**SonarQube,** which is another name for **SonarQube** , is an open source platform for continuously testing source code quality. Here are some highlights about SonarQube:

**1. Main functions:**

* **Source code analysis:** SonarQube supports code analysis for many programming languages such as Java, C#, JavaScript, Python, etc.
* **Code quality:** It helps detect source code quality issues such as bugs, code smells (bad code), and security vulnerabilities.
* **Detailed reporting:** Provides detailed reporting on code quality metrics such as complexity, unit test coverage, and code repetition.

**2. How it works:**

* **CI/CD integration:** SonarQube can be integrated into CI/CD pipelines to automate source code testing in build and deployment pipelines.
* **Continuous Analysis:** It can be set to continuously analyze code when changes occur, helping to detect and fix errors quickly.

**3. Benefits:**

* **Improve code quality:** Helps improve source code quality and maintain coding standards in the project.
* **Early detection of errors:** Helps detect errors and security vulnerabilities early before deployment.
* **Enhance team collaboration:** Provide clear reporting and metrics, helping development teams better understand code quality and work together to improve.

**4. Integration:**

* SonarQube integrates well with many tools and services such as Jenkins, Azure DevOps, GitHub Actions, and GitLab CI/CD.
* It also supports integration with popular IDEs such as Eclipse and IntelliJ IDEA through plugins.

First is to install SonarQube (Community): <https://www.sonarsource.com/products/sonarqube/downloads>

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Unzip the file

Java JDK 17 Version must be installed

A screenshot of a computer

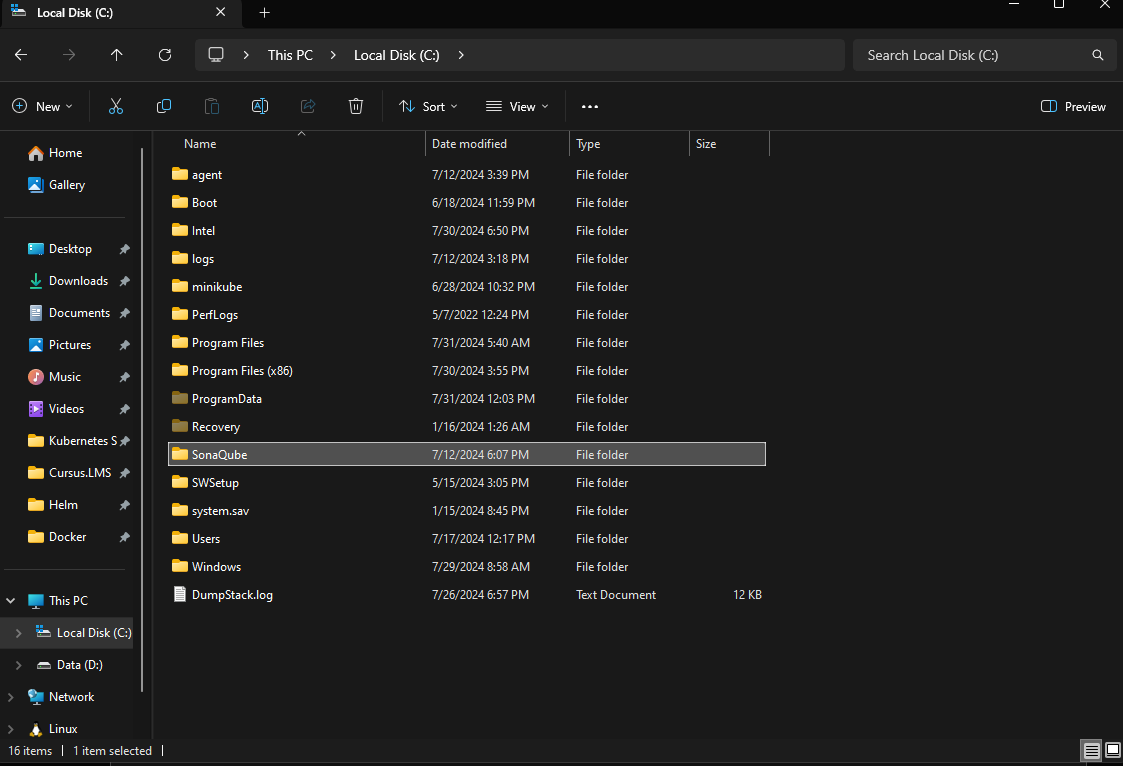
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<https://www.oracle.com/java/technologies/javase/jdk17-archive-downloads.html>

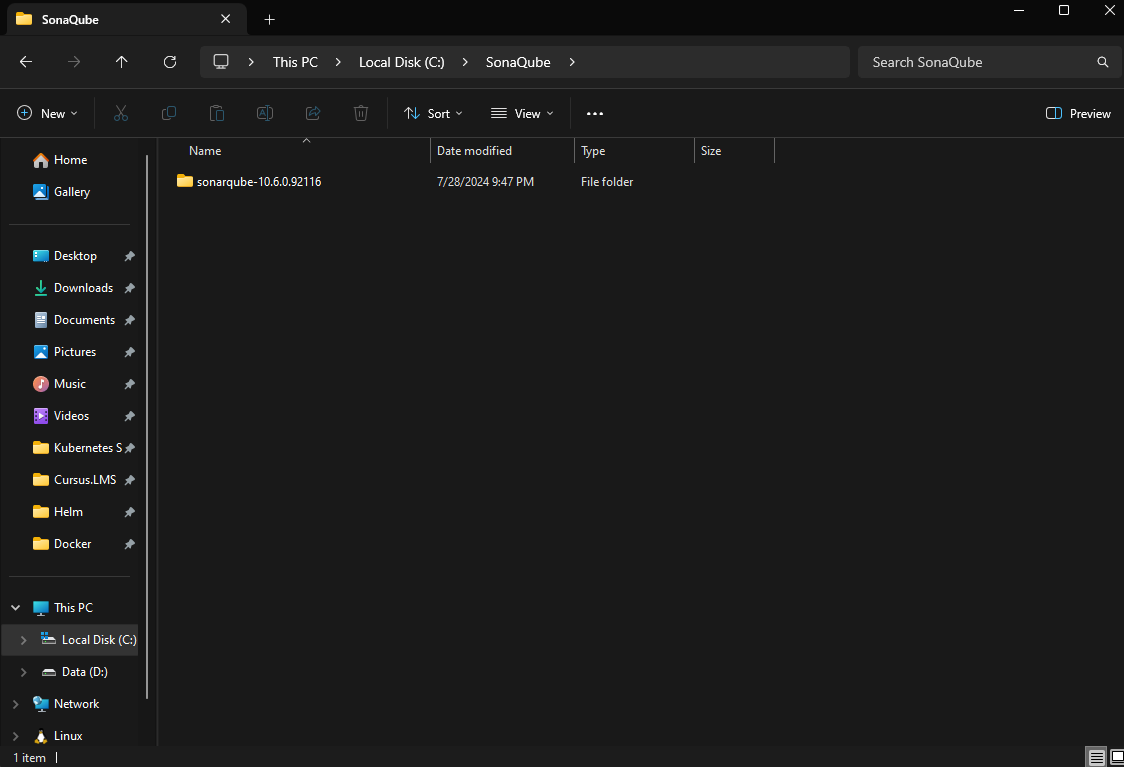
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Create folder SonarQube in drive C:



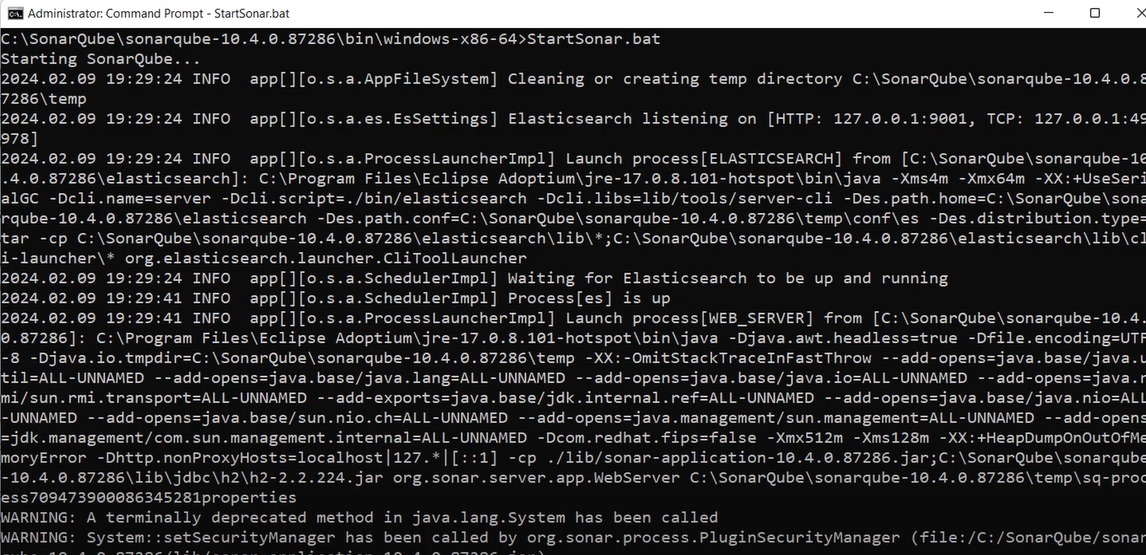
Copy the extracted SonarQube folder and paste it into this folder



Open the terminal with Administrator rights and navigate to the path C:\SonaQube\sonarqube-10.6.0.92116\bin\windows-x86-64

Next type the following commands

StartSonar.bat



Next run the command

.\ SonarService.bat install

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Open the browser and enter the url: <http://localhost:9000>to enter SonarQube

The default User and Password are admin

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Select Create Project and select Local Project

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Name the Project and Next

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**Use the global settings and Create project**

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Select Locally

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Choose the lifetime for the token and Generate

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Copy the token and Continue

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Select .NET, next .NET core

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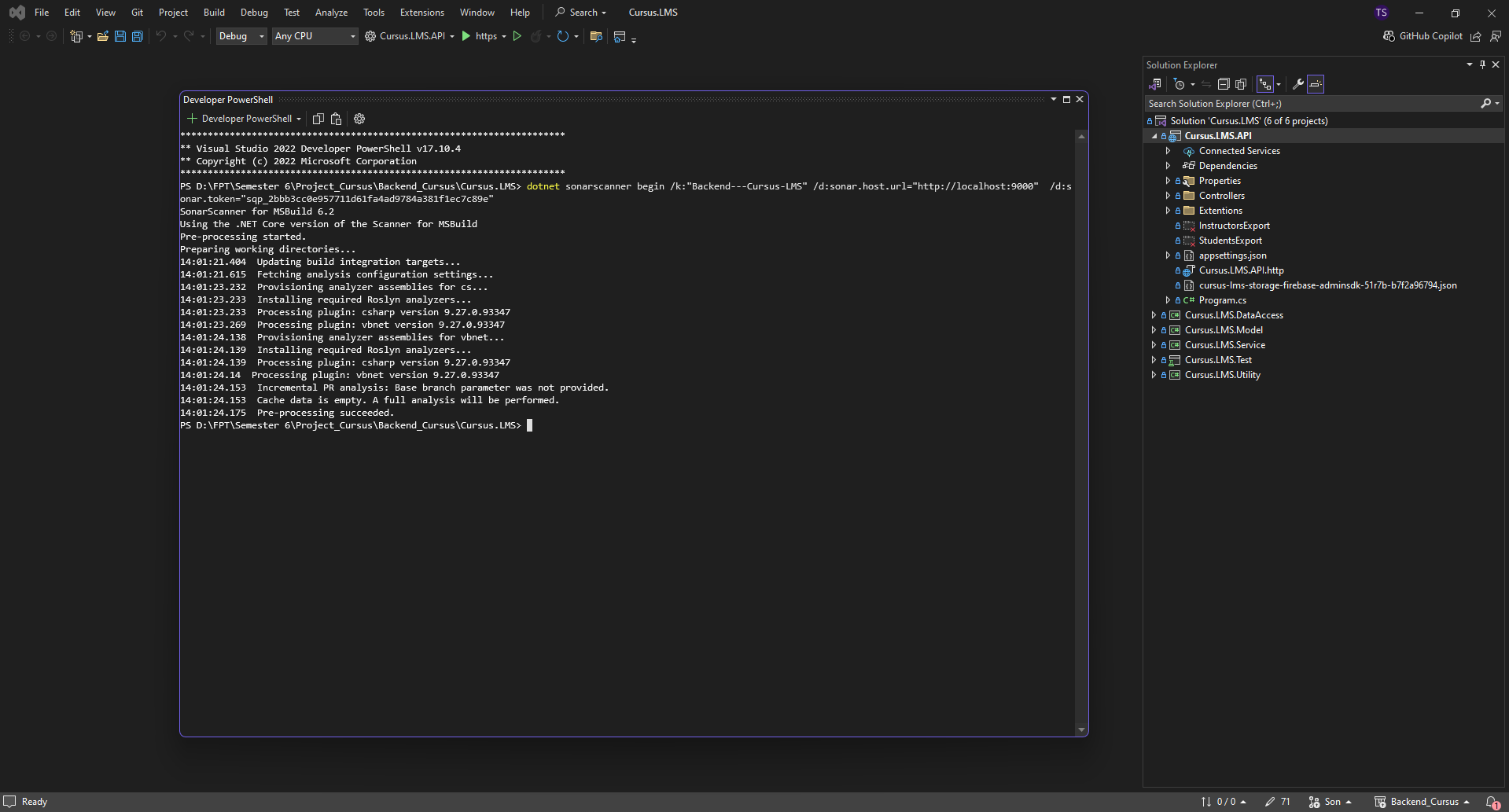
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Open terminal and run the following commands:

dotnet tool install --global dotnet-sonarscanner

Open the project in Visual Studio and run the following commands , edit Project Key and token

dotnet sonarscanner begin /k:"Backend---Cursus-LMS" /d:sonar.host.url="http://localhost:9000" /d:sonar.token="sqp\_2bbb3cc0e957711d61fa4ad9784a381f1ec7c89e"



dotnet build

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Edit tokens

dotnet sonarscanner end /d:sonar.token="sqp\_2bbb3cc0e957711d61fa4ad9784a381f1ec7c89e"

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Open SonarQube in the browser, this is the project after being analyzed

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In the Issues section, you can see syntax errors, duplicate code, and redundant code. Click to see detailed errors

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You can explore other sections to learn more about clean code

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