Static Code Analysis Setup

For this exercise, you will be setting up SonarQube to analyze your Java project code and SonarScanner to analyze your TypeScript code.

Install SonarQube

We will be using the Docker image to run SonarQube. To install, you must first have Docker running on your computer. You can install **Docker Desktop** here:

- Windows https://hub.docker.com/editions/community/docker-ce-desktop-windows
- Mac https://docs.docker.com/desktop/mac/install/

Make sure you Docker Desktop running. Open a terminal window and type:

docker run -d --name sonarqube -e SONAR_ES_BOOTSTRAP_CHECKS_DISABLE=true -p 9000:9000 sonarqube:latest

Accessing SonarQube

Once you have SonarQube installed and running, log in to <u>http://localhost:9000</u> with System Administrator credentials (admin/admin) and update your password.

Remember your username and password as this will be needed later for the exercise.

You should see something like this:



Click Administration from the top menu and then click Security on the left.

Scroll to the bottom and make sure **Force user authentication** is <u>unchecked</u>. This will allow you to freely run SonarQube without requiring any credentials.

Languages New Code	allowed to change project permissions. By default users with 'Administer' role are allowed to change both project configuration and project permissions. Key: sonar.allowPermissionManagementForProjectAd	
SCM	Force user authentication	
Security	Forcing user authentication prevents anonymous users from accessing the SonarQube UI, or project data via	
Technical Debt	the Web API. Some specific read-only Web APIs, including those required to prompt authentication, are still available anonymously. Disabling this setting can expose the instance to security risks. Key: sonar.forceAuthentication	Reset Default: True

At this point, you are done with installing SonarQube.

Install SonarScanner

- 1. Go to <u>https://docs.sonarqube.org/latest/analysis/scan/sonarscanner/</u> and download SonarScanner.
- 2. Expand the downloaded file into the directory of your choice. We'll refer to it as \$install_directory in the next steps.
- 3. Add the \$install_directory/bin directory to your path.
- 4. Verify your installation by opening a new shell and executing the command sonarscanner -h (sonar-scanner.bat -h on Windows). You should get output like this:

```
usage: sonar-scanner [options]

Options:

-D,--define <arg> Define property

-h,--help Display help information

-v,--version Display version information

-X,--debug Produce execution debug output
```

At this point, you are done with installing SonarScanner.

Stopping SonarQube`

To stop SonarQube on Docker, you must first find the container id by typing: docker ps

lmikez@Mikes-MacBook-Pro-2 SWEN261 % docker ps CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES aba13f6baa38 sonarqube:latest "/opt/sonarqube/bin/..." 5 minutes ago Up 5 minutes 0.0.0.0:9000->9000/tcp sonarqube

Next, stop the container by typing: docker stop [container id] [mikez@Mikes-MacBook-Pro-2 SWEN261 % docker stop aba13f6baa38 aba13f6baa38

Lastly, remove the docker container by typing: docker rm [container id] [mikez@Mikes-MacBook-Pro-2 SWEN261 % docker rm aba13f6baa38 aba13f6baa38