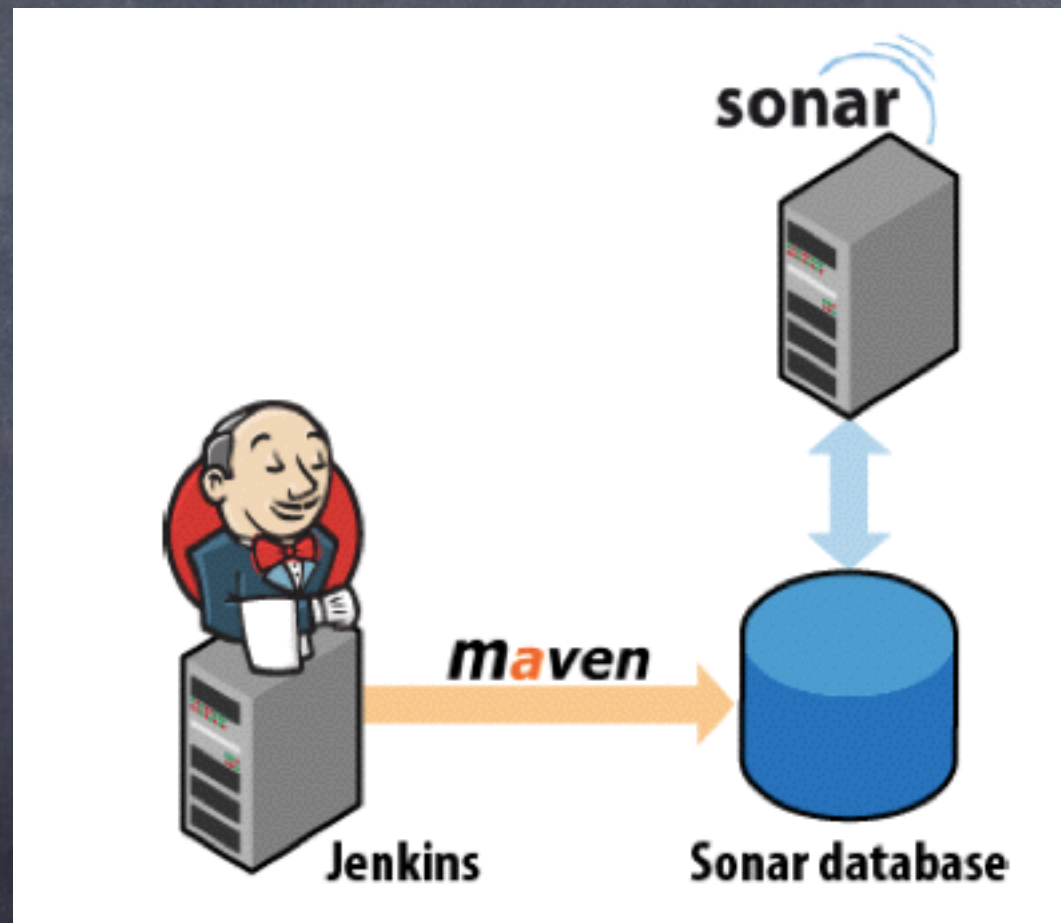


Integrate with Sonar

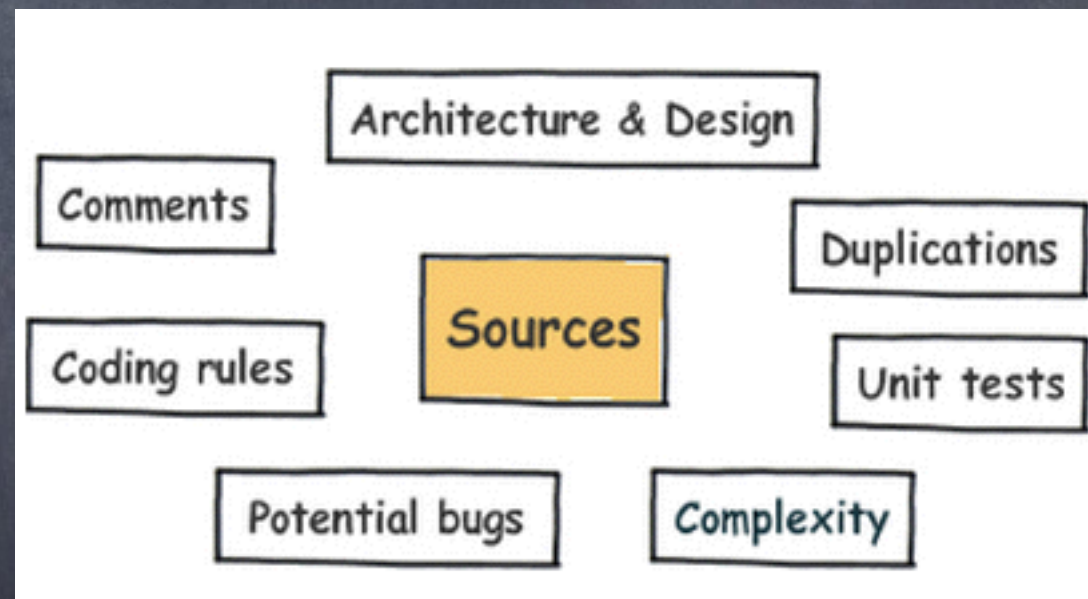
@somkiat

Integrate with Sonar



What is Sonar ?

- Code Quality Analysis Tool



What is Sonar ?

- <http://www.sonarqube.org>
- Centralize code quality metrics
- Use many plug in
 - Checkstyle
 - PMD
 - Findbugs
 - Cobertura

Sonar Report

- Code coverage
- Rule compliance
- Documentation
- Complexity
- Technical debt

Install

- Download from <http://www.sonarqube.org>
- Extracted
- Config
- Start server

Config Database

- Database in <sonar>/conf/sonar.properties
- Default DB = H2

```
37 #----- Credentials
38 # Permissions to create tables and indexes must be granted to JDBC user.
39 # The schema must be created first.
40 sonar.jdbc.username: sonar
41 sonar.jdbc.password: sonar
42
43 #----- Embedded database H2
44 # Note : it does not accept connections from remote hosts, so the
45 # SonarQube server and the maven plugin must be executed on the same host.
46
47 # Comment the following line to deactivate the default embedded database.
48 sonar.jdbc.url: jdbc:h2:tcp://localhost:9092/sonar
49
```


Config Web server

- Database in <sonar>/conf/sonar.properties
- Default port 9000

```
14 #-----
15 # WEB SETTINGS - STANDALONE MODE ONLY
16 # These settings are ignored when the war file is deployed to a JEE server.
17 #-----
18 # Listen host/port and context path (for example / or /sonar). Default values are 0.0.0.0
19 #sonar.web.host:                                0.0.0.0
20 #sonar.web.port:                                9000
21 #sonar.web.context:                             /
```


Start Sonar Server

- `<sonar>/bin/<your os>/sonar.sh start`

```
spocks-MacBook-Pro:macosx-universal-64 spock$ ./sonar.sh start
Starting sonar...
Started sonar.
```


Main page

• <http://0.0.0.0:9000/>

← → ↺

0.0.0.0:9000

☆ ▼ g+1 ☰

Dashboards

Projects ▾

Measures

Issues

Quality Profiles

Log In


Search

Home

TOOLS

Dependencies

Compare



Welcome to SonarQube Dashboard

Since you are able to read this, it means that you have successfully started your SonarQube server. Well done!

If you have not removed this text, it also means that you have not yet played much with SonarQube. So here are a few pointers for your next step:

» Do you now want to [run analysis](#) on a project?

» Maybe start [customizing dashboards](#)?


» Or simply browse the [complete documentation](#)?

» If you have a question or an issue, please visit the [Get Support](#) page.

Projects

A	Name ▲	Version	LOCs	RCI	Last Analysis
No data					

Projects

Size: Lines of code Color: Rules compliance 0.0%  100.0%

No data

Integrate with Maven

- Modify settings.xml in ~/.m2
- <http://docs.codehaus.org/display/SONAR/Installing+and+Configuring+Maven>

- \$mvn sonar:sonar

settings.xml

```
<profile>
  <id>sonar</id>
  <activation>
    <activeByDefault>true</activeByDefault>
  </activation>
  <properties>
    <sonar.jdbc.url>jdbc:h2:tcp://203.151.162.43:9092/sonar
    </sonar.jdbc.url>
    <sonar.jdbc.username>sonar</sonar.jdbc.username>
    <sonar.jdbc.password>sonar</sonar.jdbc.password>
    <sonar.host.url>
      http://203.151.162.43:9000
    </sonar.host.url>
  </properties>
</profile>
```


See Result

← → ↻

0.0.0.0:9000

☆ ▼ g+1 ☰

Dashboards Projects ▾ Measures Issues Quality Profiles

Log In Search

Home

TOOLS

Dependencies

Compare

sonarqube

Welcome to SonarQube Dashboard

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» If you have a question or an issue, please visit the [Get Support](#) page.

Projects


A	Name ▲	Version	LOCs	RCI	Last Analysis
	 demo.jenkin	0.0.1-SNAPSHOT	18	72.2%	02:55

1 results

Projects

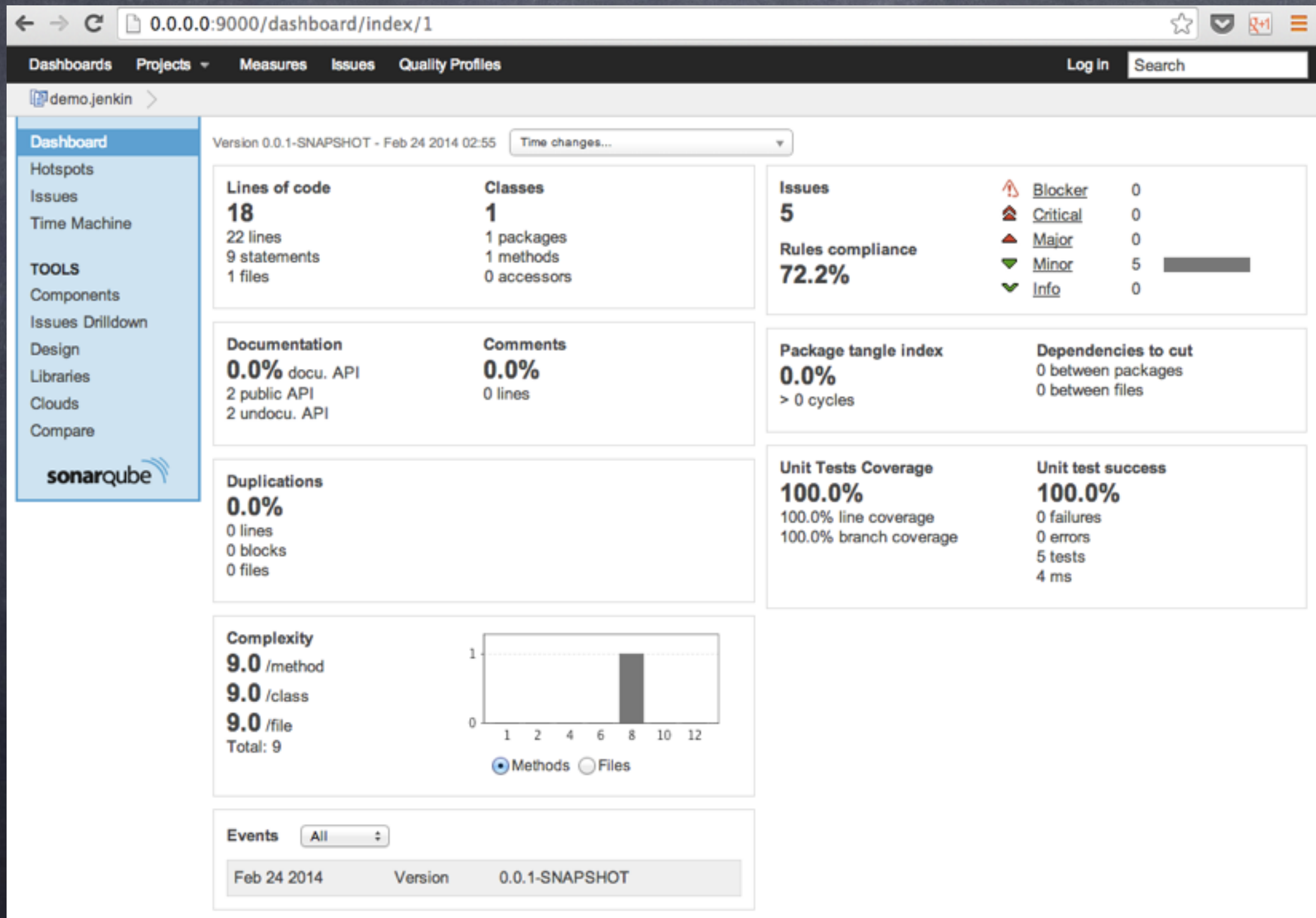
Size: Lines of code Color: Rules compliance 0.0%  100.0%

demo.jenkin



/ ?

Sonar Report



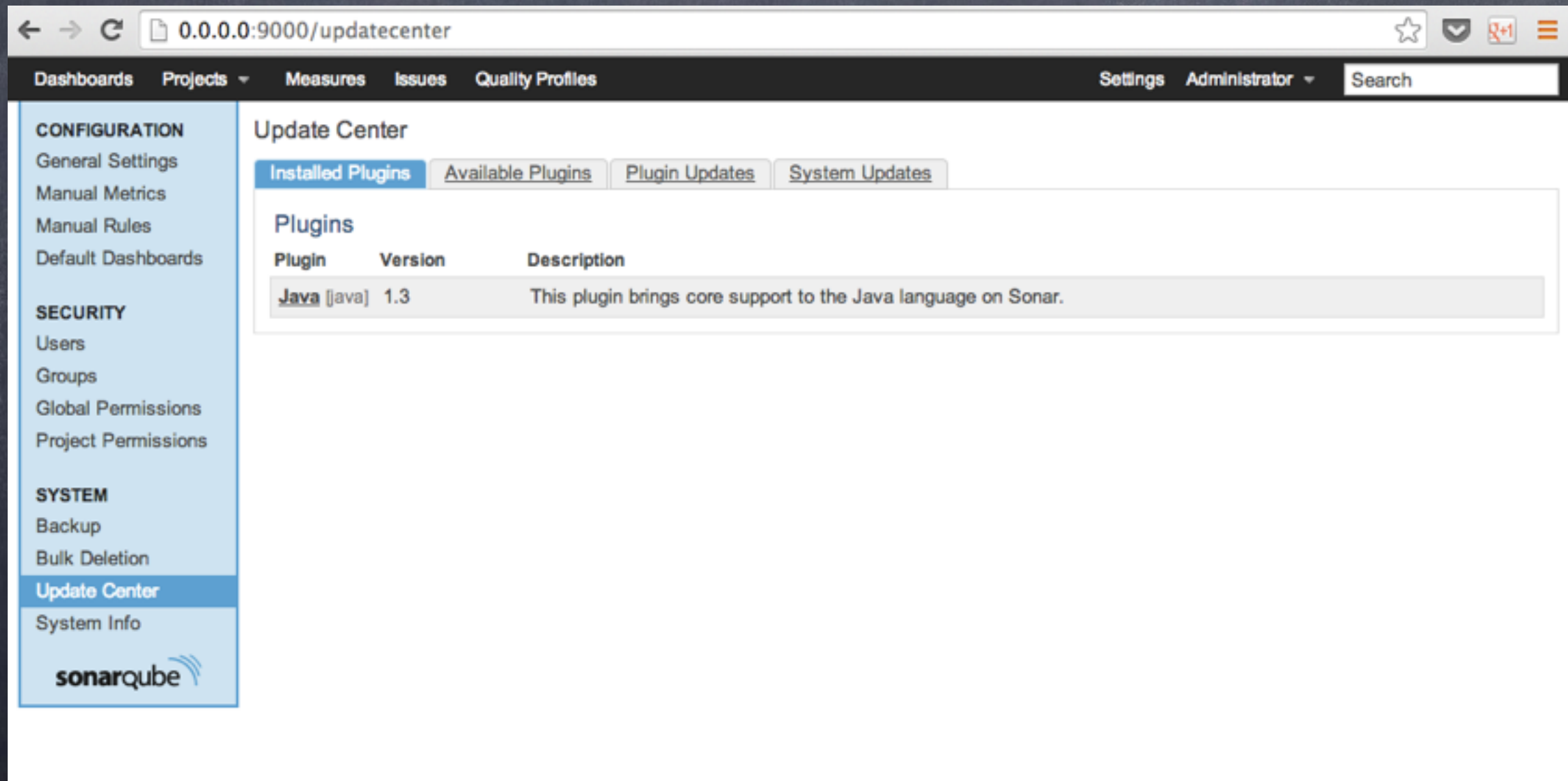
Default Admin

- user = admin
- password = admin

[http://docs.codehaus.org/display/SONAR/
Authentication#Authentication-AdminCredentials](http://docs.codehaus.org/display/SONAR/Authentication#Authentication-AdminCredentials)

Add PHP plugin in

- System -> Update Center



The screenshot shows the SonarQube web interface. The browser address bar displays '0.0.0.0:9000/updatecenter'. The top navigation bar includes links for Dashboards, Projects, Measures, Issues, Quality Profiles, Settings, and Administrator. A search bar is located on the right. The left sidebar contains a menu with categories: CONFIGURATION (General Settings, Manual Metrics, Manual Rules, Default Dashboards), SECURITY (Users, Groups, Global Permissions, Project Permissions), and SYSTEM (Backup, Bulk Deletion, Update Center, System Info). The 'Update Center' option is highlighted. The main content area is titled 'Update Center' and features four tabs: 'Installed Plugins' (selected), 'Available Plugins', 'Plugin Updates', and 'System Updates'. Below the tabs is a table titled 'Plugins' with columns 'Plugin', 'Version', and 'Description'. The table contains one entry: 'Java [java]' with version '1.3' and description 'This plugin brings core support to the Java language on Sonar.'

Plugin	Version	Description
Java [java]	1.3	This plugin brings core support to the Java language on Sonar.


<http://docs.codehaus.org/display/SONAR/PHP+Plugin>



Install PHP plug in

PHP

Enables analysis of PHP projects.

License: GNU LGPL v3

Author: [Codehaus Sonar Plugins](#) 

Links: [Homepage](#)  [Issue Tracker](#) 

Version: 1.2 (Jun 7, 2013)

Install

Use Sonar runner

- <http://docs.codehaus.org/display/SONAR/Installing+and+Configuring+SonarQube+Runner>
- In your php project
- `$sonar-runner`

Example Code

- <https://github.com/SonarSource/sonar-examples>

Configuration

- sonar-project.properties

```
1 # Required metadata
2 sonar.projectKey=org.codehaus.sonar:php-sonar-runner
3 sonar.projectName=PHP project analyzed with the SonarQube Runner
4 sonar.projectVersion=1.0
5
6 # Comma-separated paths to directories with sources (required)
7 sonar.sources=src
8
9 # Language
10 sonar.language=php
11
12 # To deactivate features related to unit tests execution and coverage
13 sonar.dynamicAnalysis=false
14
15 # Encoding of the source files
16 sonar.sourceEncoding=UTF-8
```


Integrate with Jenkins

- Use Sonar plug in

Updates	Available	Installed	Advanced
Install ↓			
		Name	Version
<input type="checkbox"/>	Sonargraph Plugin This plugin integrates Sonargraph into your build. Sonargraph allows to define an architecture for a software system and automatically checks how the code base conforms to it.		1.2
Misc (sonargraph)			
<input checked="" type="checkbox"/>	Sonar Plugin		2.1

For Java

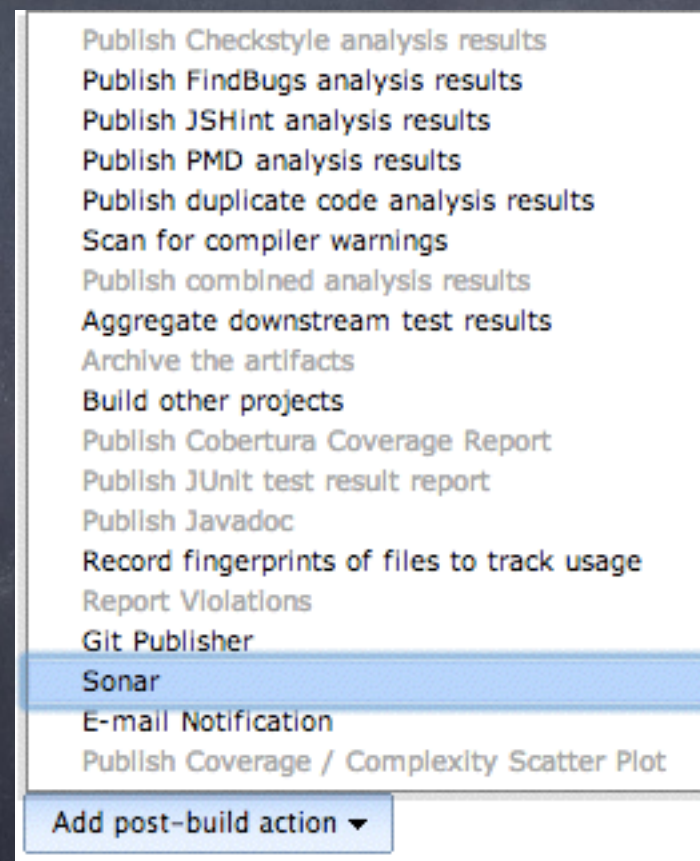
Config

- Manage Jenkins → Sonar

Sonar		
Sonar installations	Name	<input type="text" value="Sonar 1"/>
	Disable	<input type="checkbox"/>
		Check to quickly disable Sonar on all jobs.
	Server URL	<input type="text" value="http://localhost:9000"/>
		Default is http://localhost:9000
	Sonar account login	<input type="text"/>
		Sonar account used to perform analysis. Mandatory since Sonar 3.4 when anonymous access is disabled.
	Sonar account password	<input type="password"/>
		Sonar account used to perform analysis. Mandatory since Sonar 3.4 when anonymous access is disabled.
	Database URL	<input type="text"/> ?
		Do not set if default embedded database.
	Database login	<input type="text"/>
		Default is sonar.
	Database password	<input type="password"/>
		Default is sonar.
	Database driver	<input type="text"/> ?
		Do not set if you use the default embedded database on localhost.
	Version of sonar-maven-plugin	<input type="text"/>
		If not specified, then sonar:sonar will be used.
	Additional properties	<input type="text"/>

Config

• Post-build → Sonar



Config Sonar

Sonar

Branch



Optional sonar.branch property.

Language



Default is java

JDK



JDK to be used for this sonar analysis

Maven Version

Root POM



Default is pom.xml

Use private Maven repository ☐



Settings file



Global Settings file



MAVEN_OPTS



MAVEN_OPTS env var to provide, if not set the plugin will use the MAVEN_OPTS defined by the maven builder config.

Additional properties



Additional properties to be passed to the mvn executable (example: -Dsome.property=some.value).

☐ Dont use global triggers configuration



Delete

Build and See Result

```
[INFO] [03:58:21.974] Execute decorators...
[INFO] [03:58:22.624] Store results in database
[INFO] [03:58:22.733] ANALYSIS SUCCESSFUL, you can browse http://localhost:9000/dashboard/index/demo.jenkins:demo.jenkins
[INFO] [03:58:22.769] Executing post-job class org.sonar.plugins.core.issue.notification.SendIssueNotificationsPostJob
[INFO] [03:58:22.770] Executing post-job class org.sonar.plugins.core.batch.IndexProjectPostJob
[INFO] [03:58:22.836] Executing post-job class org.sonar.plugins.dbcleaner.ProjectPurgePostJob
[INFO] [03:58:22.846] -> Keep one snapshot per day between 2014-01-27 and 2014-02-23
[INFO] [03:58:22.847] -> Keep one snapshot per week between 2013-02-25 and 2014-01-27
[INFO] [03:58:22.847] -> Keep one snapshot per month between 2009-03-02 and 2013-02-25
[INFO] [03:58:22.848] -> Delete data prior to: 2009-03-02
[INFO] [03:58:22.850] -> Clean demo.jenkin [id=1]
[INFO] [03:58:22.855] <- Clean snapshot 1
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
```


For PHP

Manage Jenkins

• Config Sonar Runner

Sonar Runner

Sonar Runner installations



Sonar Runner

Name

SONAR-RUNNER

SONAR_RUNNER_HOME

/Users/spock/somkiat/training/jenkins/sonar-runner-2.3



Install automatically



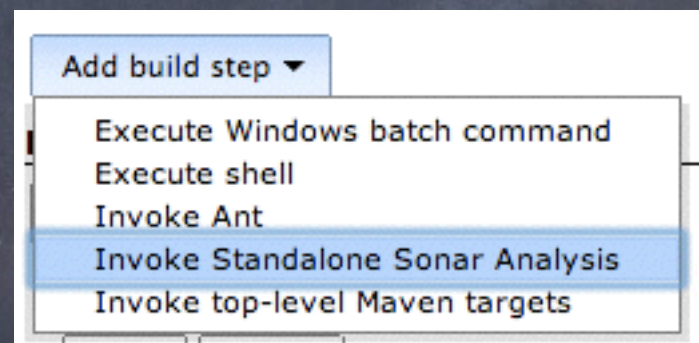
Delete Sonar Runner

Add Sonar Runner

List of Sonar Runner installations on this system

Config

- Build Step → Invoke Standalone Sonar Analysis



Config

Invoke Standalone Sonar Analysis

Task to run



JDK

(Inherit From Job)



JDK to be used for this sonar analysis

Path to project properties



Project properties



JVM Options

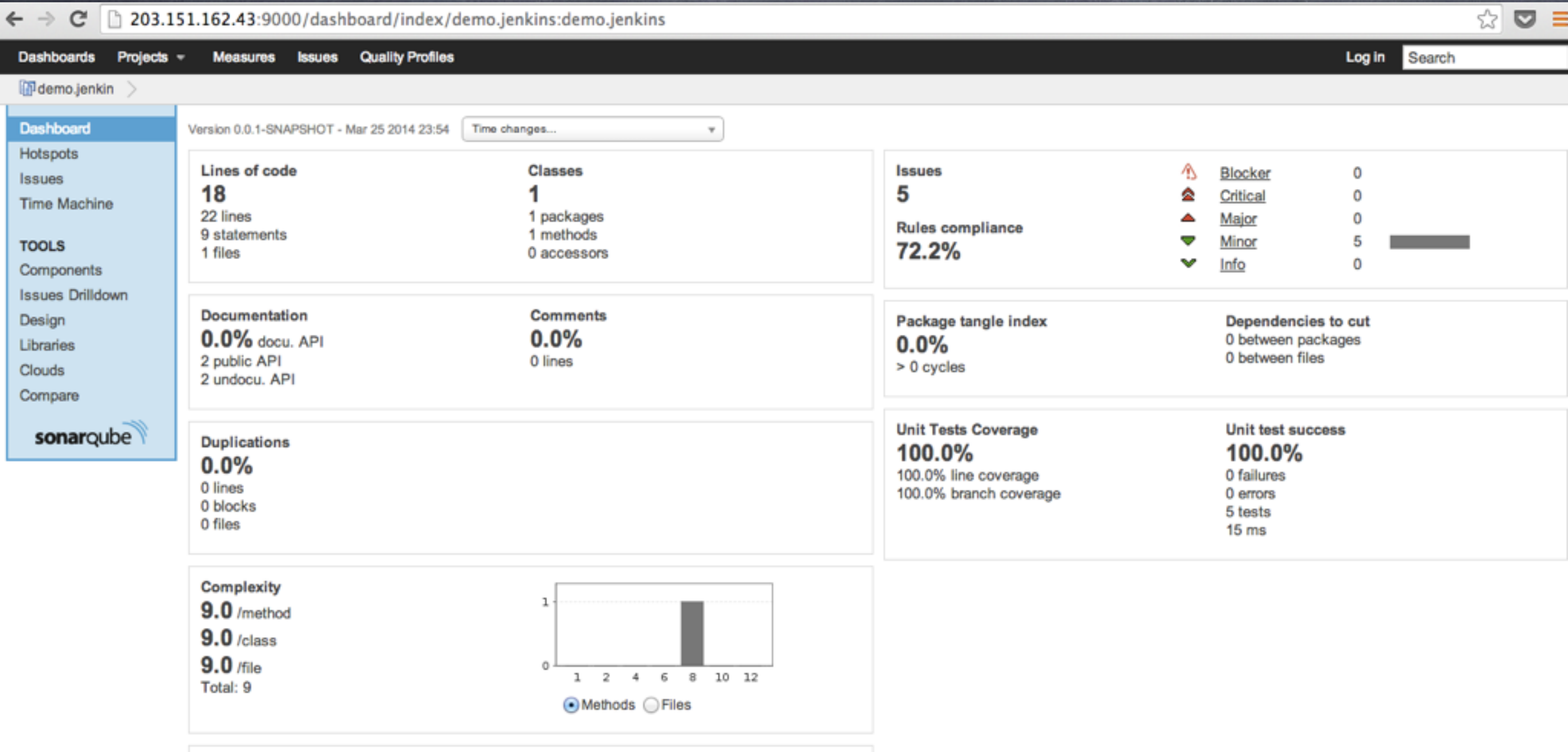


Delete

Build and See Result

```
[INFO] [03:58:21.974] Execute decorators...
[INFO] [03:58:22.624] Store results in database
[INFO] [03:58:22.733] ANALYSIS SUCCESSFUL, you can browse http://localhost:9000/dashboard/index/demo.jenkins:demo.jenkins
[INFO] [03:58:22.769] Executing post-job class org.sonar.plugins.core.issue.notification.SendIssueNotificationsPostJob
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[INFO] [03:58:22.836] Executing post-job class org.sonar.plugins.dbcleaner.ProjectPurgePostJob
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[INFO] [03:58:22.848] -> Delete data prior to: 2009-03-02
[INFO] [03:58:22.850] -> Clean demo.jenkin [id=1]
[INFO] [03:58:22.855] <- Clean snapshot 1
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
```


Result in Sonar



Basic Metrics

- Line of code/classes/methods
- Rule compliance Index and Violation
- Comments
- Duplicate code
- Method/class complexity (Cyclometric)
- Code coverage
- Test results

Line of code/class/ method

Lines of code

232

296 lines

7 files

Classes

6

28 methods

Rules compliance

Issues

187

Rules compliance

93.1%



Blocker

0



Critical

0



Major

4

|



Minor

4

|



Info

179



Comment and Duplicate code

Comments

4.9%

12 lines

Duplications

0.0%

0 lines

0 blocks

0 files

Method/class complexity

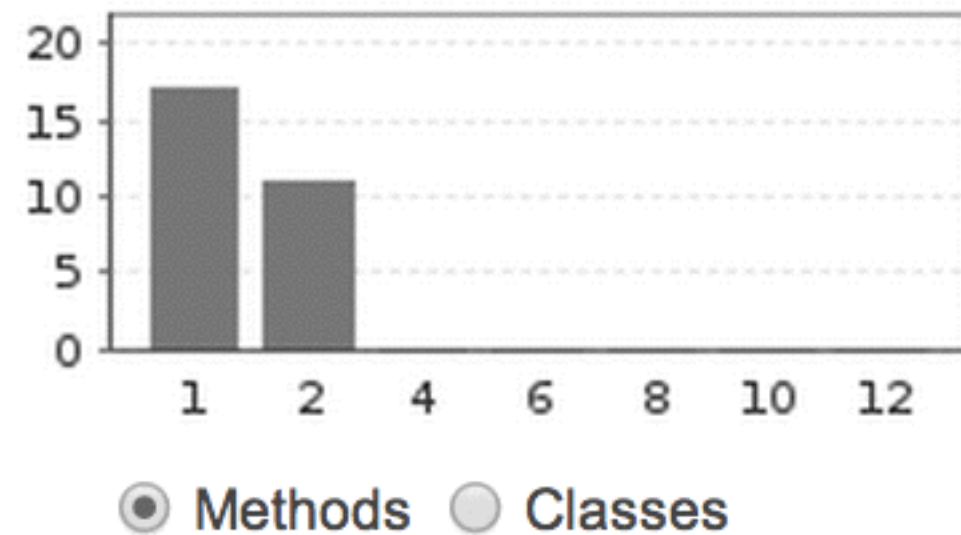
Complexity

1.4 /method

6.5 /class

6.5 /file

Total: 39



Method/class complexity

- Complexity = 1 = empty function
- Default complexity = 10

Code coverage and test result

Unit Tests Coverage

0.0%

0.0% line coverage

Unit test success

91.3% 

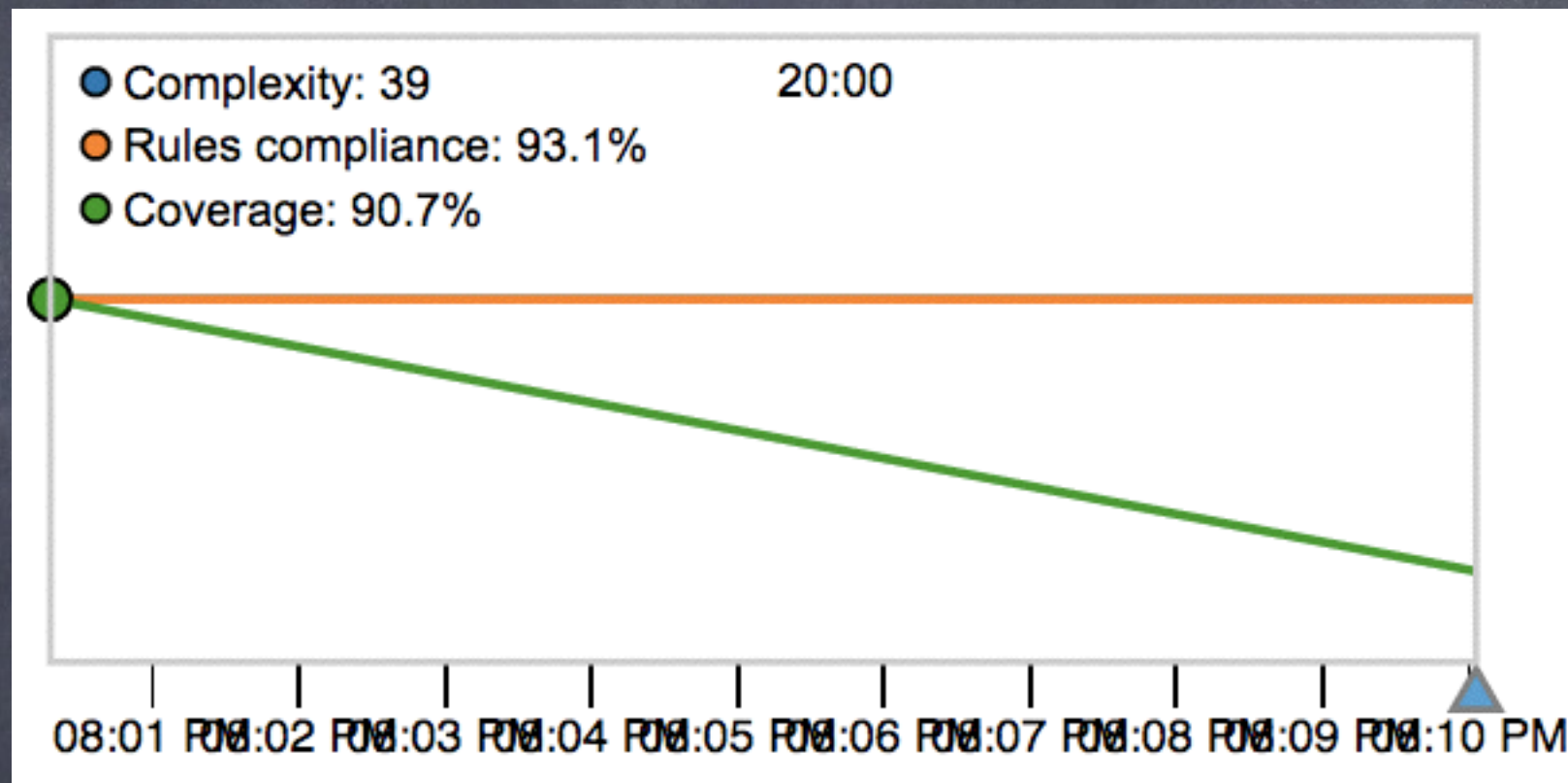
0 failures

2 errors 

23 tests

258 ms

Time Machine



Time Machine

- Compare any of the metric over a period of time
- What is improving ?
- What is degrading ?

Now

