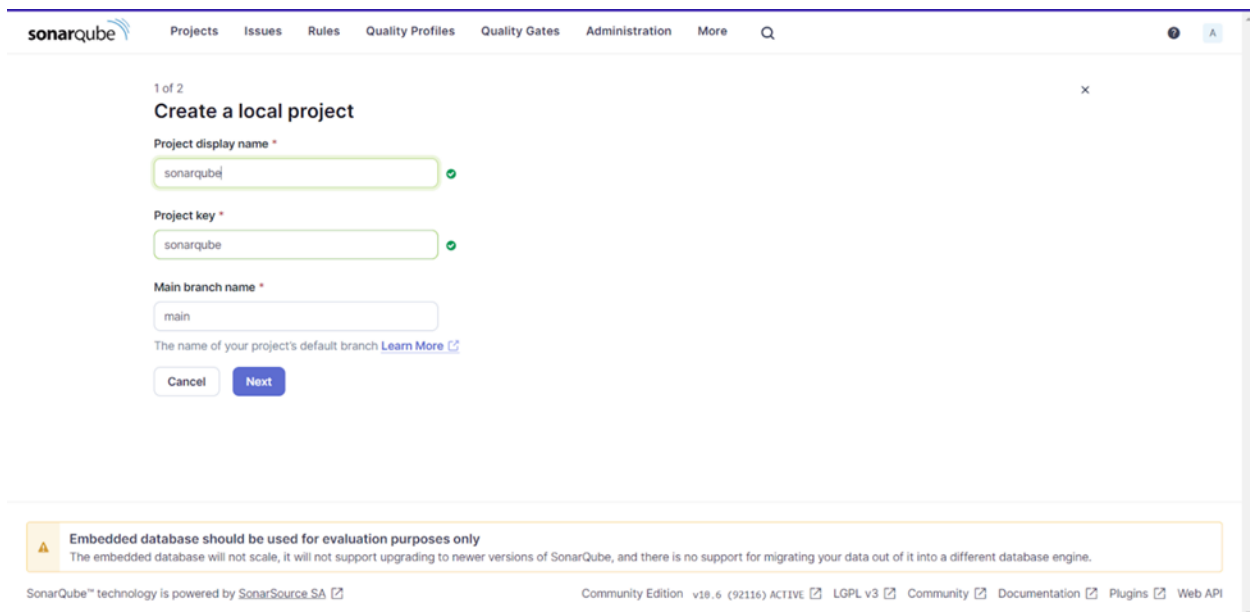
Update to new password



The screenshot shows the SonarQube web interface. The top navigation bar includes links for Projects, Issues, Rules, Quality Profiles, Quality Gates, Administration, and More. Below this, a breadcrumb trail shows 'sonarqube / main'. The main content area is titled 'Analysis Method' and contains a sub-header 'How do you want to analyze your repository?'. There are six selectable options: 'With Jenkins', 'With GitHub Actions', 'With Bitbucket Pipelines', 'With GitLab CI', 'With Azure Pipelines', and 'Locally'. The 'Locally' option is currently selected. A warning banner at the bottom states: 'Embedded database should be used for evaluation purposes only. The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine.'

Create project manually:

Here project name is “AdDevops”



The screenshot shows the 'Create a local project' form in the SonarQube web interface. The form has three input fields: 'Project display name' (containing 'sonarqube'), 'Project key' (containing 'sonarqube'), and 'Main branch name' (containing 'main'). Each field has a green checkmark indicating it is valid. Below the fields are 'Cancel' and 'Next' buttons. A warning banner at the bottom states: 'Embedded database should be used for evaluation purposes only. The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine.' The footer of the page includes the text 'SonarQube™ technology is powered by SonarSource SA' and 'Community Edition v10.6 (92116) ACTIVE'.

sonarqube

ProjectsIssuesRulesQuality ProfilesQuality GatesAdministrationMoreQ

?

A

Set up project for Clean as You Code

The new code definition sets which part of your code will be considered new code. This helps you focus attention on the most recent changes to your project, enabling you to follow the Clean as You Code methodology. Learn more: [Defining New Code](#)

Choose the baseline for new code for this project

☒ Use the global setting

☐ Define a specific setting for this project

☒ Previous version

Any code that has changed since the previous version is considered new code.
Recommended for projects following regular versions or releases.

☐ Number of days

Any code that has changed in the last x days is considered new code. If no action is taken on a new issue after x days, this issue will become part of the overall code.
Recommended for projects following continuous delivery.

☐ Reference branch

Choose a branch as the baseline for the new code.
Recommended for projects using feature branches.

Create project

open Jenkins

Go to Dashboard ->Manage Jenkins -> Plugin Manager and search fo

Plugins

Q sonarqube /

Install	Name	Released
<input checked="" type="checkbox"/>	<div>SonarQube Scanner 2.15</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>	10 mo ago
<input type="checkbox"/>	<div>Sonar Gerrit 384.vd0_755265c28d</div> <div>External Site/Tool Integrations</div> <div>This plugin allows to submit issues from SonarQube to Gerrit as comments directly.</div>	20 days ago
<input type="checkbox"/>	<div>SonarQube Generic Coverage 1.0</div> <div>TODO</div>	4 yr 1 mo ago

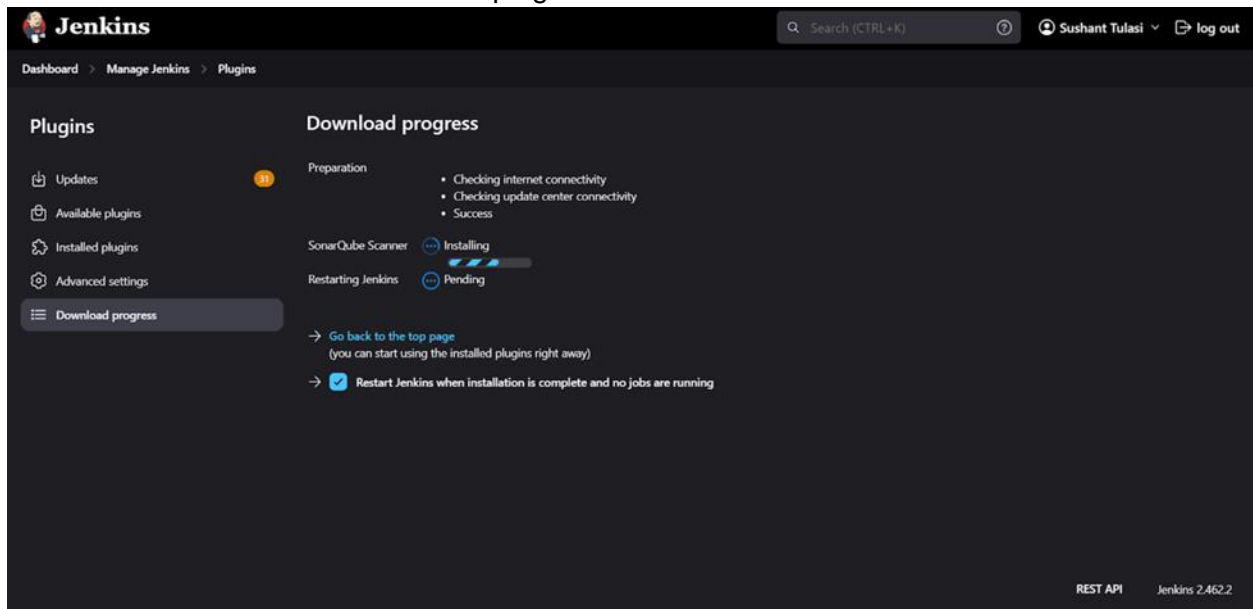
Install without restart

Download now and install after restart

Update information obtained: 1 day 11 hr ago

Check now

SonarQube Scanner under Available plugins for Jenkins and install without restart



Under Jenkins ,

Dashboard -> Manage Jenkins -> Configure System ,

Look for SonarQube Servers and enter the details. Enter the Server Authentication Token if needed.

SonarQube installations

List of SonarQube installations

Name

SonarQube

Server URL

Default is `http://localhost:9000`

`http://localhost:9000`

Server authentication token

SonarQube authentication token. Mandatory when anonymous access is disabled.

- none -

+ Add

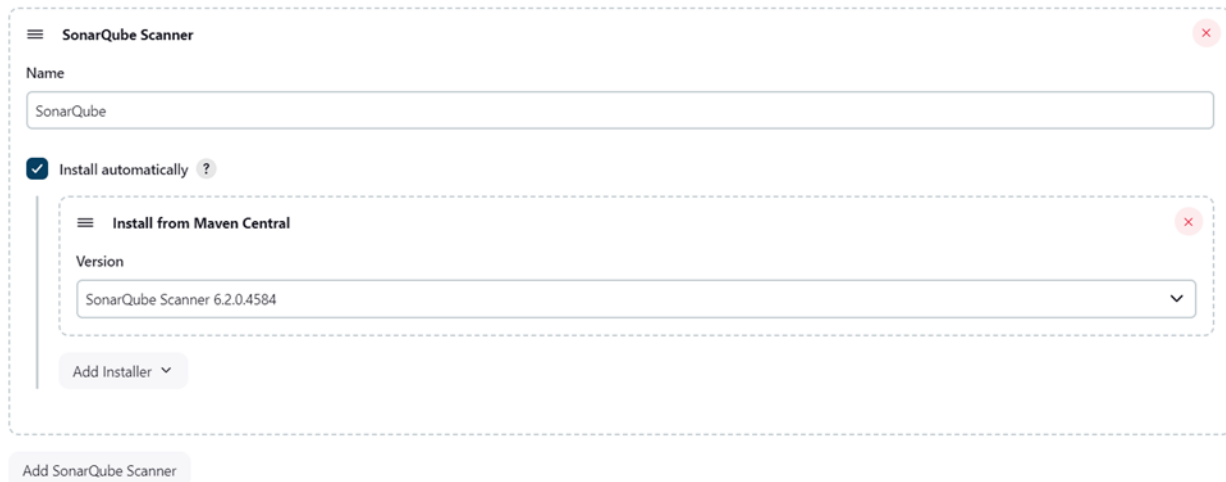
Advanced

Add SonarQube

Search SonarQube Scanner under Dashboard -> Manage Jenkins -> Global

Tool Configuration.

Choose the latest configuration and choose Install Automatically.



The screenshot shows the 'SonarQube Scanner' configuration window. At the top, there's a 'Name' field with 'SonarQube' entered. Below it, the 'Install automatically' checkbox is checked. A sub-section titled 'Install from Maven Central' contains a 'Version' dropdown menu set to 'SonarQube Scanner 6.2.0.4584'. An 'Add Installer' button is at the bottom of this sub-section. A red 'X' icon is in the top right corner of the sub-section. Below the main configuration area, there is a button labeled 'Add SonarQube Scanner'.

create a New Item in Jenkins, choose a freestyle project.

New Item

Enter an item name

AdvDevOps7

Select an item type



Freestyle project

Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.



Maven project

Build a maven project. Jenkins takes advantage of your POM files and drastically reduces the configuration.



Pipeline

Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.



Multi-configuration project

Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

Choose this GitHub repository in Source Code Management.

https://github.com/shazforiot/MSBuild_firstproject.git

Under Build ->Execute SonarQube Scanner, enter these Analysis properties. Mention the SonarQube Project Key, Login, Password, and Host URL.

sonar.projectKey=AdDevops

sonar.login=admin

sonar.password=abc

sonar.hosturl=<http://localhost:9000/>

Source Code Management

☐ None

☒ Git ?

Repositories ?

Repository URL ?

Credentials ?

- none -

+ Add ▾

Advanced ▾

Add Repository

Execute SonarQube Scanner

JDK ?

JDK to be used for this SonarQube analysis

(Inherit From Job)

Path to project properties ?

Analysis properties ?

sonar.projectKey=sonarqube
sonar.login=admin
sonar.password=9136591220
sonar.sources=.
sonar.host.url=http://localhost:9000

Additional arguments ?

JVM Options ?

Go to <http://localhost:9000/> and enter your previously created username.

Go to Permissions and grant the Admin user Execute Permissions.

sonarqube

Projects
Issues
Rules
Quality Profiles
Quality Gates
Administration
More

AdDevops / main

Overview
Issues
Security Hotspots
Measures
Code
Activity

Project Settings
Project Information

Permissions

Grant and revoke project-level permissions. Permissions can be granted to groups or individual users. This project is public. Anyone can browse and see the source code.

Public Private

AR	Users	Groups	Search for users or groups...	Administer Issues	Administer Security Hotspots	Administer	Execute Analysis
	sonar-administrators	System administrators					
	sonar-admin	Every authenticated user automatically belongs to this group					
	Anyone	DEPRECATED: Anybody who accesses the application belongs to this group. If authentication is not enforced, assigned permissions also apply to non-authenticated users.					
	Administrator	admin					

4 of 4 shown

Build and Run:

Dashboard > AdDevopsLab7 >

Status

</> Changes

Workspace

Build Now

Configure


Delete Project

SonarQube

Rename

Project AdDevopsLab7

This is Lab 7.


Permalinks

Edit description

Disable Project

Build History

trend

Filter builds...

/

1

See 18, 2023, 10:11 PM

Atom feed for all

Atom feed for failures

Console Output:

Dashboard > AdDevopsLab7 > #1 > Console Output

Status

</> Changes

Console Output

View as plain text

Edit Build Information

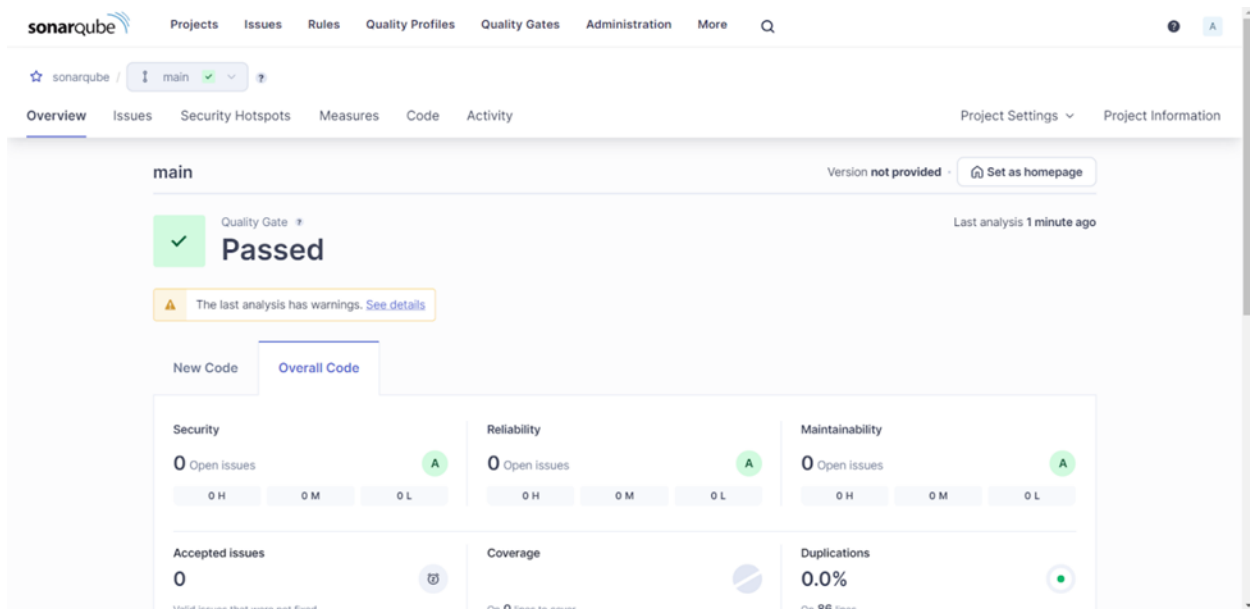
Delete build #1

Git Build Data

Console Output

Started by user Prajaktal Upadhye
Running as SYSTEM
Building on the built-in node in workspace C:\ProgramData\jenkins\jenkins\workspace\AdDevopsLab7
The recommended git tool is: NONE
No credentials specified
Cloning the remote Git repository
Cloning repository https://github.com/PrajaktalUpadhye/MSBuild_FirstProject.git
> git.exe init C:\ProgramData\jenkins\jenkins\workspace\AdDevopsLab7 # timeout=10
Fetching upstream changes from https://github.com/PrajaktalUpadhye/MSBuild_FirstProject.git
> git.exe --version # timeout=10
> git --version # 'git version 2.39.2.windows.1'
> git.exe fetch --tags --force --progress -- https://github.com/PrajaktalUpadhye/MSBuild_FirstProject.git # timeout=10
> git.exe config remote.origin.url https://github.com/PrajaktalUpadhye/MSBuild_FirstProject.git # timeout=10
> git.exe config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
> git.exe rev-parse 'refs/remotes/origin/master:{commit}' # timeout=10
Checking out Revision f2bc042c04c6e72427c380bcaee6d6fee7b49adf (refs/remotes/origin/master)
> git.exe config core.sparsecheckout # timeout=10
> git.exe checkout -f f2bc042c04c6e72427c380bcaee6d6fee7b49adf # timeout=10
Commit message: "updated"
First time build. Skipping changelog.
Unpacking https://repo.maven.org/maven2/org/sonarsource/scanner/cli/sonar-scanner-cli/5.0.1.3000/sonar-scanner-cli-5.0.1.3000.zip to C:\ProgramData\jenkins\jenkins\tools\udson.plugins.sonar.SonarRunnerInstallation\AdDevopsLab7\sonar-scanner.jar
[AdDevopsLab7] \$ C:\ProgramData\jenkins\jenkins\tools\udson.plugins.sonar.SonarRunnerInstallation\AdDevopsLab7\sonar-scanner.jar -Dsonar.projectKey=AdDevops -Dsonar.login=admin -Dsonar.hosturl=http://localhost:9000/ -Dsonar.password=admin -Dsonar.projectBaseDir=C:\ProgramData\jenkins\jenkins\workspace\AdDevopsLab7
INFO: Scanner configuration file: C:\ProgramData\jenkins\jenkins\tools\udson.plugins.sonar.SonarRunnerInstallation\AdDevopsLab7\conf\sonar-scanner.properties
INFO: Project root configuration file: NONE
INFO: SonarScanner 5.0.1.3000
INFO: Java 18.0.2.1 Oracle Corporation (64-bit)
14:42:33.145 INFO CPU Executor CPU calculation finished (done) | time=0ms
14:42:33.151 INFO SCM revision ID 'f2bc042c04c6e72427c380bcaee6d6fee7b49adf'
14:42:33.466 INFO Analysis report generated in 95ms, dir size=201.0 kB
14:42:33.546 INFO Analysis report compressed in 54ms, zip size=22.4 kB
14:42:33.834 INFO Analysis report uploaded in 285ms
14:42:33.847 INFO ANALYSIS SUCCESSFUL, you can find the results at: <http://localhost:9000/dashboard?id=sonarqube>
14:42:33.847 INFO Note that you will be able to access the updated dashboard once the server has processed the submitted analysis report
14:42:33.847 INFO More about the report processing at <http://localhost:9000/api/ce/task?id=7db13258-220d-47ae-9e4e-dcbe6e3771ea>
14:42:33.862 INFO Analysis total time: 27.320 s
14:42:33.863 INFO SonarScanner Engine completed successfully
14:42:33.947 INFO EXECUTION SUCCESS
14:42:33.949 INFO Total time: 42.241s
Finished: SUCCESS

Project on sonarqube:



Conclusion:

Thus, we have successfully installed SonarQube using a Docker image, providing a seamless setup for continuous code quality analysis. This approach simplifies the deployment process, ensures easy scalability, and enhances development workflows with robust code review and testing capabilities in a containerized environment.