PROJECT- 2

PROJECT TITLE

DEPLOYING AN PROJECT INTO DIFFERENT STAGES

THROUGH USING JENKINS PIPELINE

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Batch No 115

Tomcat

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Timing 9-10 AM

Creating a pipeline in the Jenkins.

User writes declarative pipeline.

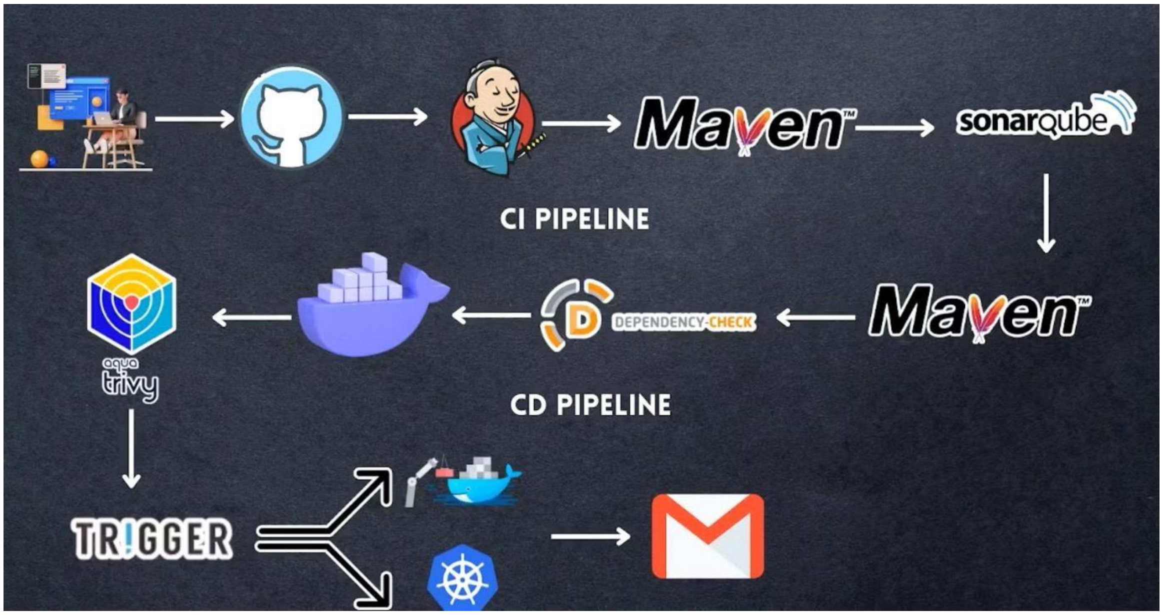
Deploy application into different environments

Jenkins all 9 stages

1. Checkout
2. Compile
3. Test
4. Sonarqube Analysis
5. Sonar quality Gate
6. Bulild war file
7. Db Check
8. Nexus Artifact upload
9. Tomcat upload

Procedure of Jenkins Architecture

DEVSECOPS Project: Complete CI-CD (3 tier app)-Pet shop



Jenkins all in one pipeline different stages

We need to create one Jenkins server and take t2 2xlarg

Connect to the server

And install the Jenkins with: 8080 port number

In the same server install tomcat also install docker

Run the SonarQube with 9090 port number using with docker container
Install java -17 version-- apt install openjdk-17-jdk openjdk-17-jre

Install Maven ----

First we have start the server we need create vi Jenkins.sh t22xlarge

vi jenkins.sh

```
#!/bin/bash sudo apt

update -y #sudo apt

upgrade -y

wget -O - https://packages.adoptium.net/artifactory/api/gpg/key/public | tee
/etc/apt/keyrings/adoptium.asc

echo "deb [signed-by=/etc/apt/keyrings/adoptium.asc] https://packages.adoptium.net/artifactory/deb
$(awk -F= '/^VERSION_CODENAME/{print$2}'
/etc/os-release) main" | tee /etc/apt/sources.list.d/adoptium.list sudo apt

update -y sudo apt install temurin-17-jdk -y sudo apt install maven -y

/usr/bin/java --version curl -fsSL https://pkg.jenkins.io/debian-

stable/jenkins.io-2023.key | sudo tee \

          /usr/share/keyrings/jenkins-keyring.asc > /dev/null echo

deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] \

https://pkg.jenkins.io/debian-stable binary/ | sudo tee \

                 /etc/apt/sources.list.d/jenkins.list > /dev/null

sudo apt-get update -y sudo

apt-get install jenkins -y sudo

systemctl start jenkins sudo

systemctl status Jenkins
```

Next

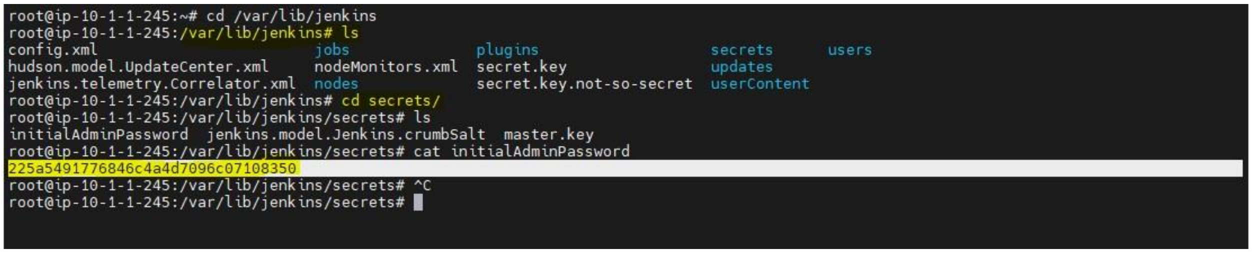
Chmod 777 jenkins.sh -----------❼ then --------❼ls –a

Then to start the Jenkins.sh

./ Jenkins.sh --------❼start

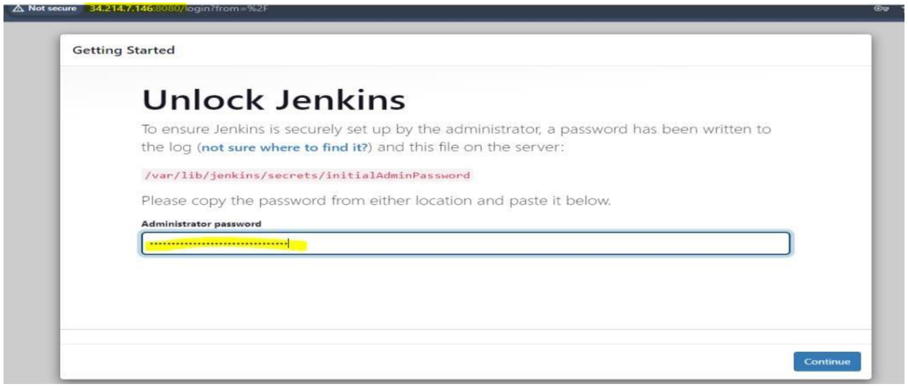
Goto ❼ cd /var/lib/Jenkins/secrets/initialized password

Copy the key



```
root@ip-10-1-1-245:~# cd /var/lib/jenkins
root@ip-10-1-1-245:/var/lib/jenkins# ls
config.xml                        jobs               plugins                  secrets     users
hudson.model.UpdateCenter.xml     nodeMonitors.xml   secret.key               updates
jenkins.telemetry.Correlator.xml  nodes              secret.key.not-so-secret userContent
root@ip-10-1-1-245:/var/lib/jenkins# cd secrets/
root@ip-10-1-1-245:/var/lib/jenkins/secrets# ls
initialAdminPassword  jenkins.model.Jenkins.crumbSalt  master.key
root@ip-10-1-1-245:/var/lib/jenkins/secrets# cat initialAdminPassword
225a5491776846c4a4d7096c07108350
root@ip-10-1-1-245:/var/lib/jenkins/secrets# ^C
root@ip-10-1-1-245:/var/lib/jenkins/secrets# 
```

Open the web into Jenkins server with public ip address and 8080 port number



Unlock Jenkins

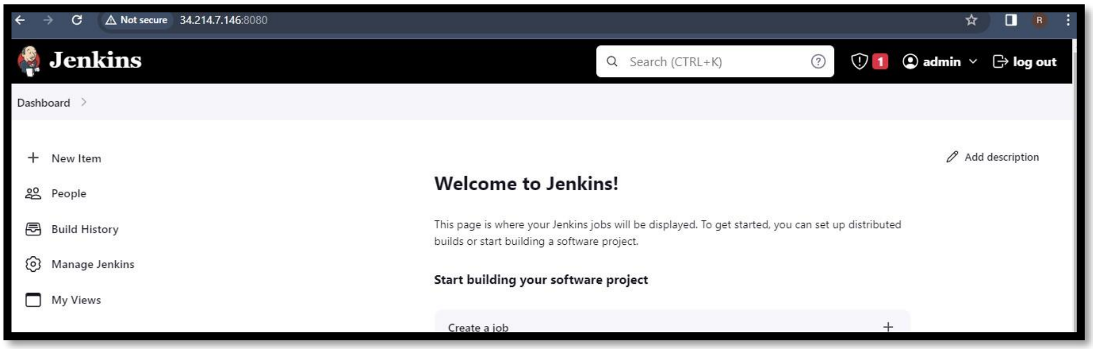
To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

/var/lib/jenkins/secrets/initialAdminPassword

Please copy the password from either location and paste it below.

Administrator password

••••••••••••••••••••••••••••••••



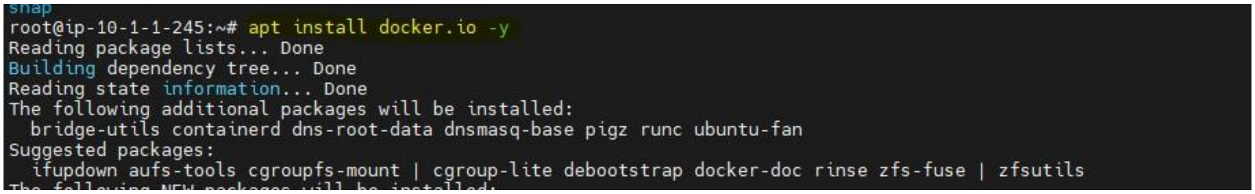
Welcome to Jenkins!

This page is where your Jenkins jobs will be displayed. To get started, you can set up distributed builds or start building a software project.

Start building your software project

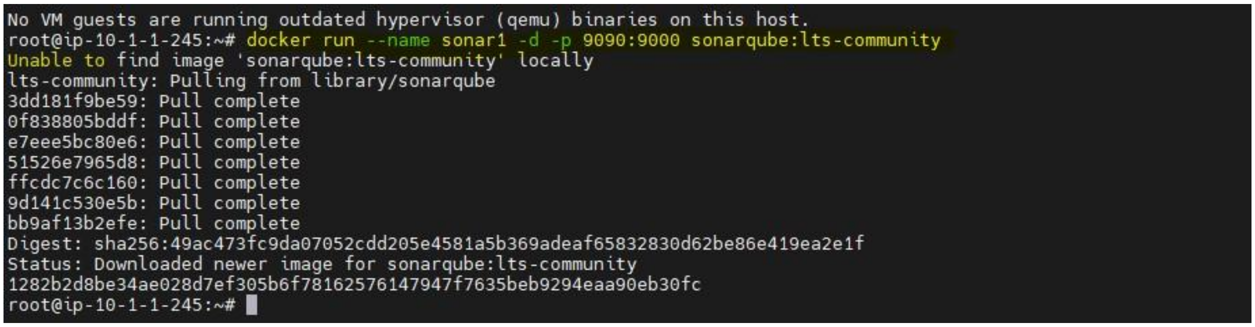
Jenkins installed

Now install the docker in the Jenkins server and run the sonarqube



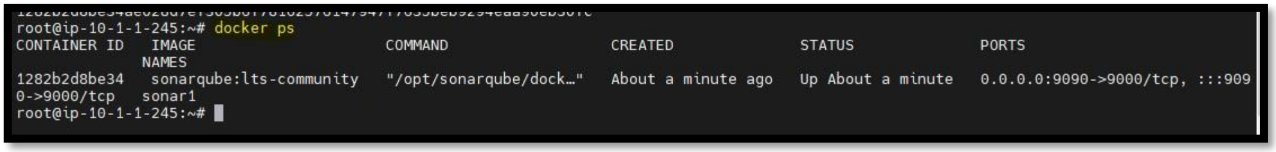
```
snap
root@ip-10-1-1-245:~# apt install docker.io -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  bridge-utils containerd dns-root-data dnsmasq-base pigz runc ubuntu-fan
Suggested packages:
  ifupdown aufs-tools cgroupfs-mount | cgroup-lite debootstrap docker-doc rinse zfs-fuse | zfsutils
The following NEW packages will be installed:
```

Run the sonarqube in the docker container



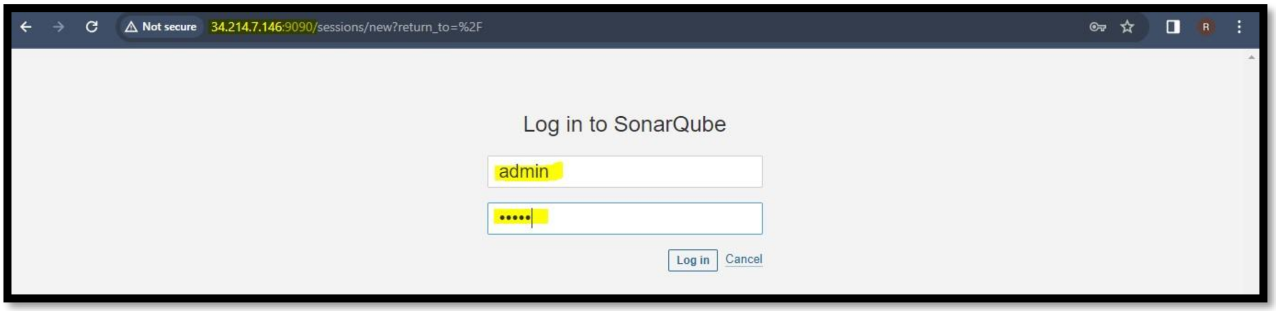
```
No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ip-10-1-1-245:~# docker run --name sonar1 -d -p 9090:9000 sonarqube:lts-community
Unable to find image 'sonarqube:lts-community' locally
lts-community: Pulling from library/sonarqube
3dd181f9be59: Pull complete
0f838805bddf: Pull complete
e7eee5bc80e6: Pull complete
51526e7965d8: Pull complete
ffcdc7c6c160: Pull complete
9d141c530e5b: Pull complete
bb9af13b2efe: Pull complete
Digest: sha256:49ac473fc9da07052cdd205e4581a5b369adeaf65832830d62be86e419ea2e1f
Status: Downloaded newer image for sonarqube:lts-community
1282b2d8be34ae028d7ef305b6f78162576147947f7635beb9294eaa90eb30fc
root@ip-10-1-1-245:~# 
```

Docker ps



```
root@ip-10-1-1-245:~# docker ps
CONTAINER ID   IMAGE                   COMMAND                  CREATED              STATUS              PORTS                                       
              NAMES
1282b2d8be34   sonarqube:lts-community  "/opt/sonarqube/dock…"   About a minute ago   Up About a minute   0.0.0.0:9090->9000/tcp, :::909
0->9000/tcp   sonar1
root@ip-10-1-1-245:~# 
```

Now login into web sonarqube Jenkins public IP and 9090 port number



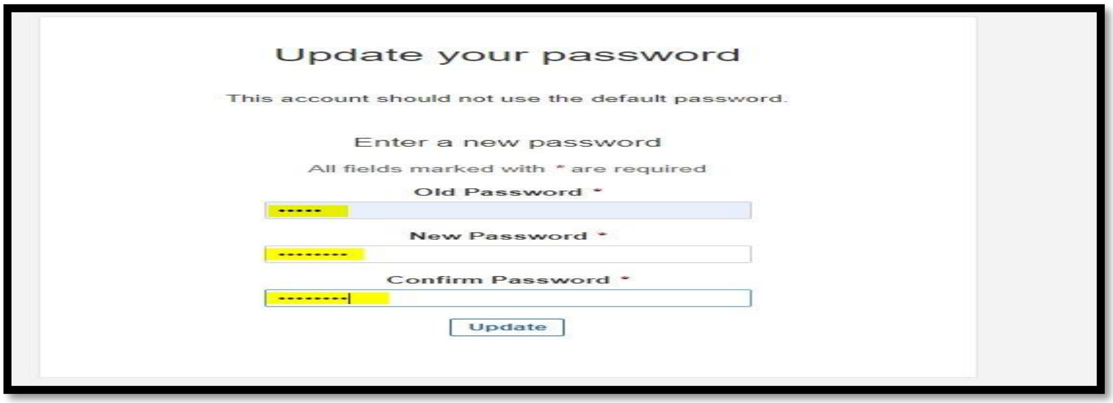
34.214.7.146:9090/sessions/new?return_to=%2F

Log in to SonarQube

admin

•••••

We need to change password



Update your password

This account should not use the default password.

Enter a new password

All fields marked with * are required

Old Password *

••••••

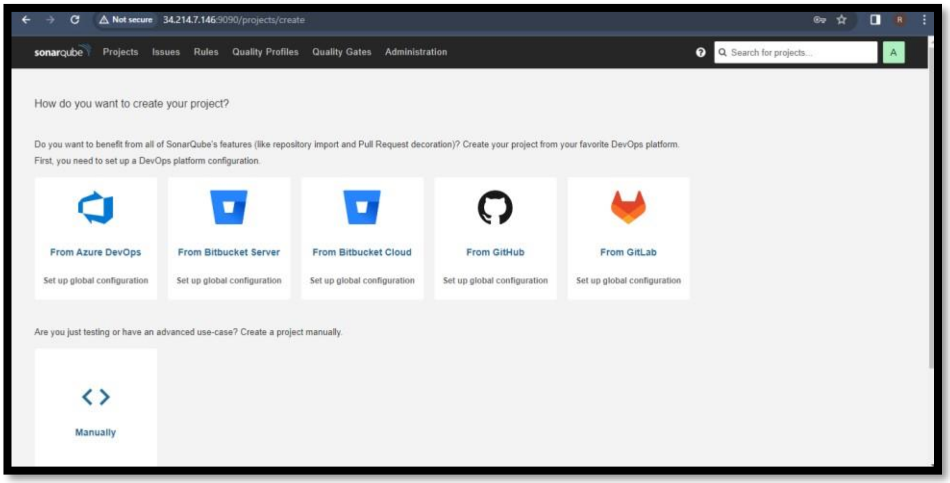
New Password *

•••••••••

Confirm Password *

•••••••••

SONARQUBE INSTALLED



34.214.7.146:9090/projects/create

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.

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

COME TO THE JENKINS SERVER WE NEED TO INSTALL PLUGINS

GOTO❼MANAGE JENKINS❼PLUGINS❼AVAILABLE PLUGINS❼

HERE INSTALL

1. MAVEN INTIGRATION

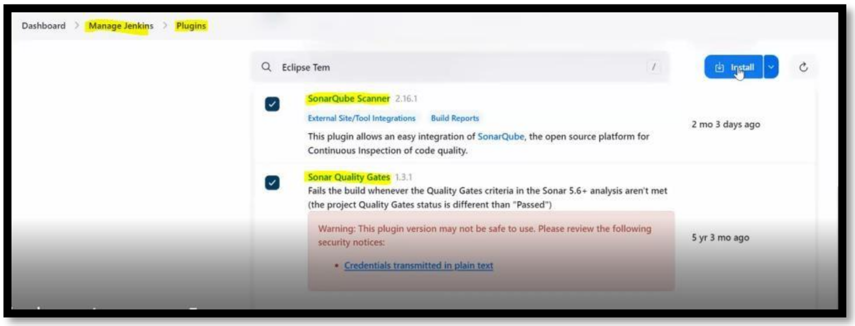
2. CONFIG FILE PROVIDER

3. PIPELI MAVEN INEGRATION

4. SONARQUBE SCANNER

5. SONAR QUALITY GATE

6. ECLIPSE TEMURIN INSTALLER ---- 7.OWASP DEPENDENCY-CHECK



☑ SonarQube Scanner 2.16.1

External Site/Tool Integrations | Build Reports

This plugin allows an easy integration of SonarQube, the open source platform for Continuous Inspection of code quality.

2 mo 3 days ago

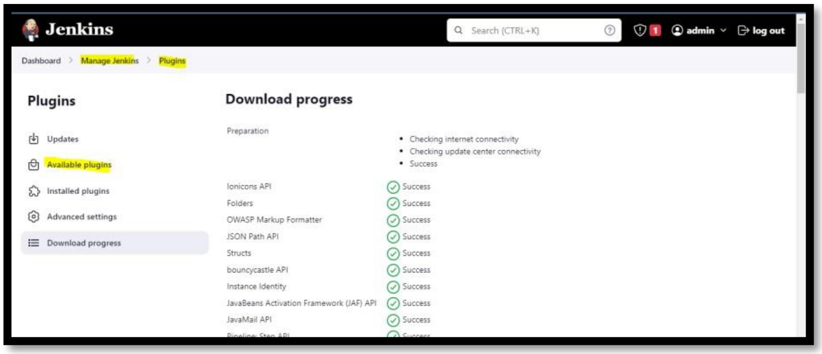
☑ Sonar Quality Gates 1.3.1

Fails the build whenever the Quality Gates criteria in the Sonar 5.6+ analysis aren't met (the project Quality Gates status is different than "Passed")

Warning: This plugin version may not be safe to use. Please review the following security notices:

- Credentials transmitted in plain text

5 yr 3 mo ago



Download progress

Preparation

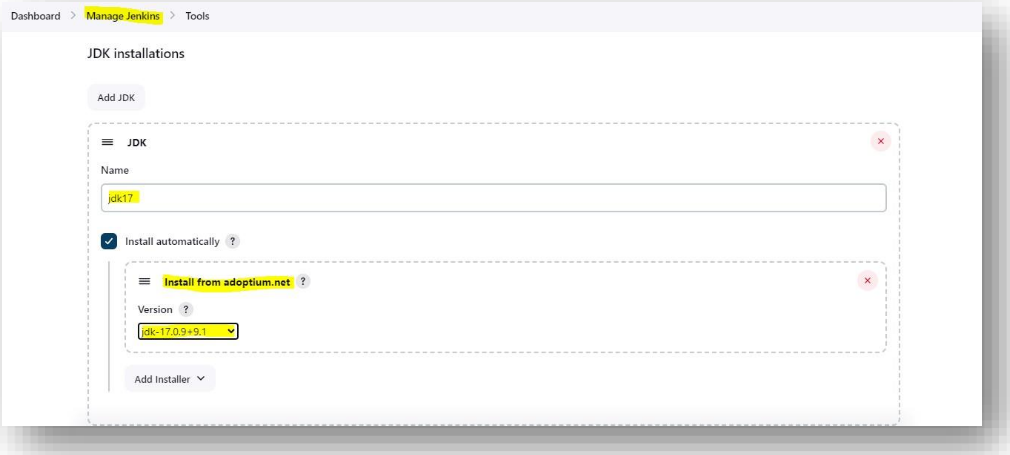
- Checking internet connectivity
- Checking update center connectivity
- Success

Ionicons API	✓ Success
Folders	✓ Success
OWASP Markup Formatter	✓ Success
JSON Path API	✓ Success
Structs	✓ Success
bouncycastle API	✓ Success
Instance Identity	✓ Success
JavaBeans Activation Framework (JAF) API	✓ Success
JavaMail API	✓ Success
Pipeline: Step API	✓ Success

Now We Need To Set Java Version And Maven Version In The Jenkins Server

GOTO❼ MANAGE JENKINS❼TOOLS

JDK-17.08.1+1



Dashboard > Manage Jenkins > Tools

JDK installations

Add JDK

JDK

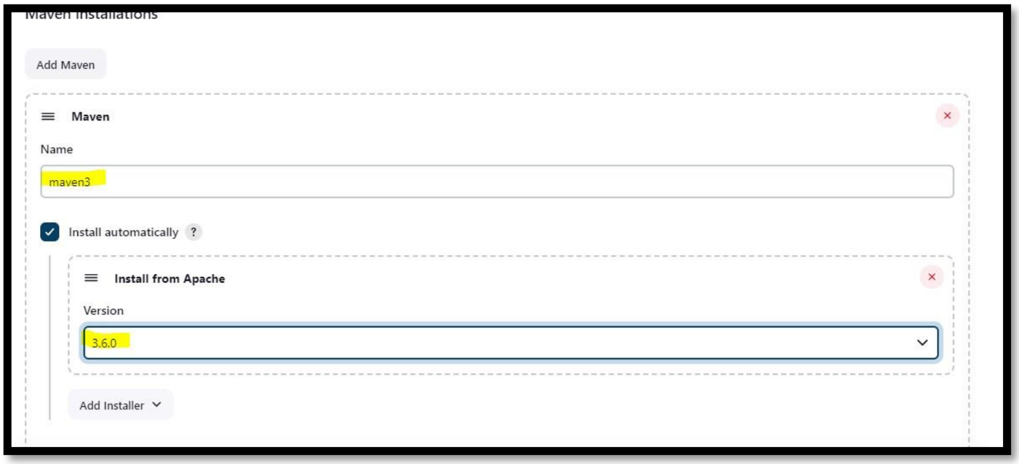
Name: jdk17

☑ Install automatically

Install from adoptium.net

Version: jdk-17.0.9+9.1

Add Installer



Maven installations

Add Maven

Maven

Name: maven3

☑ Install automatically

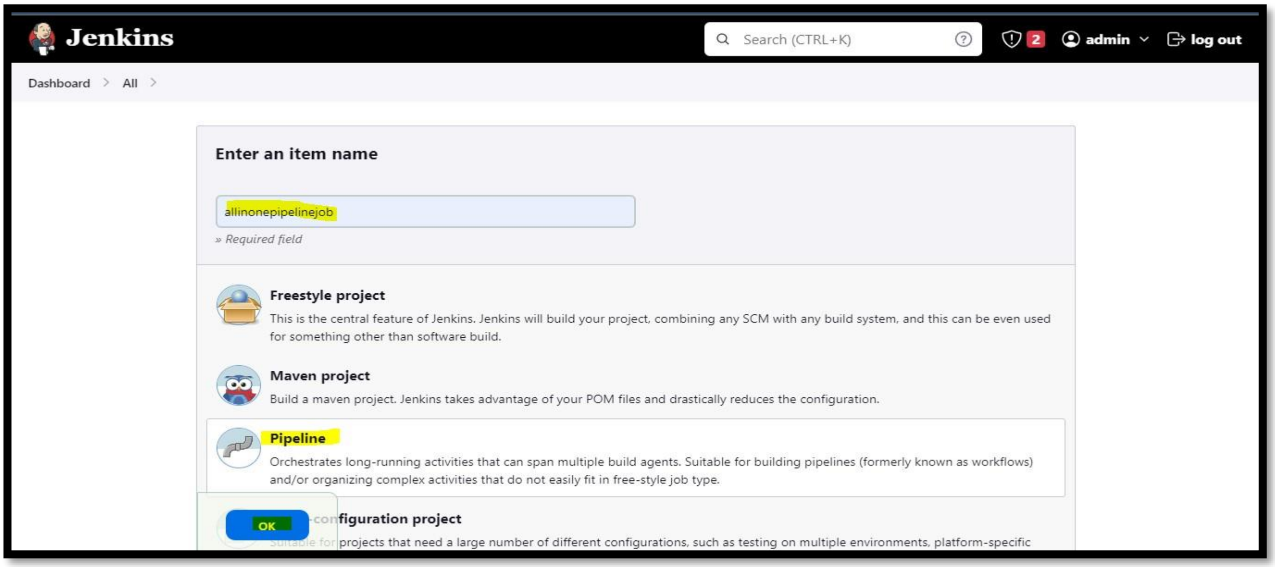
Install from Apache

Version: 3.6.0

Add Installer

APPLY AND SAVE

NOW WE NEED TO CREATE PIPELINE JOB INTO JENKINS



Enter an item name

allinonepipelinejob

» Required field

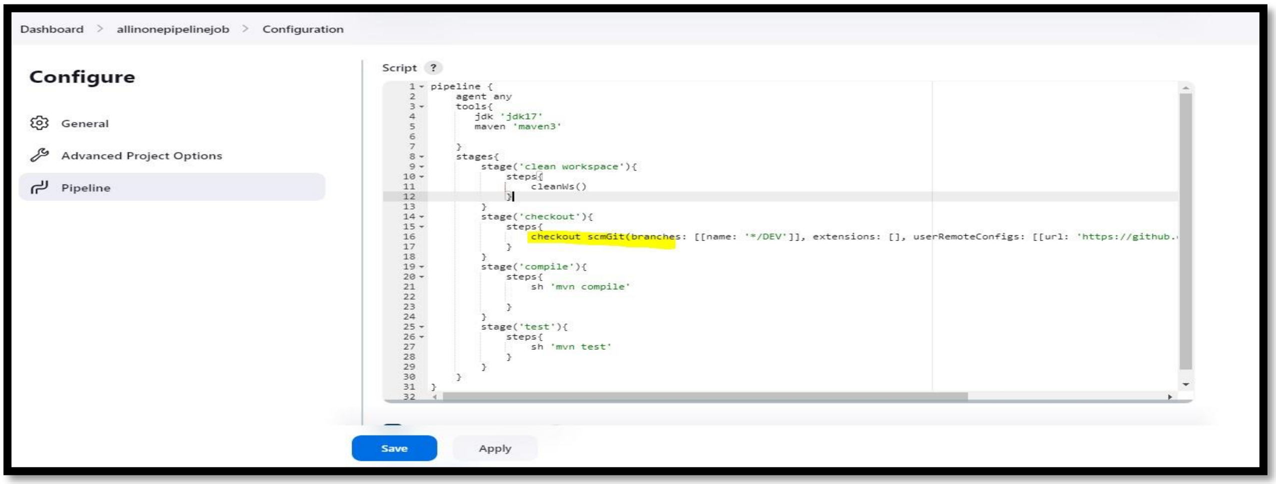
Freestyle project
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

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.

…configuration project
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific

HERE WE NEED TO WRITE SCRIPT AND PROVIDE GIT HUB REPOSITORY



Script ?

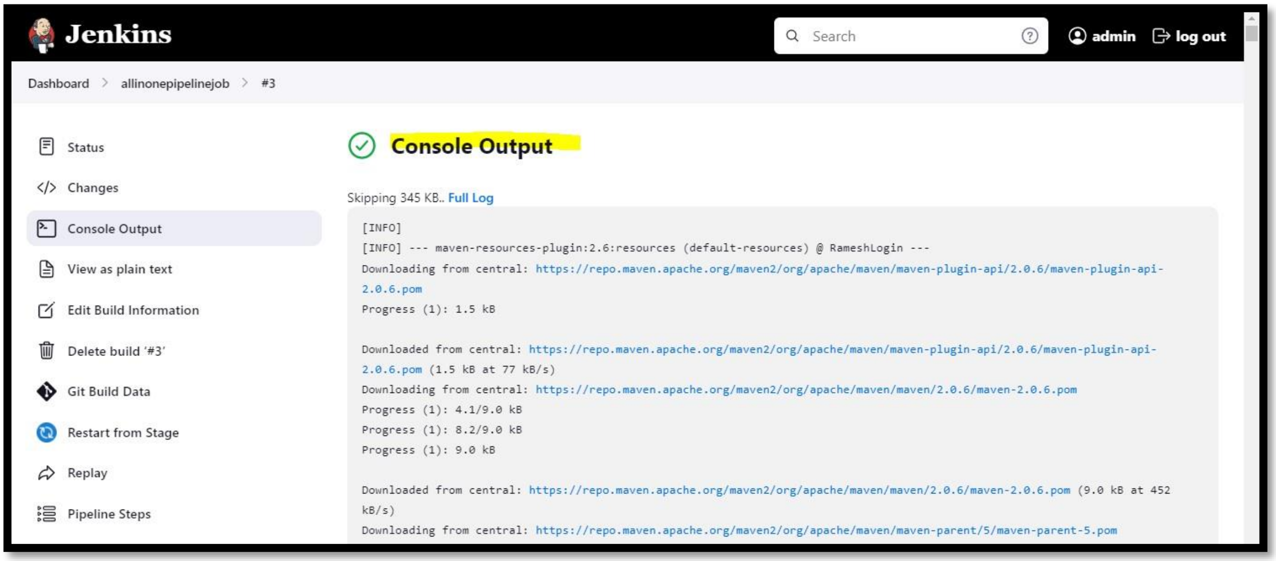
```
pipeline {
     agent any
     tools{
        jdk 'jdk17'
        maven 'maven3'

     }
     stages{
         stage('clean workspace'){
             steps{
                 cleanWs()
             }
         }
         stage('checkout'){
             steps{
                 checkout scmGit(branches: [[name: '*/DEV']], extensions: [], userRemoteConfigs: [[url: 'https://github.
             }
         }
         stage('compile'){
             steps{
                 sh 'mvn compile'

             }
         }
         stage('test'){
             steps{
                 sh 'mvn test'
             }
         }
     }
}
```

HERE

APPLY $ SAVE

BUILD NOW

CONSOLE –OUTPUT SUCCESS



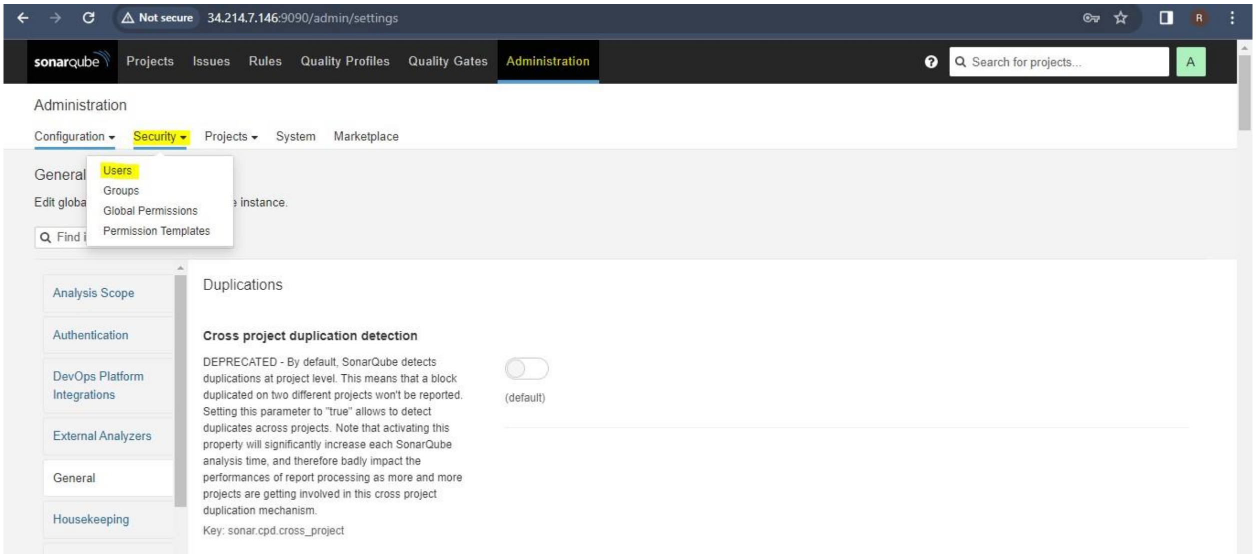
Console Output

Skipping 345 KB.. Full Log

```
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ RameshLogin ---
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-plugin-api/2.0.6/maven-plugin-api-
2.0.6.pom
Progress (1): 1.5 kB

Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-plugin-api/2.0.6/maven-plugin-api-
2.0.6.pom (1.5 kB at 77 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven/2.0.6/maven-2.0.6.pom
Progress (1): 4.1/9.0 kB
Progress (1): 8.2/9.0 kB
Progress (1): 9.0 kB

Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven/2.0.6/maven-2.0.6.pom (9.0 kB at 452
kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/5/maven-parent-5.pom
```

NOW COME TO THE SONARQUBE AND CREATE SECRET-KEY

SONARQUBE DASHBORD❼ADMINISTRATOR❼SECURITY❼USER



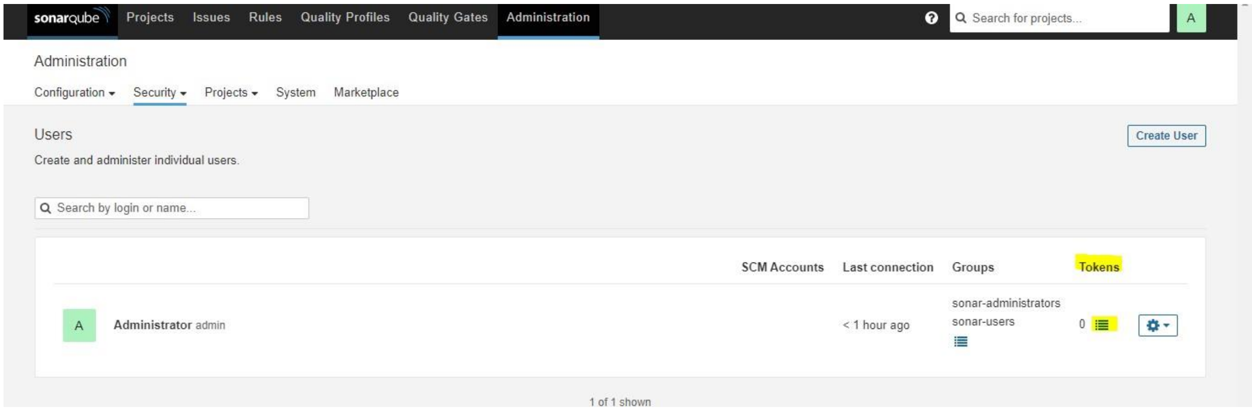
Duplications

Cross project duplication detection

DEPRECATED - By default, SonarQube detects duplications at project level. This means that a block duplicated on two different projects won't be reported. Setting this parameter to "true" allows to detect duplicates across projects. Note that activating this property will significantly increase each SonarQube analysis time, and therefore badly impact the performances of report processing as more and more projects are getting involved in this cross project duplication mechanism.

Key: sonar.cpd.cross_project

(default)

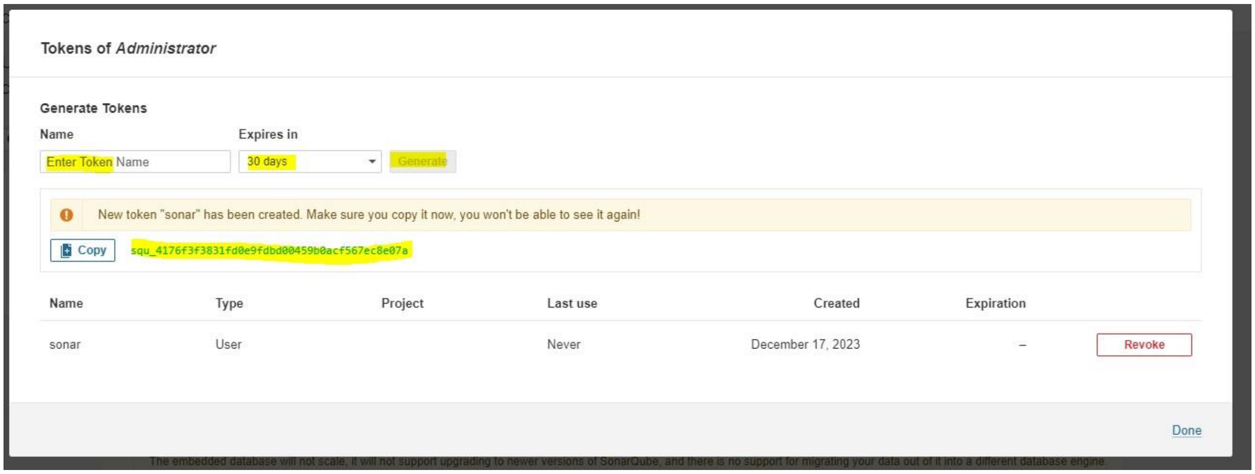


Users

Create and administer individual users.

	SCM Accounts	Last connection	Groups	Tokens
A Administrator admin		< 1 hour ago	sonar-administrators sonar-users	0

1 of 1 shown



Tokens of *Administrator*

Generate Tokens

Name: Enter Token Name

Expires in: 30 days

New token "sonar" has been created. Make sure you copy it now, you won't be able to see it again!

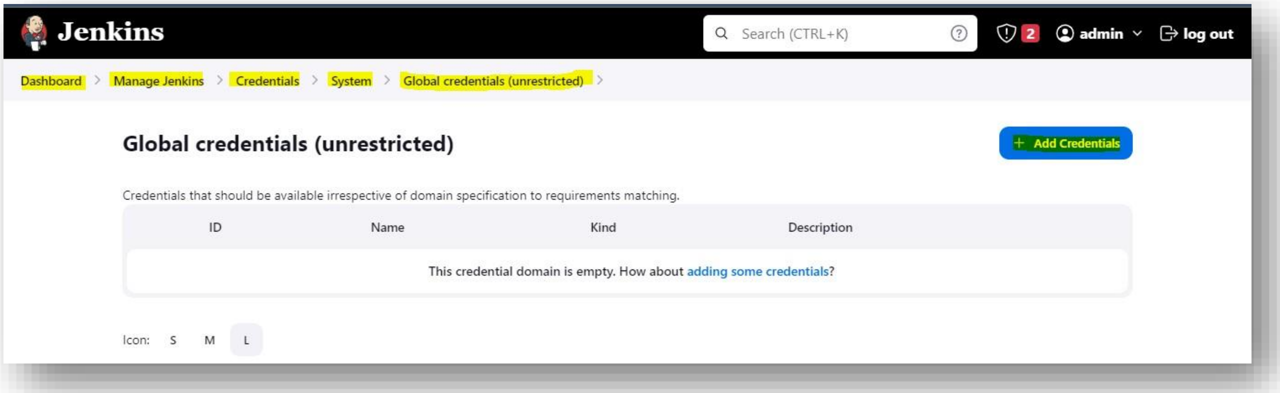
```
squ_4176f3f3831fd0e9fdbd00459b0acf567ec8e07a
```

Name	Type	Project	Last use	Created	Expiration	
sonar	User		Never	December 17, 2023	–	Revoke

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.

COPY THE KEY

COME TO JENKINS ❼GOTO❼ MANAGE JENKINS❼CREDENTIALS❼SYSTEM❼GLOBAL CREDENTIALS

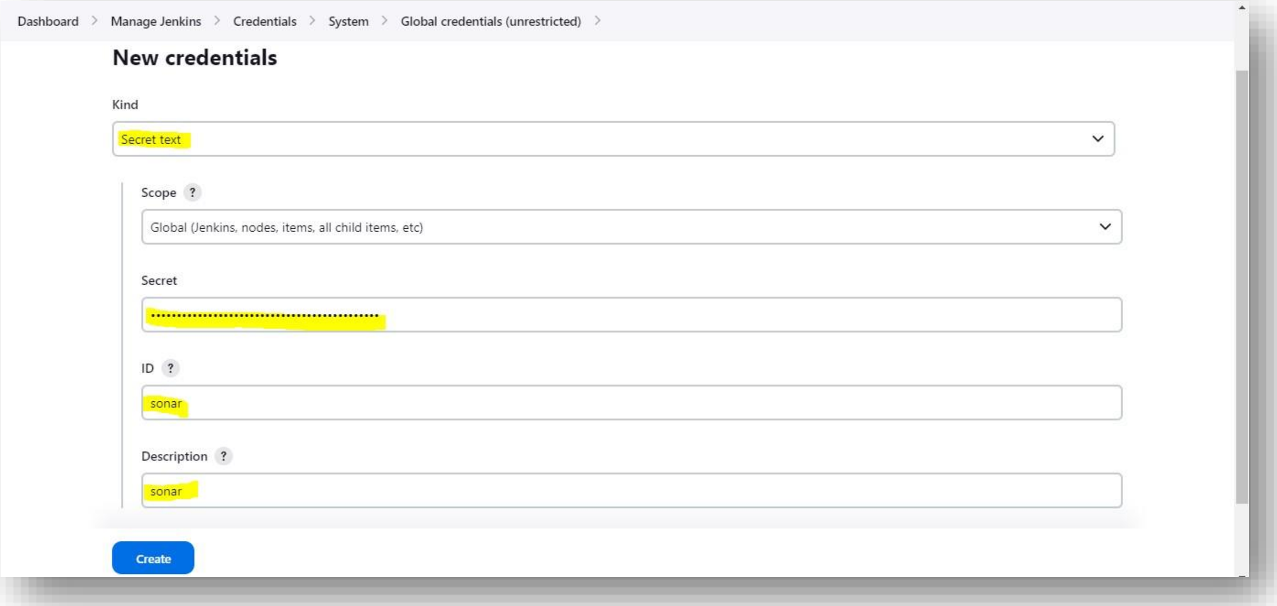


Dashboard > Manage Jenkins > Credentials > System > Global credentials (unrestricted) >

Global credentials (unrestricted)

Credentials that should be available irrespective of domain specification to requirements matching.

ID	Name	Kind	Description
This credential domain is empty. How about adding some credentials?			


Dashboard > Manage Jenkins > Credentials > System > Global credentials (unrestricted) >

New credentials

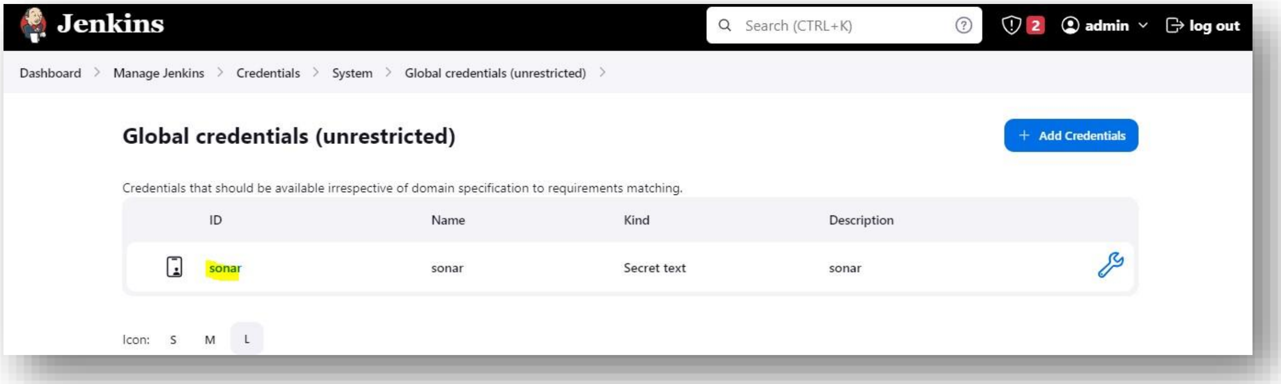
Kind: Secret text

Scope: Global (Jenkins, nodes, items, all child items, etc)

Secret: ••

ID: sonar

Description: sonar



Dashboard > Manage Jenkins > Credentials > System > Global credentials (unrestricted) >

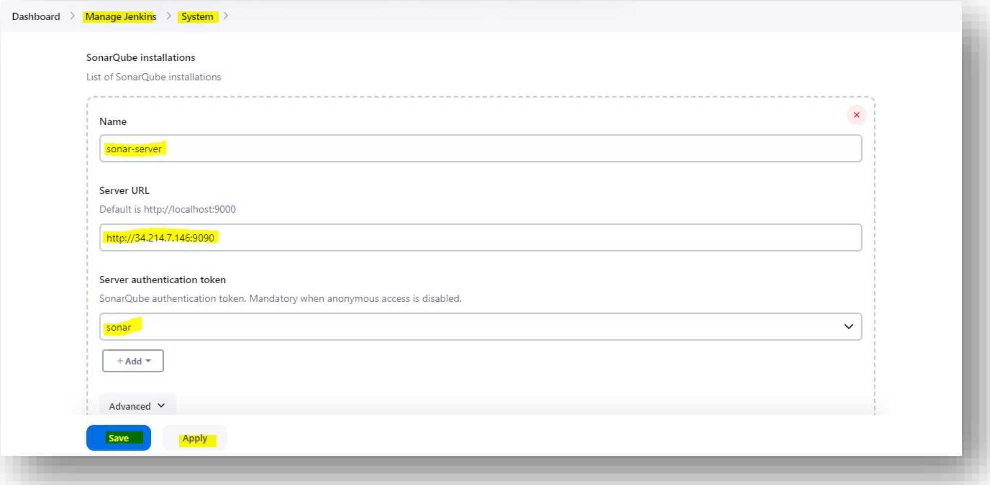
Global credentials (unrestricted)

Credentials that should be available irrespective of domain specification to requirements matching.

ID	Name	Kind	Description
sonar	sonar	Secret text	sonar

MANAGE JENKINS❼SYSTEM

HERE ADD -SONAR CREDENTIALS AND SONARQUBE URL NAME- SONARSERVER



Dashboard > Manage Jenkins > System >

SonarQube installations

List of SonarQube installations

Name

sonar-server

Server URL

Default is http://localhost:9000

http://34.214.7.146:9090

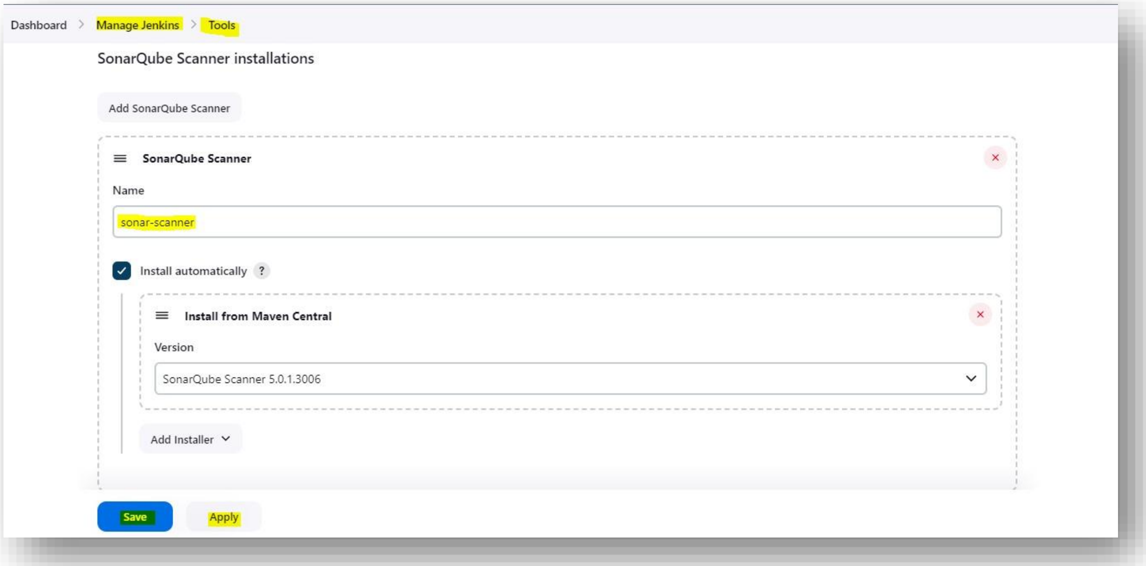
Server authentication token

SonarQube authentication token. Mandatory when anonymous access is disabled.

sonar

AGAIN GOTO-MANAGE JENKINS❼TOOLS

HERE MENTION -- SONAR-SCANNER



Dashboard > Manage Jenkins > Tools

SonarQube Scanner installations

SonarQube Scanner

Name

sonar-scanner

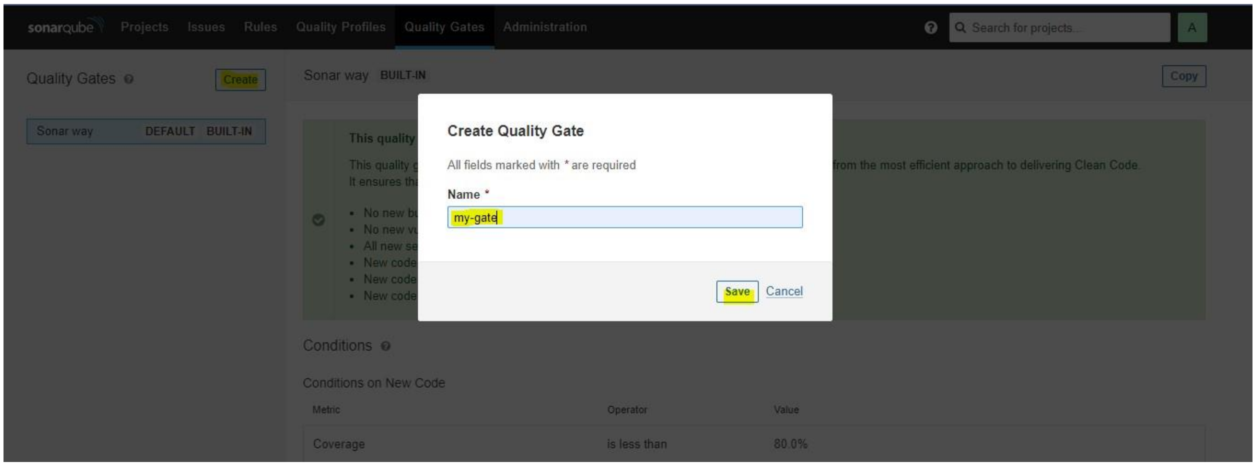
☑ Install automatically ?

Install from Maven Central

Version

SonarQube Scanner 5.0.1.3006

COME TO THE SONARQUBE -- CREATE QUALITY GATE



This quality ...

This quality ... from the most efficient approach to delivering Clean Code.
It ensures th...

- No new bu...
- No new vu...
- All new se...
- New code...
- New code...
- New code...

Create Quality Gate

All fields marked with * are required

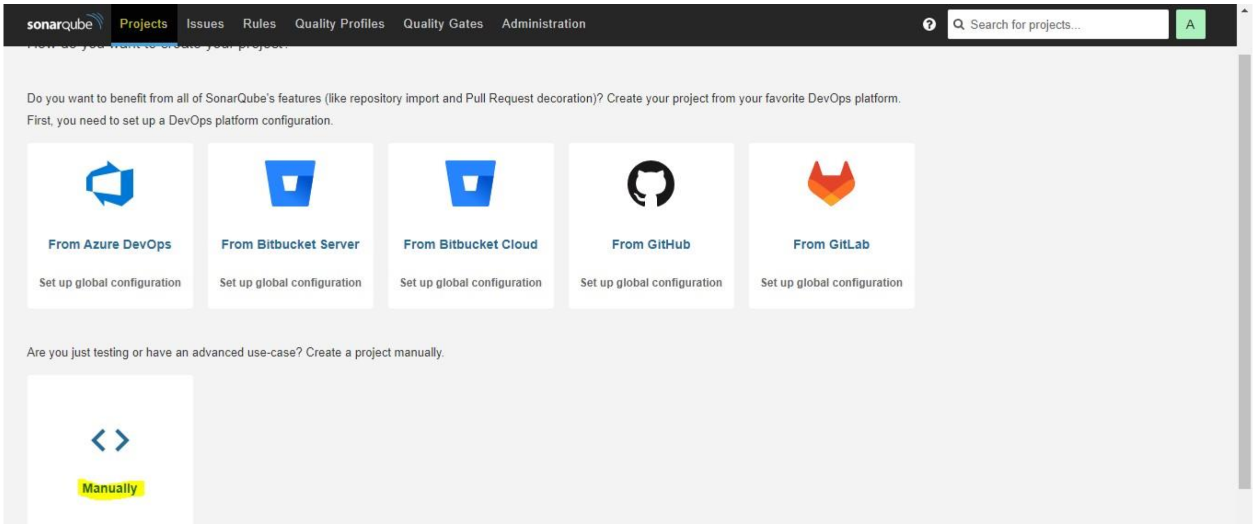
Name * : my-gate

Conditions

Conditions on New Code

Metric	Operator	Value
Coverage	is less than	80.0%

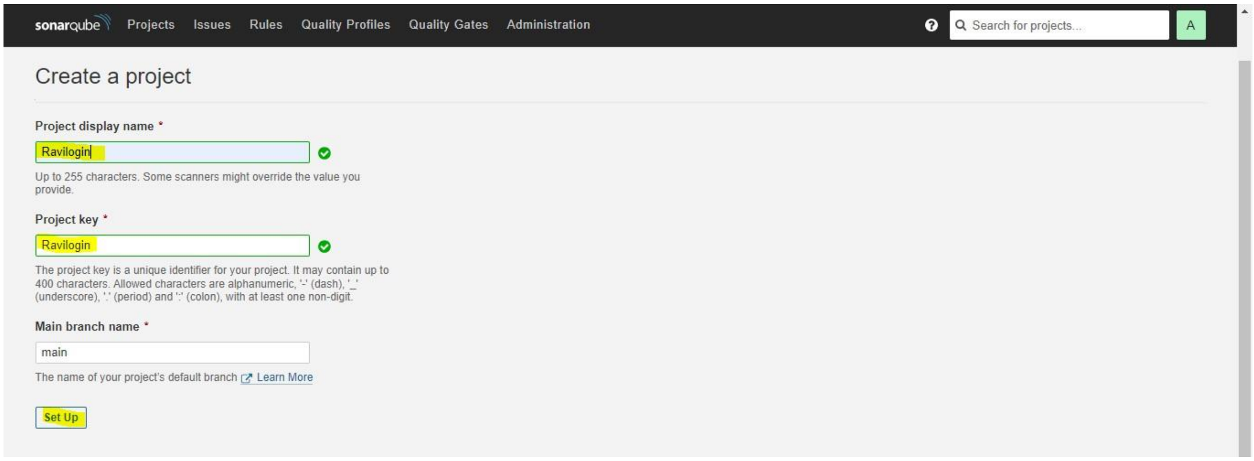
GOTO –PROJECT❼



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.

From Azure DevOps
Set up global configuration
From Bitbucket Server
Set up global configuration
From Bitbucket Cloud
Set up global configuration
From GitHub
Set up global configuration
From GitLab
Set up global configuration

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



Create a project

Project display name * : Ravilogin

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

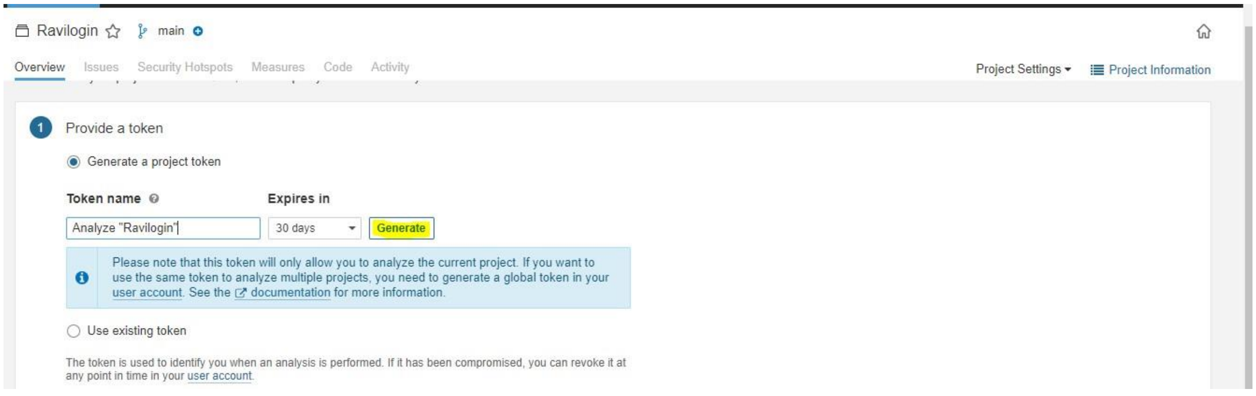
Project key * : Ravilogin

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

LOCAL



1 Provide a token

● Generate a project token

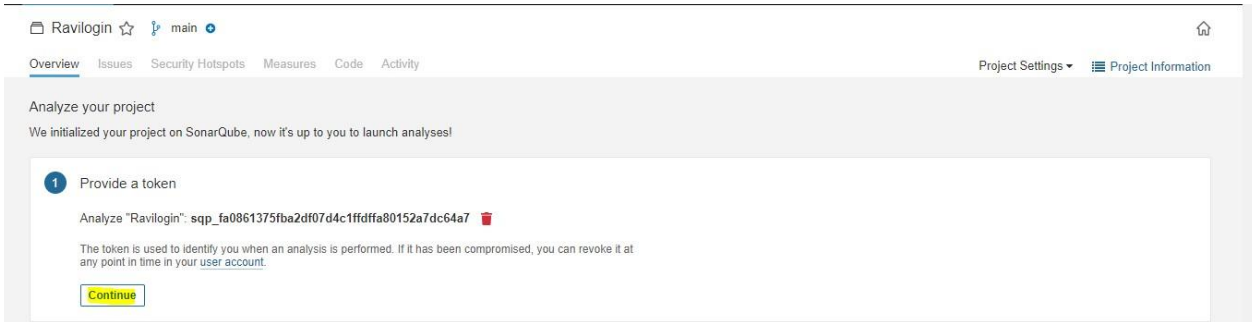
Token name: Analyze "Ravilogin"

Expires in: 30 days

Please note that this token will only allow you to analyze the current project. If you want to use the same token to analyze multiple projects, you need to generate a global token in your user account. See the documentation for more information.

○ Use existing token

The token is used to identify you when an analysis is performed. If it has been compromised, you can revoke it at any point in time in your user account.



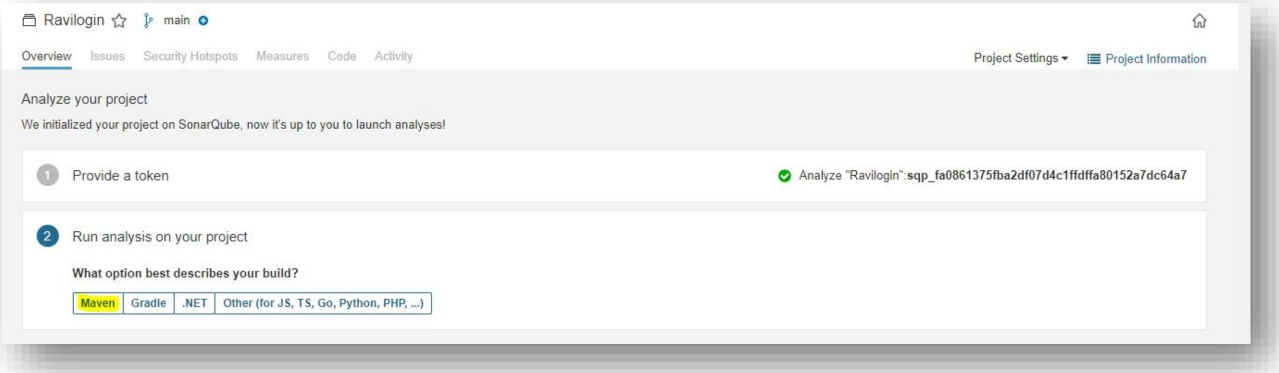
Analyze your project

We initialized your project on SonarQube, now it's up to you to launch analyses!

1 Provide a token

Analyze "Ravilogin": sqp_fa0861375fba2df07d4c1ffdffa80152a7dc64a7

The token is used to identify you when an analysis is performed. If it has been compromised, you can revoke it at any point in time in your user account.



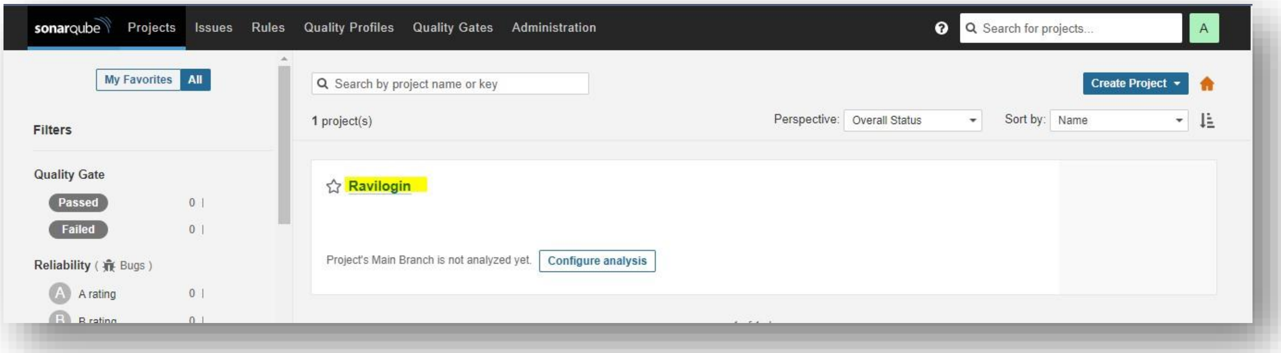
Analyze your project

We initialized your project on SonarQube, now it's up to you to launch analyses!

1 Provide a token ✓ Analyze "Ravilogin": sqp_fa0861375fba2df07d4c1ffdffa80152a7dc64a7

2 Run analysis on your project

What option best describes your build?



Filters

Quality Gate

Passed	0
Failed	0

Reliability (Bugs)

A rating	0
B rating	0

1 project(s)

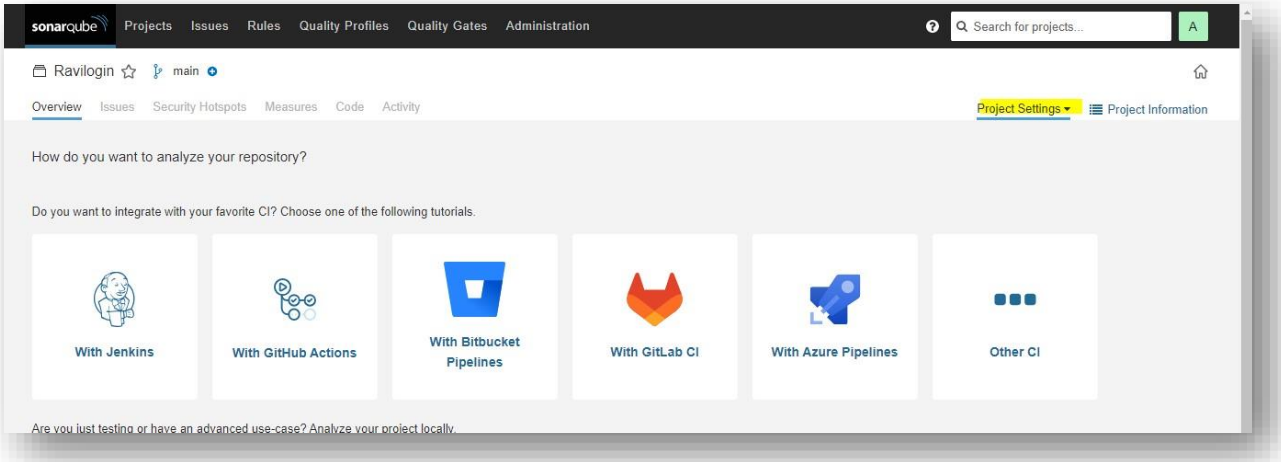
Perspective: Overall Status

Sort by: Name

☆ Ravilogin

Project's Main Branch is not analyzed yet.

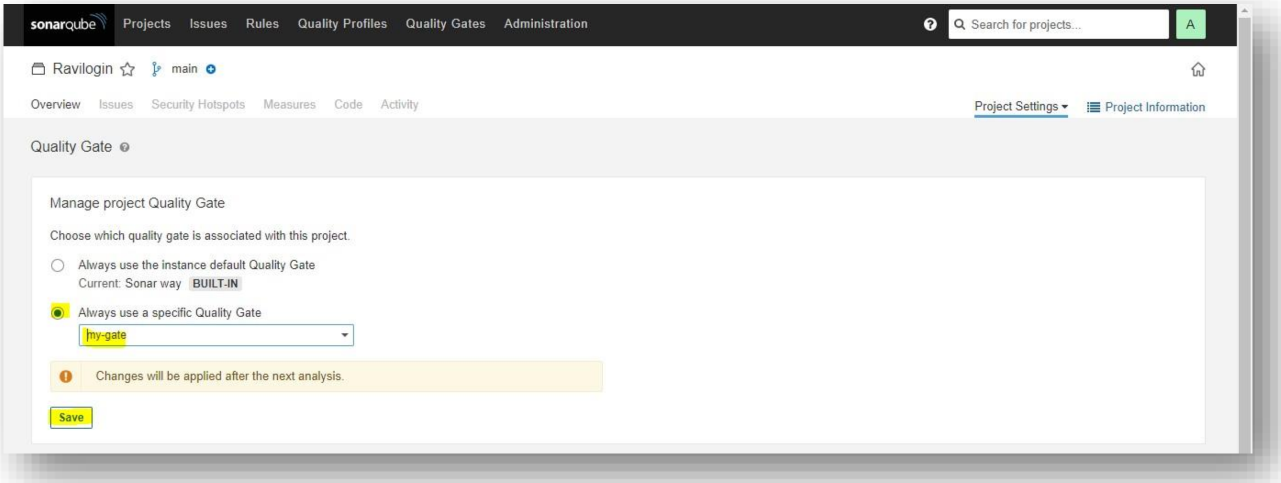
SELECT HERE QUALITY-GATE



How do you want to analyze your repository?

Do you want to integrate with your favorite CI? Choose one of the following tutorials.

Are you just testing or have an advanced use-case? Analyze your project locally.



Quality Gate

Manage project Quality Gate

Choose which quality gate is associated with this project.

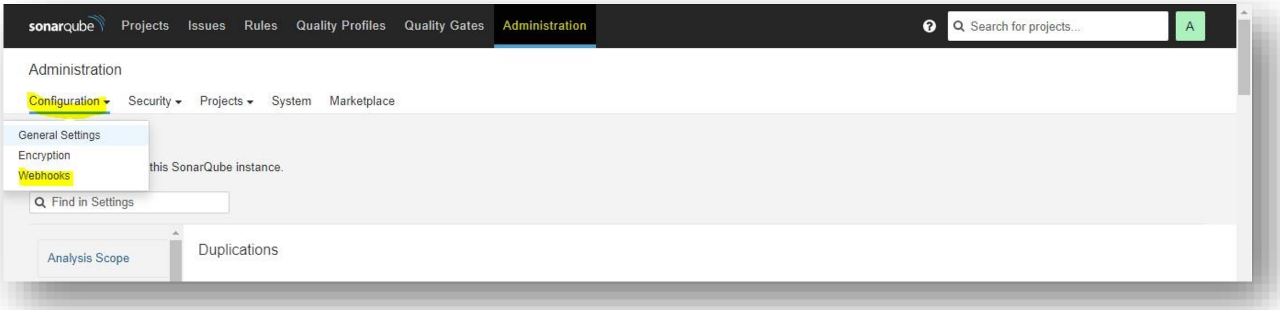
○ Always use the instance default Quality Gate
Current: Sonar way BUILT-IN

● Always use a specific Quality Gate
my-gate

Changes will be applied after the next analysis.

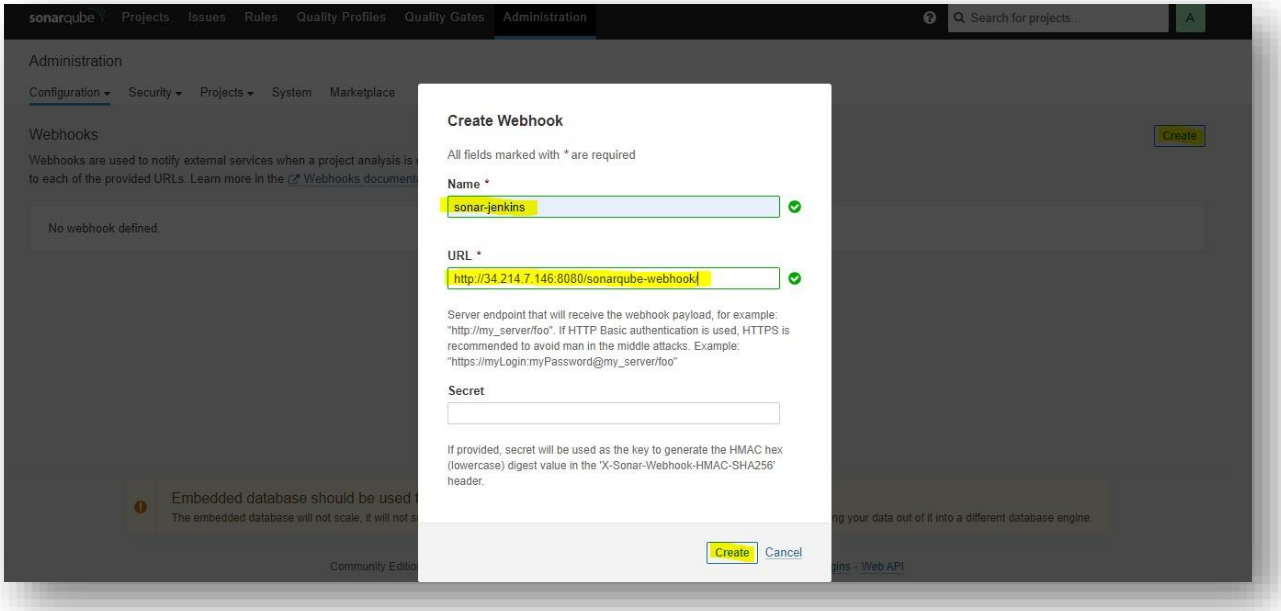
ADD THE WEB HOOK AND GIVE NAME❼SONAR-JENKINS AND JENKINS IP ADDRESS

HTTP://34.214.7.146:8080/SONARQUBE-WEBHOOK/



Administration

this SonarQube instance.



Webhooks

Webhooks are used to notify external services when a project analysis is
to each of the provided URLs. Learn more in the Webhooks document

No webhook defined.

Embedded database should be used f
The embedded database will not scale, it will not s ng your data out of it into a different database engine.

Community Editio gins - Web API

Create Webhook

All fields marked with * are required

Name *

sonar-jenkins

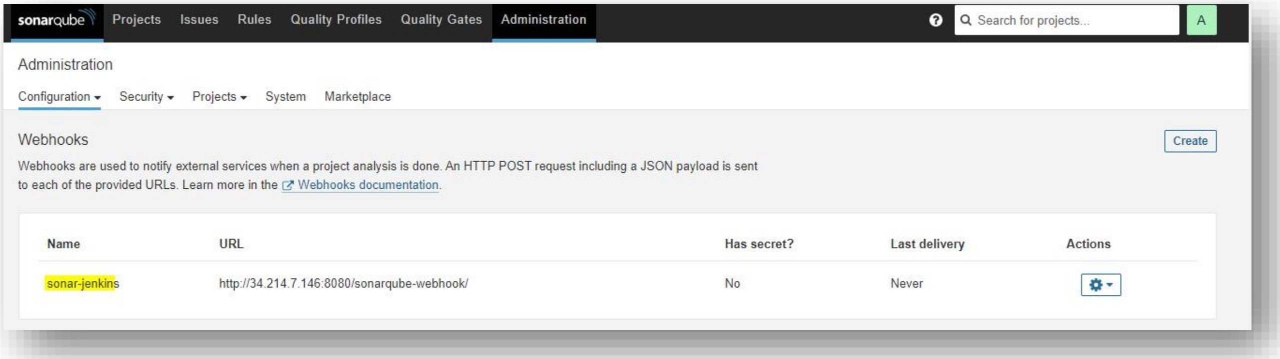
URL *

http://34.214.7.146:8080/sonarqube-webhook/

Server endpoint that will receive the webhook payload, for example: "http://my_server/foo". If HTTP Basic authentication is used, HTTPS is recommended to avoid man in the middle attacks. Example: "https://myLogin:myPassword@my_server/foo"

Secret

If provided, secret will be used as the key to generate the HMAC hex (lowercase) digest value in the 'X-Sonar-Webhook-HMAC-SHA256' header.

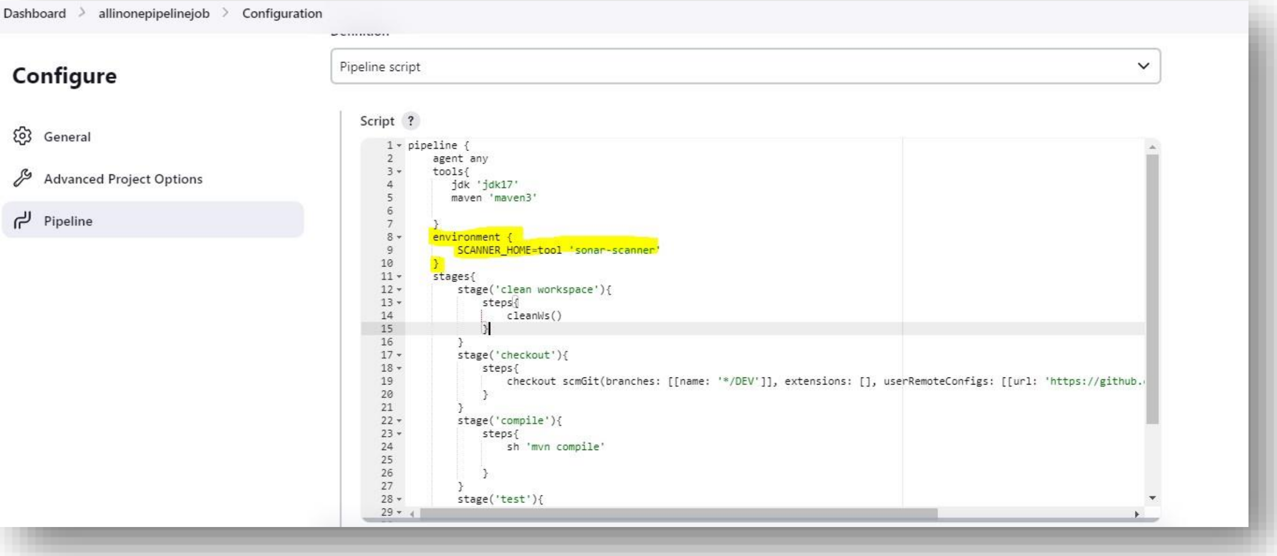


Webhooks

Webhooks are used to notify external services when a project analysis is done. An HTTP POST request including a JSON payload is sent to each of the provided URLs. Learn more in the Webhooks documentation.

Name	URL	Has secret?	Last delivery	Actions
sonar-jenkins	http://34.214.7.146:8080/sonarqube-webhook/	No	Never	

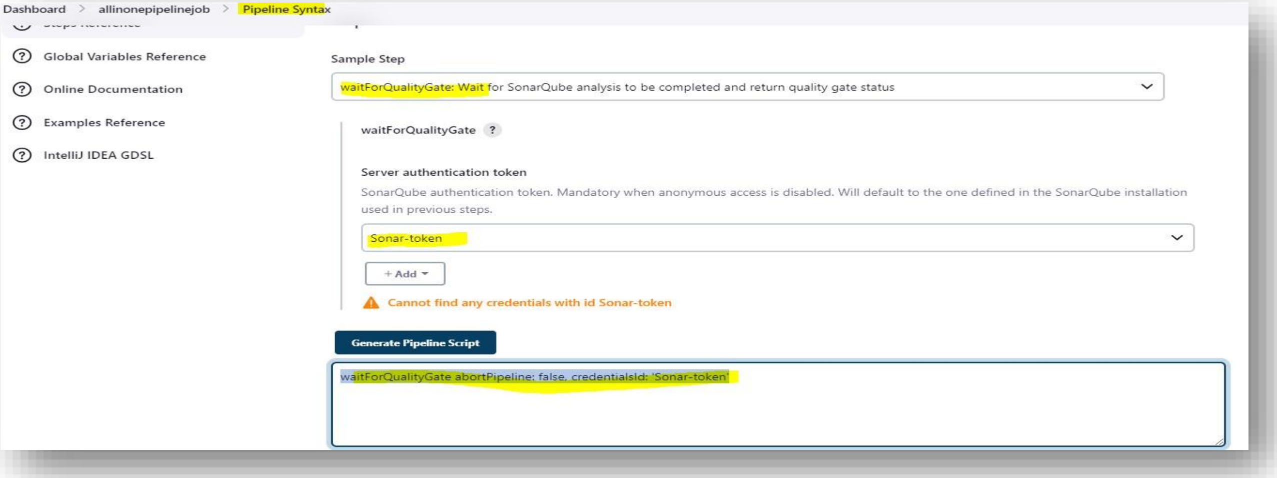
COME TO THE JENKINS PIPELINE JOB AND ADD INTO THE SONAR-SCANNER IN THE SCRIPT



```
pipeline {
    agent any
    tools{
      jdk 'jdk17'
      maven 'maven3'

    }
    environment {
        SCANNER_HOME=tool 'sonar-scanner'
    }
    stages{
        stage('clean workspace'){
            steps{
                cleanWs()
            }
        }
        stage('checkout'){
            steps{
                checkout scmGit(branches: [[name: '*/DEV']], extensions: [], userRemoteConfigs: [[url: 'https://github.
            }
        }
        stage('compile'){
            steps{
                sh 'mvn compile'

            }
        }
        stage('test'){
```

This is the script of different stages in this project

```
pipeline {     agent
any     tools {
jdk 'jdk17'
maven'maven3'
    }
    environment {
        SCANNER_HOME=tool 'sonar-scanner'
    }     stages{          stage
('clean Workspace'){
steps{                      cleanWs()
            }         }         stage ('checkout'){             steps{
checkout scmGit(branches: [[name: '*/master']], extensions: [],
userRemoteConfigs: [[url: 'https://github.com/shiva97054/jpetstore-6.git']])
            }         }
stage ('compile'){
steps{                      sh 'mvn
compile'
            }         }
stage ('Test'){
steps{
                sh 'mvn test'
            }         }
stage("Sonarqube Analysis "){
steps{
withSonarQubeEnv('sonar-server') {
sh ''' $SCANNER_HOME/bin/sonar-
scanner -Dsonar.projectName=Petshop \
                    -Dsonar.java.binaries=. \
                    -Dsonar.projectKey=Petshop '''
                }
            }         }         stage ('sonarquality gate'){             steps{
script{                      waitForQualityGate abortPipeline: false, credentialsId:
'sonar'
                }
            }         }
stage('build ware file'){
steps{
                sh 'mvn package'
            }         }         stage('Dp-Check'){             steps{
dependencyCheck additionalArguments: '--scan ./ --format XML ', odcInstallation:
'Dp-Check'                  dependencyCheckPublisher pattern: '**/dependency-check-
report.xml\''
            }         }         stage('nexus artifact upload'){             steps{
nexusArtifactUploader artifacts: [[artifactId: 'jpetstore', classifier: '', file:
'/var/lib/jenkins/workspace/jepet free style/target/jpetstore.war', type: 'war']],
credentialsId: 'nexus', groupId: 'org.mybatis', nexusUrl: '13.201.35.186:8081', nexusVersion:
'nexus3', protocol: 'http', repository: 'maven-snapshots', version: '6.1.1-SNAPSHOT'
            }         }         stage('deploy tomcat jeptstore'){
steps{                 deploy adapters: [tomcat9(credentialsId: 'jenkins', path:
'', url:
'http://13.233.215.36:8080/')], contextPath: 'Jepetstore-6', war: '**/*.war'
            }
        }
    }
}
```


Dashboard > allinonepipelinejob > Pipeline Syntax
Global Variables Reference
Online Documentation
Examples Reference
IntelliJ IDEA GDSL

Sample Step

waitForQualityGate: Wait for SonarQube analysis to be completed and return quality gate status

waitForQualityGate ?

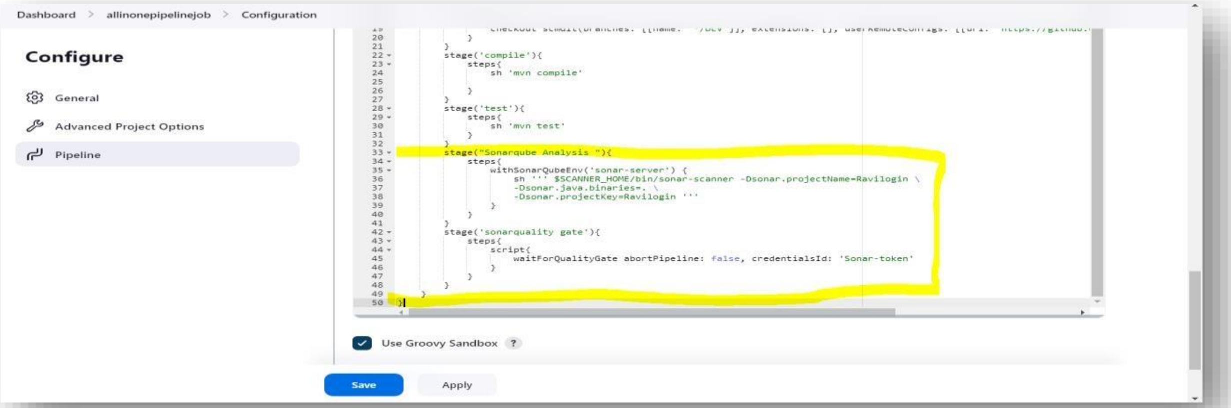
Server authentication token

SonarQube authentication token. Mandatory when anonymous access is disabled. Will default to the one defined in the SonarQube installation used in previous steps.

Sonar-token

Cannot find any credentials with id Sonar-token

```
waitForQualityGate abortPipeline: false, credentialsId: 'Sonar-token'
```

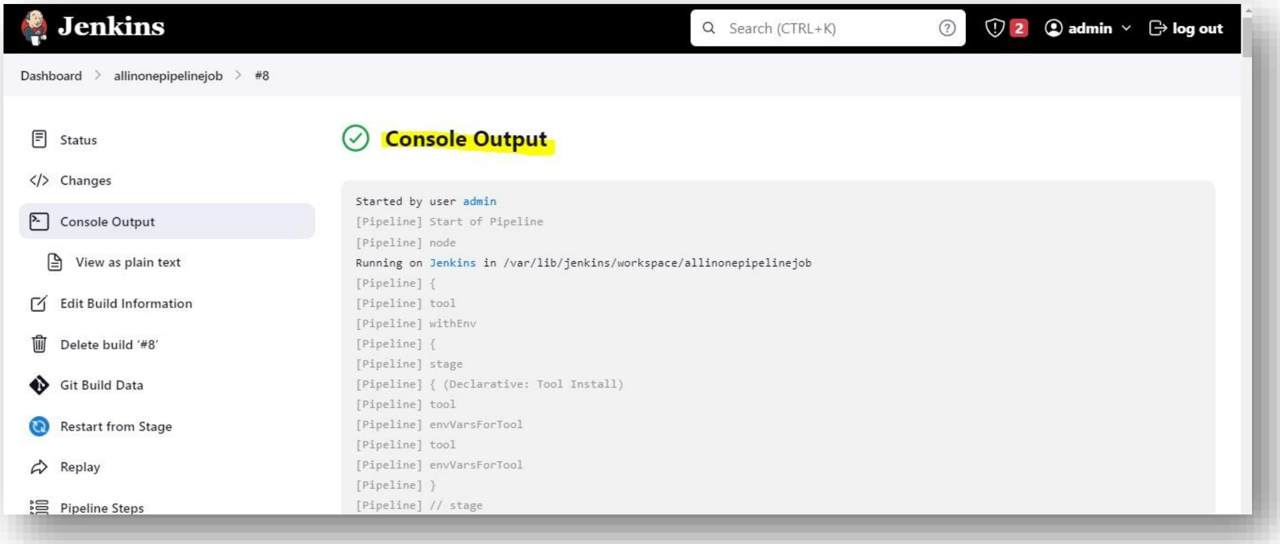


```
                checkout scmGit(branches: [[name: '*/dev']], extensions: [], userRemoteConfigs: [[url: 'https://github.
            }
        }
        stage('compile'){
            steps{
                sh 'mvn compile'

            }
        }
        stage('test'){
            steps{
                sh 'mvn test'
            }
        }
        stage("Sonarqube Analysis "){
            steps{
                withSonarQubeEnv('sonar-server') {
                    sh ''' $SCANNER_HOME/bin/sonar-scanner -Dsonar.projectName=Ravilogin \
                    -Dsonar.java.binaries=. \
                    -Dsonar.projectKey=Ravilogin '''
                }
            }
        }
        stage('sonarquality gate'){
            steps{
                script{
                    waitForQualityGate abortPipeline: false, credentialsId: 'Sonar-token'
                }
            }
        }
    }
}
```

☑ Use Groovy Sandbox ?

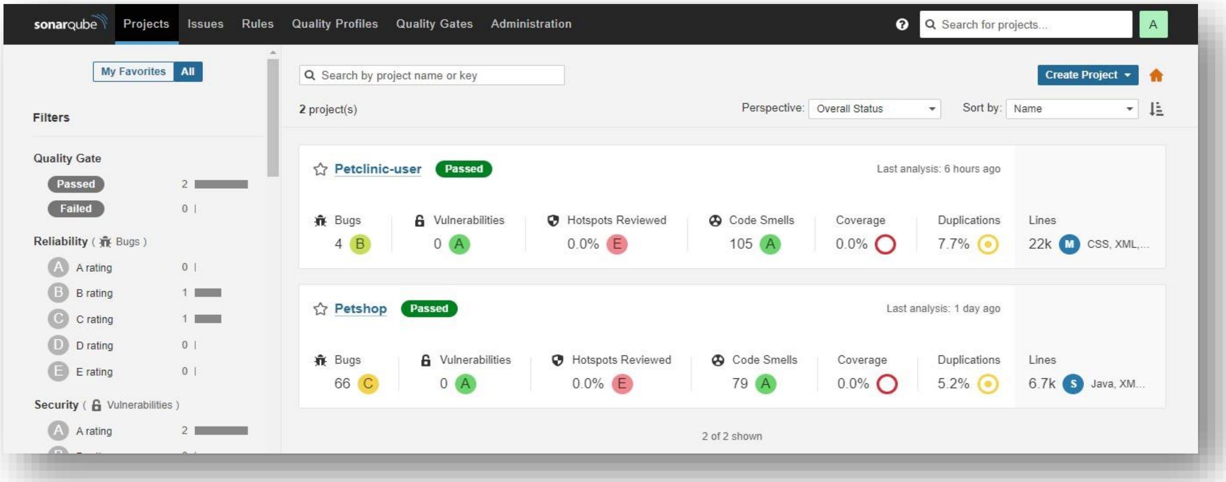
APPLY $ SAVE

BUILD NOW



Console Output

```
Started by user admin
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/allinonepipelinejob
[Pipeline] {
[Pipeline] tool
[Pipeline] withEnv
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Tool Install)
[Pipeline] tool
[Pipeline] envVarsForTool
[Pipeline] tool
[Pipeline] envVarsForTool
[Pipeline] }
[Pipeline] // stage
```



Filters

Quality Gate

Passed	2
Failed	0

Reliability (Bugs)

A rating	0
B rating	1
C rating	1
D rating	0
E rating	0

Security (Vulnerabilities)

A rating	2

2 project(s)

Petclinic-user Passed — Last analysis: 6 hours ago

Bugs	Vulnerabilities	Hotspots Reviewed	Code Smells	Coverage	Duplications	Lines
4 B	0 A	0.0% E	105 A	0.0%	7.7%	22k M CSS, XML,...

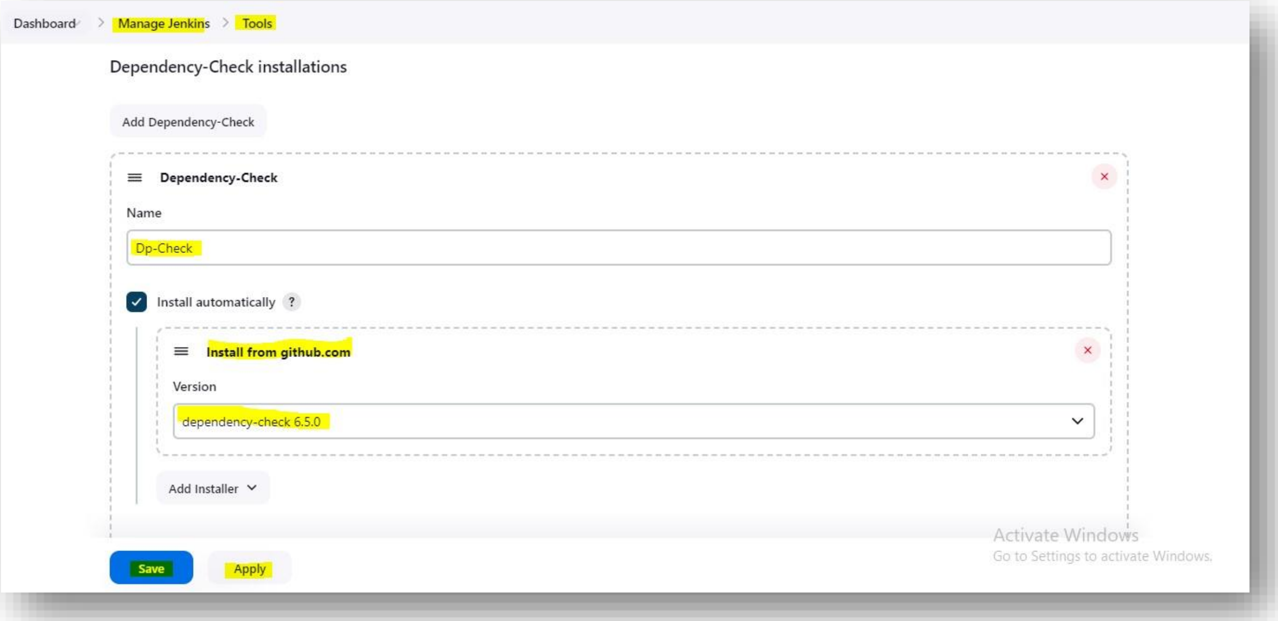
Petshop Passed — Last analysis: 1 day ago

Bugs	Vulnerabilities	Hotspots Reviewed	Code Smells	Coverage	Duplications	Lines
66 C	0 A	0.0% E	79 A	0.0%	5.2%	6.7k S Java, XM...

2 of 2 shown

INSTALL PLUGIN ❼ OWSAP DEPENDENCY-CHECK

GOTO❼ MANAGE JENKINS❼TOOLS



Dependency-Check installations

Dependency-Check

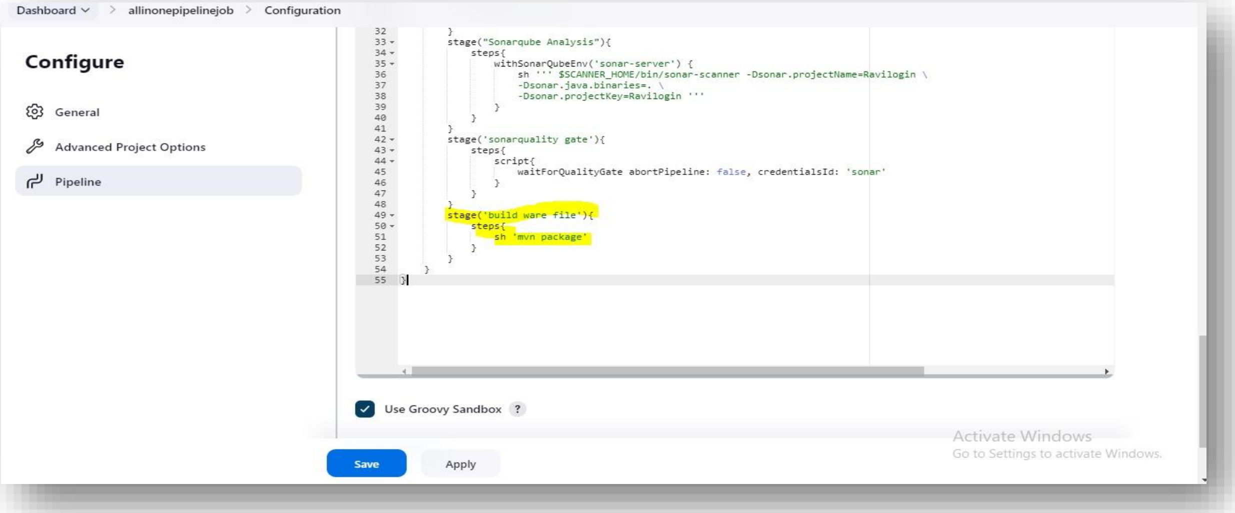
Name: Dp-Check

☑ Install automatically

Install from github.com

Version: dependency-check 6.5.0

NOW GO TO PIPELINE AND WE NEED TO ADD SCRIPT

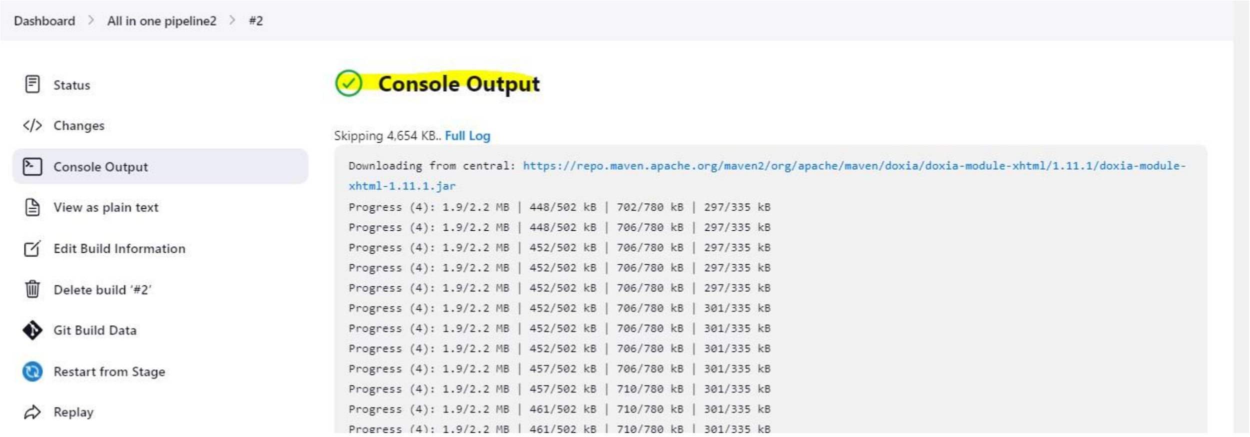


```
        }
        stage("Sonarqube Analysis"){
            steps{
                withSonarQubeEnv('sonar-server') {
                    sh ''' $SCANNER_HOME/bin/sonar-scanner -Dsonar.projectName=Ravilogin \
                    -Dsonar.java.binaries=. \
                    -Dsonar.projectKey=Ravilogin '''
                }
            }
        }
        stage('sonarquality gate'){
            steps{
                script{
                    waitForQualityGate abortPipeline: false, credentialsId: 'sonar'
                }
            }
        }
        stage('build ware file'){
            steps{
                sh 'mvn package'
            }
        }
    }
}
```

☑ Use Groovy Sandbox

APPLY$ SAVE

BUILD NOW



Console Output

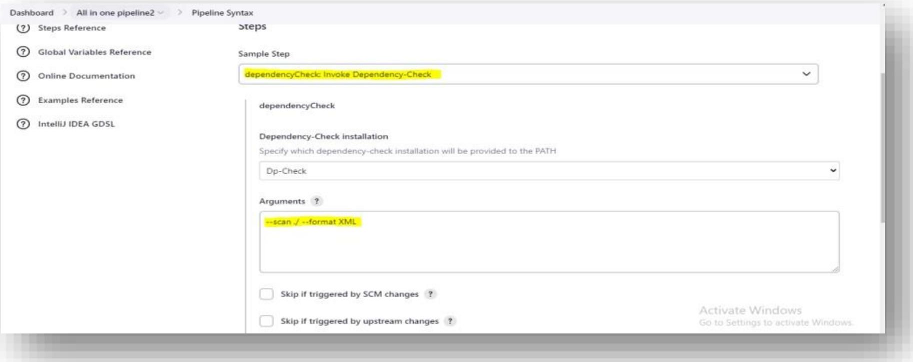
Skipping 4,654 KB.. Full Log

```
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/doxia/doxia-module-xhtml/1.11.1/doxia-module-
xhtml-1.11.1.jar
Progress (4): 1.9/2.2 MB | 448/502 kB | 702/780 kB | 297/335 kB
Progress (4): 1.9/2.2 MB | 448/502 kB | 706/780 kB | 297/335 kB
Progress (4): 1.9/2.2 MB | 452/502 kB | 706/780 kB | 297/335 kB
Progress (4): 1.9/2.2 MB | 452/502 kB | 706/780 kB | 297/335 kB
Progress (4): 1.9/2.2 MB | 452/502 kB | 706/780 kB | 297/335 kB
Progress (4): 1.9/2.2 MB | 452/502 kB | 706/780 kB | 301/335 kB
Progress (4): 1.9/2.2 MB | 452/502 kB | 706/780 kB | 301/335 kB
Progress (4): 1.9/2.2 MB | 452/502 kB | 706/780 kB | 301/335 kB
Progress (4): 1.9/2.2 MB | 457/502 kB | 706/780 kB | 301/335 kB
Progress (4): 1.9/2.2 MB | 457/502 kB | 710/780 kB | 301/335 kB
Progress (4): 1.9/2.2 MB | 461/502 kB | 710/780 kB | 301/335 kB
Progress (4): 1.9/2.2 MB | 461/502 kB | 710/780 kB | 301/335 kB
```

HERE WE SHOULD ADD DP-CHECK PATTREN SCRIPT

TAKE HELP TO —>PIPELINE SYNTAX

Here we need to add arguments-------❼ '--scan ./ --format XML


Dashboard > All in one pipeline2 > Pipeline Syntax
Steps Reference
Global Variables Reference
Online Documentation
Examples Reference
IntelliJ IDEA GDSL
Activate Windows
Go to Settings to activate Windows.

Steps

Sample Step: dependencyCheck: Invoke Dependency-Check

dependencyCheck

Dependency-Check installation

Specify which dependency-check installation will be provided to the PATH

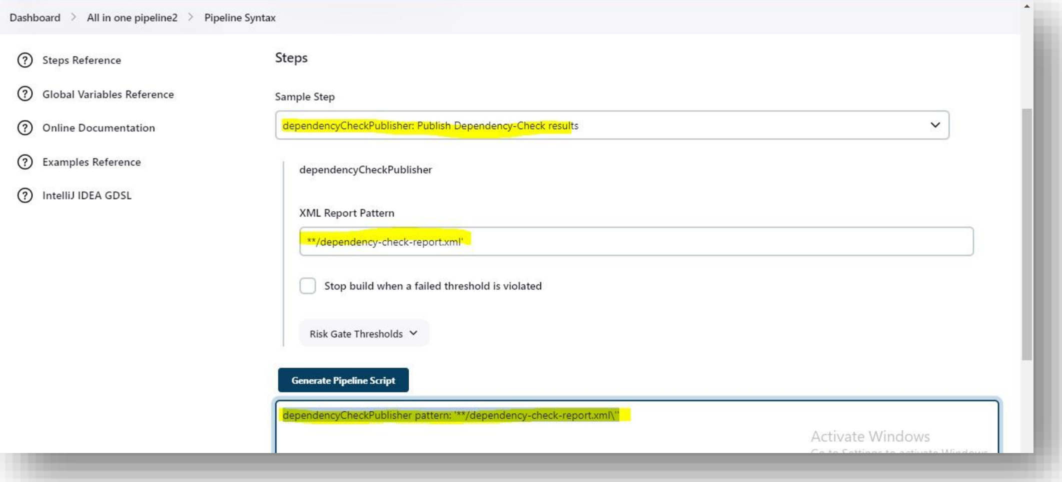
Dp-Check

Arguments: --scan ./ --format XML

□ Skip if triggered by SCM changes

□ Skip if triggered by upstream changes

Here we need to add arguments-------❼ **/dependency-check-report.xml'



Steps

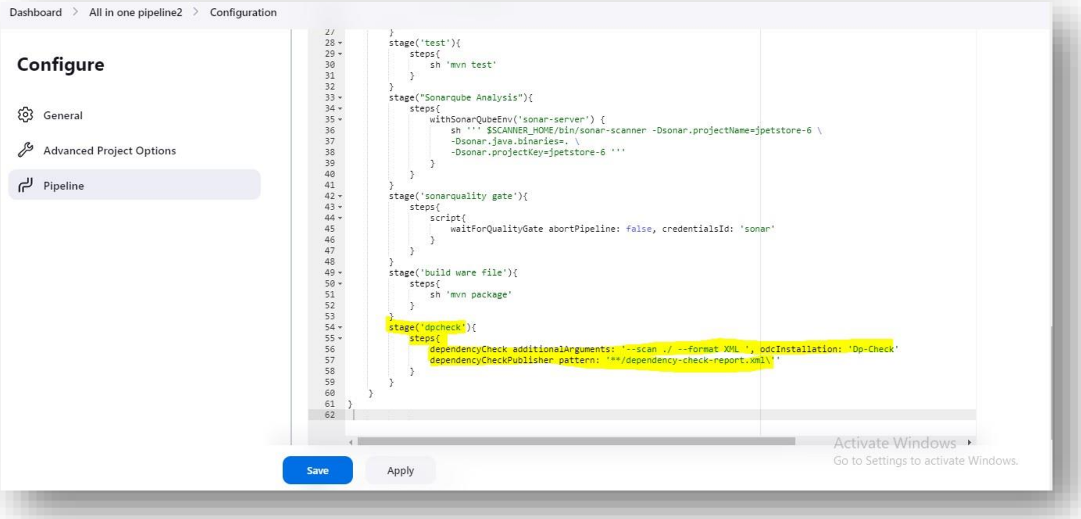
Sample Step: dependencyCheckPublisher: Publish Dependency-Check results

dependencyCheckPublisher

XML Report Pattern: '**/dependency-check-report.xml'

□ Stop build when a failed threshold is violated

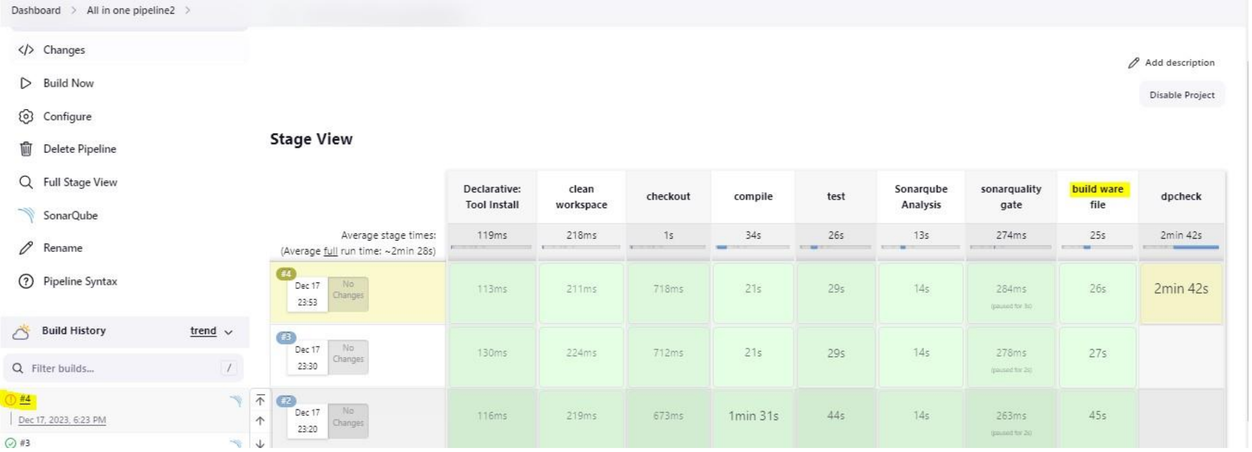
```
dependencyCheckPublisher pattern: '**/dependency-check-report.xml\''
```


Dashboard > All in one pipeline2 > Configuration
Configure
General
Advanced Project Options
Pipeline
Save
Apply
Activate Windows
Go to Settings to activate Windows.

```
        }
        stage('test'){
            steps{
                sh 'mvn test'
            }
        }
        stage("Sonarqube Analysis"){
            steps{
                withSonarQubeEnv('sonar-server') {
                    sh ''' $SCANNER_HOME/bin/sonar-scanner -Dsonar.projectName=jpetstore-6 \
                    -Dsonar.java.binaries=. \
                    -Dsonar.projectKey=jpetstore-6 '''
                }
            }
        }
        stage('sonarquality gate'){
            steps{
                script{
                    waitForQualityGate abortPipeline: false, credentialsId: 'sonar'
                }
            }
        }
        stage('build ware file'){
            steps{
                sh 'mvn package'
            }
        }
        stage('dpcheck'){
            steps{
                dependencyCheck additionalArguments: '--scan ./ --format XML ', odcInstallation: 'Dp-Check'
                dependencyCheckPublisher pattern: '**/dependency-check-report.xml\''
            }
        }
    }
}
```

APPLY$ SAVE BUILD

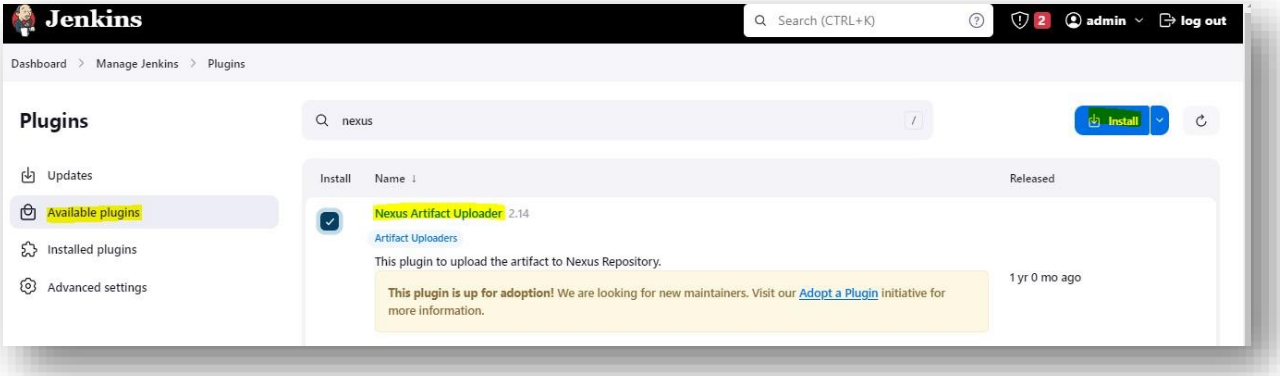
NOW



Stage View

	Declarative: Tool Install	clean workspace	checkout	compile	test	Sonarqube Analysis	sonarquality gate	build ware file	dpcheck
Average stage times: (Average full run time: ~2min 28s)	119ms	218ms	1s	34s	26s	13s	274ms	25s	2min 42s
#4 Dec 17 23:53 No Changes	113ms	211ms	718ms	21s	29s	14s	284ms (paused for 3s)	26s	2min 42s
#3 Dec 17 23:30 No Changes	130ms	224ms	712ms	21s	29s	14s	278ms (paused for 2s)	27s	
#2 Dec 17 23:20 No Changes	116ms	219ms	673ms	1min 31s	44s	14s	263ms (paused for 2s)	45s	

NOW WE NEED TO INSTALL ❼ NEXUS ARTIFACT UPLOADER WITH OUR ARTIFACT FILE SNAP SHOTS JEPET STORE



Install	Name ↓	Released
☑	Nexus Artifact Uploader 2.14 Artifact Uploaders This plugin to upload the artifact to Nexus Repository. **This plugin is up for adoption!** We are looking for new maintainers. Visit our Adopt a Plugin initiative for more information.	1 yr 0 mo ago

❼

CREATE ANOTHER SERVER IN EC2 THEN MENTION THE SERVER NAME NEXUS

CONNECT TO THE SERVER

SUDO -I

APT UPDATE –Y

Implementation steps

Download and setup nexus stable version

cd /opt wget https://sonatype-download.global.ssl.fastly.net/nexus/3/nexus-3.0.2-02-unix.tar.gz tar -zxvf nexus-3.0.2-02-unix.tar.gz

mv /opt/nexus-3.0.2-02 /opt/nexus

As a good security practice, it is not advised to run nexus service as root. so create new user called nexus and grant sudo access to manage nexus services sudo adduser nexus

# visudo \\ nexus ALL=(ALL) NOPASSWD: ALL sudo

chown -R nexus:nexus /opt/nexus

Open /opt/nexus/bin/nexus.rc file, uncomment run_as_user parameter and set it as following.

Install sudo apt-get install openjdk-8-jdk vi /opt/nexus/bin/nexus.rc run_as_user="nexus" (file shold have only this line) Add nexus as a service at boot time sudo ln -s /opt/nexus/bin/nexus /etc/init.d/nexus

After completion of installation Then

Cd /opt/ ----❼ls

Cd nexus -------❼ls

Cd bin-----❼ls

./nexus start

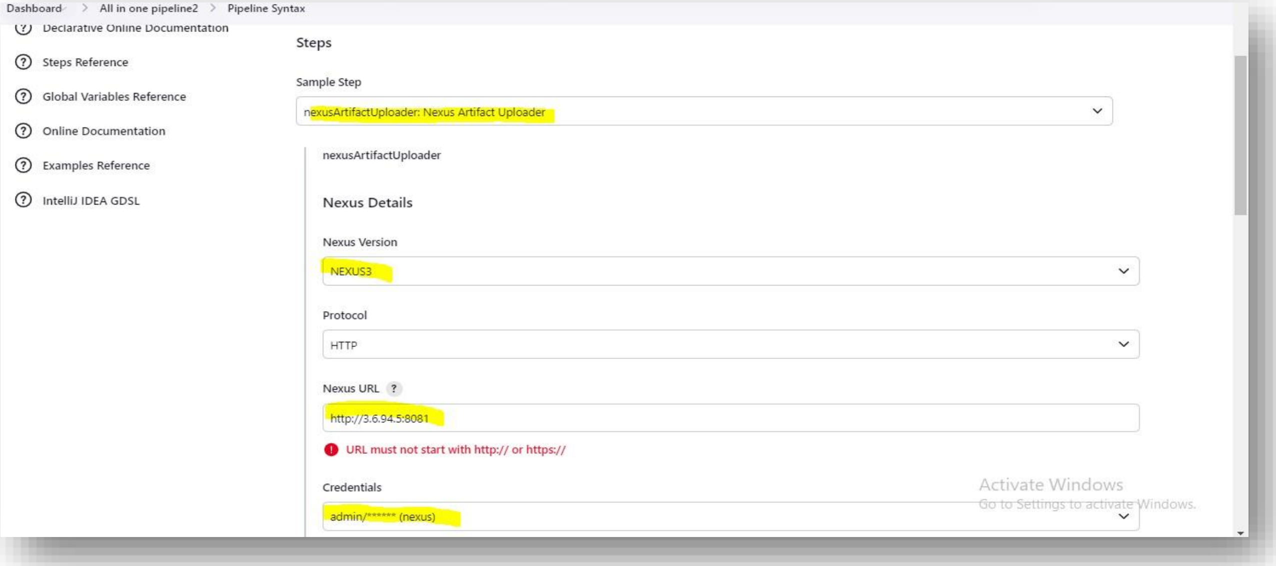
./nexus status

Then open public IP port 8081

WE HAVE UPLOADED NEXUS ARTIFACT PLOAD

WITH JPETSTORE IN THE PIPELINE 8TH STAGE

NEXUS URL :IP ADDRESS WITH 8081 POTR SHOULD NOT ADD HTTP


Dashboard > All in one pipeline2 > Pipeline Syntax
Declarative Online Documentation
Steps Reference
Global Variables Reference
Online Documentation
Examples Reference
IntelliJ IDEA GDSL
Activate Windows
Go to Settings to activate Windows.

Steps

Sample Step: nexusArtifactUploader: Nexus Artifact Uploader

nexusArtifactUploader

Nexus Details

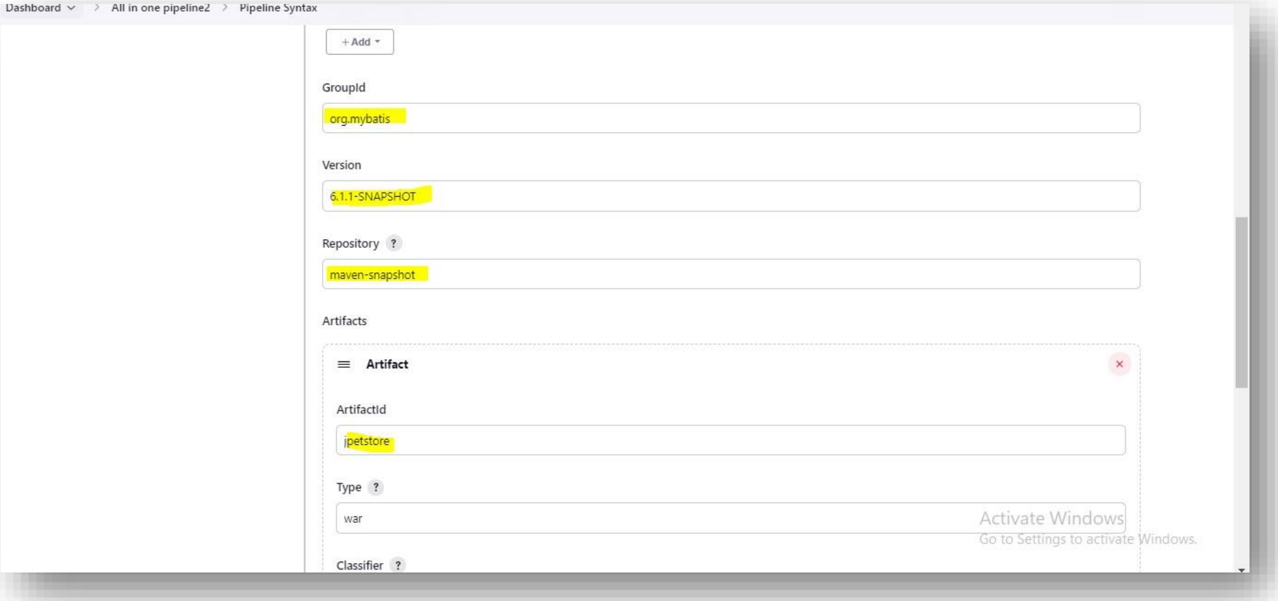
Nexus Version: NEXUS3

Protocol: HTTP

Nexus URL ?: http://3.6.94.5:8081

URL must not start with http:// or https://

Credentials: admin/****** (nexus)


Dashboard > All in one pipeline2 > Pipeline Syntax
+ Add
Activate Windows
Go to Settings to activate Windows.

GroupId: org.mybatis

Version: 6.1.1-SNAPSHOT

Repository ?: maven-snapshot

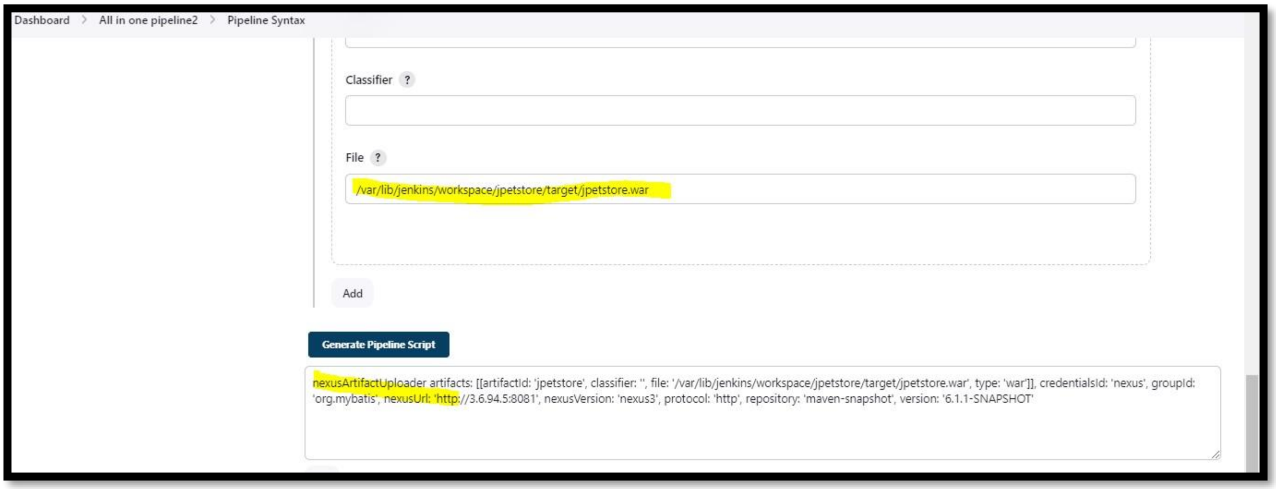
Artifacts

Artifact

ArtifactId: jpetstore

Type ?: war

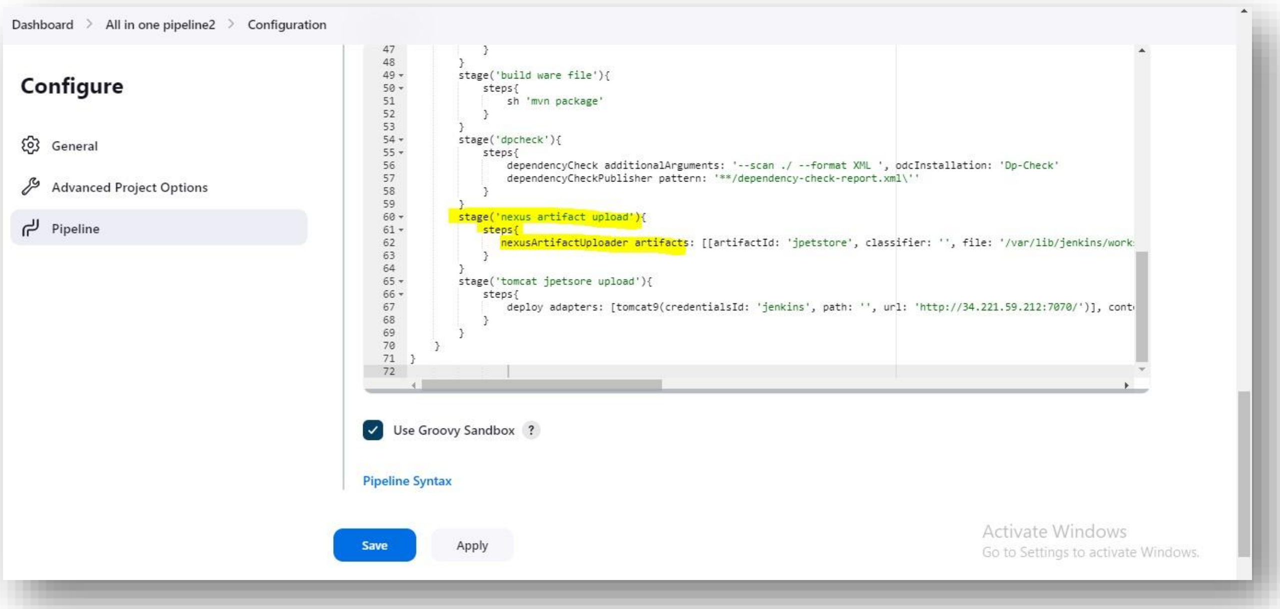
Classifier ?



Classifier ?:

File ?: /var/lib/jenkins/workspace/jpetstore/target/jpetstore.war

```
nexusArtifactUploader artifacts: [[artifactId: 'jpetstore', classifier: '', file: '/var/lib/jenkins/workspace/jpetstore/target/jpetstore.war', type: 'war']], credentialsId: 'nexus', groupId: 'org.mybatis', nexusUrl: 'http://3.6.94.5:8081', nexusVersion: 'nexus3', protocol: 'http', repository: 'maven-snapshot', version: '6.1.1-SNAPSHOT'
```



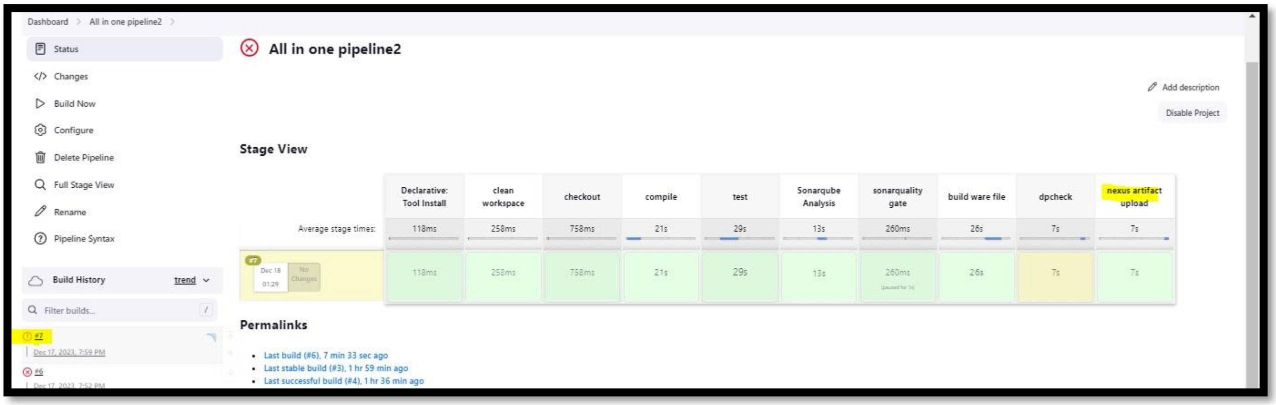
```
            }
        }
        stage('build ware file'){
            steps{
                sh 'mvn package'
            }
        }
        stage('dpcheck'){
            steps{
                dependencyCheck additionalArguments: '--scan ./ --format XML ', odcInstallation: 'Dp-Check'
                dependencyCheckPublisher pattern: '**/dependency-check-report.xml\''
            }
        }
        stage('nexus artifact upload'){
            steps{
                nexusArtifactUploader artifacts: [[artifactId: 'jpetstore', classifier: '', file: '/var/lib/jenkins/work
            }
        }
        stage('tomcat jpetsore upload'){
            steps{
                deploy adapters: [tomcat9(credentialsId: 'jenkins', path: '', url: 'http://34.221.59.212:7070/')], cont
            }
        }
    }
}
```

☑ Use Groovy Sandbox

APPLY$ SAVE BUILD

NOW

ARTEFACT UPLOADED

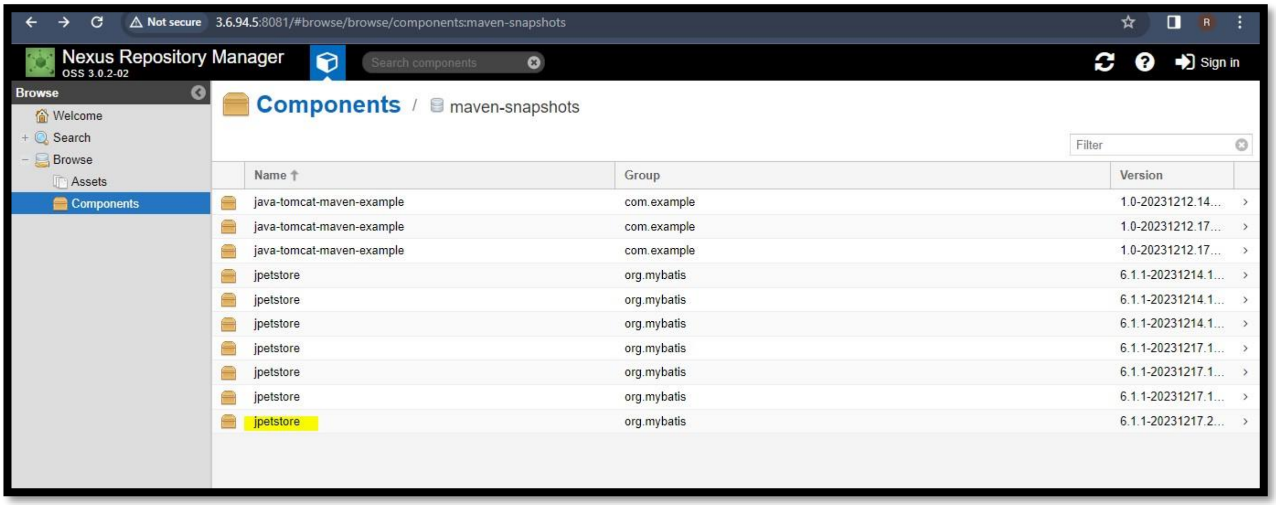


Stage View

	Declarative: Tool Install	clean workspace	checkout	compile	test	Sonarqube Analysis	sonarquality gate	build ware file	dpcheck	nexus artifact upload
Average stage times:	118ms	258ms	758ms	21s	29s	13s	260ms	26s	7s	7s
#7 Dec 18 01:29 No Changes	118ms	258ms	758ms	21s	29s	13s	260ms	26s	7s	7s

Permalinks

- Last build (#6), 7 min 33 sec ago
- Last stable build (#3), 1 hr 59 min ago
- Last successful build (#4), 1 hr 36 min ago

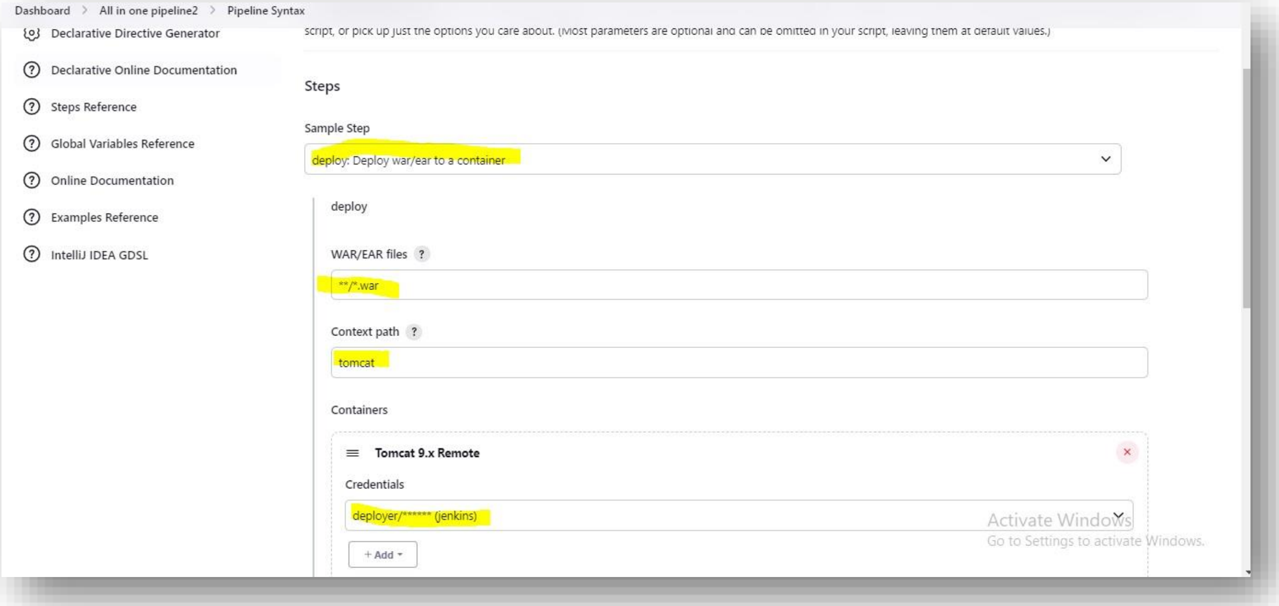


Name	Group	Version
java-tomcat-maven-example	com.example	1.0-20231212.14...
java-tomcat-maven-example	com.example	1.0-20231212.17...
java-tomcat-maven-example	com.example	1.0-20231212.17...
jpetstore	org.mybatis	6.1.1-20231214.1...
jpetstore	org.mybatis	6.1.1-20231214.1...
jpetstore	org.mybatis	6.1.1-20231214.1...
jpetstore	org.mybatis	6.1.1-20231217.1...
jpetstore	org.mybatis	6.1.1-20231217.1...
jpetstore	org.mybatis	6.1.1-20231217.1...
jpetstore	org.mybatis	6.1.1-20231217.2...

NOW TOMCAT 9TH STAGE DEPLOY

NEED TO INSTALL DEPLOYE TO CONTAINER PLUGIN

NEED TO WRITE SCRIPT IN TO PIPELINE


Dashboard > All in one pipeline2 > Pipeline Syntax
Declarative Directive Generator
Declarative Online Documentation
Steps Reference
Global Variables Reference
Online Documentation
Examples Reference
IntelliJ IDEA GDSL
+ Add
Activate Windows
Go to Settings to activate Windows.

script, or pick up just the options you care about. (Most parameters are optional and can be omitted in your script, leaving them at default values.)

Steps

Sample Step: deploy: Deploy war/ear to a container

deploy

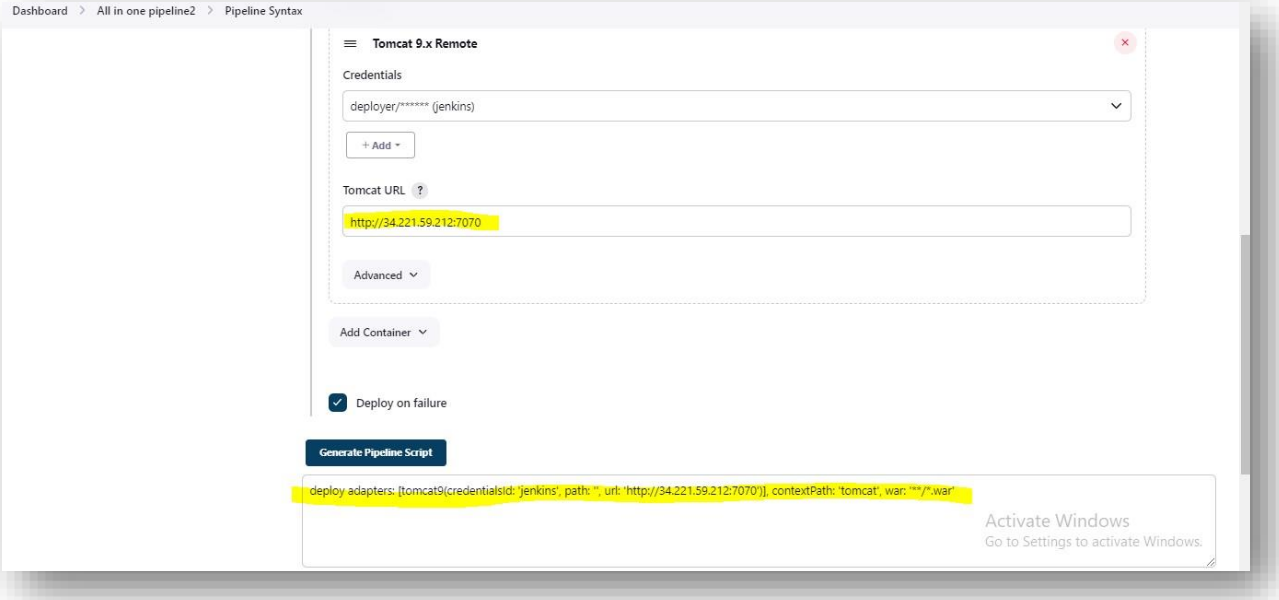
WAR/EAR files: **/*.war

Context path: tomcat

Containers

Tomcat 9.x Remote

Credentials: deployer/****** (jenkins)


Dashboard > All in one pipeline2 > Pipeline Syntax
+ Add
Advanced
Add Container
Generate Pipeline Script
Activate Windows
Go to Settings to activate Windows.

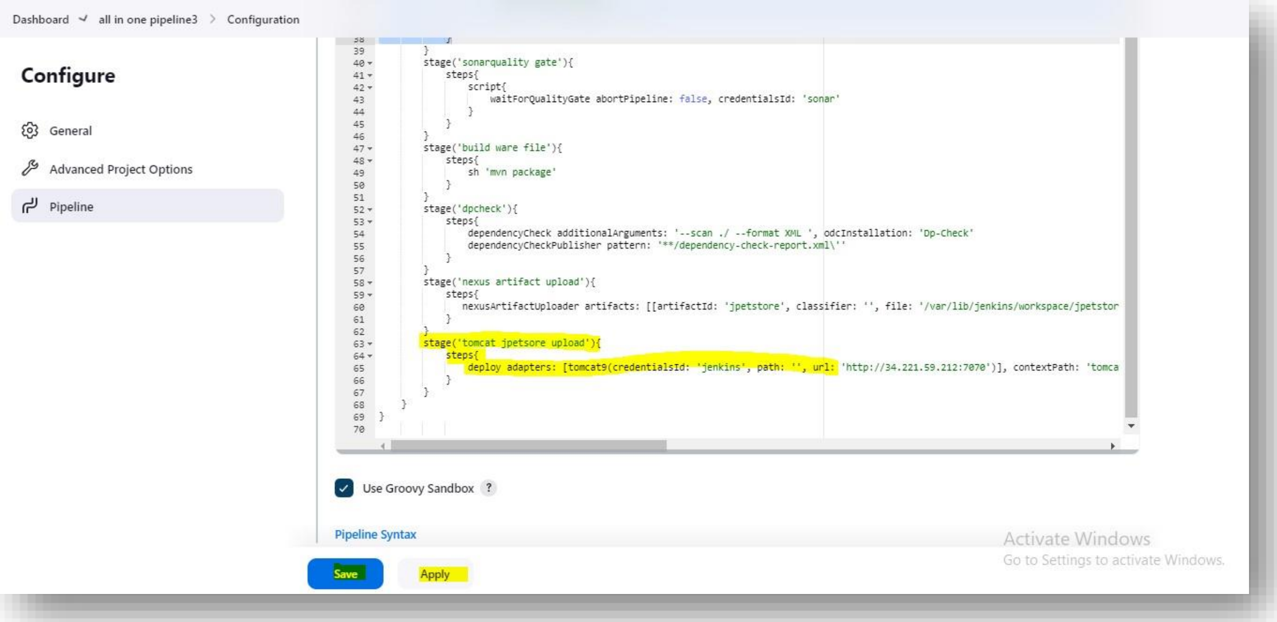
Tomcat 9.x Remote

Credentials: deployer/****** (jenkins)

Tomcat URL: http://34.221.59.212:7070

☑ Deploy on failure

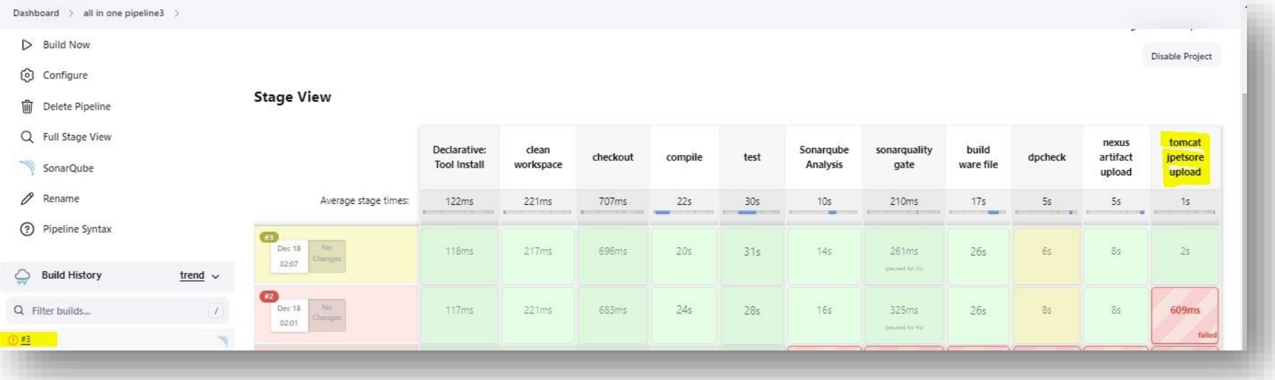
```
deploy adapters: [tomcat9(credentialsId: 'jenkins', path: '', url: 'http://34.221.59.212:7070')], contextPath: 'tomcat', war: '**/*.war'
```



```
            }
        }
        stage('sonarquality gate'){
            steps{
                script{
                    waitForQualityGate abortPipeline: false, credentialsId: 'sonar'
                }
            }
        }
        stage('build ware file'){
            steps{
                sh 'mvn package'
            }
        }
        stage('dpcheck'){
            steps{
                dependencyCheck additionalArguments: '--scan ./ --format XML ', odcInstallation: 'Dp-Check'
                dependencyCheckPublisher pattern: '**/dependency-check-report.xml\''
            }
        }
        stage('nexus artifact upload'){
            steps{
              nexusArtifactUploader artifacts: [[artifactId: 'jpetstore', classifier: '', file: '/var/lib/jenkins/workspace/jpetstor
            }
        }
        stage('tomcat jpetsore upload'){
            steps{
                deploy adapters: [tomcat9(credentialsId: 'jenkins', path: '', url: 'http://34.221.59.212:7070')], contextPath: 'tomca
            }
        }
    }
}
```

☑ Use Groovy Sandbox

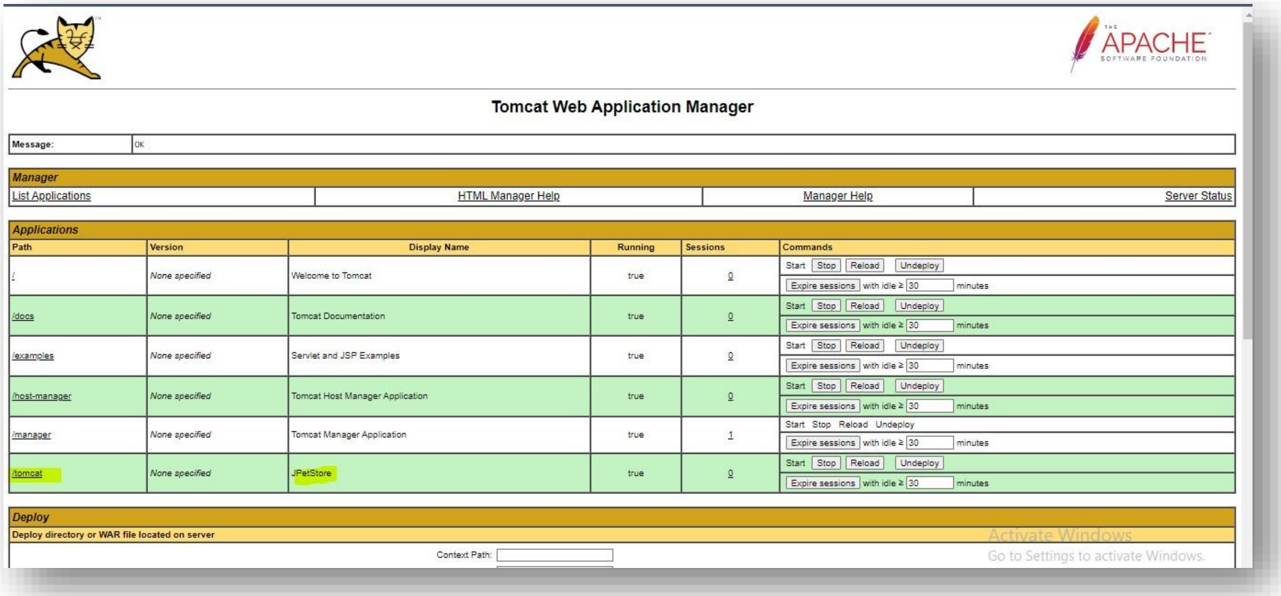
BUILD NOW



Stage View

	Declarative: Tool Install	clean workspace	checkout	compile	test	Sonarqube Analysis	sonarquality gate	build ware file	dpcheck	nexus artifact upload	tomcat jpetsore upload
Average stage times:	122ms	221ms	707ms	22s	30s	10s	210ms	17s	5s	5s	1s
#3 Dec 18 02:07 No Changes	118ms	217ms	696ms	20s	31s	14s	261ms (paused for 2s)	26s	6s	8s	2s
#2 Dec 18 02:01 No Changes	117ms	221ms	683ms	24s	28s	16s	325ms (paused for 4s)	26s	8s	8s	609ms failed

WE SHOULD GO TO MANAGER APP



Tomcat Web Application Manager

Message:	OK

Manager

List Applications	HTML Manager Help	Manager Help	Server Status

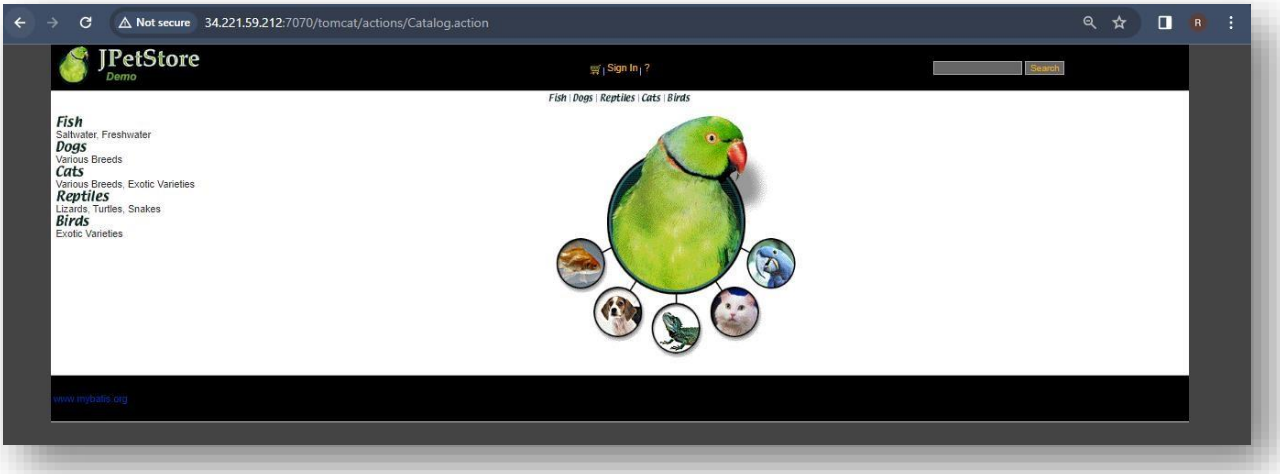
Applications

Path	Version	Display Name	Running	Sessions	Commands
/	*None specified*	Welcome to Tomcat	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/docs	*None specified*	Tomcat Documentation	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/examples	*None specified*	Servlet and JSP Examples	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/host-manager	*None specified*	Tomcat Host Manager Application	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/manager	*None specified*	Tomcat Manager Application	true	1	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/tomcat	*None specified*	JPetStore	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes

Deploy

Deploy directory or WAR file located on server

Context Path:



Not secure 34.221.59.212:7070/tomcat/actions/Catalog.action

Fish
Saltwater, Freshwater
Dogs
Various Breeds
Cats
Various Breeds, Exotic Varieties
Reptiles
Lizards, Turtles, Snakes
Birds
Exotic Varieties

ALL IN ONE PIPELINE COMPLETED

This is the final out put of different environment deploy Jenkins
Once again thank you given this golden opportunity
G SHIVAKUMARREDDY
115 Batch Time 9-10
Email : shivakumarreddy214@gmail.com

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