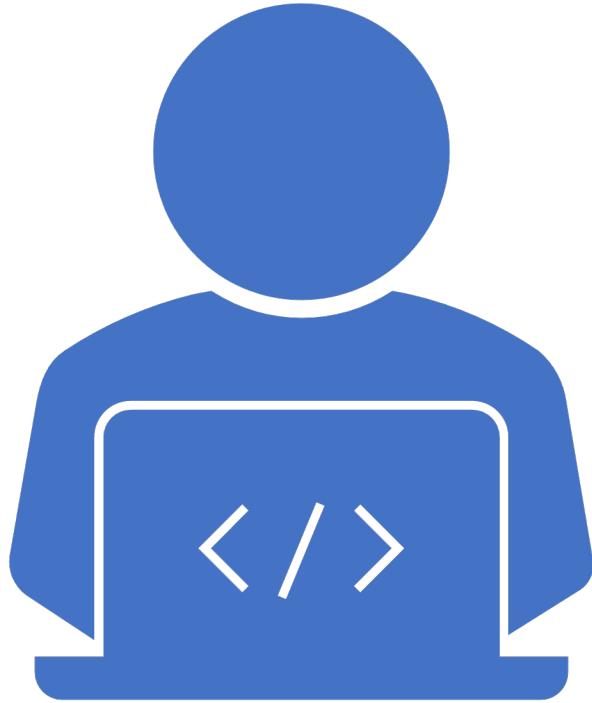




# To-Do List Web Page

Ibraheem Latif



# Introduction

- Create an Object Oriented Programming (OOP) web application.
- Full CRUD functionality
- Local and online Database
- Testing coverage of 80%
- A complied application

# Concept

Three-tier architectural structure:

- Data
- Business
- Presentation

# Data Layer

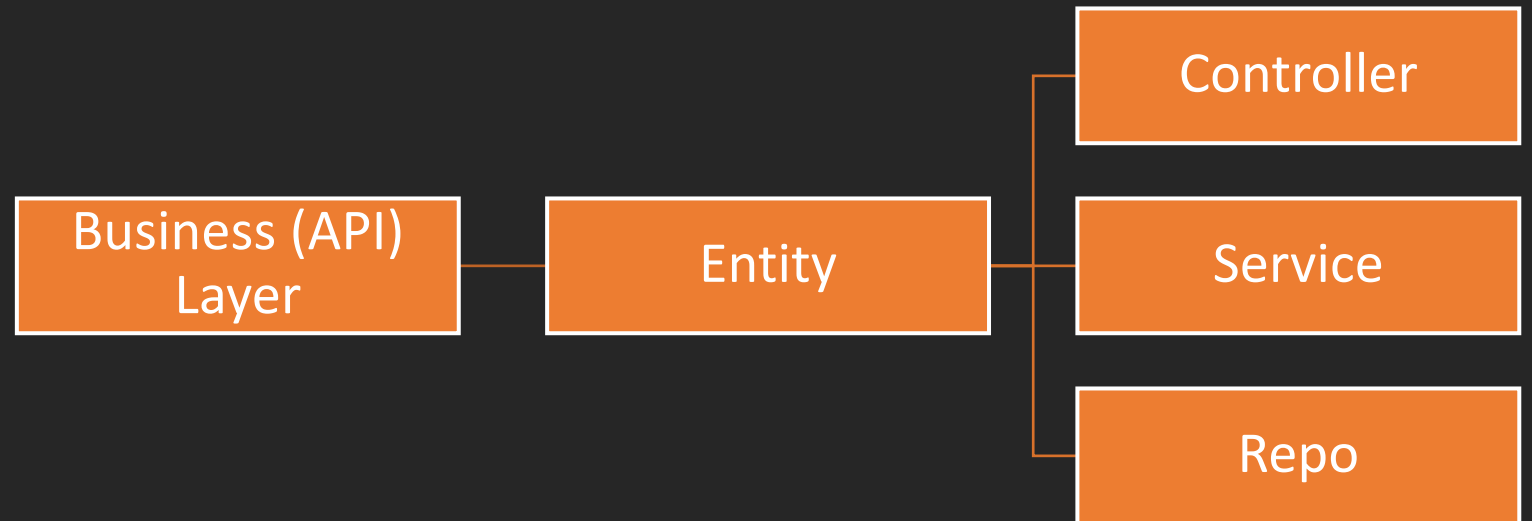
to_do_item	
id	BIGINT
category	VARCHAR(255)
complete	BIT(1)
name	VARCHAR(255)
Indexes	

## To-Do List UML

Ibraheem Latif | August 18, 2022

to_do_item		
PK	id	BIGINT
	category	VARCHAR(225)
	complete	BIT(1)
KEY	name	VARCHAR(225)

# Business Layer



# Sprint Plan

- Sprint 1
  - Documentation
  - API

- Sprint 2
  - Web Page Creation
  - Testing

- Sprint 3
  - Presentation
  - Compile

Start Date

15/08/2022 – 9:00AM

Start Date

16/08/2022 – 12:30AM

Start Date

17/08/2022 – 12:30AM

End Date

16/08/2022 – 12:00AM

End Date

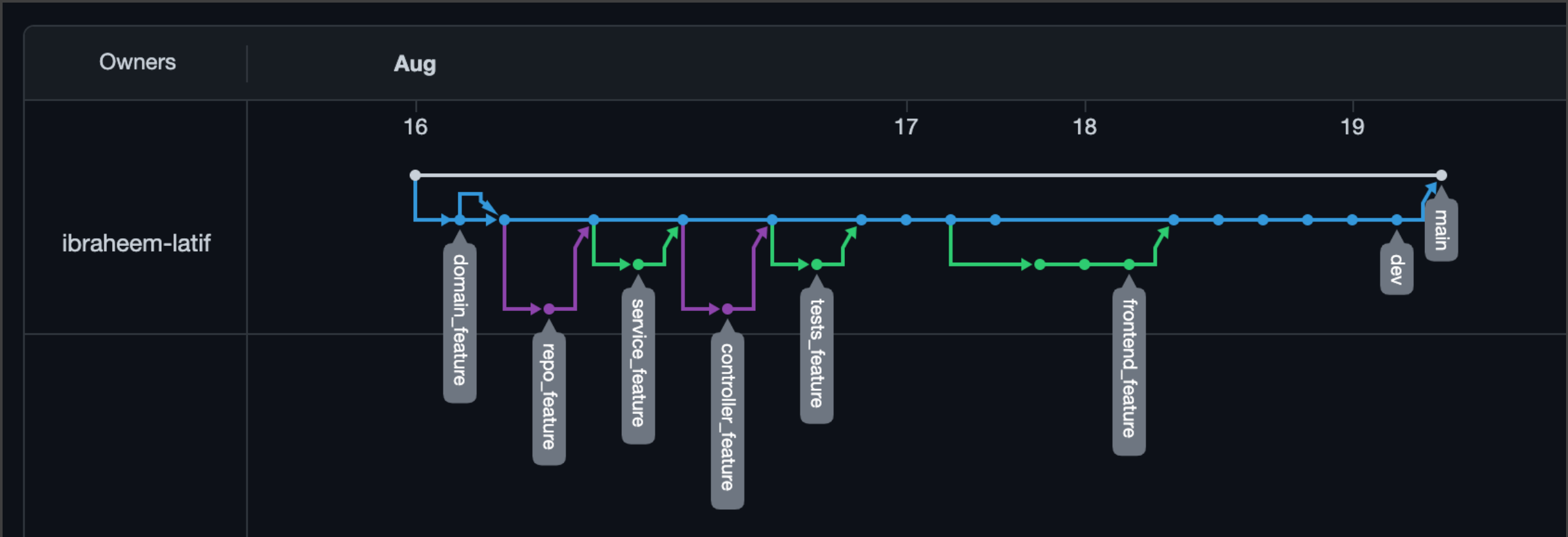
17/08/2022 – 12:00AM

End Date

18/08/2022 – 17:00PM

# Journey

Technology	Description
JavaScript	Creation of interactive webpages
CSS	Used to style elements on HTML documents
HTML	Used to structure webpages
Spring Boot	Application used to fast track creation of services with their frameworks
VS Code	IDE
Swagger	Creates documentation for API's

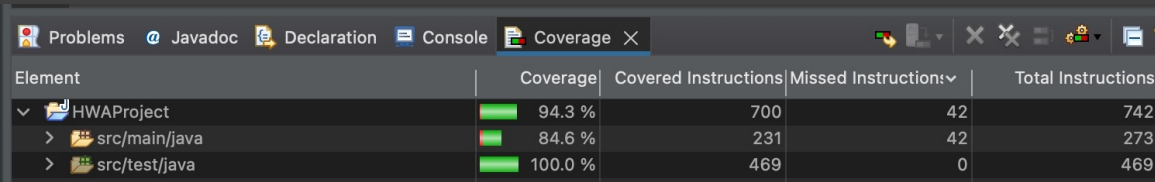


## Continuous Integration

- Version control system
  - Git
  - Github
- When MVP was being developed, the feature branch approach was employed to ensure that it was always functional for users
- Branches were called by the thought that they change.



# Testing



The screenshot shows the 'Coverage' tab in an IDE. It displays a table with columns: Element, Coverage, Covered Instructions, Missed Instructions, and Total Instructions. The data is as follows:

Element	Coverage	Covered Instructions	Missed Instructions	Total Instructions
HWAPProject	94.3 %	700	42	742
> src/main/java	84.6 %	231	42	273
> src/test/java	100.0 %	469	0	469

```
@Test
public void createTest() throws Exception {
    // Create an object for posting

    ToDoItem entry = new ToDoItem("Clothes", "T-shirt", false);
    String entryAsJSON = mapper.writeValueAsString(entry);

    // Create an object for checking the result
    ToDoItem result = new ToDoItem(2L, "Clothes", "T-shirt", false);
    String resultAsJSON = mapper.writeValueAsString(result);

    mvc.perform(post("/item/create").contentType(MediaType.APPLICATION_JSON).content(entryAsJSON))
        .andExpect(content().json(resultAsJSON));
}
```

## Integration Testing

```
@Test
void createTest() throws Exception {
    // Create an object for posting

    ToDoItem entry = new ToDoItem("Clothes", "T-shirt", false);
    String entryAsJSON = mapper.writeValueAsString(entry);

    // Create an object for checking the result
    ToDoItem result = new ToDoItem(2L, "Clothes", "T-shirt", false);
    String resultAsJSON = mapper.writeValueAsString(result);

    Mockito.when(service.create(entry)).thenReturn(result);

    mvc.perform(post("/item/create")
        .contentType(MediaType.APPLICATION_JSON)
        .content(entryAsJSON)
        .andExpect(content().json(resultAsJSON));
}
```

## Unit Testing

# Demonstration

---

# Sprint Review

▼ HWA Sprint 1














15 Aug – 16 Aug (6 issues)

2700

Complete sprint

...

Complete the API

 HWA-4	As a developer, I must have a risk assessment that outlines the potential risks, so that there necessary precautions.	DOCUMENTATION	5	TO DO ▼	
 HWA-6	As a developer, I must have a project management board, so that I have manage my time effectively.	DOCUMENTATION	5	TO DO ▼	
 HWA-9	As a developer, I must employ best practise code for my back-end so that it works properly and is simple to comprehend.	BUSINESS LAYER	 5	TO DO ▼	
 HWA-7	As a developer, I must have a MySQL database, so that I can store user tasks.	DATA LAYER	5	TO DO ▼	
 HWA-13	As a developer, I should have comments throughout my code, so that I can explain what is happening.	DOCUMENTATION	3	TO DO ▼	
 HWA-5	As a developer, I must have code with a fully integrated version control System using GitHub and Git, so that I can track changes to the ...	DOCUMENTATION	4	TO DO ▼	

+ Create issue

▼ HWA Sprint 2














16 Aug – 17 Aug (6 issues)

1840

Start sprint

...

Complete the Front End and achieve testing goal

 HWA-10	As a developer, I must employ best practise code for my front-end so that it works properly and is simple to comprehend.	PRESENTATION LAYER	 4	IN PROGRESS ▼	
 HWA-16	As a developer, I should have a user-friendly Graphical User Interface (GUI), so that the user has no difficulty using the app.	PRESENTATION LAYER	3	TO DO ▼	
 HWA-11	As a developer, I must aim to have an industry standard of 80% test coverage, so that my program is robust and error free.	BUSINESS LAYER	5	TO DO ▼	
 HWA-17	As a developer, I could have a test coverage of 95%, so that my application is error free.	BUSINESS LAYER	3	TO DO ▼	
 HWA-14	As a developer, I should constantly commit to GitHub, so that I have backups.	DOCUMENTATION	4	TO DO ▼	
 HWA-15	As a developer, I should have a structured folder, so that everything can be easily accessed.	DOCUMENTATION	3	TO DO ▼	

+ Create issue

▼ HWA Sprint 3



















17 Aug – 18 Aug (9 issues)

3600

Start sprint

...

Complete presentation

 HWA-19	As a developer, I would not have user log-in credentials	BUSINESS LAYER	3	TO DO ▼	
 HWA-27	As a user, I must be able to create tasks, so that I can add items to my schedule.	PRESENTATION LAYER	5	TO DO ▼	
 HWA-28	As a user, I must be able to read tasks, so that I know what my schedule looks like.	PRESENTATION LAYER	5	TO DO ▼	
 HWA-29	As a user, I must be able to delete tasks, so that I clear up my schedule.	PRESENTATION LAYER	5	TO DO ▼	
 HWA-30	As a user, I must be able to update tasks, so that I can make changes to my schedule	PRESENTATION LAYER	5	TO DO ▼	
 HWA-20	As a developer, I would not have a domain, so that people cannot access it from anywhere.	PRESENTATION LAYER	3	TO DO ▼	
 HWA-31	As a user, I should be able to search for tasks through their ID, so that I can read a specific task.	PRESENTATION LAYER	3	TO DO ▼	
 HWA-32	As a user, I should be able to search for tasks through their category, so that I can read a specific category.	PRESENTATION LAYER	3	TO DO ▼	
 HWA-12	As a developer, I must have a presentation, so that I can demonstrate the materials covered in this project.	DOCUMENTATION	4	TO DO ▼	

+ Create issue

# Sprint One Example

Business Layer /  
HWA-9

🔒

👁 1

👍

🔗

⋮

✕

As a developer, I must employ best practise code for my back-end so that it works properly and is simple to comprehend.

📎

👤

🔗

⋮

To Do ▾

Description

Add a description...

Child issues

Order by ▾ ⋮ +

0% Done

HWA-22

I must have an enti...

-

👤

TO DO ▾

HWA-23

I must have a repo...

-

👤

TO DO ▾

HWA-24

I must have a servi...

-

👤

TO DO ▾

HWA-25

I must have a contr...

-

👤

TO DO ▾

Details

⌵

IL

Add a comment...

Pro tip: press **M** to comment

Projects / Hobby Web Application

HWA Sprint 1

Complete the API

🔍

IL

👤

Epic ▾

TO DO 1 ISSUE

As a developer, I should have comments throughout my code, so that I can explain what is happening.

DOCUMENTATION

HWA-13

3

IN PROGRESS 3 ISSUES

As a developer, I must employ best practise code for my back-end so that it works properly and is simple to comprehend.

BUSINESS LAYER

HWA-9

5

👤

As a developer, I must have a MySQL database, so that I can store user tasks.

DATA LAYER

HWA-7

5

As a developer, I must have code with a fully integrated version control System using GitHub and Git, so that I can track changes to the code, while enhancing communication and collaboration between team members.

DOCUMENTATION

HWA-5

4

DONE 2 ISSUES ✓

As a developer, I must have a risk assessment that outlines the potential risks, so that there necessary precautions.

DOCUMENTATION

HWA-4

✓ 5

As a developer, I must have a project management board, so that I have manage my time effectively.

DOCUMENTATION

HWA-6

✓ 5

# Sprint Retrospective

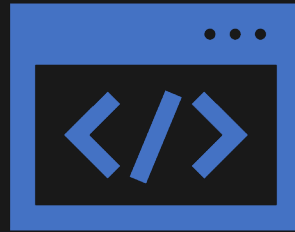
## What went well?

- Suitable epics
- MVP achieved
- Use of MoSCoW

## What could be improved?

- Included more topics (Child issues)
- Use Jira to highlight bugs in project
- Time management
  - Extra time to make the web page user friendly

# Conclusion & Future Work



- The web application meets the MVP.
- Developed knowledge on Swagger API.
- Create a user friendly web page.