CS304 Team Project - Sprint 2 Report

1.项目指标 (Metrics)

代码行数 (Lines of Code)

- **总代码行数**: 6753
- **注释行数**:
- **空白行数**:

```
phystar@LAPTOP-STM5OV3B:/mnt/d/SUSTech/Spring 2024/Software Engineer/CS304$ cloc .
     277 text files.
     277 unique files.
      [Persistence]  iles ignored.

github.com/AlDanial/cloc v 1.90  T=5.69 s (44.6 files/s, 4681.9 lines/s)
-------------------------------------------------------------------------------
Language                     files          blank        comment           code
-------------------------------------------------------------------------------
JSON                             3              0              0          11924
XML                             25              2              0           3821
Java                            77            798            247           2914
HTML                           114            531              1           2302
JavaScript                      12            124            487           1251
Vuejs Component                  8             43             34            372
Markdown                         5            111              0            317
SQL                              2             38             22            285
Bourne Shell                     1             30             63            215
CSS                              2             46              1            209
DOS Batch                        1             36              0            169
Maven                            1              6              7            152
CSV                              1              0              0             48
YAML                             1              0              1             22
Dockerfile                       1              4              5              5
-------------------------------------------------------------------------------
```

```
------------------------------------------------------------------
phystar@LAPTOP-STM50V3B:/mnt/d/SUSTech/Spring 2024/Software Engineer/CS304$ find . -name "*.java" | wc -l
77
phystar@LAPTOP-STM50V3B:/mnt/d/SUSTech/Spring 2024/Software Engineer/CS304$ find . -name "pom.xml" -exec grep "<dependency>" {} \; wc -l
find: paths must precede expression: `wc'
phystar@LAPTOP-STM50V3B:/mnt/d/SUSTech/Spring 2024/Software Engineer/CS304$ find . -name "pom.xml" -exec grep "<dependency>" {} \; | wc -l
17
phystar@LAPTOP-STM50V3B:/mnt/d/SUSTech/Spring 2024/Software Engineer/CS304$ find . -type d | wc -l
380
phystar@LAPTOP-STM50V3B:/mnt/d/SUSTech/Spring 2024/Software Engineer/CS304$ []
```

包/模块数量 (Number of packages/modules)

- **总包/模块数量**: 9

源文件数量 (Number of source files)

- **总源文件数量**: 77

依赖数量 (Number of dependencies)

- **总依赖数量**: 17

2.文档 (Documentation)

用户文档 (End User Documentation)

- **链接**: Readme.md

开发者文档 (Developer Documentation)

- **链接**: CS304.md

3.测试 (Tests)

自动化测试技术/工具/框架 (Technology/Tools/Framework)

- **使用的技术/工具/框架**: Junit5、Mockito、Springboot test
- **测试代码或相关工件**:

test
  java
    com.example.cs304
      controller
        AuthControllerTest
        CourseControllerTest
        EvaluationControllerTest
        ForumControllerTest
        HelloControllerTest
        MessageControllerTest
        ProfessorControllerTest
        ReservationControllerTest
        StudentControllerTest
      Cs304ApplicationTests

```xml
<plugins>
    </plugin>
    <plugin>
        <groupId>org.jacoco</groupId>
        <artifactId>jacoco-maven-plugin</artifactId>
        <version>0.8.9</version>
        <executions>
            <execution>
                <goals>
                    <goal>prepare-agent</goal>
                </goals>
            </execution>
            <!-- attached to Maven test phase -->
            <execution>
                <id>report</id>
                <phase>test</phase>
                <goals>
                    <goal>report</goal>
                </goals>
            </execution>
        </executions>
    </plugin>
</plugins>
```

```
mvn test --fail--never
jacoco:report
```

测试有效性 (Effectiveness of Tests)

- **测试覆盖率**: [覆盖率百分比]

- **com.example.cs304.controller**

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
⊖ ReservationController	▰▰▰▰▰▰▰	5%	▰▰▰▰▰▰	0%	19	20	67	74	11	12	0	1
⊖ CourseController	▰▰▰▰	16%	▰▰	0%	10	14	53	66	8	12	0	1
⊖ ForumController	▰▰▰▰	45%	▰▰	0%	4	10	32	51	1	7	0	1
⊖ AuthController	▰▰	25%	▰▰	0%	2	4	10	13	0	2	0	1
⊖ MessageController	▰▰	40%	▰▰	50%	2	5	10	19	0	3	0	1
⊖ StudentController	▰	25%		n/a	3	4	8	9	3	4	0	1
⊖ EvaluationController	▰	31%		n/a	2	3	5	10	2	3	0	1
⊖ ProfessorController	▰	21%	▰	0%	2	3	4	7	1	2	0	1
⊖ HelloController	▮	100%		n/a	0	4	0	4	0	4	0	1
Total	847 of 1,121	24%	34 of 36	5%	44	67	189	253	26	49	0	9

- **测试报告**: 本地展示文件

4.构建 (Build)

构建技术/工具/框架 (Technology/Tools/Framework)

- **使用的技术/工具/框架**: Maven、npm
- **构建任务**:

```
mvn package -DskipTests
npm run build
```

```xml
m pom.xml (CS304)  ×      Dockerfile      docker-compose.yml      application.properties      © F  ∨  ⋮

 1    <?xml version="1.0" encoding="UTF-8"?>                                          ⚠4 ∧ ∨
 2    <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/
 3        xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 https://maven.apache.or
 4        <modelVersion>4.0.0</modelVersion>
 5        <parent>
 6            <groupId>org.springframework.boot</groupId>
 7            <artifactId>spring-boot-starter-parent</artifactId>
 8            <version>3.2.3</version>
 9            <relativePath/> <!-- lookup parent from repository -->
10        </parent>
11        <groupId>com.example</groupId>
12        <artifactId>CS304</artifactId>
13        <version>0.0.1-SNAPSHOT</version>
14        <name>CS304</name>
15        <description>CS304</description>
16        <properties>
17            <java.version>17</java.version>
18        </properties>
19        <dependencies>  🍃 Edit Starters...
20 ◎↑        <dependency>
21                <groupId>org.springframework.boot</groupId>
22                <artifactId>spring-boot-starter-data-jpa</artifactId>
23            </dependency>
24 ◎↑        <dependency>
25                <groupId>org.springframework.boot</groupId>
26                <artifactId>spring-boot-starter-web</artifactId>
```

project › build › plugins › plugin

构建产物 (Build Artifacts)

- **最终产物**: CS304-0.0.1-SNAPSHOT.jar、dist
- **构建文件**: pom.xml

5.部署 (Deployment)

容器化技术/工具/框架 (Technology/Tools/Framework)

- **使用的技术/工具/框架**: Docker
- **容器化脚本**:

```
# 使用官方的Java开发镜像作为基础镜像
FROM openjdk:17-jdk

# 将本地文件复制到容器的文件系统中
COPY ./target/CS304-0.0.1-SNAPSHOT.jar /usr/app/

# 设置工作目录
WORKDIR /usr/app

# 运行命令
RUN sh -c 'touch CS304-0.0.1-SNAPSHOT.jar'

# 设置启动命令
ENTRYPOINT ["java","-Dspring.profiles.active=docker","-jar","CS304-0.0.1-SNAPSHOT.
```

成功容器化证明 (Proof of Containerization)

- **容器化成功截图**:


```
PS D:\SUSTech\Spring 2024\Software Engineer\CS304> docker build -t cs304-app .
[+] Building 0.0s (0/0)  docker:default
[+] Building 2.5s (9/9) FINISHED                                                          docker:default
 => [internal] load build definition from Dockerfile                                               0.1s
 => => transferring dockerfile: 432B                                                               0.1s
 => [internal] load metadata for docker.io/library/openjdk:17-jdk                                  2.2s
 => [internal] load .dockerignore                                                                  0.0s
 => => transferring context: 2B                                                                    0.0s
 => [internal] load build context                                                                  0.0s
 => => transferring context: 81B                                                                   0.0s
 => [1/4] FROM docker.io/library/openjdk:17-jdk@sha256:528707081fdb9562eb819128a9f85ae7fe000e2fbaeaf9f87662e7b3f38cb7d8  0.0s
 => CACHED [2/4] COPY ./target/CS304-0.0.1-SNAPSHOT.jar /usr/app/                                  0.0s
 => CACHED [3/4] WORKDIR /usr/app                                                                  0.0s
 => CACHED [4/4] RUN sh -c 'touch CS304-0.0.1-SNAPSHOT.jar'                                        0.0s
 => exporting to image                                                                             0.0s
 => => exporting layers                                                                            0.0s
 => => writing image sha256:1c31ba745a7d6b2327a1a2bd9a33dd5b105b1a605aadf01c4f3feb4371677e6d       0.0s
 => => naming to docker.io/library/cs304-app                                                       0.0s
```

docker desktop

Search for images, containers, volume... Ctrl+K   Sign in

Containers
Images
Volumes
Builds
Docker Scout

Extensions

Add Extensions

Images   Give feedback

Local   Hub

0 Bytes / 3.5 GB in use   5 images   Last refresh: 3 minutes ago

	Name	Tag	Status	Created	Size	Actions
	cs304-app 1c31ba745a7d	latest	Unused	4 minutes ago	579.58 MB	▶ ⋮ 🗑
	phystar/cs304-app 5a99ec5fd116	1.0	Unused	10 days ago	1.17 GB	▶ ⋮ 🗑
	my-app a6f6c2835cf1	1.1	Unused	21 days ago	568.68 MB	▶ ⋮ 🗑
	phystar/cs304-app a6f6c2835cf1	1.1	Unused	21 days ago	568.68 MB	▶ ⋮ 🗑
	mysql f5f171121fa3	8.0	Unused	2 months ago	602.94 MB	▶ ⋮ 🗑

Showing 5 items

● Engine running ▶ ❚❚ ⏻ ⋮   RAM 2.76 GB CPU 0.13%   ⚡ Not signed in   ✓ v4.30.0 🔔 2

```
root@iZwz94nxtnkr2yvj1cg3ecZ:~/cs304# docker ps
CONTAINER ID   IMAGE                    COMMAND                  CREATED         STATUS         PORTS                                         NAMES
9b5ef6f37f7c   phystar/cs304-app:latest "java -Dspring.profi…"   5 minutes ago   Up 5 minutes   0.0.0.0:8080->8080/tcp, :::8080->8080/tcp      cs304_app_1
86f2c6c0331c   mysql:8.0                "docker-entrypoint.s…"   5 minutes ago   Up 5 minutes   3306/tcp, 33060/tcp                           cs304_db_1
root@iZwz94nxtnkr2yvj1cg3ecZ:~/cs304#
```