

Lab 7

Mayur Jaiswal

D15B

26

AIM: Installing SonarQube from the Docker Image

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

Sonarqube:latest

```
PS D:\Desktop\DockerFile> 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
44ba2882f8eb: Pull complete
2cabec57fa36: Pull complete
c20481384b6a: Pull complete
bf7b17ee74f8: Pull complete
38617faac714: Pull complete
b795b715553d: Pull complete
c5244f6c9231: Pull complete
Digest: sha256:1fffd122cfb37ce982289dc7f5d38bb702ba05af7b5a50f7cb077ae25e60b5b9a
Status: Downloaded newer image for sonarqube:latest
1442c4e613b25aaedec05c060f020a00802b1c6dbaa27e8c5c0dad4ed8fc1f76
```

Images [Give feedback](#)

Local Hub Artifactory [EARLY ACCESS](#)

715.97 MB / 0 Bytes in use 1 images Last refresh: 30 minutes ago

Search

<input type="checkbox"/>	Name	Tag	Status	Created	Size	Actions
<input type="checkbox"/>	sonarqube bb91606199eb	latest	In use	17 days ago	715.97 MB	⌵ ⋮ 🗑

go to the SonarQube page by typing:
<http://localhost:9000/> on your browser.

Installation is successful if you see this page

localhost:9000/sessions/new?return_to=%2F

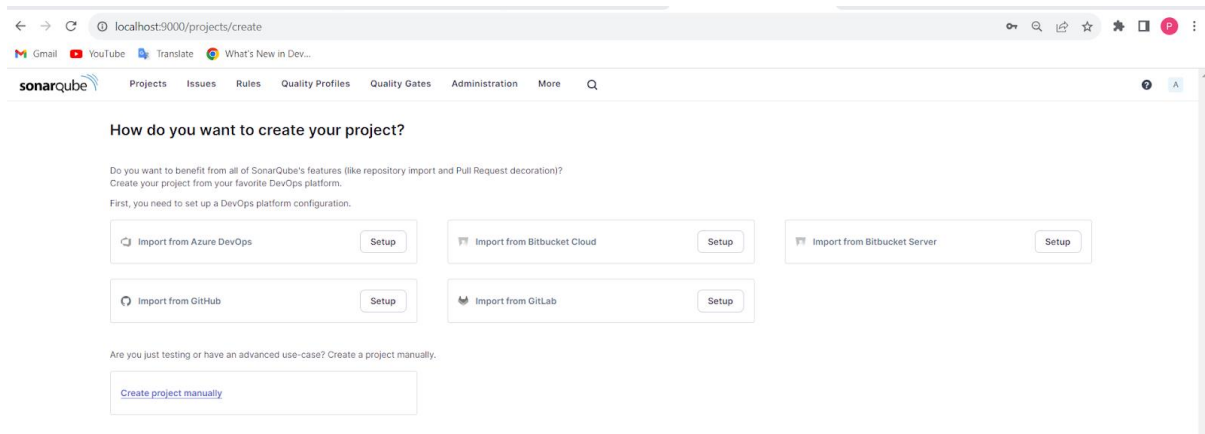
Gmail YouTube Translate What's New in Dev...

Log in to SonarQube

admin

Log in Cancel

Update to new password



← → ↻ localhost:9000/projects/create

Gmail YouTube Translate What's New in Dev...

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How do you want to create your project?

Do you want to benefit from all of SonarQube's features (like repository import and Pull Request decoration)?
Create your project from your favorite DevOps platform.

First, you need to set up a DevOps platform configuration.

Import from Azure DevOps Setup

Import from Bitbucket Cloud Setup

Import from Bitbucket Server Setup

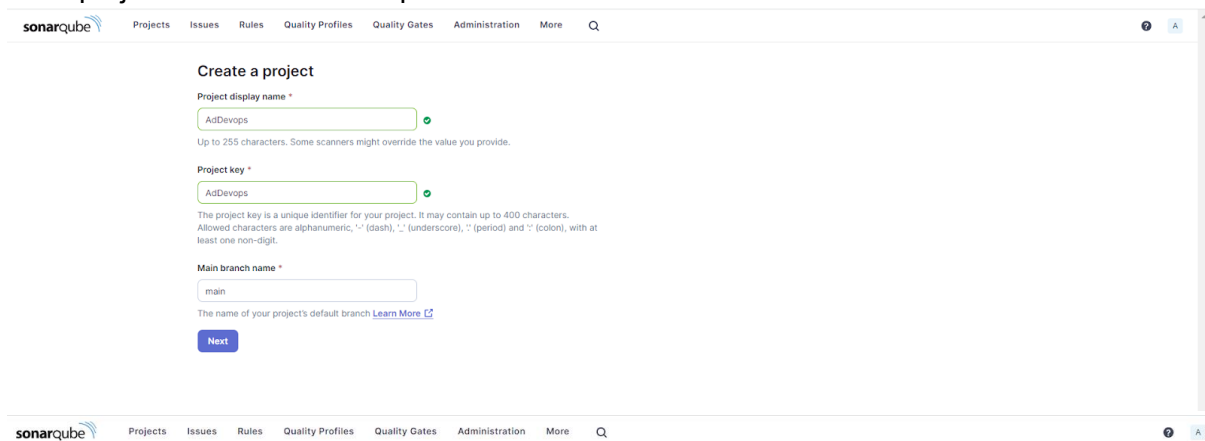
Import from GitHub Setup

Import from GitLab Setup

Are you just testing or have an advanced use-case? Create a project manually.

Create project manually

Create project manually: Here project name is “AdDevops”



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Create a project

Project display name *

AdDevops

Up to 255 characters. Some scanners might override the value you provide.

Project key *

AdDevops

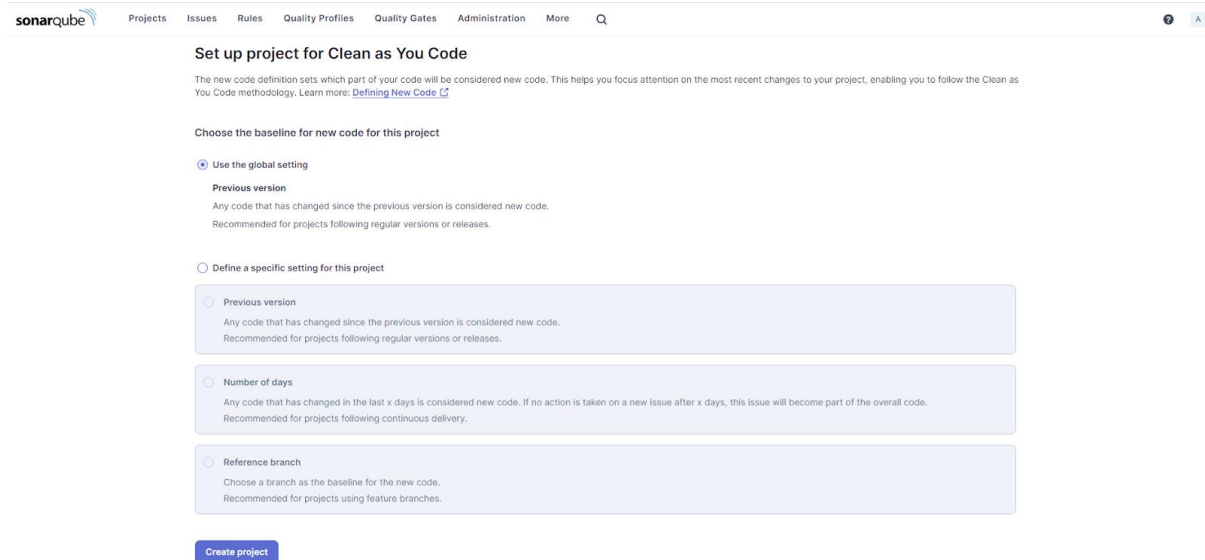
The project key is a unique identifier for your project. It may contain up to 400 characters.
Allowed characters are alphanumeric, '-' (dash), '_' (underscore), '.' (period) and ':' (colon), with at least one non-digit.

Main branch name *

main

The name of your project's default branch [Learn More](#)

Next



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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

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

☐ 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 for SonarQube Scanner under Available plugins for Jenkins and install without restart.

Plugins

Install	Name ↓	Released
<input checked="" type="checkbox"/>	SonarQube Scanner 2.15 External Site/Tool Integrations Build Reports This plugin allows an easy integration of SonarQube , the open source platform for Continuous Inspection of code quality.	10 mo ago
<input type="checkbox"/>	Sonar Gerrit 384.vdb.755265c28d External Site/Tool Integrations This plugin allows to submit issues from SonarQube to Gerrit as comments directly.	20 days ago
<input type="checkbox"/>	SonarQube Generic Coverage 1.0 TODO	4 yr 1 mo ago

Install without restart

Download now and install after restart

Update information obtained: 1 day 11 hr ago

Check now

Download progress

Preparation

- Checking internet connectivity
- Checking update center connectivity
- Success

SSH server

✓ Success

Deploy to container

✓ Success

Loading plugin extensions

✓ Success

SonarQube Scanner

✓ Success

Loading plugin extensions

✓ Success

→

[Go back to the top page](#)

(you can start using the installed plugins right away)

→

☐

Restart Jenkins when installation is complete and no jobs are running

Under Jenkins ,

Dashboard -> Manage Jenkins -> Configure System ,
Look for SonarQube Servers and enter the details. Enter the Server Authentication Token if needed.

SonarQube servers

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

☒ **Environment variables** Enable injection of SonarQube server configuration as build environment variables

SonarQube installations

List of SonarQube installations

Name

AdDevops

Server URL

Default is http://localhost:9000

Server authentication token

SonarQube authentication token. Mandatory when anonymous access is disabled.

- none -

Add

Advanced

Save

Apply

Search SonarQube Scanner under Dashboard -> Manage Jenkins -> Global Tool Configuration.

Choose the latest configuration and choose Install Automatically.

SonarQube Scanner

SonarQube Scanner installations

List of SonarQube Scanner installations on this system

Add SonarQube Scanner

≡ SonarQube Scanner

Name

AdDevops

☒ Install automatically ?

≡ Install from Maven Central

Version

SonarQube Scanner 5.0.1.3006

Add Installer

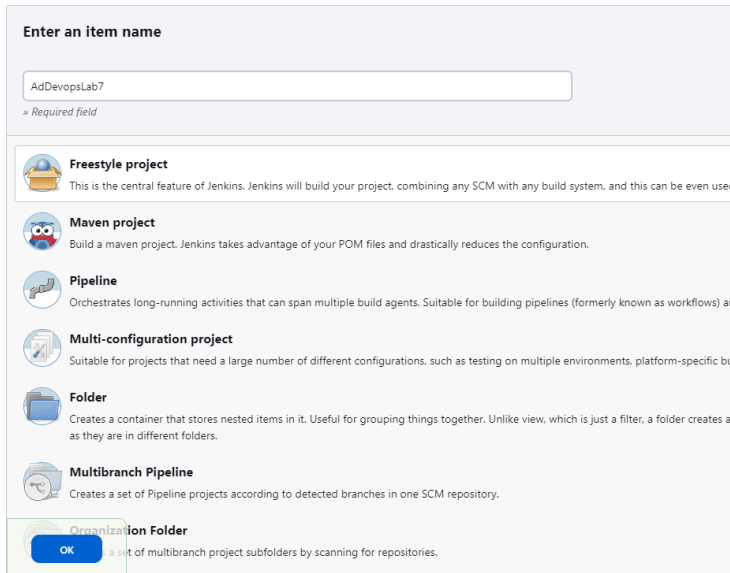
Add SonarQube Scanner

Ant

Save

Apply

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



Enter an item name

AdDevopsLab7

» Required field

- Freestyle project**
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used
- 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) an
- Multi-configuration project**
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific bui
- Folder**
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a: as they are in different folders.
- Multibranch Pipeline**
Creates a set of Pipeline projects according to detected branches in one SCM repository.

Organization Folder
a set of multibranch project subfolders by scanning for repositories.

OK

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/>

Git ?

Repositories ?

Repository URL ?

https://github.com/PrajaktaUpadhye6/MSBuild_firstproject.git

Credentials ?

- none -

Add ▾

Advanced ▾

Add Repository

Branches to build ?

Branch Specifier (blank for 'any') ?

*/master

Add Branch

Repository browser ?

(Auto)

Save

Apply

Build Steps

Execute SonarQube Scanner

Task to run ?

JDK ?

JDK to be used for this SonarQube analysis

(Inherit From Job)

Path to project properties ?

Analysis properties ?

sonar.projectKey=AdDevops
sonar.login=admin
sonar.password=abc
sonar.hosturl=http://localhost:9000/

Additional arguments ?

Build Options ?

Save

Apply

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 Q

AdDevops / main

Overview Issues Security Hotspots Measures Code Activity **Project Settings** Project Information

Permissions Apply Permission Template

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

All	Users	Groups	Q Search for users or groups...	Administer Issues	Administer Security Hotspots	Administer	Execute Analysis
	sonar-administrators System administrators			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	sonar-users Every authenticated user automatically belongs to this group			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Anyone DEPRECATED Anybody who browses the application belongs to this group. If authentication is not enforced, assigned permissions also apply to non-authenticated users			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A	Administrator admin			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4 of 4 shown

Build and Run:

Dashboard > AdDevopsLab7 >

Project AdDevopsLab7

Status

</> Changes This is Lab 7. Edit description

Workspace Disable Project

Build Now

Configure

Delete Project

SonarQube

Rename

Build History trend

Q Filter builds... /

#1
Sep 18, 2023, 10:31 PM

Atom feed for all Atom feed for failures

Permalinks

SonarQube

newjobmj #1 [Jenkins] x Deploy to container | Jenkins plugin | Maven Integration | Jenkins plugin | dhairyash85/mavenproject +

localhost:8080/job/newjobmj/1/

Jenkins Search (CTRL+K) Mayur Jaiswal log out

Dashboard > newjobmj > #1

Status #1 (Aug 29, 2024, 9:11:19 AM) Add description Keep this build forever

</> Changes

Console Output

Edit Build Information

Delete build '#1'

Timings

Git Build Data

Redeploy Artifacts

See Fingerprints

Started by user **Mayur Jaiswal** Started 3 min 50 sec ago
Took 2 min 23 sec

This run spent:

- 78 ms waiting;
- 2 min 23 sec build duration;
- 2 min 23 sec total from scheduled to completion.

git Revision: d7847ceb72cfe601ca50babc01fd2c6ec71401
Repository: https://github.com/dhairyash85/mavenproject.git
refs/remotes/origin/main

Module Builds

webappExample Maven Webapp 1 min 50 sec

REST API Jenkins 2.462.1

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 PrajKta Upadhye
Running as SYSTEM
Building on the built-in node in workspace C:\ProgramData\Jenkins\workspace\AdDevopsLab7
The recommended git tool is: NONE
No credentials specified
Cloning the remote git repository
Cloning repository https://github.com/PrajaktaUpadhye/MSBuild_FirstProject.git
> git.exe init C:\ProgramData\Jenkins\workspace\AdDevopsLab7 # timeout=10
Fetching upstream changes from https://github.com/PrajaktaUpadhye/MSBuild_FirstProject.git
> git.exe --version # timeout=10
> git.exe fetch --tags --force --progress -- https://github.com/PrajaktaUpadhye/MSBuild_FirstProject.git +refs/heads/*:refs/remotes/origin/* # timeout=10
> git.exe config remote.origin.url https://github.com/PrajaktaUpadhye/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 f2bc042c04c6e72427c380bcacedd6fe7b49adf (refs/remotes/origin/master)
> git.exe config core.sparsecheckout # timeout=10
> git.exe checkout -f f2bc042c04c6e72427c380bcacedd6fe7b49adf # timeout=10
Commit message: "updated"
First time build. Skipping changelog.
Uploading https://repox.sonar.org/maven2/org/sonarsource/scanner/cli/sonar-scanner-cli/5.0.1.3806/sonar-scanner-cli-5.0.1.3806.zip to
C:\ProgramData\Jenkins\workspace\AdDevopsLab7\tools\hudson.plugins.sonar.SonarRunnerInstallation\AdDevopsLab7\bin\sonar-scanner.bat
[AdDevopsLab7] $ C:\ProgramData\Jenkins\workspace\AdDevopsLab7\tools\hudson.plugins.sonar.SonarRunnerInstallation\AdDevopsLab7\bin\sonar-scanner.bat -Dsonar.projectKey=AdDevopsLab7 -Dsonar.login=admin -Dsonar.host.url=http://localhost:9000/ -Dsonar.password=abc -Dsonar.projectBaseDir=C:\ProgramData\Jenkins\workspace\AdDevopsLab7
INFO: Scanner configuration file: C:\ProgramData\Jenkins\workspace\AdDevopsLab7\tools\hudson.plugins.sonar.SonarRunnerInstallation\AdDevopsLab7\bin\conf\sonar-scanner.properties
INFO: Project root configuration file: NONE
INFO: SonarScanner 5.0.1.3806
INFO: Java 18.0.2.1 Oracle Corporation (64-Bit)

INFO: Sensor Iac Docker Sensor [iac] (done) | time=74ms
INFO: ----- Run sensors on project
INFO: Sensor C# [csharp]
WARN: Your project contains C# files which cannot be analyzed with the scanner you are using. To analyze C# or VB.NET, you must use the SonarScanner for .NET 5.x or higher, see
https://redirect.sonarsource.com/doc/install-configure-scanner-msbuild.html
INFO: Sensor C# [csharp] (done) | time=0ms
INFO: Sensor Analysis Warnings Import [csharp]
INFO: Sensor Analysis Warnings Import [csharp] (done) | time=15ms
INFO: Sensor # file Caching Sensor [csharp]
WARN: Incremental PR analysis: Could not determine common base path, cache will not be computed. Consider setting 'sonar.projectBaseDir' property.
INFO: Sensor C# File Caching Sensor [csharp] (done) | time=0ms
INFO: Sensor Zero Coverage Sensor
INFO: Sensor Zero Coverage Sensor (done) | time=2ms
INFO: SCM Publisher SCM provider for this project is: git
INFO: SCM Publisher 4 source files to be analyzed
INFO: SCM Publisher 4/4 source files have been analyzed (done) | time=792ms
INFO: CPD Executor Calculating CPD for 0 files
INFO: CPD Executor CPD calculation finished (done) | time=0ms
INFO: Analysis report generated in 83ms, dir size=139.0 kB
INFO: Analysis report compressed in 13ms, zip size=19.2 kB
INFO: Analysis report uploaded in 244ms
INFO: ANALYSIS SUCCESSFUL, you can find the results at: http://localhost:9000/dashboard?id=AdDevopsLab7
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/apl/cv/task?id=VngP1IKG6Kicb174cp
INFO: Analysis total time: 16.844 s
INFO: -----
INFO: EXECUTION SUCCESS
INFO: -----
INFO: Total time: 31.521s
INFO: Final Memory: 20M/74M
INFO: -----
Finished: SUCCESS
```

Dashboard > AdDevopsLab7 > #1 > Console Output

Project on sonarqube:

The screenshot displays the SonarQube web interface for a project named 'AdDevopsLab7'. The top navigation bar includes links for Projects, Issues, Rules, Quality Profiles, Quality Gates, Administration, and More. A notification banner at the top right states 'The last analysis has warnings. See details' and 'Version not provided'. The main content area shows the 'Quality Gate Status' as 'Passed' with a green checkmark and a 'Quality Gate' icon. Below this, there are several 'Measures' cards: 'Reliability' (0 Bugs, A), 'Maintainability' (0 Code Smells, A), 'Security' (0 Vulnerabilities, A), 'Security Review' (0 Security Hotspots, A), and 'Duplications' (0.0% Duplications, 0 Duplicated Blocks, A). The interface is clean and modern, with a light blue and white color scheme.

Conclusion: Thus, we have successfully installed SonarQube from Docker image. SonarQube is a powerful tool that enhances software quality by providing comprehensive code analysis. Implementing SonarQube in your project can significantly improve maintainability, readability, and overall code quality.