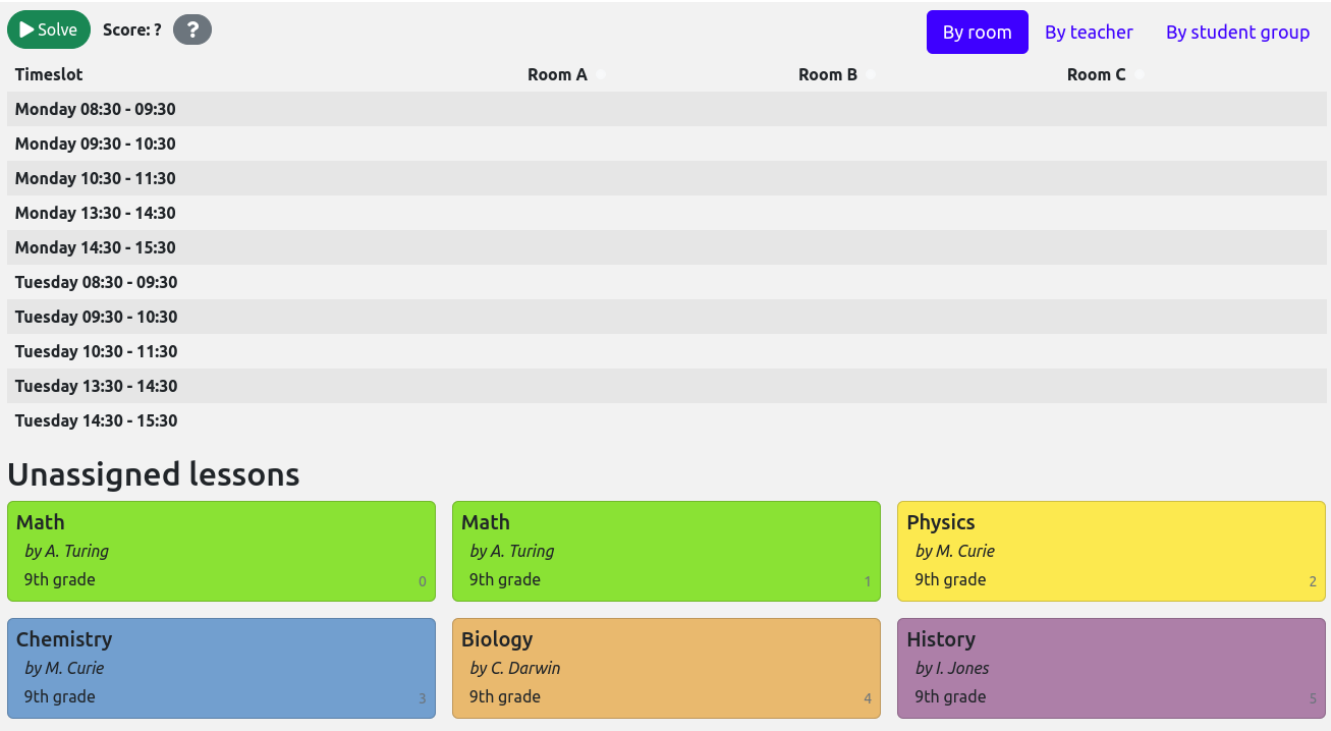
School Timetabling (Java, Spring Boot, Maven or Gradle)

Assign lessons to timeslots and rooms to produce a better schedule for teachers and students.



- Run the application

Run the application

1. Git clone the timefold-quickstarts repo and navigate to this directory:

```
$ git clone https://github.com/TimefoldAI/timefold-quickstarts.git
...
$ cd timefold-quickstarts/technology/java-spring-boot
```

2. Start the application with Maven:

```
$ mvn spring-boot:run
```

or with Gradle:

```
$ gradle bootRun
```

3. Visit http://localhost:8080 in your browser.
4. Click on the **Solve** button.

Run the packaged application

When you're ready to deploy the application, package the project to run as a conventional jar file.

1. Build it with Maven:

   ```
   $ mvn package
   ```

   or with Gradle:

   ```
   $ gradle clean build
   ```

2. Run the Maven output:

   ```
   $ java -jar target/spring-boot-school-timetabling-1.0-SNAPSHOT.jar
   ```

   or the Gradle output:

   ```
   $ java -jar build/libs/spring-boot-school-timetabling-1.0-SNAPSHOT.jar
   ```

   NOTE To run it on port 8081 instead, add `-Dserver.port=8081`.

3. Visit http://localhost:8080 in your browser.
4. Click on the **Solve** button.

Create a native image

IMPORTANT The solver runs considerably slower in a native image.

If you want faster startup times or need to deploy to an environment without a JVM, you can build a native image.

Build using Docker

1. Build a Docker image with Maven:

   ```
   $ mvn -Pnative spring-boot:build-image
   ```

or with Gradle:

```
$ gradle bootBuildImage
```

2. Start the built Docker image using `docker run`:

```
$ docker run --rm -p 8080:8080 docker.io/library/spring-boot-school-
timetabling:1.0-SNAPSHOT
```

3. Visit http://localhost:8080 in your browser.
4. Click on the **Solve** button.

Build using locally installed GraalVM

1. Build it with Maven:

```
$ mvn -Pnative native:compile
```

or with Gradle:

```
$ gradle nativeCompile
```

2. Run the Maven output:

```
$ ./target/spring-boot-school-timetabling
```

or the Gradle output:

```
$ ./build/native/nativeCompile/java-spring-boot
```

> **NOTE** To run it on port 8081 instead, add `-Dserver.port=8081`.

3. Visit http://localhost:8080 in your browser.
4. Click on the **Solve** button.

More information

Visit timefold.ai.