

Experiment No 8

AIM: Integrating Jenkins with SonarQube.

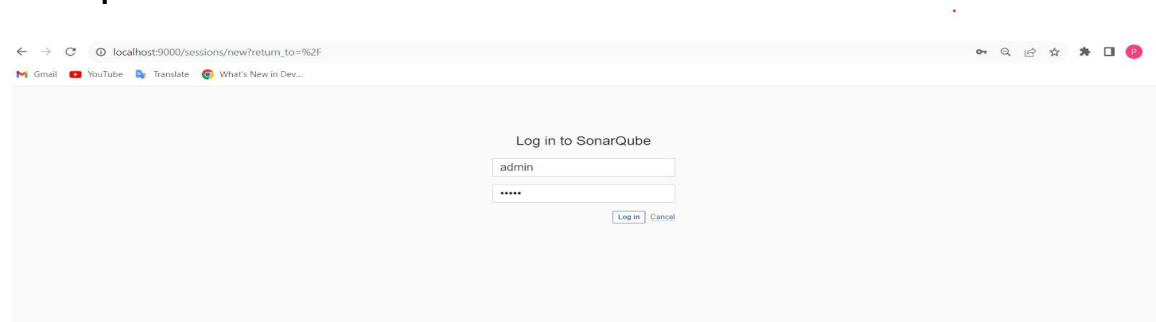
Open up Jenkins Dashboard on localhost, port 8080

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
```

```
PS D:\Desktop\DockerFile> docker run -d --name sonarqube -e SONAR_ES_BOOTSTRAP_CHECKS_DISABLE=true -p 9000:9000 sonarqub  
e: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
```

sonarqube



Create project manually

Create a project

Project display name *



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

Project key *



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 *

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


Next


The screenshot shows the SonarQube web interface. At the top, a green notification bar states "Congratulations! Your project has been created." The navigation bar includes links for Projects, Issues, Rules, Quality Profiles, Quality Gates, and Administration. The breadcrumb trail shows "AdDevopsLab8" and "main". The main content area is titled "Analysis Method" and includes the instruction: "Use this page to manage and set-up the way your analyses are performed." Below this, the question "How do you want to analyze your repository?" is followed by several selectable options: "With Jenkins", "With GitHub Actions", "With Bitbucket Pipelines", "With GitLab CI", "With Azure Pipelines", and "Locally". The "Locally" option includes a note: "Use this for testing or advanced use-case. Other modes are recommended to help you set up your CI environment."


In Jenkins create a pipeline here named “SonarQube”


Enter an item name


* Required field


 **Freestyle project**
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system.


 **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 (for example, for testing).

 **Multi-configuration project**
Suitable for projects that need a large number of different configurations, such as testing on multiple environments.

 **Folder**
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is a virtual container, items are actually stored in different folders.

 **Multibranch Pipeline**
Creates a set of Pipeline projects according to detected branches in one SCM repository.

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

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/"
    }
  }
}
```

Pipeline

Definition

Pipeline script

Script ?

```
1 - node {  
2 -   stage('Cloning the GitHub Repo') {  
3 -     git 'https://github.com/PrajaktaUpadhye6/HTML_TRIAL.git'  
4 -   }  
5 -   stage('SonarQube analysis') {  
6 -     withSonarQubeEnv('sonarqube') {  
7 -       bat "D:/sonar-scanner-cli-5.0.1.3006-windows/sonar-scanner-5.0.1.3006-windows/bin/sonar-scanner.bat \  
8 -         -D sonar.login=admin \  
9 -         -D sonar.password=abc \  
10 -         -D sonar.projectKey=AdDevsops \  
11 -         -D sonar.exclusions=vendor/**,resources/**,**/*.java \  
12 -         -D sonar.host.url=http://127.0.0.1:9000/"  
13 -     }  
14 -   }  
15 }
```

☒ Use Groovy Sandbox ?

[Pipeline Syntax](#)

Save

Apply

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

📅 Build History trend

🔍 Filter builds... /

🟢 #8
Sep 20, 2023, 12:36 PM
Atom feed for all Atom feed for failures

Pipeline SonarQube
Lab 8

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

```

Console Output

Started by user Pranjata Upadhye
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in C:\ProgramData\Jenkins\jenkins\workspace\SonarQube
[Pipeline] {
[Pipeline] stage
[Pipeline] {
[Pipeline] [Cloning the Github Repo]
[Pipeline] git
The recommended git tool is: NONE
No credentials specified
> git.exe re-base --rebase=git-dir C:\ProgramData\Jenkins\jenkins\workspace\SonarQube\> & timeout=10
Fetching changes from the remote git repository
> git.exe config remote.origin.url https://github.com/PranjataUpadhye/RSBull1_firstproject.git & timeout=10
Fetching new changes from https://github.com/PranjataUpadhye/RSBull1_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/PranjataUpadhye/RSBull1_firstproject.git & refs/heads/*& refs/rem
Fetching new changes from https://github.com/PranjataUpadhye/RSBull1_firstproject.git
> git.exe re-base --rebase=origin/master & timeout=10
Checking out revision f2b0420b0c6e724273580cceeddfee7b0aef (refs/remote/origin/master)
> git.exe config core.sparsecheckout & timeout=10
> git.exe checkout -f f2b0420b0c6e724273580cceeddfee7b0aef & timeout=10
> git.exe branch --vv --no-abbrev & timeout=10
> git.exe branch -D master & timeout=10
> git.exe checkout -b master f2b0420b0c6e724273580cceeddfee7b0aef & timeout=10
Commit messages "update"
> git.exe re-list --no-walk f2b0420b0c6e724273580cceeddfee7b0aef & timeout=10
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] {
[Pipeline] [SonarQube analysis]

```

☆

AdDevops

PUBLIC

✓

Passed

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

E

7

Bugs

A

0

Vulnerabilities

E

0.0%

Hotspots Reviewed

A

8

Code Smells

—

Coverage

22.3%

Duplications

☆

AdDevops

main

✓

?

⚠

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

E

🔒

Security

0 Vulnerabilities

A

🔗

Duplications

22.3% Duplications

🔗

Maintainability

8 Code Smells

A

🔗

Security Review

6 Security Hotspots ?

E

Reliability:

☆ AdDevops / main ✓ ?

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

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

Project Overview

Reliability ?

Overview

New Code

Bugs 0

Rating **A**

Remediation Effort 0

Overall Code

Bugs 7

AdDevops View as List Select files Navigate 15 files

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

scroll.css	E
trial.css	C
verticaltable.html	C
demo.html	B
index.html	B
payment.html	B

There are 9 hidden components with a score of A. [Show Them](#)

Bugs:

☆ AdDevops / main ✓ ?

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

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

Bugs 0

Rating **A**

Remediation Effort 0

Overall Code

Bugs 7

Rating **E**

Remediation Effort 28min

Security ?

Security Review ?

Bugs 7 [See history](#) New Code: Since September 20, 2023

box.html	0
class.css	0
demo.html	1
element.css	0
float property.html	0
home.html	0
id.css	0
index.html	1
payment.html	1
scroll.css	1

Maintanaibility:

AdDevops /

main

?

The last analysis has warnings. [See details](#)

Version not provided

Overview

Issues

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Project Overview

Reliability ? >

Security ? >

Security Review ? >

Maintainability ? v

Overview

New Code

Code Smells 0

AdDevops

View as List

Select files

Navigate

15 files

Maintainability Rating A [See history](#)

New Code: Since September 20, 2023

box.html A

class.css A

demo.html A

element.css A

float property.html A

home.html A

id.css A

index.html A

Security:

AdDevops /

main

?

The last analysis has warnings. [See details](#)

Version not provided

Overview

Issues

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Project Overview

Reliability ? >

Security ? >

Security Review ? v

New Code

Security Hotspots 0

Rating A

Overall Code

Security Hotspots 6

AdDevops

View as List

Select files

Navigate

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

The last analysis has warnings. [See details](#)

Version not provided

Overview

Issues

Security Hotspots

Measures

Code

Activity

Project Settings

Project Information

Project Overview

Reliability

Security

Security Review

Maintainability

Coverage

Duplications

Overview

AdDevops

View as

List

Select files

Navigate

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

Cyclomatic complexity:

AdDevops

main

The last analysis has warnings. [See details](#)

Version not provided

Overview

Issues

Security Hotspots

Measures

Code

Activity

Project Settings

Project Information

New Lines 0

Lines of Code 543

Lines 602

Files 15

Comment Lines 47

Comments (%) 8.0%

Complexity

Cyclomatic Complexity 9

Issues

AdDevops

View as

List

Select files

Navigate

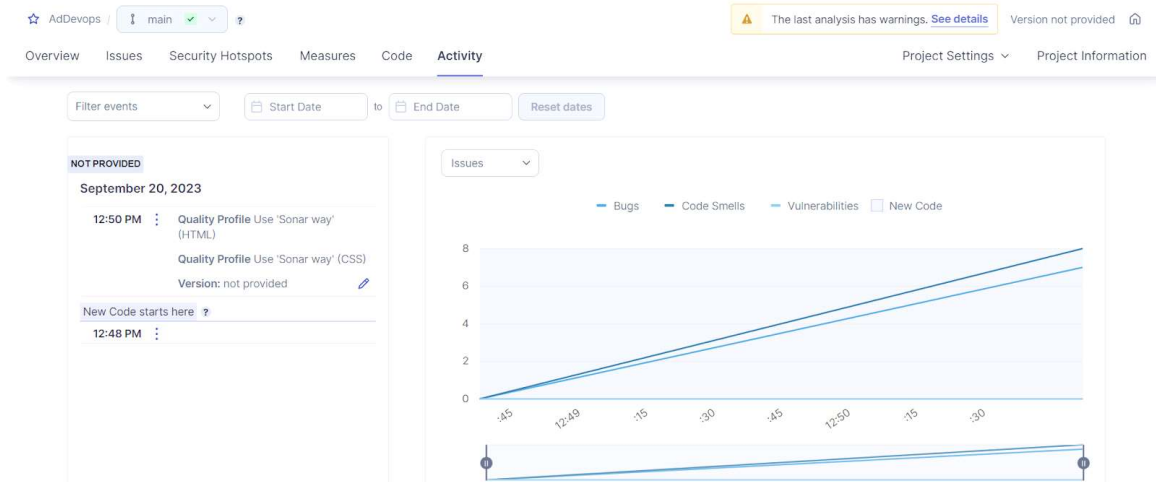
9 files

Cyclomatic Complexity 9 [See history](#)

New Code: Since September 20, 2023

box.html	1
demo.html	1
float property.html	1
home.html	1
index.html	1
payment.html	1
start.html	1
trial.html	1
verticaltable.html	1

Activity:



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