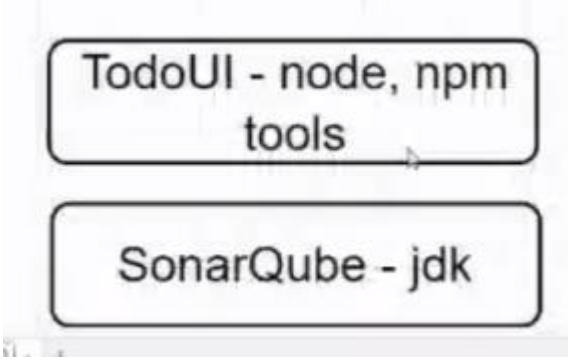
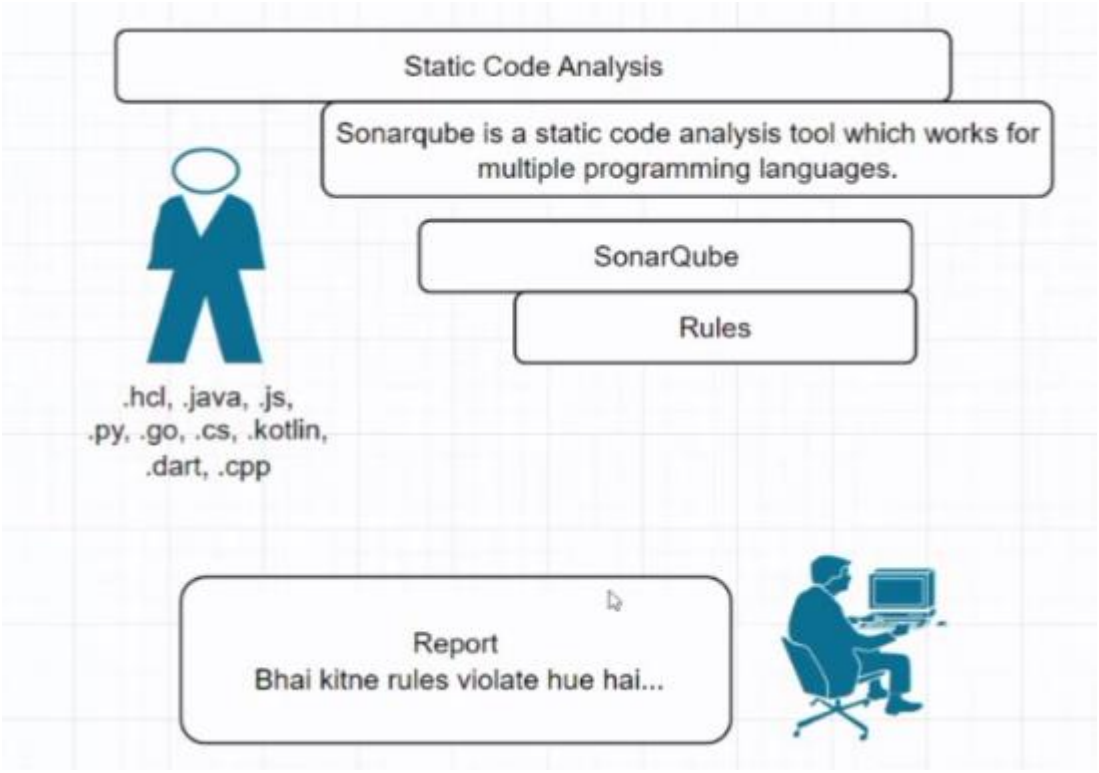
31 August 2024 – Environments, Deployment Groups and Sonarcube

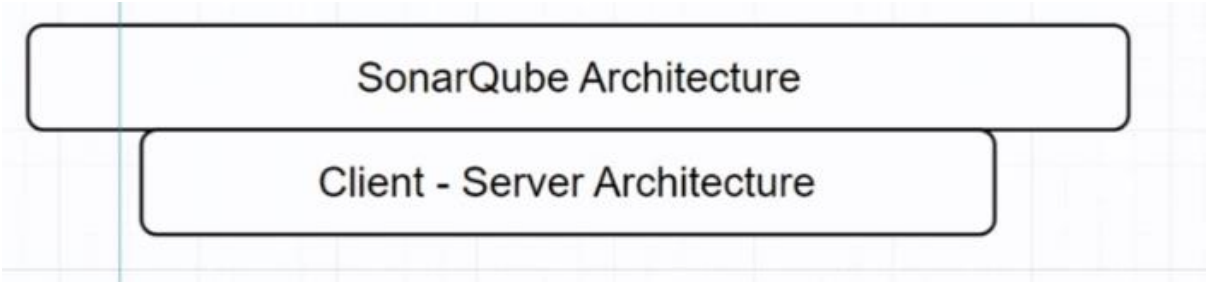
1) Sonar Cube is a static code analysis tool that works for multiple programming languages. It has predefined rules inside it and when we write our code then we can validate our code with those predefined rules set of sonar cube and it will give a violation report to us.

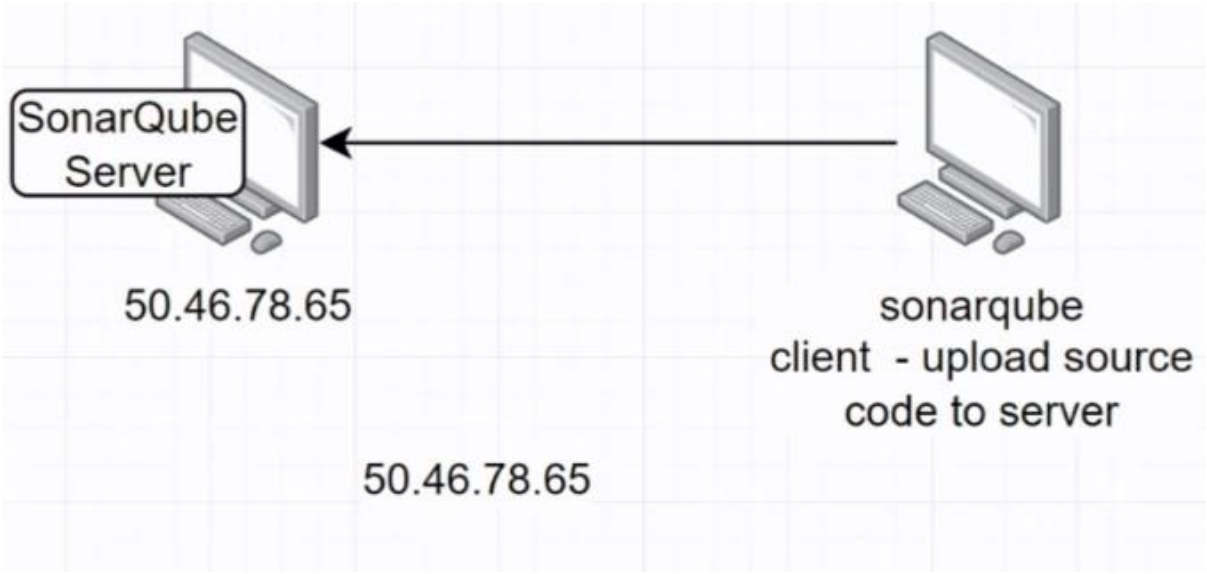
1a) SonarQube is an open source platform for continuous inspection of code quality

1b) It is java based application









2) As per above diagram sonarcube is running on server. We have sonarqube client that on which we will make zip of the code that we have to make i.e. .js, .py etc. Then this zip file will go to server then sonar qube will scan the code. And will provide a validated report

3) We should have ip of server computer to send and receive report

4) Now our client should run inside pipeline i.e. inside the agent (vm) on which pipeline is running i.e. code uploading part from client to server will be done by pipeline.

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AGENDA – CREATE VM ON WHICH SONAR CUBE SERVER WILL RUN USING DOCKER

1) Sonar cube default port – 9000

2) Create vm and install docker on it.

3) SEARCH – sonarqube docker image

https://hub.docker.com/_/sonarqube

4) Run below command from docker hub

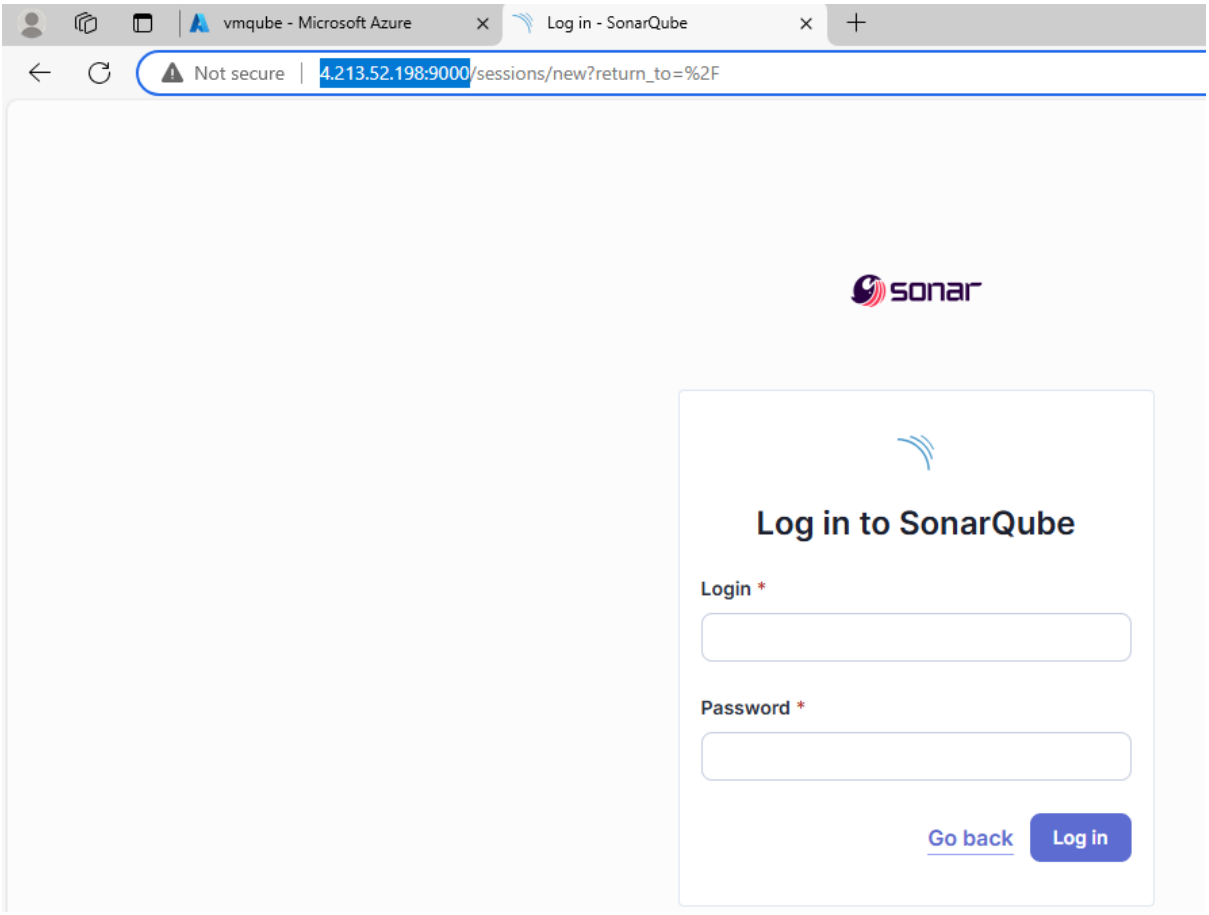
```
docker run --name sonarqube-custom -p 9000:9000 sonarqube:10.6-community
```

Copy

docker run --name sonarqube-custom -p 9000:9000 sonarqube:10.6-community

5) Open port 9000 in network settings of vm

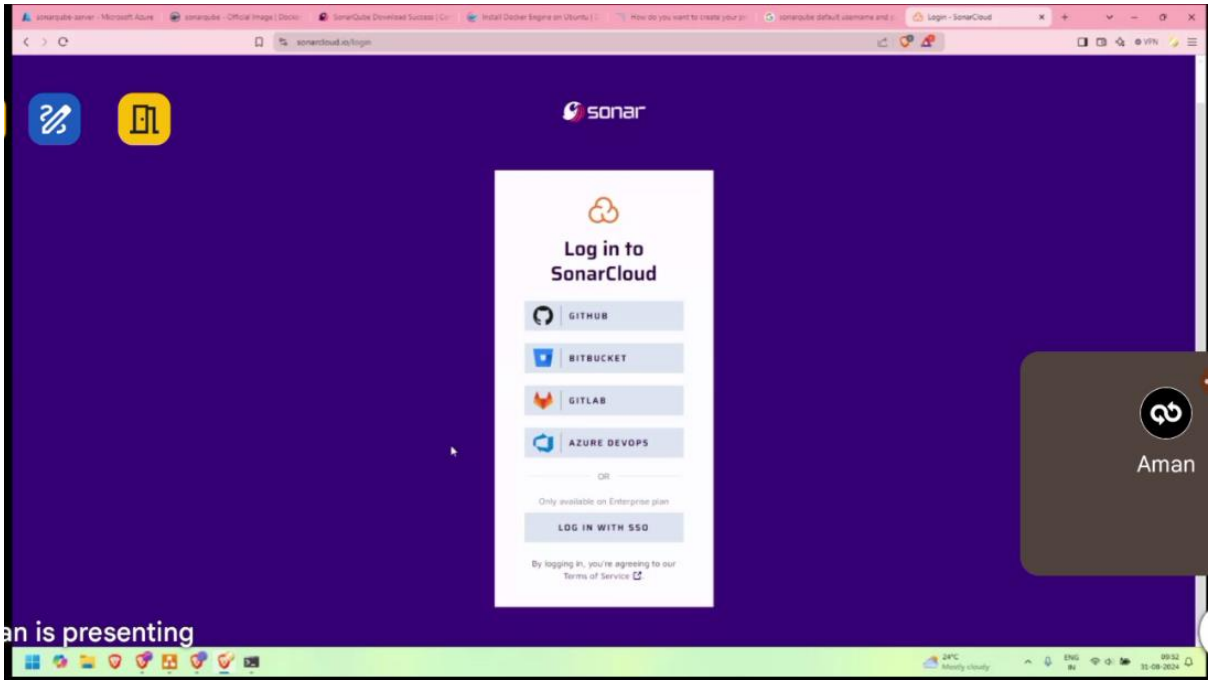
6) Run in browser - http://4.213.52.198:9000/



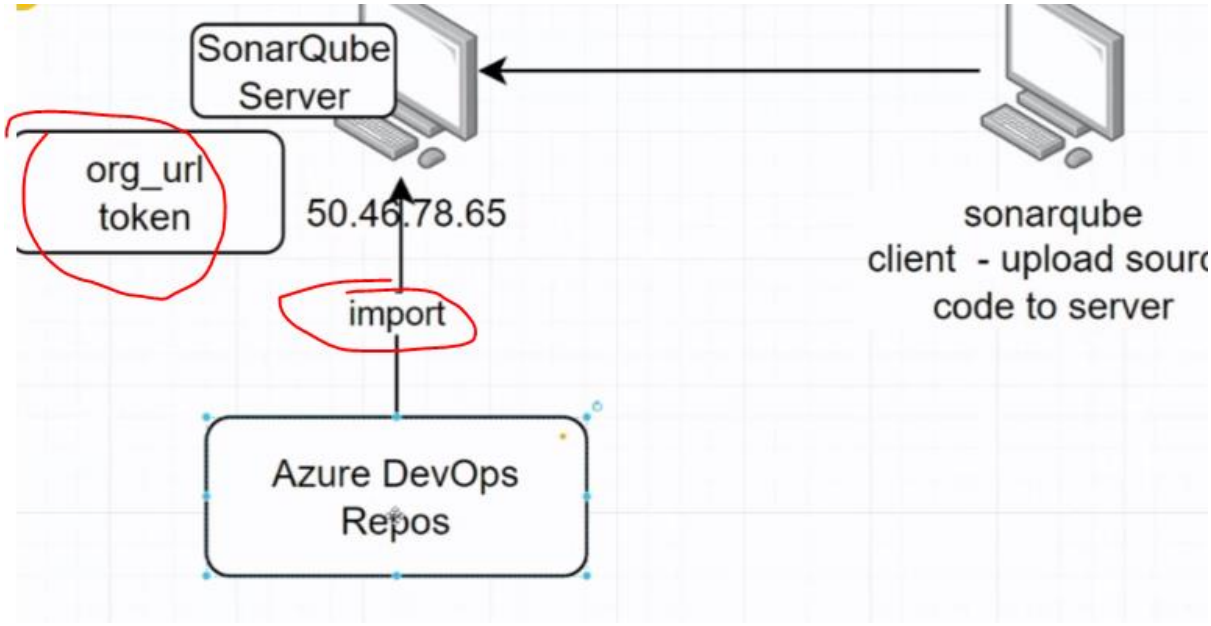
7) SEARCH – Default username and password of sonarcube is admin and admin

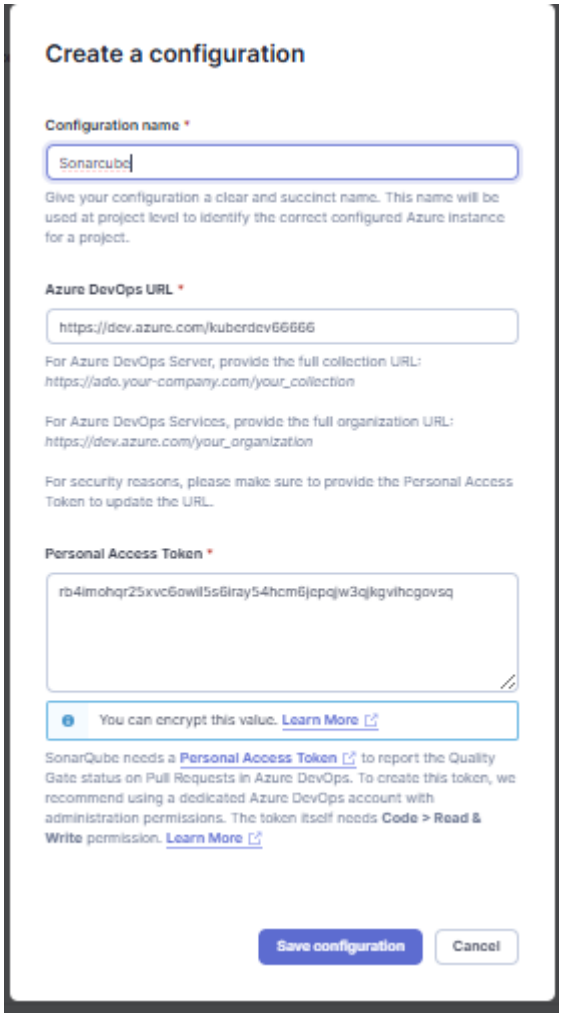
When installing SonarQube, a default user with Administer System permission is created automatically: **Login: admin**. **Password: admin**.

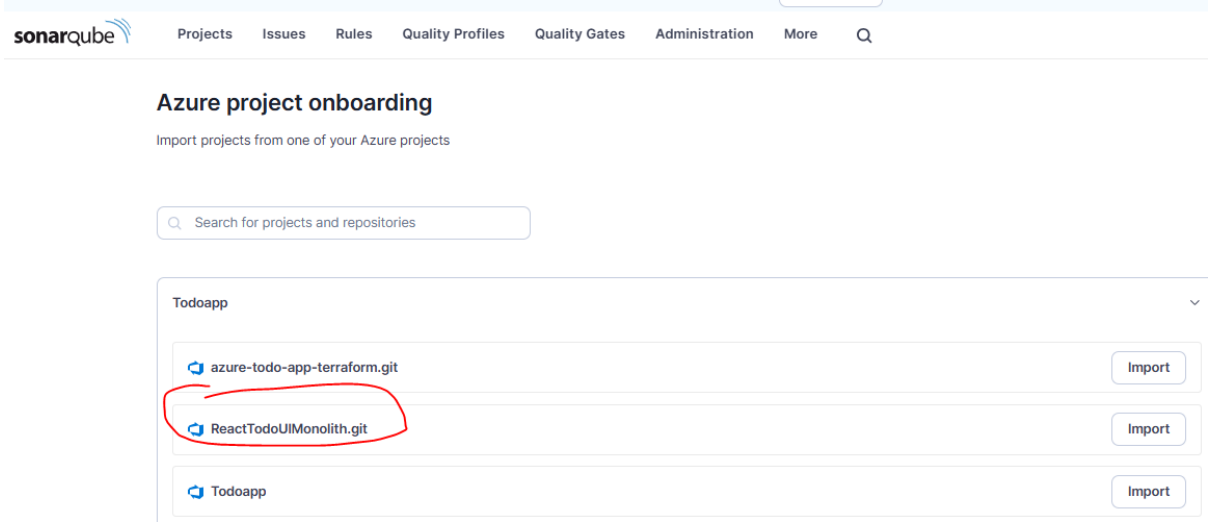
8) SEARCH – Sonar cloud

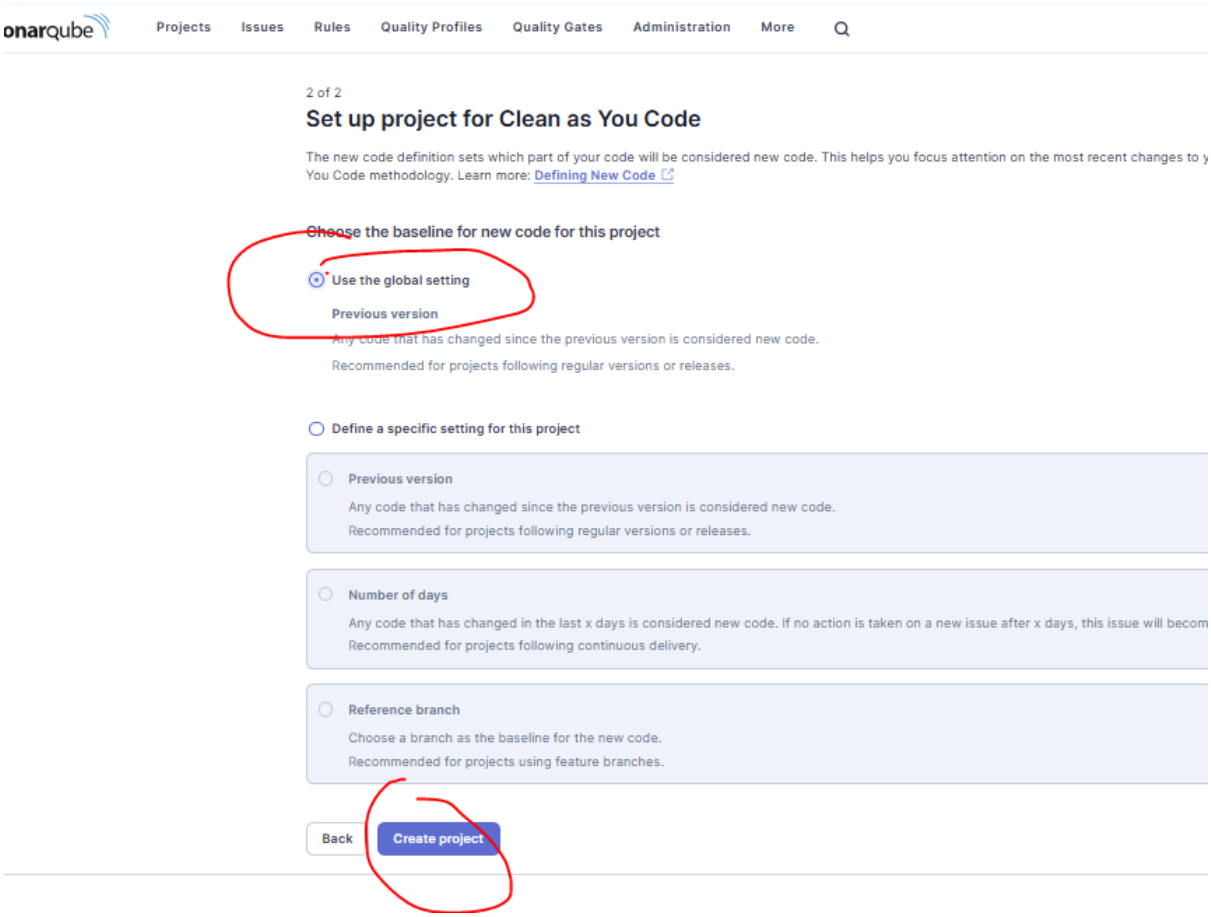


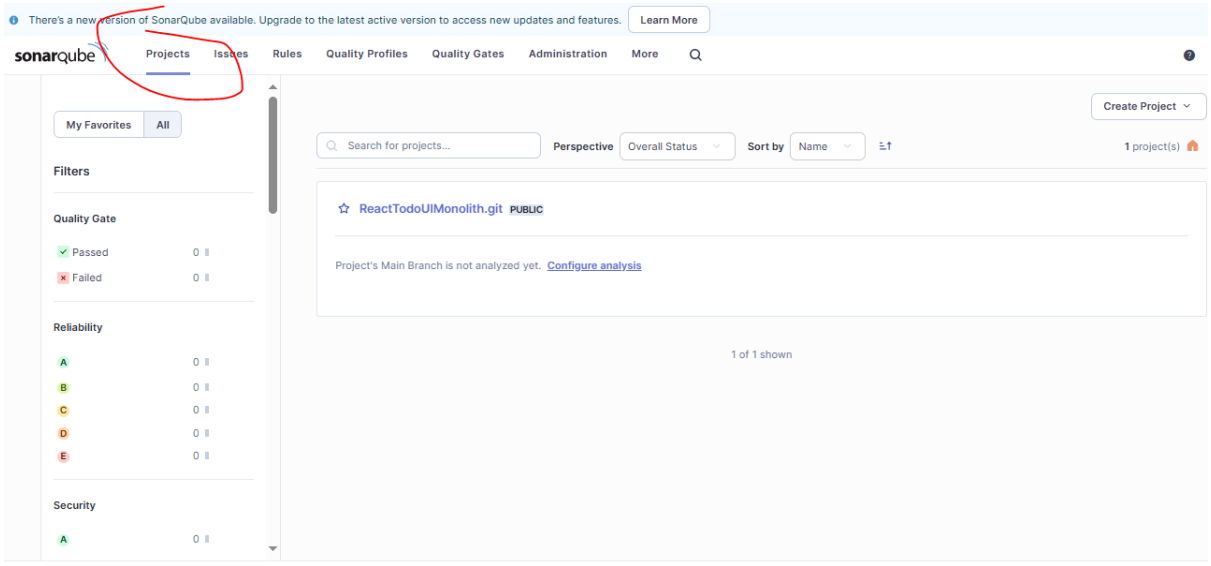
9) Now to create connectivity with sonar qube, we will give organization url and personal access tokens



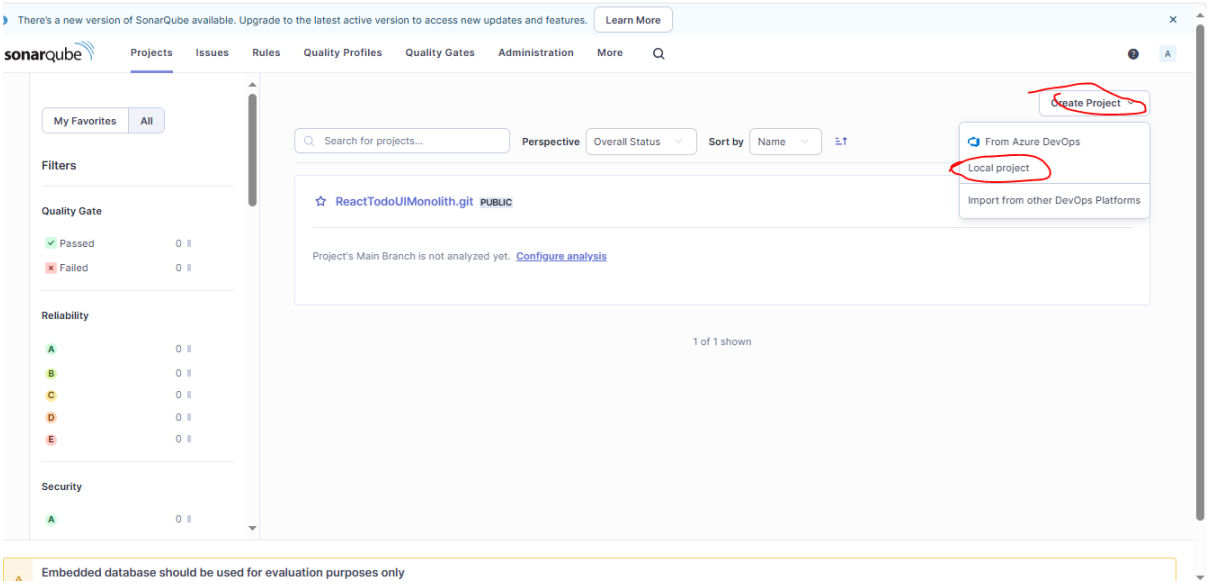

Create a configuration
Configuration name *
Sonarcube
Give your configuration a clear and succinct name. This name will be used at project level to identify the correct configured Azure instance for a project.
Azure DevOps URL *
https://dev.azure.com/kuberdev66666
For Azure DevOps Server, provide the full collection URL: https://ado.your-company.com/your_collection
For Azure DevOps Services, provide the full organization URL: https://dev.azure.com/your_organization
For security reasons, please make sure to provide the Personal Access Token to update the URL.
Personal Access Token *
rb4imohqr25xvc6owil5s6iray54hcm6jcpqjw3qjkgvihcgovsq
You can encrypt this value. Learn More
SonarQube needs a Personal Access Token to report the Quality Gate status on Pull Requests in Azure DevOps. To create this token, we recommend using a dedicated Azure DevOps account with administration permissions. The token itself needs Code > Read & Write permission. Learn More
Save configuration
Cancel

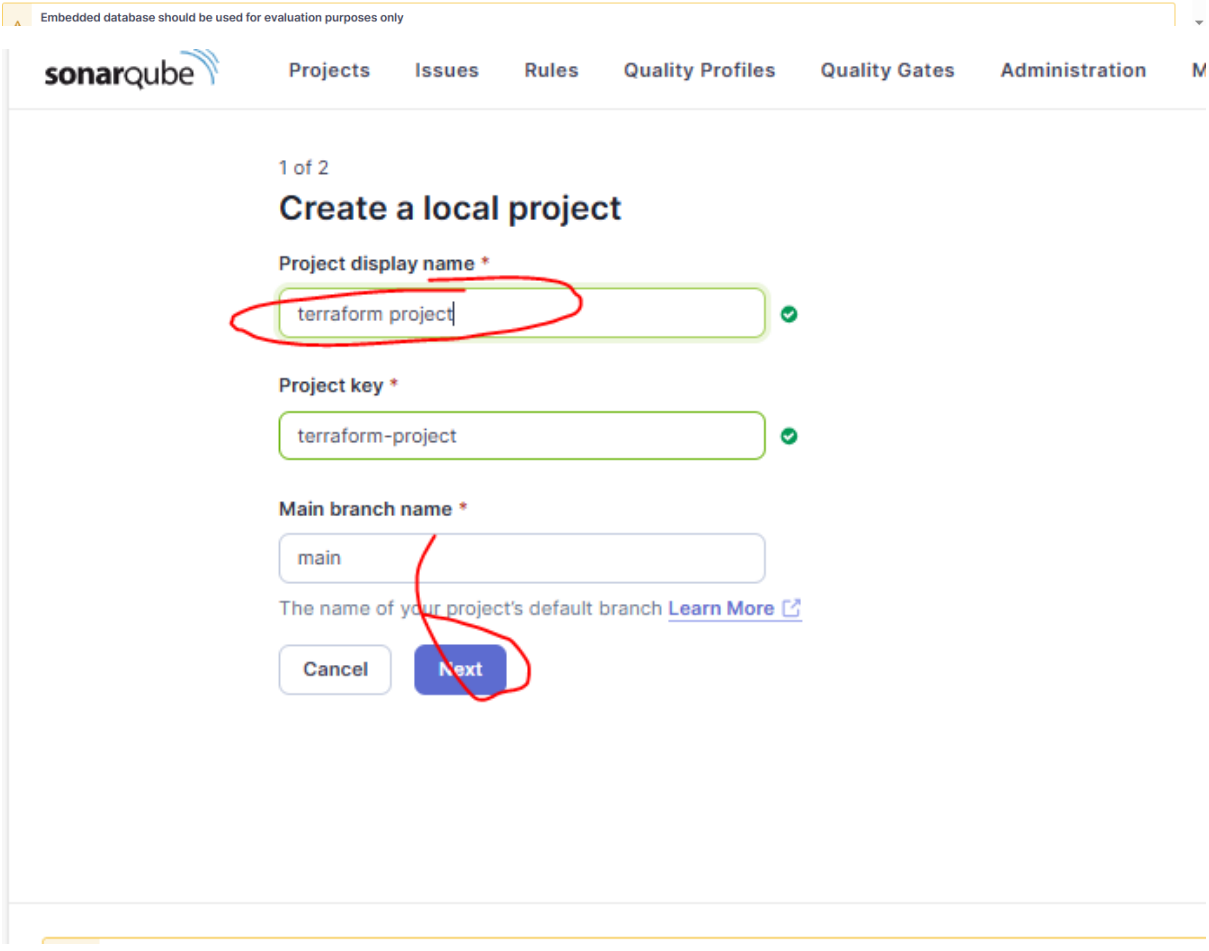

sonarqube
Projects
Issues
Rules
Quality Profiles
Quality Gates
Administration
More
Azure project onboarding
Import projects from one of your Azure projects
Search for projects and repositories
Todoapp
azure-todo-app-terraform.git
Import
ReactTodoUIMonolith.git
Import
Todoapp
Import



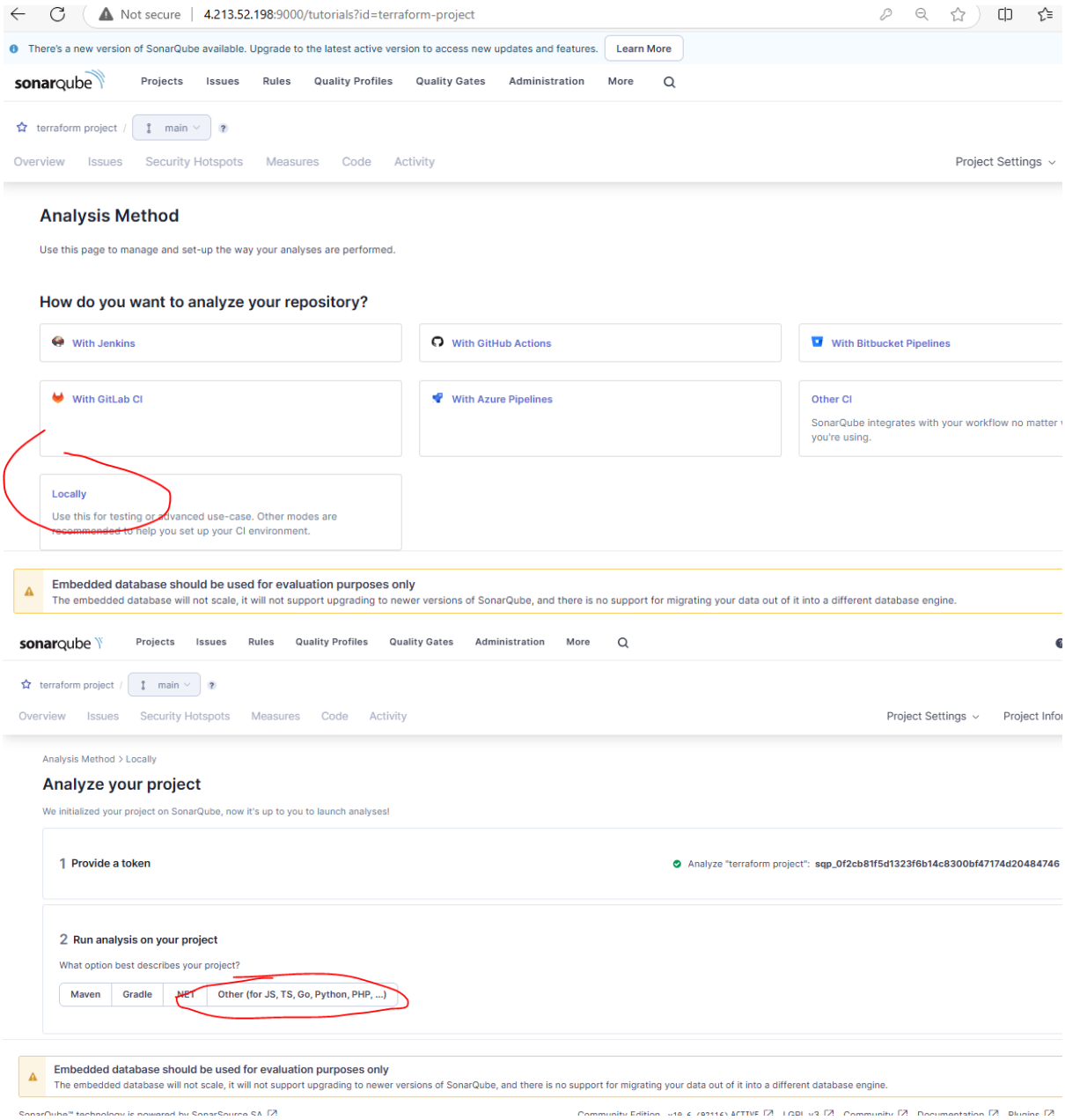


10) Create local project



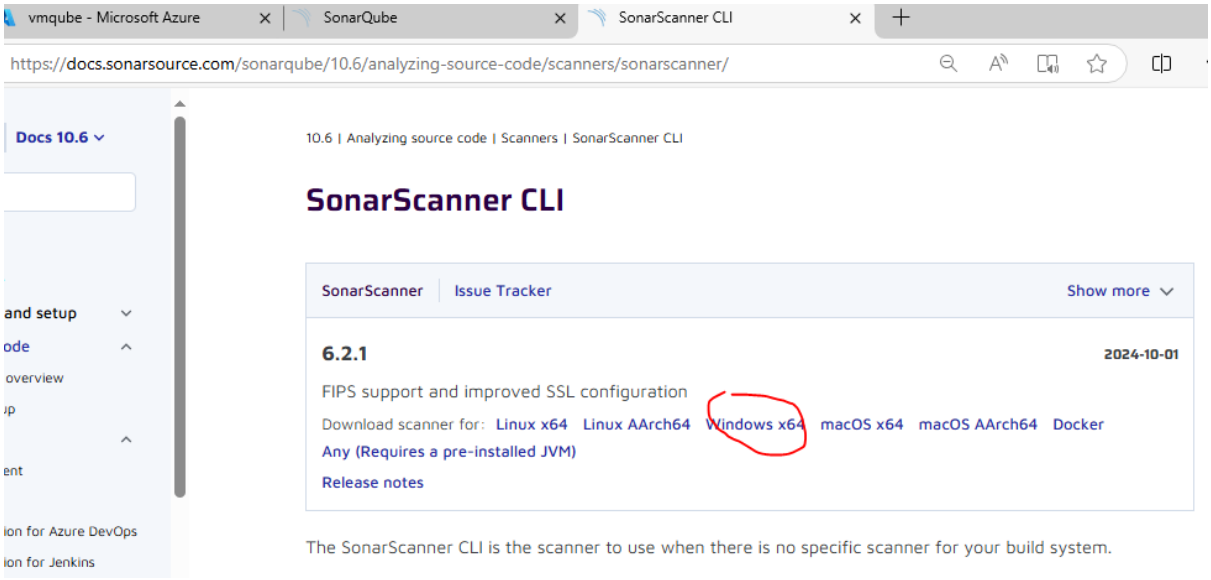


11) Then create project

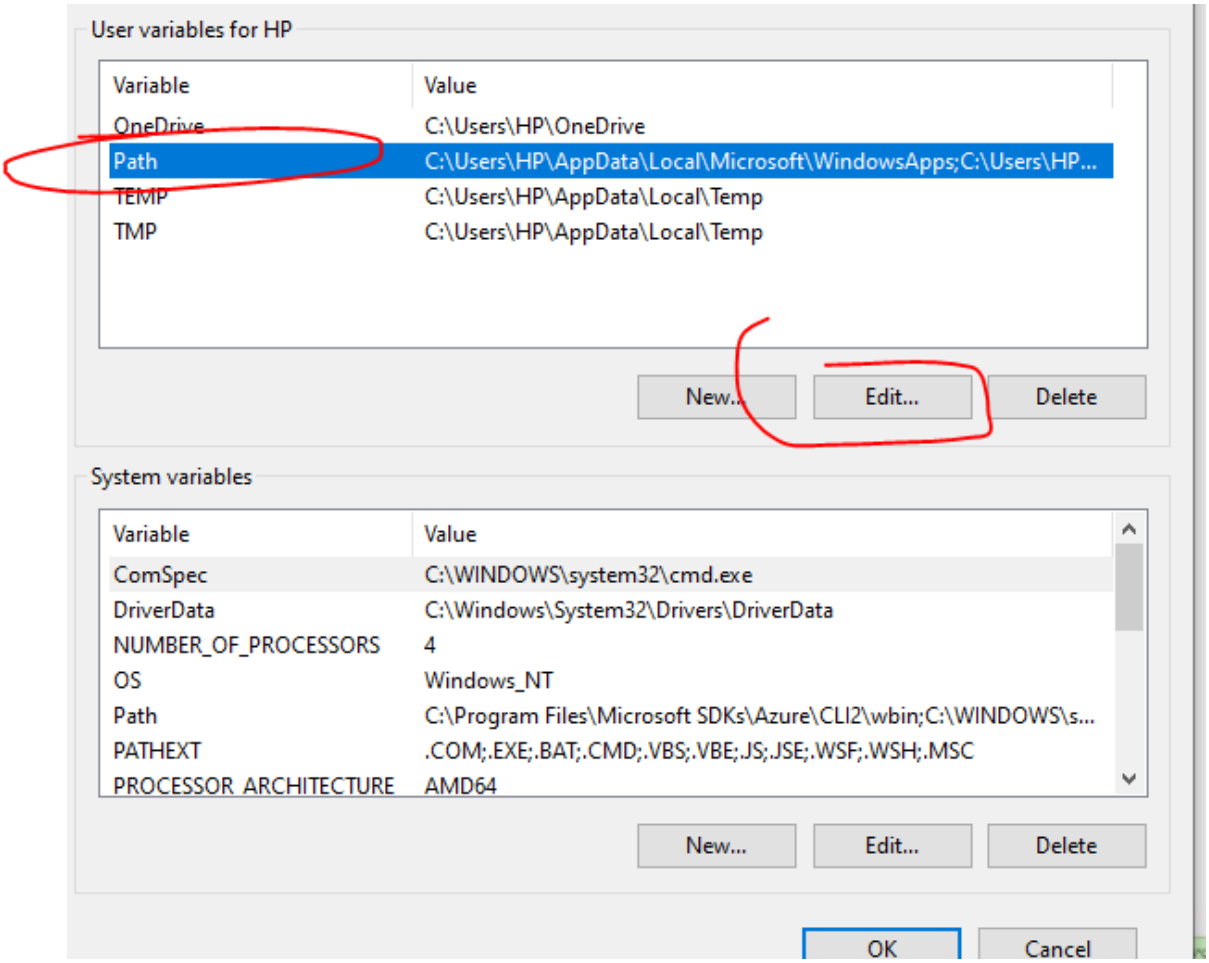


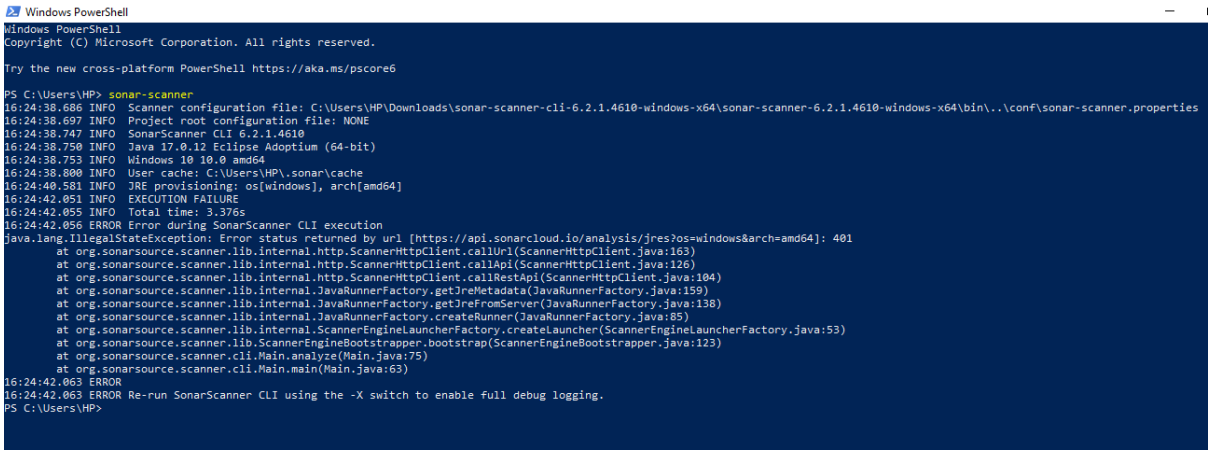
12) Now we need sonar scanner

13) Download sonar qube



14) Extract files and Copy bin folder path and add into environment variable folder


User variables for HP
Variable
Value
OneDrive
C:\Users\HP\OneDrive
Path
C:\Users\HP\AppData\Local\Microsoft\WindowsApps;C:\Users\HP...
TEMP
C:\Users\HP\AppData\Local\Temp
TMP
C:\Users\HP\AppData\Local\Temp
New...
Edit...
Delete
System variables
Variable
Value
ComSpec
C:\WINDOWS\system32\cmd.exe
DriverData
C:\Windows\System32\Drivers\DriverData
NUMBER_OF_PROCESSORS
4
OS
Windows_NT
Path
C:\Program Files\Microsoft SDKs\Azure\CLI2\wbin;C:\WINDOWS\s...
PATHEXT
.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC
PROCESSOR_ARCHITECTURE
AMD64
New...
Edit...
Delete
OK
Cancel

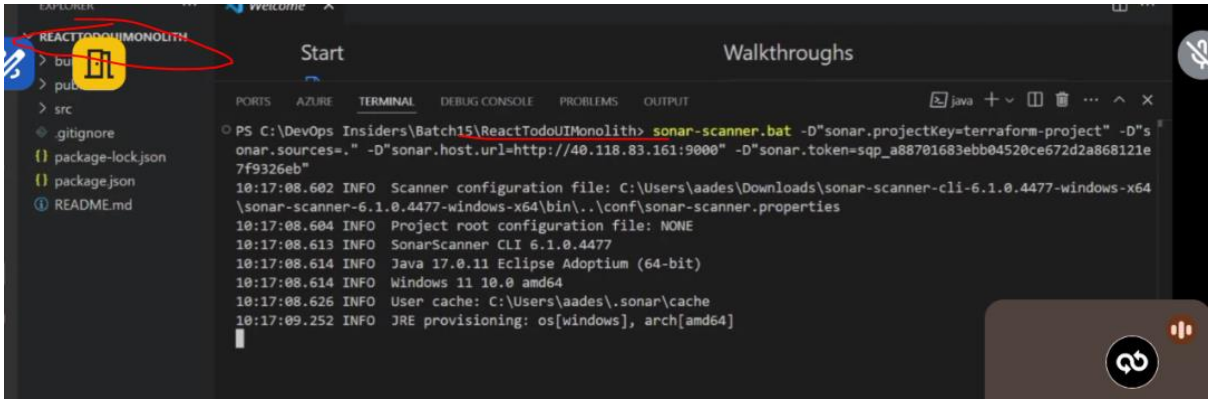

Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\HP> sonar-scanner
16:24:38.686 INFO Scanner configuration file: C:\Users\HP\Downloads\sonar-scanner-cli-6.2.1.4610-windows-x64\sonar-scanner-6.2.1.4610-windows-x64\bin\..\conf\sonar-scanner.properties
16:24:38.697 INFO Project root configuration file: NONE
16:24:38.747 INFO SonarScanner CLI 6.2.1.4610
16:24:38.750 INFO Java 17.0.12 Eclipse Adoptium (64-bit)
16:24:38.753 INFO Windows 10 10.0 amd64
16:24:38.800 INFO User cache: C:\Users\HP\.sonar\cache
16:24:40.581 INFO JRE provisioning: os[windows], arch[amd64]
16:24:42.051 INFO EXECUTION FAILURE
16:24:42.055 INFO Total time: 3.376s
16:24:42.056 ERROR Error during SonarScanner CLI execution
java.lang.IllegalStateException: Error status returned by url [https://api.sonarcloud.io/analysis/jres?os=windows&arch=amd64]: 401
at org.sonarsource.scanner.lib.internal.http.ScannerHttpClient.callUrl(ScannerHttpClient.java:163)
at org.sonarsource.scanner.lib.internal.http.ScannerHttpClient.callApi(ScannerHttpClient.java:126)
at org.sonarsource.scanner.lib.internal.http.ScannerHttpClient.callRestApi(ScannerHttpClient.java:104)
at org.sonarsource.scanner.lib.internal.JavaRunnerFactory.getJreMetadata(JavaRunnerFactory.java:159)
at org.sonarsource.scanner.lib.internal.JavaRunnerFactory.getJreFromServer(JavaRunnerFactory.java:138)
at org.sonarsource.scanner.lib.internal.JavaRunnerFactory.createRunner(JavaRunnerFactory.java:85)
at org.sonarsource.scanner.lib.internal.ScannerEngineLauncherFactory.createLauncher(ScannerEngineLauncherFactory.java:53)
at org.sonarsource.scanner.lib.ScannerEngineBootstrapper.bootstrap(ScannerEngineBootstrapper.java:123)
at org.sonarsource.scanner.cli.Main.analyze(Main.java:75)
at org.sonarsource.scanner.cli.Main.main(Main.java:63)
16:24:42.063 ERROR
16:24:42.063 ERROR Re-run SonarScanner CLI using the -X switch to enable full debug logging.
PS C:\Users\HP>

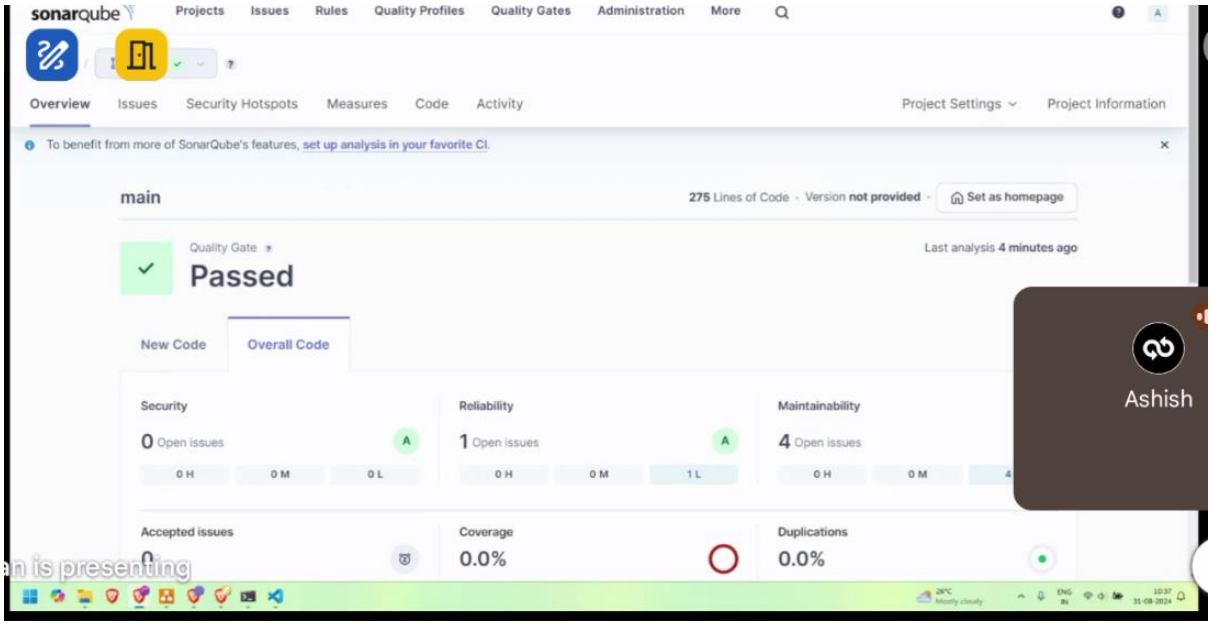
sonar-scanner.bat -D"sonar.projectKey=terraform-project" -D"sonar.sources=." -D"sonar.host.url=http://4.213.52.198:9000" -D"sonar.token=sqp_0427938016756f0b63231c74b390a13e04bc05e5"

15) Now run this command in reactuimonolithic folder in vs code which will provide the report

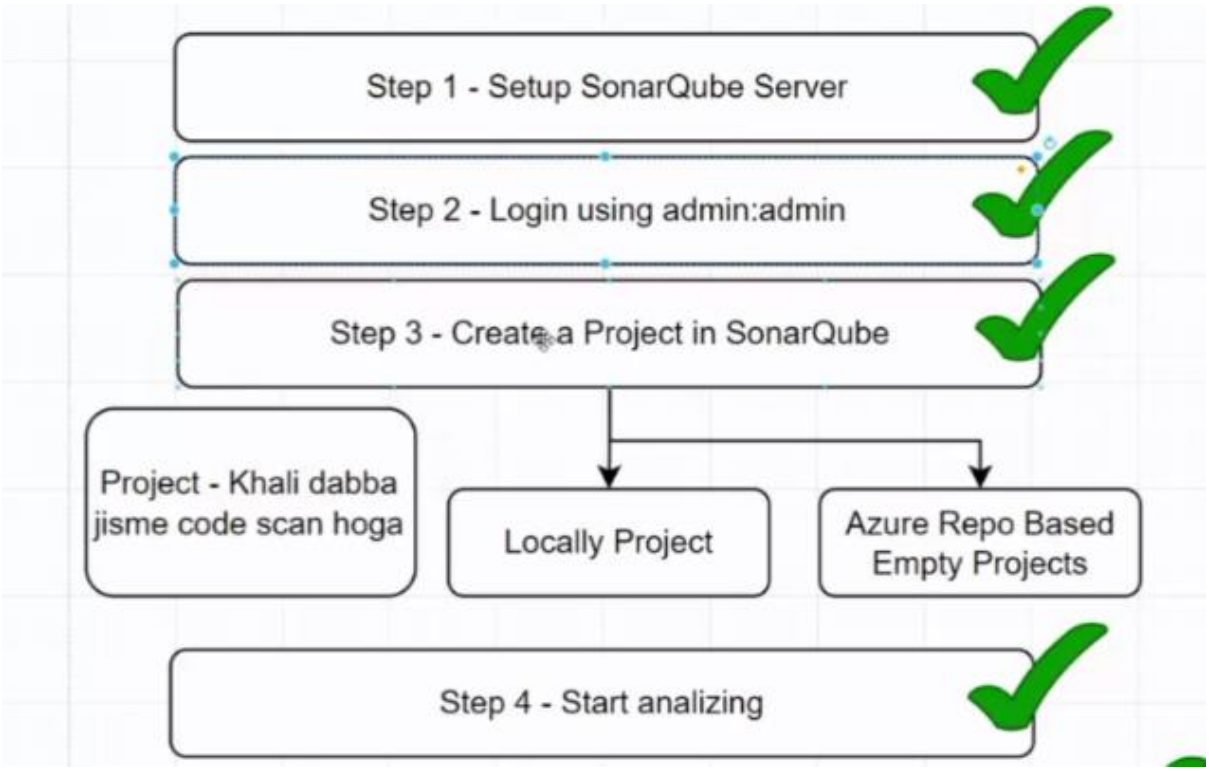
On sonarcube server page

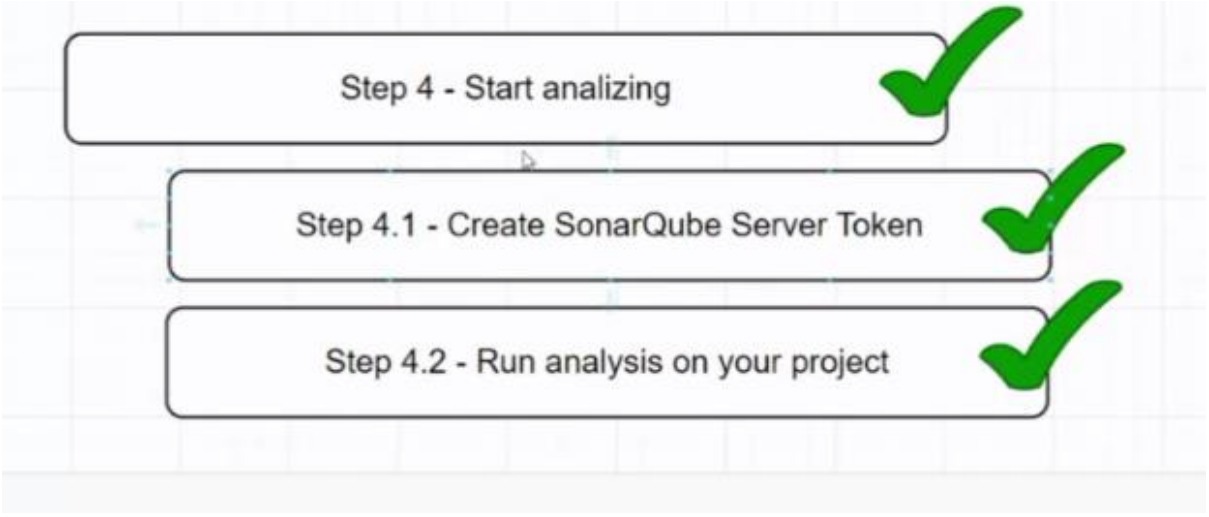
The work of scanner is actually to upload the code and work of server is to generate the report.

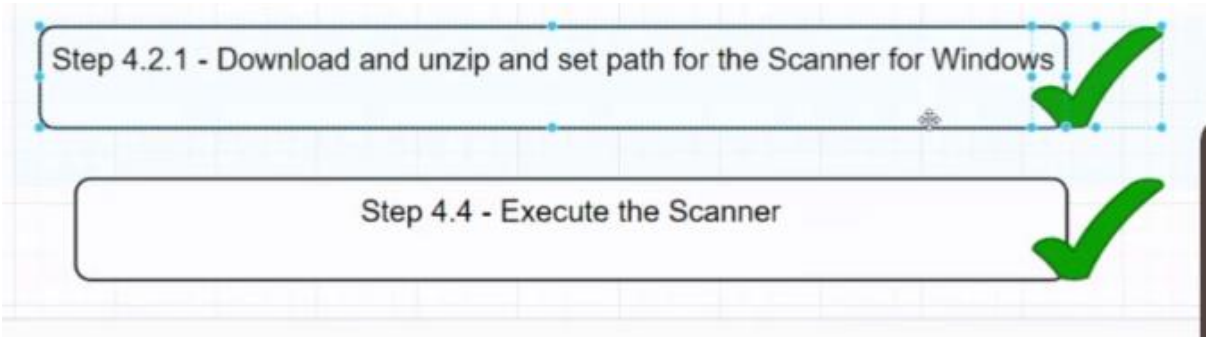


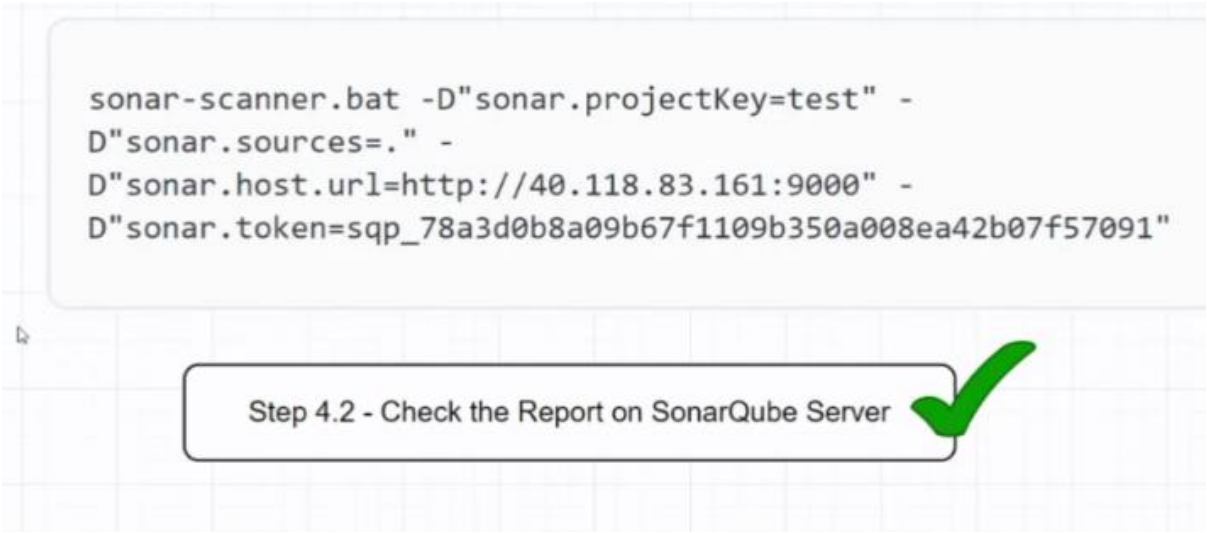


16)


Step 1 - Setup SonarQube Server
Step 2 - Login using admin:admin
Step 3 - Create a Project in SonarQube
Project - Khali dabba jisme code scan hoga
Locally Project
Azure Repo Based Empty Projects
Step 4 - Start analizing


Step 4 - Start analizing
Step 4.1 - Create SonarQube Server Token
Step 4.2 - Run analysis on your project


Step 4.2.1 - Download and unzip and set path for the Scanner for Windows
Step 4.4 - Execute the Scanner



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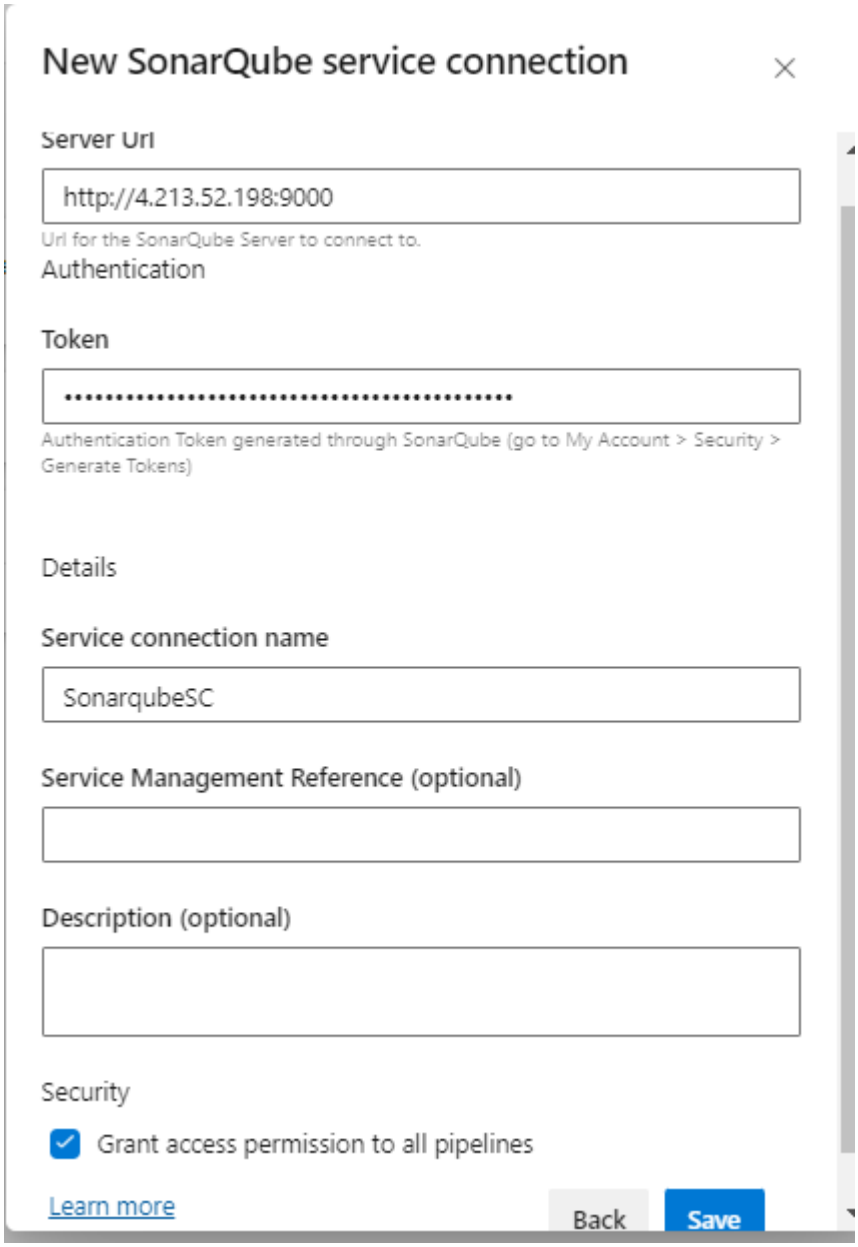
AGENDA – SONARQUBE IN PIPELINE

1) Now making another project and using in pipeline

2) Go to market place and install sonarqube

3) Make service connection of sonarqube



4) Now follow sonarqube doc to make tasks in pipeline

5) **SEARCH –** PREPARE ANALYSIS CONFIGURATION or SONAR

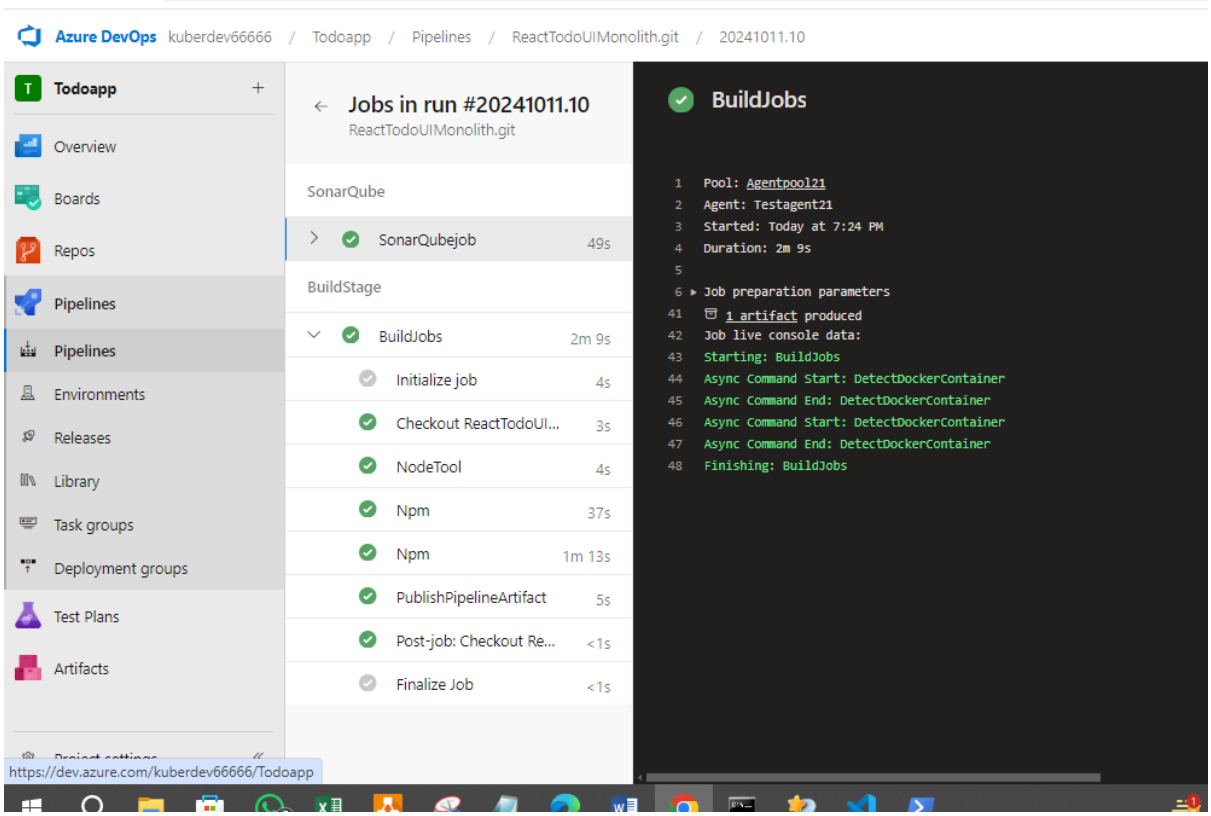
```
steps:
  Settings
  - task: SonarQubePrepare@6
    inputs:
      SonarQube: 'SonarqubeSC'
      scannerMode: 'CLI'
      configMode: 'manual'
      cliProjectKey: 'azure'
      cliSources: '.'
  Settings
```

6) **SEARCH –** PREPARE ANALYSIS CONFIGURATION or SONAR

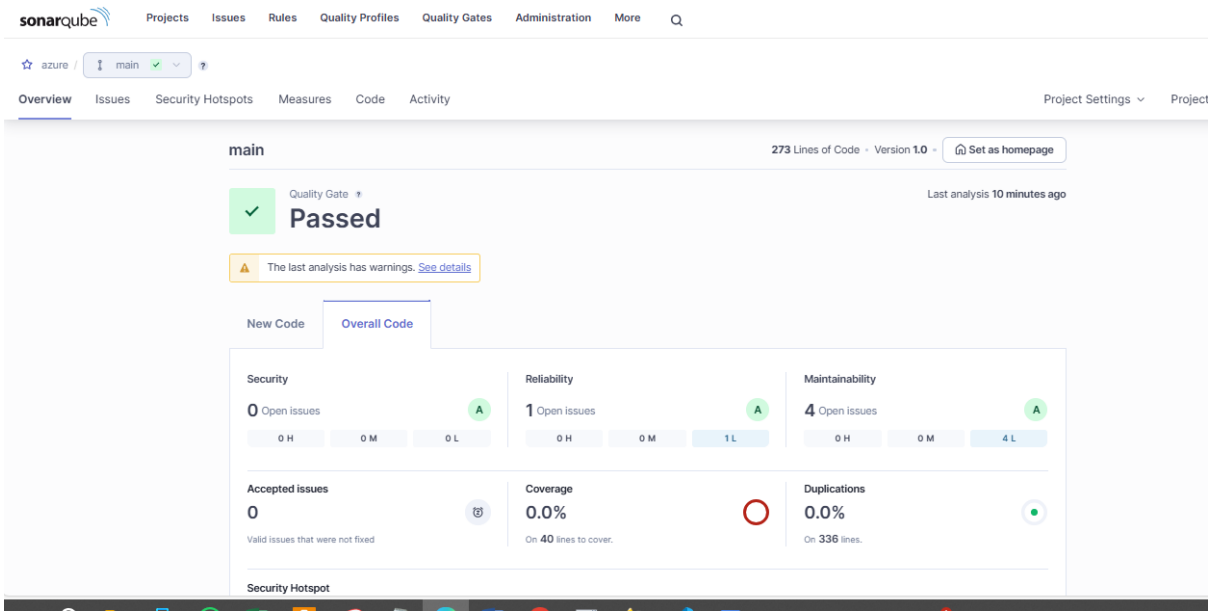
```
18          cliSources: '.'
            Settings
19      - task: SonarQubeAnalyze@6
20        inputs:
21          jdkversion: 'JAVA_HOME_17_X64'
22
23  - stage: BuildStage
24    displayName: BuildStage
25    jobs:
```

7) Before running pipeline the version of sonar qube should match the version of java that we have to install in agent machine or vm i.e. java 17 version

8) Now run pipeline



9) Now sonar qube will give its report


sonarqube
Projects
Issues
Rules
Quality Profiles
Quality Gates
Administration
More
azure / main
Overview
Issues
Security Hotspots
Measures
Code
Activity
Project Settings
Project
main
273 Lines of Code • Version 1.0 •
Set as homepage
Quality Gate
Passed
Last analysis 10 minutes ago
The last analysis has warnings. See details
New Code
Overall Code
Security
0 Open issues
A
0 H
0 M
0 L
Reliability
1 Open issues
A
0 H
0 M
1 L
Maintainability
4 Open issues
A
0 H
0 M
4 L
Accepted issues
0
Valid issues that were not fixed
Coverage
0.0%
On 40 lines to cover.
Duplications
0.0%
On 336 lines.
Security Hotspot