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Experiment No 8

AIM: Integrating Jenkins with SonarQube.

Open up Jenkins Dashboard on localhost, port 8080

Run SonarQube in a Docker container using this command -

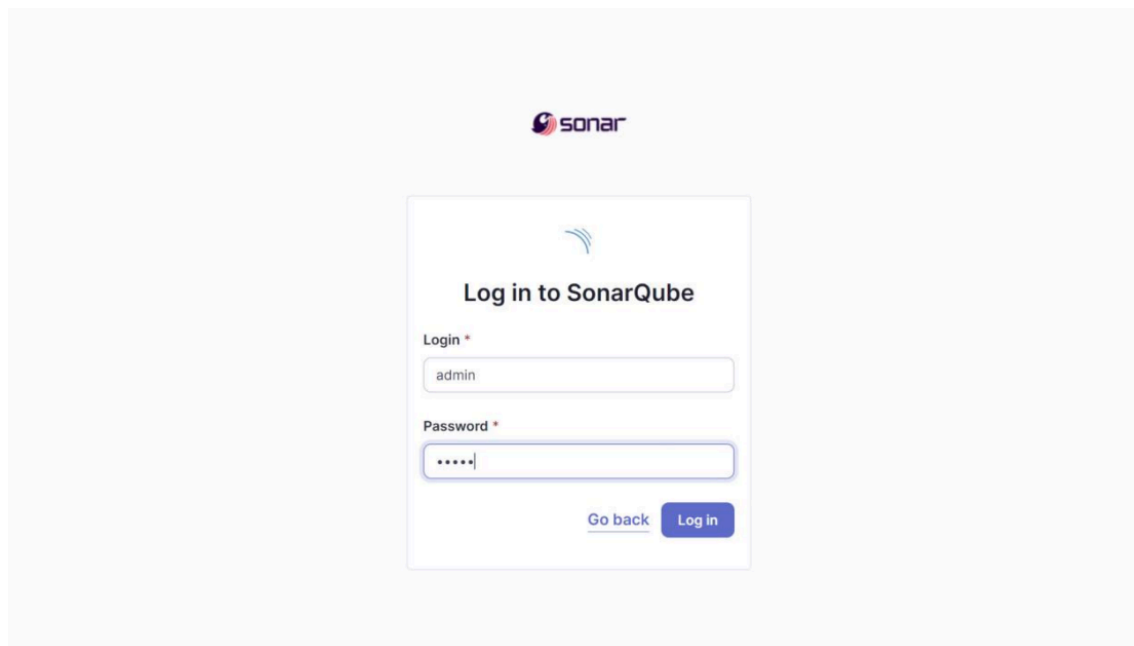
```
$ docker run -d --name sonarqube -e SONAR_ES_BOOTSTRAP_CHECKS_DISABLE=true -p 9000:9000 sonarqube:latest
```

```
Administrator: Windows PowerShell
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\WINDOWS\system32> 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: Download complete
bd819c9b5ead: Download complete
90a925ab929a: Download complete
1a5fd5c7e184: Download complete
80338217a4ab: Download complete
7b87d6fa783d: Download complete
7d9a34308537: Download complete
4f4fb700ef54: Download complete
Digest: sha256:72e9feec71242af83faf65f95a40d5e3bb2822a6c3b2cda8568790f3d31aecde
Status: Downloaded newer image for sonarqube:latest
e719be107f137ccba049f378ec4ce7aadde8e21e278026f7aab76b98c28dd989
PS C:\WINDOWS\system32>
```

sonarqube



Create project manually

- Projects
- Issues
- Rules
- Quality Profiles
- Quality Gates
- Administration
- More
- Q

1 of 2

×

Create a local project

Project display name *

Project key *

Main branch name *

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

- Projects
- Issues
- Rules
- Quality Profiles
- Quality Gates
- Administration

AdDevopstLab8

main

Overview

Issues

Security Hotspots

Measures

Code

Activity

Project Settings

Project Information

Analysis Method

Use this page to manage and set-up the way your analyses are performed.

How do you want to analyze your repository?

With Jenkins

With GitLab CI

Locally

With GitHub Actions

With Azure Pipelines

With Bitbucket Pipelines

Other CI

Use this for testing or advanced use-case. Other modes are recommended to help you set up your CI environment.

SonarQube integrates with your workflow no matter which CI tool you're using.

In Jenkins create a pipeline here named “SonarQube”

Dashboard > All > New Item

New Item

Enter an item name

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.

Folder

OK

Enter the following in pipeline script:

```
node {
  stage('Cloning the GitHub Repo') {
    git 'https://github.com/PrajaktaUpadhye6/MSBuild_firstproject.git'
  }
}
```

```

stage('SonarQube analysis') {
    withSonarQubeEnv('sonarqube') {
        bat
        "D:/sonar-scanner-cli-5.0.1.3006-windows/sonar-scanner-5.0.1.3006-windows/bin/sonar-scanner.bat \
        -D sonar.login=admin \
        -D sonar.password=abc \
        -D sonar.projectKey=AdDevops \
        -D sonar.exclusions=vendor/**,resources/**,*/*.java \
        -D sonar.host.url=http://127.0.0.1:9000/"
    }
}
}

```

Definition

Pipeline script

Script ?

```

10
11
12 stage('SonarQube analysis') {
13     steps {
14         withSonarQubeEnv('SonarQube') {
15             bat
16             D:\\sonar-scanner-6.1.0.4477-windows-x64\\bin\\sonar-scanner.bat ^
17             -Dsonar.login=admin ^
18             -Dsonar.password=9136591220 ^
19             -Dsonar.projectKey=sonarqube ^
20             -Dsonar.exclusions=vendor/**,resources/**,*/*.java ^
21             -Dsonar.host.url=http://127.0.0.1:9000/
22             ...
23         }
24     }
25 }
26

```

☒ Use Groovy Sandbox ?

It is a java sample project which has a lot of repetitions and issues that will be detected by SonarQube.

Build and run:

Status

Changes

Build Now

Configure

Delete Pipeline

Full Stage View

GitHub

SonarQube

Rename

Pipeline Syntax

Pipeline SonarQube

Lab 0

Stage View

	Cloning the GitHub Repo	SonarQube analysis
Average stage times: (Average full run time: ~36s)	2s	33s
#8 Sep 20 12:36 No Changes	2s	33s

Permalinks

- Last build (#8), 1 min 44 sec ago
- Last stable build (#8), 1 min 44 sec ago
- Last successful build (#8), 1 min 44 sec ago
- Last completed build (#8), 1 min 44 sec ago

Build History

trend

Filter builds...

#8

Sep 20, 2023, 12:36 PM

Atom feed for all

Atom feed for failures

Console output:

Dashboard > sonarqube > #11 > Console Output

Status
Changes
Console Output
Edit Build Information
Delete build '#11'
Timings
Git Build Data
Previous Build

Console Output

Download Copy View as plain text

```
Started by user Shreyas Naik
Running as SYSTEM
Building on the built-in node in workspace C:\ProgramData\Jenkins\jenkins\workspace\sonarqube
The recommended git tool is: NONE
No credentials specified
> git.exe rev-parse --resolve-git-dir C:\ProgramData\Jenkins\jenkins\workspace\sonarqube\.git # timeout=10
Fetching changes from the remote Git repository
> git.exe config remote.origin.url https://github.com/shazforiot/MSBuild_firstproject # timeout=10
Fetching upstream changes from https://github.com/shazforiot/MSBuild_firstproject
> git.exe --version # timeout=10
> git --version # 'git version 2.44.0.windows.1'
> git.exe fetch --tags --force --progress -- https://github.com/shazforiot/MSBuild_firstproject +refs/heads/*:refs/remotes/origin/* # timeout=10
> git.exe rev-parse 'refs/remotes/origin/master:{commit}' # timeout=10
Checking out Revision f2bc042c04c6e72427c380bcae6d6fee7b49adf (refs/remotes/origin/master)
> git.exe config core.sparsecheckout # timeout=10
> git.exe checkout -f f2bc042c04c6e72427c380bcae6d6fee7b49adf # timeout=10
Commit message: "updated"
> git.exe rev-list --no-walk f2bc042c04c6e72427c380bcae6d6fee7b49adf # timeout=10
[sonarqube] $ C:\ProgramData\Jenkins\jenkins\tools\udson.plugins.sonar.SonarRunnerInstallation\sonarqube-test\bin\sonar-scanner.bat -
Dsonar.host.url=http://localhost:9000 -Dsonar.projectKey=sonarqube-test -Dsonar.login=admin -Dsonar.host.url=http://localhost:9000 -
Dsonar.sources=C:\ProgramData\Jenkins\jenkins\workspace\MSBuild_firstproject-master\MSBuild_firstproject-master -
Dsonar.password=s0ham098 -Dsonar.projectBaseDir=C:\ProgramData\Jenkins\jenkins\workspace\sonarqube
12:58:22.194 WARN Property 'sonar.host.url' with value 'http://localhost:9000' is overridden with value 'http://localhost:9000'
12:58:22.205 INFO Scanner configuration file:
```

sonarqube:

AdDevops PUBLIC Passed

Last analysis: 3 minutes ago · 543 Lines of Code · HTML, CSS

E 7	A 0	E 0.0%	A 8	—	22.3%
Bugs	Vulnerabilities	Hotspots Reviewed	Code Smells	Coverage	Duplications

AdDevops / main Quality Gate Passed The last analysis has warnings. See details Version not provided

Overview Issues Security Hotspots Measures Code Activity Project Settings Project Information

Quality Gate Status

Quality Gate Passed

Enjoy your sparkling clean code!

Measures

New Code	Overall Code
Reliability 7 Bugs	Maintainability 8 Code Smells
Security 0 Vulnerabilities	Security Review 6 Security Hotspots
Duplications 22.3% Duplications	

Reliability:

The screenshot shows the SonarQube interface for a project named 'sonarqube-test'. The 'Reliability' section is highlighted in the left sidebar, showing a score of 'A' with a bar chart. The main area displays the project's overall status as 'Passed' with a green checkmark. Below this, it states 'Last analysis: 3 minutes ago' and 'The main branch of this project is empty.' The top navigation bar includes links for Projects, Issues, Rules, Quality Profiles, Quality Gates, Administration, and More. The top right corner shows a 'Create Project' button and a search bar.

Bugs:

The screenshot shows the SonarQube 'Measures' page for the 'AdDevops' project. The 'Bugs' section is selected in the left sidebar, showing a count of 7 bugs. The main area displays a table of bugs with columns for file name and count. The table lists files like 'box.html', 'class.css', 'demo.html', 'element.css', 'float property.html', 'home.html', 'id.css', 'index.html', 'payment.html', and 'scroll.css'. A warning banner at the top indicates 'The last analysis has warnings. See details'. The top navigation bar includes links for Overview, Issues, Security Hotspots, Measures, Code, and Activity.

Maintanability:

The screenshot shows the SonarQube 'Measures' page for the 'AdDevops' project. The 'Maintainability' section is selected in the left sidebar, showing a rating of 'A' with a bar chart. The main area displays a table of maintainability ratings for various files. The table lists files like 'box.html', 'class.css', 'demo.html', 'element.css', 'float property.html', 'home.html', 'id.css', and 'index.html', all with a rating of 'A'. A warning banner at the top indicates 'The last analysis has warnings. See details'. The top navigation bar includes links for Overview, Issues, Security Hotspots, Measures, Code, and Activity.

Security:

AdDevops / main [dropdown] [help]

The last analysis has warnings. [See details](#) Version not provided [lock]

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

Project Overview
Reliability [help] >
Security [help] >
Security Review [help] [dropdown]
New Code
Security Hotspots 0
Rating A
Overall Code
Security Hotspots 6

AdDevops View as List Select files [dropdown] [dropdown] Navigate [left] [right] 15 files

Security Review Rating E [See history](#) New Code: Since September 20, 2023

demo.html	E
home.html	E
index.html	E

There are 12 hidden components with a score of A. [Show Them](#)

Duplications:

AdDevops / main [dropdown] [help]

The last analysis has warnings. [See details](#) Version not provided [lock]

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

Project Overview
Reliability [help] >
Security [help] >
Security Review [help] >
Maintainability [help] >
Coverage >
Duplications [dropdown]
Overview

AdDevops View as List Select files [dropdown] [dropdown] Navigate [left] [right] 15 files

Duplicated Lines (%) 22.3% [See history](#) New Code: Since September 20, 2023

	Duplicated Lines (%)	Duplicated Lines
demo.html	100%	67
index.html	100%	67
box.html	0.0%	0
class.css	0.0%	0
element.css	0.0%	0
float property.html	0.0%	0
home.html	0.0%	0

Conclusion: Thus, we have successfully integrated Jenkins with SonarQube.