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SonarQube
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=> SonarQube is used for code quality check.

=> Using sonarqube we can perform code review (static analysis).

=> Using SonarQube we can identify developer mistakes in the code.

=> SonarQube software developed by using Java language.

=> Using SonarQube s/w we can perform code review for 30+ programming languages.

=> SonarQube is available in 2 flavours

                1) Enterprise Edition (licensed)

                2) Community Edition (free)

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Sonar Issues
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1) Bugs (Ex: NullPointerException)

2) Vulnerabilities (Ex: using sensitive data directley (pin, pwd, atm num, ssn))

3) Code Smells (Ex: un-used imports, un-used method params)

4) Duplicate Code Blocks

5) Code Coverage (Ex: Junits execution status)

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Sonar Server Setup
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=> We can setup Sonar Server in 3 ways...

Approach-1 : Take one Linux vm in aws cloud and install sonar server on your own

Approach-2 : Setup Sonar Server as a docker container

Approach-3 : Sonar Cloud


@@@ Sonar setup : https://github.com/ashokitschool/DevOps-Documents/blob/main/06-Sonar-Setup-
Docker.md

Default Username : admin
Default pwd : admin

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Integrate Sonar server with Java Maven App
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-> Configure Sonar Properties under <properties/> tag in "pom.xml"

  <properties>
                <sonar.host.url>http://52.66.196.255:9000/</sonar.host.url>
                <sonar.login>admin</sonar.login>
                <sonar.password>admin@123</sonar.password>
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    </properties>
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-> Execute maven goal to perform code review

          `$ mvn sonar:sonar`

-> After build success, go to sonar dashboard and verify the results.

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Working with Sonar Token
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-> Go to Sonar Server Dashboard -> Click on profile -> My Account -> Security -> Generate Token

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<properties>
        <sonar.host.url>http://3.111.219.207:9000/</sonar.host.url>
        <sonar.login>squ_6429b1e9ad9c2eeebcb587db534f422be4253ca2</sonar.login>
</properties>
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What is Quality Profile in Sonar ?
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=> In SonarQube, a Quality Profile is a set of rules that define the coding standards and best practices for code quality check.

=> Every Programming language is having one default quality profile.

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What is Quality Gate in Sonar ?
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In SonarQube, a Quality Gate is a set of conditions that determines whether your code is allowed to pass or fail the code quality check after analysis.

Ex :

1) Are there no new blocker bugs?

2) Is the test coverage of new code â‰¥ 80%?

3) Are there no new security vulnerabilities?

If all pass â†' Quality Gate PASSED â†' Code can proceed.

If any fail â†' Quality Gate FAILED â†' Developer must fix issues.