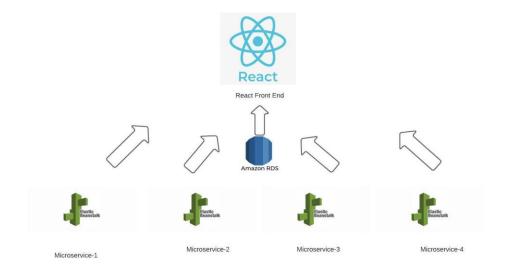
PROJECT REPORT (GROUP 3 TUES1830- REZA)

Vision Statement

To provide a user-friendly app that will allow for all majority of ages to navigate through and find books they have an interest in purchasing. Being the best means giving our users functionalities that they can confidently use and understand in order to search for a book depending on any attribute they are interested in. They not only can search for books easily, they can place an order through PayPal to buy the book, request a refund within 2 hours of placing the order, view their order status and transaction history as well as place a review for the book they purchased. Building a product with little harm to user is an important vision for us as we believe every user should have data integrity and proper security. This possible as the admin users constantly approve/deny user registrations, look out for harmful/disrespectful reviews placed, able to edit/remove books published if seemed inappropriate and are able to have access to getting transactions history to help with any enquiries. Not only do we have a safe app to navigate through, we are also allowing publishers/shop owners to publish their hard worked books onto our app for customers to be able to purchase. Publishers/Shop owners are able to see history of transaction orders, status of current orders and change the availability of a book. This BOOKERO app will make it very simple and secure for a user to navigate through the app, making it an enjoyable experience that no person should miss out on using if you love reading books.

Basic System Architecture (Front, backend datastore)



Refactoring Project

Down below you fill find parts of the project where we changed/enhanced in order to improve the functionality of our app and ensure we are adhering to the assignment specifications.

Set orders to appear from most recent to least recent:

```
@GetMapping(@v"/findOrders")
public List<Order> findOrders() {
   List<Order> returnList = orderService.getOrders();
   Collections.reverse(returnList);
   return returnList;
}
```

Now the purpose for this refactoring was that user looks to find the order then can get the list from most recent to make it easier to look for the order rather than needing to try find them in an unordered list.

Created calendar instance to better work with SQL date format:

```
@GetMapping(@v"/findOrdersForRefund/{username}")
public List<Order> findOrdersForRefund(@PathVariable String username) {
    Calendar c = Calendar.getInstance();
    Date referenceDate = new Date();
    c.setTime(referenceDate);
    c.add(Calendar.HOUR, amount: -2);
    Date date = c.getTime();

List<Order> returnList = orderService.getOrdersForRefund(date, username);
    Collections.reverse(returnList);
    return returnList;
}
```

Now the purpose for this refactoring was to make the format for SQL to work better for our instance to ensure efficiency of our code.

Added Response entity to signify report creation success or failure:

Now the purpose for this refactoring was to test to see if report has been created properly or if it hasn't been created properly.

Allowed refunds for orders that are of a specific status:

```
public List<Order> getOrdersForRefund(Date date, String username) {
   List<Order> returnList = orderRepository.findAllByCreateAtAfterAndUsernameAndStatus(date, username, | status | "Order | Placed");
   returnList.addAll(orderRepository.findAllByCreateAtAfterAndUsernameAndStatus(date, username, | status | "Shipped"));
   return returnList;
}
```

Now the purpose for this refactoring was that refunds can only occur for an order that has been placed rather than having refunds occur for someone that hasn't even placed an order. So, this checks to see the specific status before giving a refund.

Replaced removed redundant fields in book table (category removed) and Added pdf_link to make it available to download:

```
@Entity
@Table(name = "BOOK_TBL")
public class Book {
    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    private Long id;

    @NotBlank(message = "ISBN is required")
    @Column(unique = true)
    private String ISBN;

    @NotBlank(message = "Title is required")
    @Column(unique = true)
    private String title;

    @NotBlank(message = "Author's name is required")
    private String author;

    @NotBlank(message = "Genre is required")
    private String genre;

    @NotBlank(message = "Condition is required")
    private String condition;

    @NotBlank(message = "Price is required")
    private String price;

    @NotBlank(message = "Page Count is required")
    private String storeOwnerID;
    private String storeOwnerID;
    private String pdf_link;
```

Now the purpose for this refactoring was that all unnecessary information is removed and so that information of the book is available for download as a PDF file which wasn't implemented properly before.

Set books to appear from most recent to least recent:

```
QGetMapping(©x"/findBooks")
public List<Book> findBooks() {
    logger.trace("Retrieved all books");
    List<Book> returnList = bookService.getBooks();
    Collections.reverse(returnList);
    return returnList;
}
```

Now the purpose for this refactoring was that user can find books from most recent to least recent to see any new books that have been published on the app rather than trying to manually look for new books published.

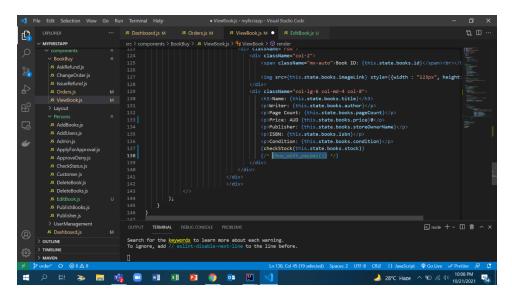
Furthermore, general code cleanup like removing unnecessary imports, unnecessary type casts and removing unnecessary dependencies were also changed to enhance our project.

Front-End:

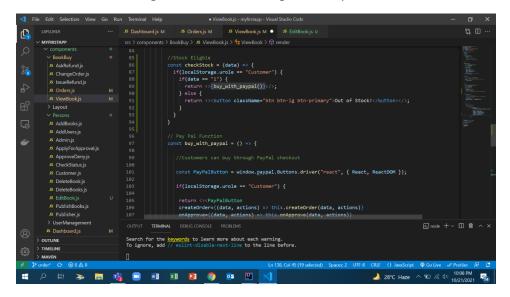
As a front-end developer, I had to dive through a lot of refactoring. One of the vulnerabilities of my code was that it was revealing all API credentials and AWS credentials in the JS file itself. Then I decided to put every credential in a .env file.

With such a coding style, it is easier to switch from production to deployment.

Also brought changes into the PayPal API. Earlier, we used a NPM package. Now we are using the direct API from PayPal. However, this wasn't enough, as before allowing the user to pay, we needed to ensure whether the book was in stock or not. Hence made a function that checks first whether a book is in stock or not.



Over here in the image, I am commenting out the previous function.

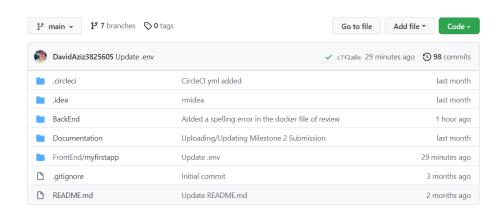


The **checkStock()** ensures if a book is in stock or not and then renders the PayPal button to the user. The pretty much were the refactoring done to the website.

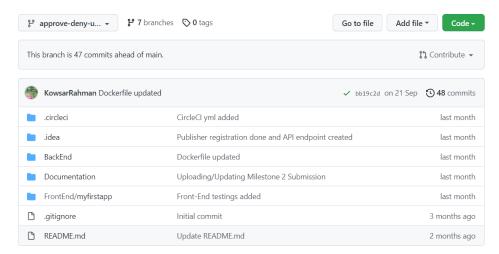
Screenshot of all GitHub branches are shown below to show our Gitflow organisation.

Note: the screenshot of each branch shows how much commits we have done for each branch. Please also note, we kept the frontend/backend developers to do the commits but other members contributed in the meetings/in chat for MS Teams to development/enhancements of code.

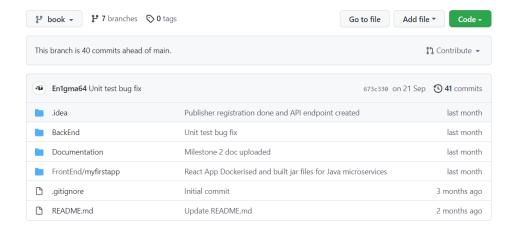
Main:



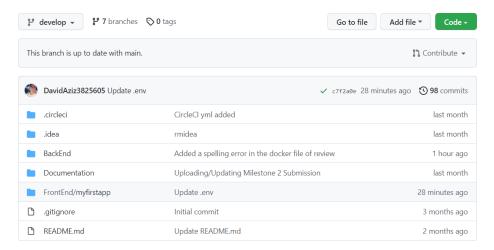
Approve-deny-user branch:



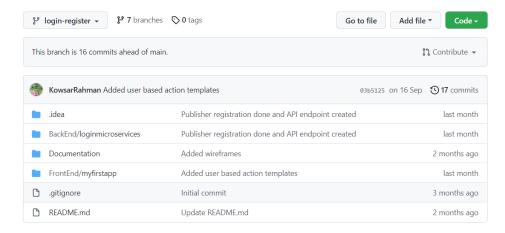
Book branch:



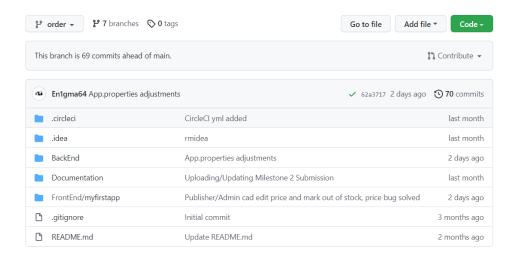
Develop Branch:



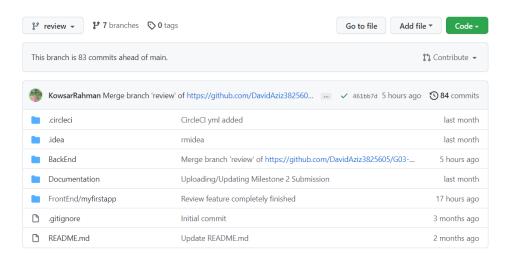
Login-register Branch:



Order Branch:



Review Branch:



Scrum Process

Now as a group we had each member assigned to particular roles:

Rashed Abdin: Scrum Master/Product Owner

Kowsar Rahman: Front End Developer/Databasing

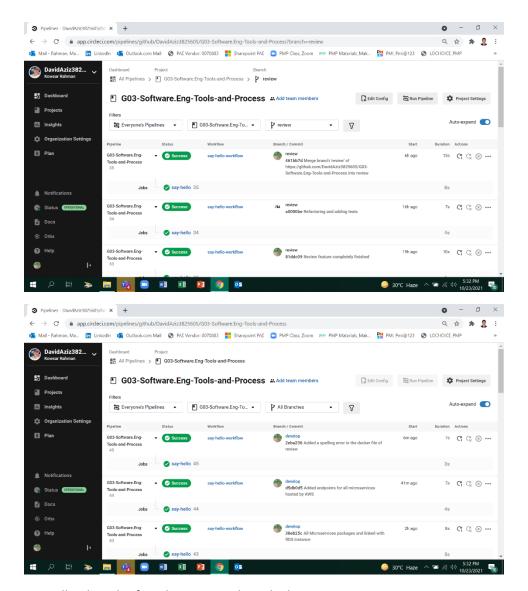
<u>Dunith Nadvi Karawita</u>: Back End Developer/Testing

David Aziz: Helping everyone in tasks

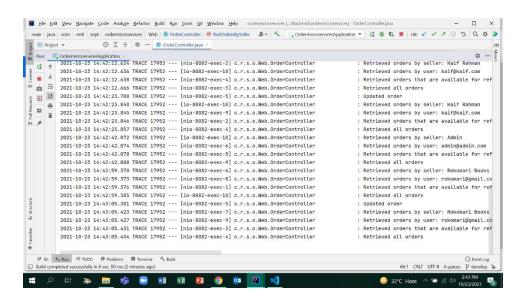
Please Note: Since we lost a team member (Oliver), we all had to reassign to different roles and take added responsibility.

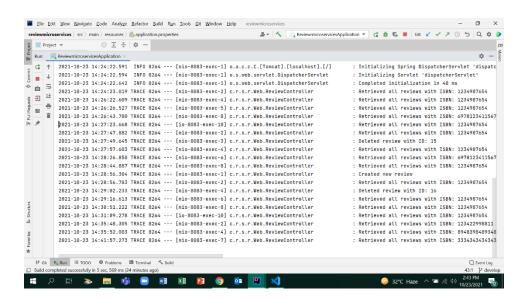
The way we organized our work and process were through making sure everyone completed their assigned tasks for their specific roles they have agreed to take. But that being said, we all helped each other implement and complete all tasks throughout the entire project. We found it easier to assign roles to each member who are confident in taking up that role. For example, Kowsar is very confident in implementing the frontend, so we agreed as a group for him to take that role. We had our scrum process so that each member works in an area they are confident in rather than each member being all over the place completing tasks in different areas. We all liked that idea and decided to try it for milestone 1 and we find it to work very well. Hence, we kept this scrum process throughout all sprints and managed to complete everything at a very high level for each milestone.

Deployment Pipeline



Basically, the job of CircleCi is to make a docker image every time a new commit is pushed. This increases automation and ensures continuous deployment.





This is a tool called Log4J which helps track things back if something goes wrong by logging the code.

Docker:

We used docker for deployment

Login Microservices:

```
FROM openjdk:8

EXPOSE 8080

ADD target/loginmicroservices-docker.jar loginmicroservices-docker.jar

ENTRYPOINT ["java","-jar","/loginmicroservices-docker.jar"]
```

Front-End DockerFile:

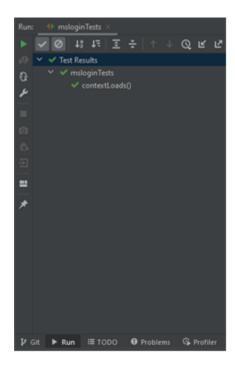
```
1 FROM node:14
2 WORKDIR /app
3 COPY package*.json ./
4 RUN npm install
5 COPY . .
6 EXPOSE 8080
7 CMD ["npm", "start"]
```

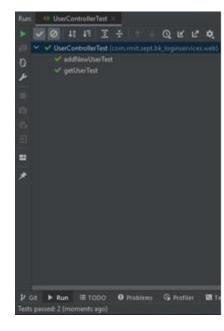
Book Microservices:

Test Documentation/Execution

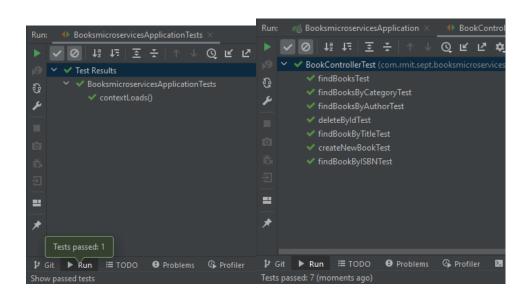
Unit tests for login microservice:

Tested adding a new user and getting a user from a mock repository



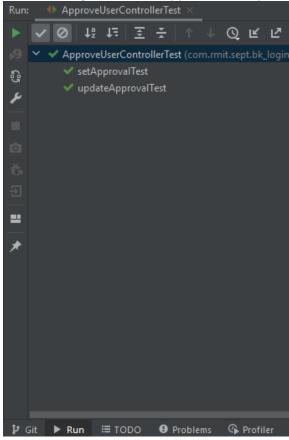


Unit tests for book microservice: Tested finding books with multiple criteria along with adding, deleting, and updating a book created in a mock repository



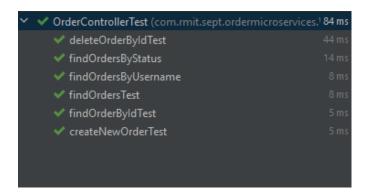
Approve User tests:

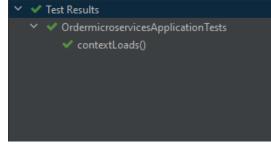
Tested adding a user to be approved and updating his/her status in a mock repository



Order Tests:

Testing finding orders with multiple criteria, along with adding, deleting and updating orders in a mock repository

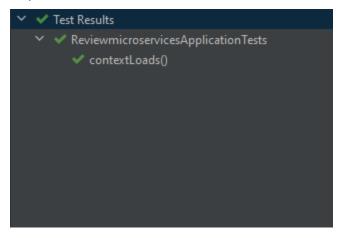




Review Tests:

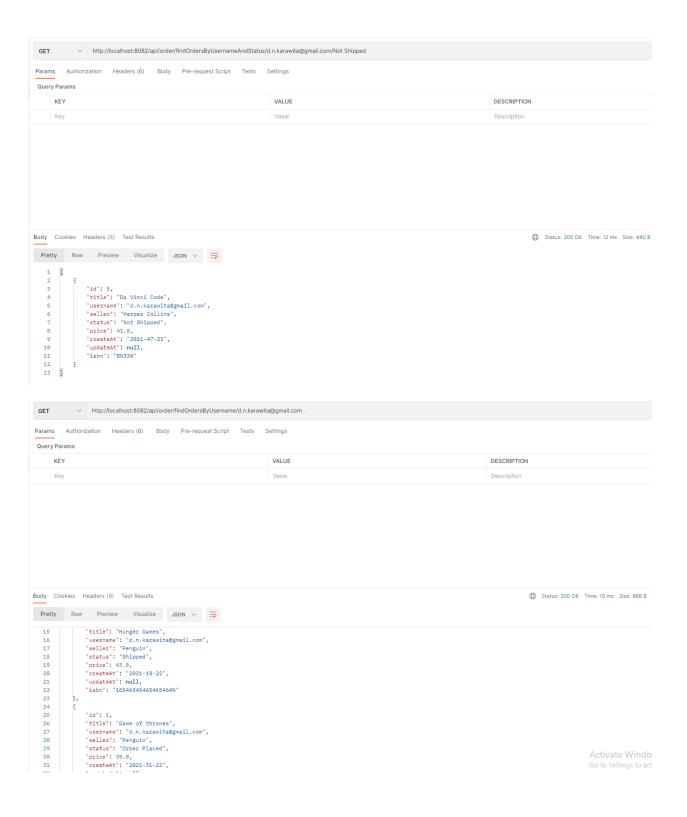
Testing finding and creating reviews in a mock repository

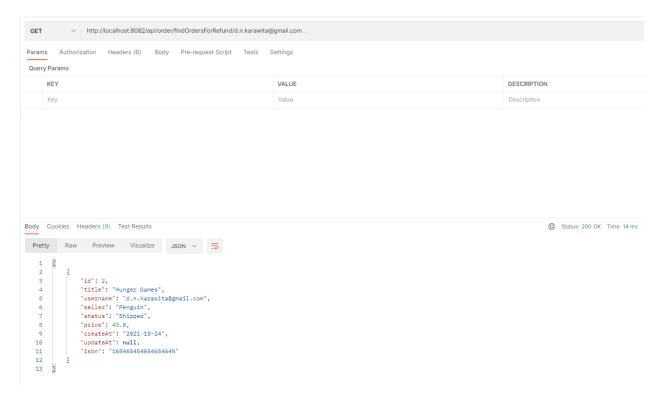




POSTMAN:







Please note: we have the documentation of acceptance testing in a separate pdf file called Acceptance Testing in this folder where you will find all acceptance tests for each user story