TDL Assignment

Presentation

Sehun Babatunde

Introduction

- I’m Sehun :)
- Joined QA – December 2020
- Always had a interest in technology (video games FTW!) Graduated from a software engineering degree in July 2020

Consultant Journey

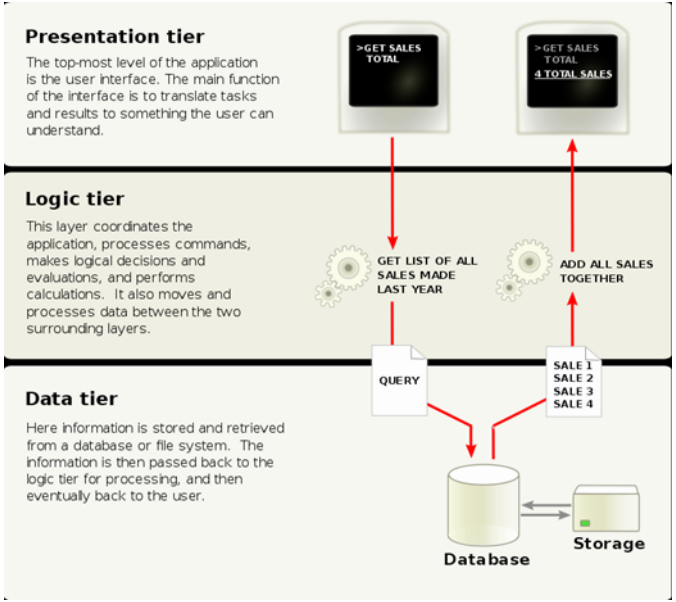
- Git (Three feature branch model) & Github
- Java Programming Language
- OOP Concepts
- Project Management (Jira, user stories, acceptance criteria)
- Unit Testing (JUnit)
- Maven
- MySQL (SQL,Workbench)
- New: Mockito, Selenuim, HTML, CSS, JavaScript

Approach - Previous CRUD Applications

Prescription Management site via LAMP stack (Linux, Apache MySQL,PHP)

Dissertation - mobile app art marketplace – CRUD functions (Add users, add art)

IMS Assigment

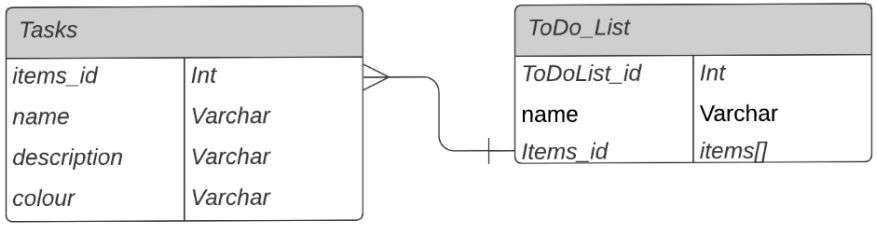


Three- Tiered Architecture model

ER Diagram

Sehun TDL Assignment - Pre UML Diagram

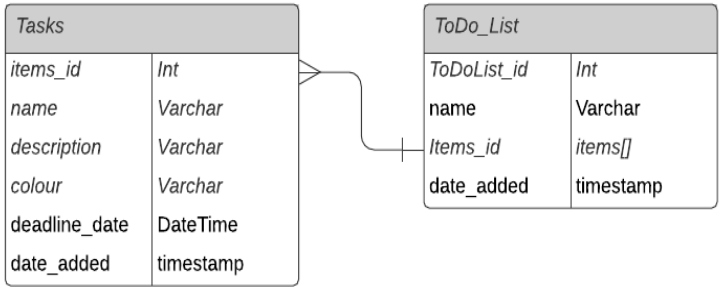
sehun babatunde | February 10, 2021



ER Diagram

Sehun Copy of TDL Assignment - Pre UML Diagram

sehun babatunde | Improved idea



Risk Assessment

Sehun Babatunde – TDL Assignment

Risk	Risk Statement	Response strategy	Objectives	Likelihood	Risk Level
GitHub	Any source code pushed to GitHub could potentially contain information that hackers would find useful when trying to a maliciously alter the project. The source files could potentially contain hard-coded login credentials which could allow for data leaks.	Use stronger passwords and usernames than just “admin” or “root”, and keep them regularly updated.	Reduce the likelihood of hacking and data leaks.	Medium	Medium-to-High
Developmen t Computer	My hard drive on my computer that contains my assignment work could fail would could result in data loss me losing my project work.	Use the git commit and branch system on GitHub to break down each task so I can roll back features if I have accidentally overwritten work. The files will be also stored at GitHub's end. Keep regular backups to pen drives , external hard drives and I could use cloud platforms such as OneDrive and Google Cloud to have additional off-site backup.	Reduce the likelihood of data loss	Medium	High
Covid / other illnesses	Me or my immediately family catches Covid-19 or other illnesses .	Maintain social distancing with outside strangers . Wear a mask while going outside and other external activities while outside my home. Avoid unnecessary travel	Reduce the likelihood of catching COVID-19 or any other illnesses.	Medium	Medium-to-High
Software/	One of the software tools	Keep regular backups and maintain	Reduce the risk of IMS	Medium	Medium-to-High

IMS Assignment Risk Matrix - Sehun Babatunde

Potential Consequences

Likelihood			1. Github	5. Stuck on a problem	2. Development Computer	6.Time Management	3.Covid / other illnesses
			Not Significant	Minor	Moderate	Major	Severe
	Expected to occur regularly under normal circumstances	Almost Certain	Low	Medium	Low	Medium	Low
	Expected to occur at some time	Likely	Low	High	Low	High	Low
	May occur at some time	Possible	Low	High	Medium	High	Medium
	Not likely to occur in normal circumstances	Unlikely	Medium	Low	Medium	Low	Medium
	Could happen, but probably never will	Rare	Medium	Low	Medium	Low	Medium

Likelihood			8.Project Bugs	6. Stress/Burnout	7. Time Mismanagement	4. Software repo/tools corrupting/ broken	Website CDN deper	User has JavaScript disabled
			Minor	Moderate	Major	Major	Moderate	Moderate
	Expected to occur regularly under normal circumstances	Almost Certain	High	Low	Low	Low	Low	Low
	Expected to occur at some time	Likely	High	Medium	Medium	Low	Low	Medium
	May occur at some time	Possible	High	Medium	Medium	Medium	Low	Medium
	Not likely to occur in normal circumstances	Unlikely	Low	Low	High	High	High	Medium
	Could happen, but probably never will	Rare	Low	Low	Medium	High	Medium	Low

Must have : Full CRUD functionalities , website front end, two entites, a full working and runnable fat jar of the final application , git repository utilising the feature-branch model , main branch must compile, completed projected management board using jira, presentation, ERD diagram, UML Diagram, Junit tests, mockitio,

Should Have: Junit tests of entire application, 80% test coverage of the entire src/java/main folder, a completed README.md , swagger documentation

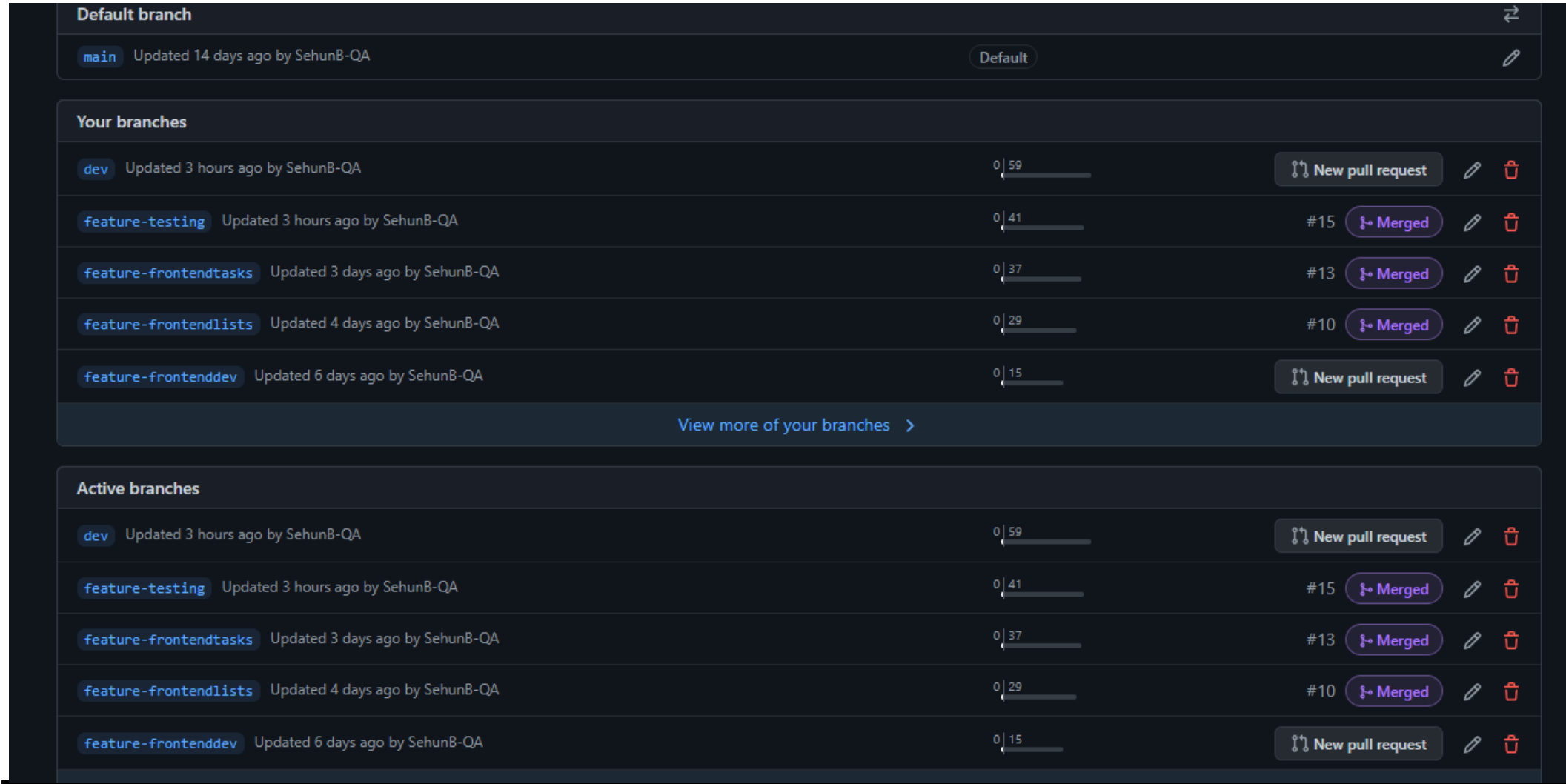
Could Have: Capture a timestamp, when an task ii made, A MySQL database linked to the application, single page application. Deadlines added to tasks ans list to fulfil

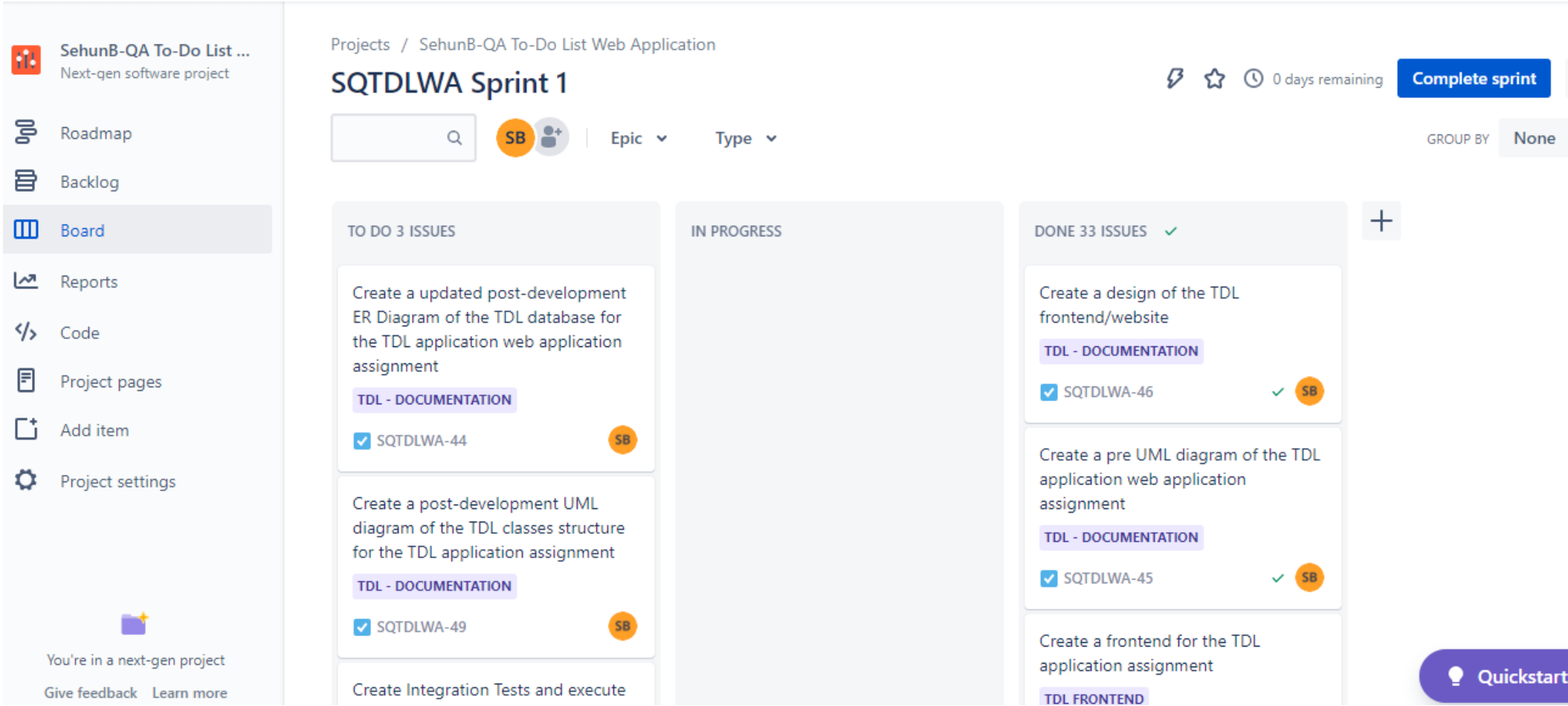
Will not have: Moblie app

CI – Version Control

- The o’l reliable:Three feature branch Model
- Benefits: Continues Integration & Development
- Don’t break the main branch
- Rollbacks!

Could have branched tasks more tasks into separate ones

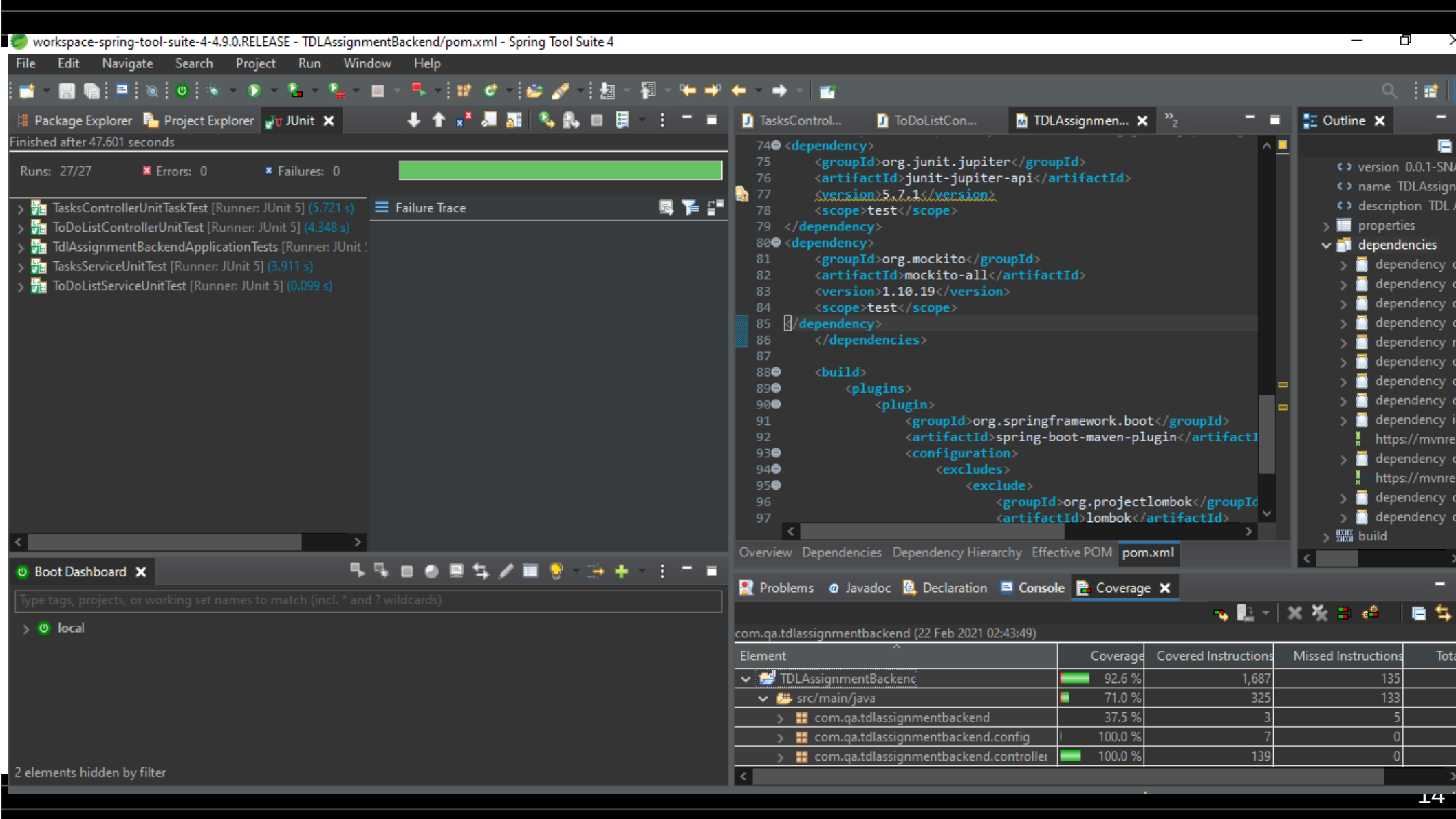

Default branch
main Updated 14 days ago by SehunB-QA
Default
Your branches
dev Updated 3 hours ago by SehunB-QA
0 59
New pull request
feature-testing Updated 3 hours ago by SehunB-QA
0 41
#15 Merged
feature-frontendtasks Updated 3 days ago by SehunB-QA
0 37
#13 Merged
feature-frontendlists Updated 4 days ago by SehunB-QA
0 29
#10 Merged
feature-frontenddev Updated 6 days ago by SehunB-QA
0 15
New pull request
View more of your branches
Active branches
dev Updated 3 hours ago by SehunB-QA
0 59
New pull request
feature-testing Updated 3 hours ago by SehunB-QA
0 41
#15 Merged
feature-frontendtasks Updated 3 days ago by SehunB-QA
0 37
#13 Merged
feature-frontendlists Updated 4 days ago by SehunB-QA
0 29
#10 Merged
feature-frontenddev Updated 6 days ago by SehunB-QA
0 15
New pull request


SehunB-QA To-Do List ...
Next-gen software project
Roadmap
Backlog
Board
Reports
Code
Project pages
Add item
Project settings
You're in a next-gen project
Give feedback
Learn more
Projects / SehunB-QA To-Do List Web Application
SQTDLWA Sprint 1
0 days remaining
Complete sprint
SB
Epic
Type
GROUP BY
None
TO DO 3 ISSUES
Create a updated post-development ER Diagram of the TDL database for the TDL application web application assignment
TDL - DOCUMENTATION
SQTDLWA-44
SB
Create a post-development UML diagram of the TDL classes structure for the TDL application assignment
TDL - DOCUMENTATION
SQTDLWA-49
SB
Create Integration Tests and execute
IN PROGRESS
DONE 33 ISSUES
Create a design of the TDL frontend/website
TDL - DOCUMENTATION
SQTDLWA-46
SB
Create a pre UML diagram of the TDL application web application assignment
TDL - DOCUMENTATION
SQTDLWA-45
SB
Create a frontend for the TDL application assignment
TDL FRONTEND
Quickstart

Testing

Why use JUnit & what's the purpose of Unit Testing? –

To confirm that our program and it’s behaviour works as intended!


workspace-spring-tool-suite-4-4.9.0.RELEASE - TDLAssignmentBackend/pom.xml - Spring Tool Suite 4
File Edit Navigate Search Project Run Window Help
Package Explorer Project Explorer JUnit
Finished after 47.601 seconds
Runs: 27/27 Errors: 0 Failures: 0
TasksControllerUnitTaskTest [Runner: JUnit 5] (5.721 s)
ToDoListControllerUnitTest [Runner: JUnit 5] (4.348 s)
TdlAssignmentBackendApplicationTests [Runner: JUnit
TasksServiceUnitTest [Runner: JUnit 5] (3.911 s)
ToDoListServiceUnitTest [Runner: JUnit 5] (0.099 s)
Failure Trace
Boot Dashboard
Type tags, projects, or working set names to match (incl. * and ? wildcards)
local
2 elements hidden by filter
TasksControl... ToDoListCon... TDLAssignmen...
74 <dependency>
75 <groupId>org.junit.jupiter</groupId>
76 <artifactId>junit-jupiter-api</artifactId>
77 <version>5.7.1</version>
78 <scope>test</scope>
79 </dependency>
80 <dependency>
81 <groupId>org.mockito</groupId>
82 <artifactId>mockito-all</artifactId>
83 <version>1.10.19</version>
84 <scope>test</scope>
85 </dependency>
86 </dependencies>
87
88 <build>
89 <plugins>
90 <plugin>
91 <groupId>org.springframework.boot</groupId>
92 <artifactId>spring-boot-maven-plugin</artifactI
93 <configuration>
94 <excludes>
95 <exclude>
96 <groupId>org.projectlombok</groupId
97 <artifactId>lombok</artifactId>
Overview Dependencies Dependency Hierarchy Effective POM pom.xml
Outline
version 0.0.1-SNA
name TDLAssign
description TDL
properties
dependencies
build
Problems Javadoc Declaration Console Coverage
com.qa.tdlassignmentbackend (22 Feb 2021 02:43:49)
Element Coverage Covered Instructions Missed Instructions Tota
TDLAssignmentBackend 92.6 % 1,687 135
src/main/java 71.0 % 325 133
com.qa.tdlassignmentbackend 37.5 % 3 5
com.qa.tdlassignmentbackend.config 100.0 % 7 0
com.qa.tdlassignmentbackend.controller 100.0 % 139 0

*FrontEndToDoListSelenuimTest.java

```
21
22      @BeforeAll
23
24      public  void setup() {
25          System.setProperty("webdriver.chrome.driver", "src/test/resources/chromedriver.exe");
26          driver = new ChromeDriver();
27          driver.manage().window().setSize(new Dimension(1366,768));
28      }
29
30      @Test
31      public void TestCreate() throws InterruptedException{
32          driver.get("http://localhost:9094/index.html");
33           WebDriverWait wait = new WebDriverWait(driver, 30);
34
35          WebElement toDoListNavBarLink = driver.findElement(By.xpath("/html/body/div[1]/button[1]"));
36          toDoListNavBarLink.click();
37
38          WebElement createToDoListPageLink = driver.findElement(By.xpath("/html/body/div[1]/div[1]/a[1]"));
39          createToDoListPageLink.click();
40
41          WebElement toDoListTextBox = driver.findElement(By.xpath("/html/body/form/div/input"));
42          toDoListTextBox.click();
43          toDoListTextBox.sendKeys("SHOPPING LIST");
44
45          WebElement pageBackground = driver.findElement(By.xpath("/html/body/div"));
46          pageBackground.click();
47
48          WebElement createNewListButton = driver.findElement(By.xpath("/html/body/form/div/button"));
49          createNewListButton.click();
50
51          WebElement listCreatedText = driver.findElement(By.xpath("/html/body/form/div/p[1]"));
52          wait.until(ExpectedConditions.visibilityOfElementLocated(By.xpath("/html/body/form/div/p[1]")));
53
54          assertEquals("List Created!", listCreatedText.getText());
```

The Fun Part: The demo!

Sprint Review

Jira Board - https://sehunqaimsassignment.atlassian.net/jira/software/projects/SQTDLWA/boards/2

Complete: Full working frontend and backend , unit tests of controllers, most unit tests of services, front end test of todolist

Left of: Junit testing of update function in services, integration tests,

Sprint Retrospective

Overall : Went well and helpful

- Improved test coverage and skills from last project

Things to improve:More breakdown of tasks

- Full Junit tests of the services, integration tests, 80+ test coverage
-

Conclusion

Successes :

- I have learned a lot
- Proud of project
- Good Challenge & working project
- Met great people

Improvements and moving ahead:

-Don't overstress

- Have regular updates with my trainers ang
- Do some more learning on concepts covered
- Better management on time and tasks

Questions?

Thank you for listening! :)