King Saud University

College of Computer and Information Sciences

Department of Software Engineering

SWE 444 - Software Construction Laboratory

Sprint Report 1

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Section #	59672
Group #	3

Submission Date: 30 Sep 2024

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Sprint 1

Sprint 1 Duration

Sprint 1 Start Date: September 9th, 2024.
Sprint 1 End Date: September 30th, 2024.

Sprint 1 Review

This table represents the Sprint 1 review of a Scrum process, showcasing the progress and completion of tasks. It outlines the specific tasks involved, such as UI design, frontend and backend implementation, and testing. Each task is assigned to team members, and all tasks are marked as "Completed," reflecting the successful completion of Sprint 1. [Appendix 1]

User Story	Task	Description	Estimate	Spent	Status
U1-New client Signup	Task 1- UI design	Design the signup page layout for new clients, including input fields for necessary information.	2 Hours	1 Hour	Completed
	Task 2 - Frontend implementation	Build the signup form, handling validation for inputs like password strength and email format.	8 Hours	6 Hours	Completed
	Task 3 - Backend implementation	Implement the server-side logic to store new client data securely in the database, handling registration, account creation.	8 Hours	8 Hours	Completed
U2-User Login and Logout	Task 1- UI design	Create the layout for both the login and logout functionality. This includes designing input fields and buttons for login.	1 Hour	1 Hour	Completed
	Task 2 - Frontend implementation	Code the login page, ensuring the login form handles input validation and the logout button triggers the necessary logout process.	8 Hours	6 Hours	Completed
	Task 3 - Backend implementation	Develop the backend logic to verify login credentials and manage sessions, securely logging client in and out of the system.	8 Hours	8 Hours	Completed
U9-Business registration.	Task 1- UI design	Design the business registration page, including fields for business name, contact information, and other necessary details.	4 Hours	3 Hours	Completed
	Task 2 - Frontend implementation	Code the registration form for businesses, making sure it handles validation for all required fields.	8 Hours	12 Hours	Completed
	Task 3 - Backend implementation	Develop the backend to handle the storage of business details, verifying inputs, and processing the registration.	1 4Hours	16 Hours	Completed

Challenges

Limited MERN Stack Experience

Impact: Slower progress due to learning the tech stack, with more time spent on debugging and troubleshooting.

University Exams

Impact: Balancing exams and project work caused stress, reduced team availability, and delayed tasks.

Scheduling Conflicts

Impact: Hard to coordinate meetings with conflicting class schedules, leading to delayed decisions and fragmented communication.

Areas of Improvement

Improving MERN Stack Knowledge

Area of Improvement: The team had limited knowledge of the MERN stack, which slowed down development and increased debugging time. Actions Taken: Focused on speeding up the learning process through an online course, daily pair programming sessions, and task specialization.

Better Exam and Project Planning

Area of Improvement: The team found it challenging to balance academic exams with project deadlines, causing delays in task completion. Actions Taken: Restructured the project timeline by aligning sprint goals with academic workloads, allowing for more flexible deadlines during exam periods.

Optimizing Meeting Coordination

Area of Improvement: Scheduling meetings was difficult due to conflicting class schedules, leading to delays in decision-making and communication. Actions Taken: Established fixed daily meeting times that fit everyone's schedules to ensure smoother coordination and minimize disruptions.

Non-functional Aspect

In Sprint 1, we focused on three fundamental non-functional aspect Usability, Security, and Reliability to ensure the robust and efficient development of our platform. These key considerations were essential in shaping the user experience and the platform’s overall stability. Below is a detailed explanation of how we integrated each of these aspects into our development process:

1. Usability

Usability is essential for ensuring that users, whether they are clients or businesses, can easily sign up, log in, and register their businesses. The interface should be intuitive, allowing users to complete these tasks with minimal effort. For Sprint 1, the focus will be on creating clean, straightforward forms and interfaces for the New Client Signup, User Login, and Business Registration features. Clear navigation and concise instructions will help users complete these processes without frustration.

How it applies:

- For **New Client Signup**, ensure that the form is simple and guides clients through each step with clear input validation and feedback.
- For **Client Login and Logout**, prioritize fast and easy login processes, with error messages that explain what went wrong (e.g., "Incorrect password").
- For **Business Registration**, provide a well-structured, easy-to-follow flow for businesses to register, including detailed fields for contact and service information.

2. Security

Security is critical for protecting sensitive user information during client signup, user login, and business registration. Implementing robust security measures, such as password strength validation and secure authentication, is crucial. Given that users are handling personal and possibly business-sensitive information, your platform should guarantee confidentiality and integrity.

How it applies:

- For **New Client Signup**, ensure secure password storage (e.g., hashing) and implement validation for password strength.
- For **Client Login and Logout**, ensure that password protection and secure session handling are in place to maintain the security of client accounts.
- For **Business Registration**, ensure the form captures key details such as the **Owner/Representative Name**, **Owner's Email**,and **Password**. Securely handle the transmission of sensitive data by encrypting passwords and implementing strong password policies.

3. Reliability

Reliability ensures that the platform operates consistently during critical operations such as signup, login, and registration. For this sprint, you should focus on minimizing downtime and ensuring that users experience stable and predictable interactions with the platform. Any issues during signup, login, or registration should provide meaningful error messages, allowing users to resolve problems without frustration.

How it applies:

- For **New Client Signup**, ensure the process is smooth and user-friendly, with clear guidance and validation to minimize errors during registration.

- For **Client Login and Logout**, implement error handling mechanisms to manage failed login attempts and ensure smooth logout processes without causing system instability.
- For **Business Registration**, prioritize data integrity by making sure the system accurately stores and retrieves business data.

Sprint QA Activities

To ensure the quality of the core features developed in Sprint 1 (New Client Signup, User Login and Logout, and Business Registration), we implemented the following quality assurance activities:

1. Testing

We conducted multiple levels of testing to validate the functionalities of the features:

- **Unit Testing:** Each individual component of the Signup, Login/Logout, and Business Registration was tested to verify that they behave as expected. This includes validating input fields, error handling, and form submission. [test cases.xlsx]
- **Functional Testing:** Verifying that the API endpoints function as expected by sending various requests and checking the responses. [Appendix 2]

2. Checklist

We utilized a checklist to ensure that all features met the required specifications. Each team member was responsible for testing their assigned features and marking them as complete once they passed all checks. The checklist helped us track the completeness of the following: [Appendix 3]

- All required fields in the Signup and Business Registration forms were functioning and validated.
- Login and Logout processes worked without issues.
- Error messages were correctly displayed in case of invalid inputs or failures in form submissions.

3. Review

We conducted a thorough review at the end of the sprint, where all team members participated in evaluating the system's functionality. During the review: [Appendix 4]

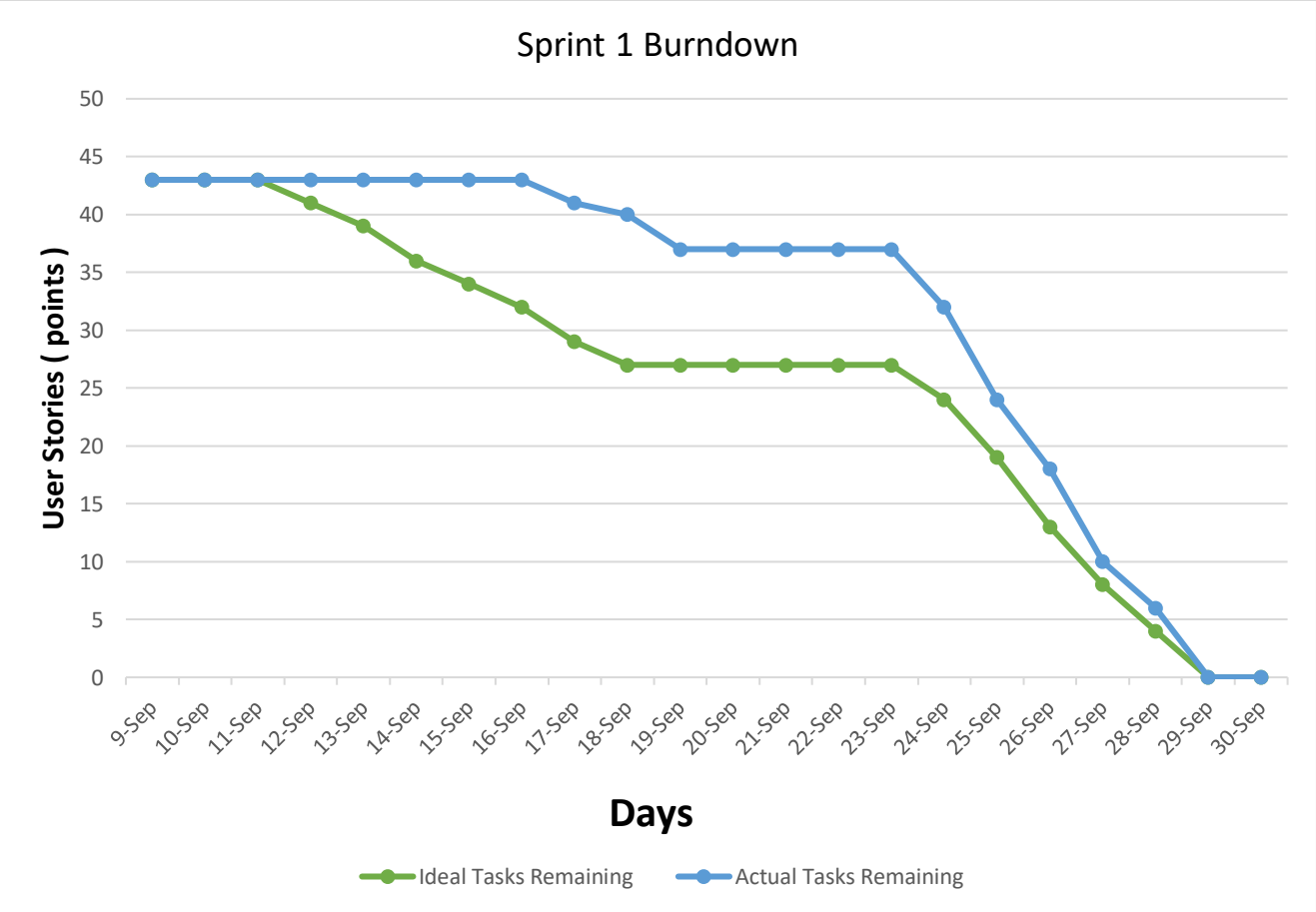
- We discussed any remaining bugs or issues that arose during testing and prioritized them for fixing.
- We verified that the system met the user stories' acceptance criteria for the Signup, Login/Logout, and Business Registration features.
- We ensured that the system was intuitive and user-friendly, as aligned with our non-functional aspect focus on Usability.

4. Walkthroughs

In Sprint 1, an informal walkthrough was conducted on September 29th to review key user stories, including user login/logout, client registration, and business registration. The objective was to ensure that these functionalities met the acceptance criteria, identifying any issues and gathering team feedback. The walkthrough demonstrated that user login/logout, client registration, and business registration were functioning as intended, though minor input validation issues were identified in the client registration process. These issues were noted for refinement in the next sprint. [Appendix 5]

Sprint 1 Burndown Chart

The Sprint 1 Burndown Chart tracks the progress of the sprint by comparing the ideal tasks remaining with the actual tasks remaining over time. Between September 9th and 16th, there was no progress as the team was engaged in training on the MERN stack. Progress resumed after training, but from September 19th to 23rd, work stalled again due to the Saudi National Day holiday. Once the holiday ended, the team quickly picked up the pace, significantly reducing the remaining tasks between September 24th and 29th. By September 30th, all tasks were completed, with the actual tasks closely aligning with the ideal trajectory. Despite the early delays caused by training and the holiday, the sprint ended successfully with all planned tasks completed on time.



Scrum Ceremony

Scrum ceremonies are essential rituals in the Scrum framework that help foster transparency, inspection, and adaptation within the development process. My team and I participated in all the key Scrum ceremonies throughout our sprint to ensure smooth collaboration and continuous improvement.

1. **Sprint Planning:** At the beginning of the sprint, we came together for Sprint Planning to define the work for the upcoming sprint. We collectively selected user stories from the backlog, estimated them, and planned the tasks necessary to achieve our sprint goal.
2. **Daily Stand-ups:** Each day, our team conducted a quick 15-minute Daily Stand-up meeting. During these stand-ups, we shared our progress, discussed what we planned to accomplish that day, and identified any blockers. This helped keep everyone aligned and allowed us to address issues swiftly.
3. **Sprint Review:** At the end of the sprint, we held a Sprint Review meeting where we showcased the work we completed during the sprint to team members. We gathered feedback and ensured that the product was moving in the right direction based on user expectations.
4. **Sprint Retrospective:** After the Sprint Review, we came together as a team for a Sprint Retrospective. Here, we reflected on what went well during the sprint, what could be improved, and discussed actionable steps to enhance our processes in the next sprint.

By engaging in these ceremonies, we ensured our team remained aligned, focused on continuous improvement, and delivered high-quality outcomes at the end of each sprint.

Team Collaboration Tools

GitHub page

https://github.com/Salghaith/swe444_project\

Trello Page

https://trello.com/invite/b/66ccc7ab7d60d39b4b54677c/ATTIbc2999923dd66091367f2a7a593539acCDE96F0F/444-swe

Figma Page

https://www.figma.com/design/RMfHgktppfcqMyhJF2Y8jY/444-Figma?node-id=0-1&t=93TLtKqNkzYjPYWH-1

Appendices

Appendix 1

	King Saud University **College of Computer and Information Sciences** **Department of Software Engineering**	
	Course Code:	**SWE 444**
	Sprint Number:	**1**
	Date:	**16 September**
	Duration:	**75minutes**
	Sprint Length:	**21 days**
Project Name	WSL	

Sprint Goal

Create functional sign-up, log-in, and business registration pages that allow users and businesses to create accounts and access the system.

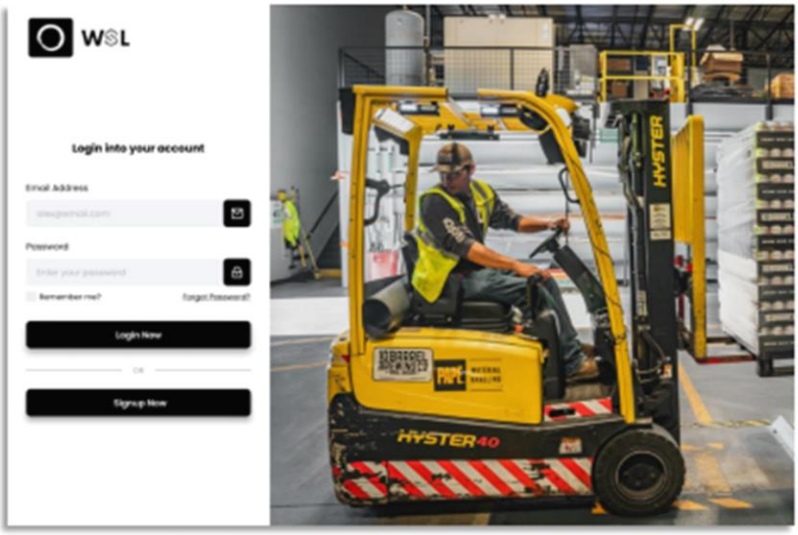
Selected user stories

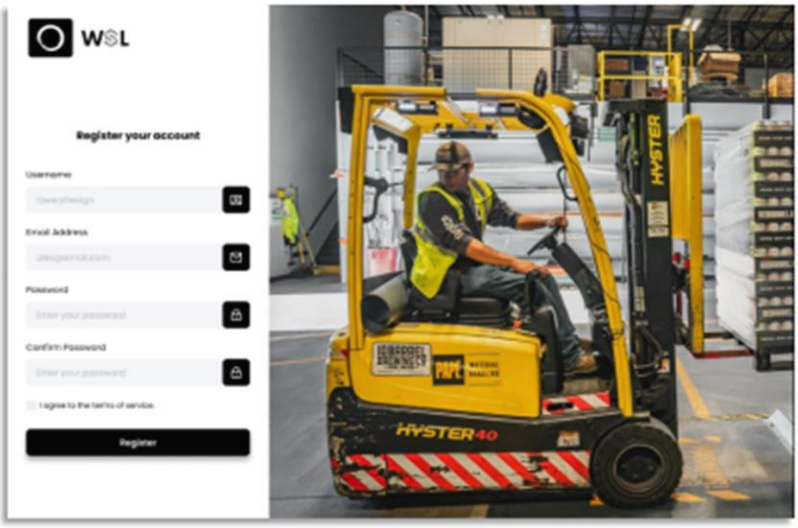
- U1: New client Signup
- U2: User Login and Logout
- U9: Business registration

User Story	Task	description
U1-New client Signup	Task 1- UI design	Design the signup page layout for new clients, including input fields for necessary information.
	Task 2 - Frontend implementation	Build the signup form, handling validation for inputs like password strength and email format.
	Task 3 - Backend implementation	Implement the server-side logic to store new client data securely in the database, handling registration, account creation.
U2-User Login and Logout	Task 1- UI design	Create the layout for both the login and logout functionality. This includes designing input fields and buttons for login.
	Task 2 - Frontend implementation	Code the login page, ensuring the login form handles input validation and the logout button triggers the necessary logout process.
	Task 3 - Backend implementation	Develop the backend logic to verify login credentials and manage sessions, securely logging users in and out of the system.

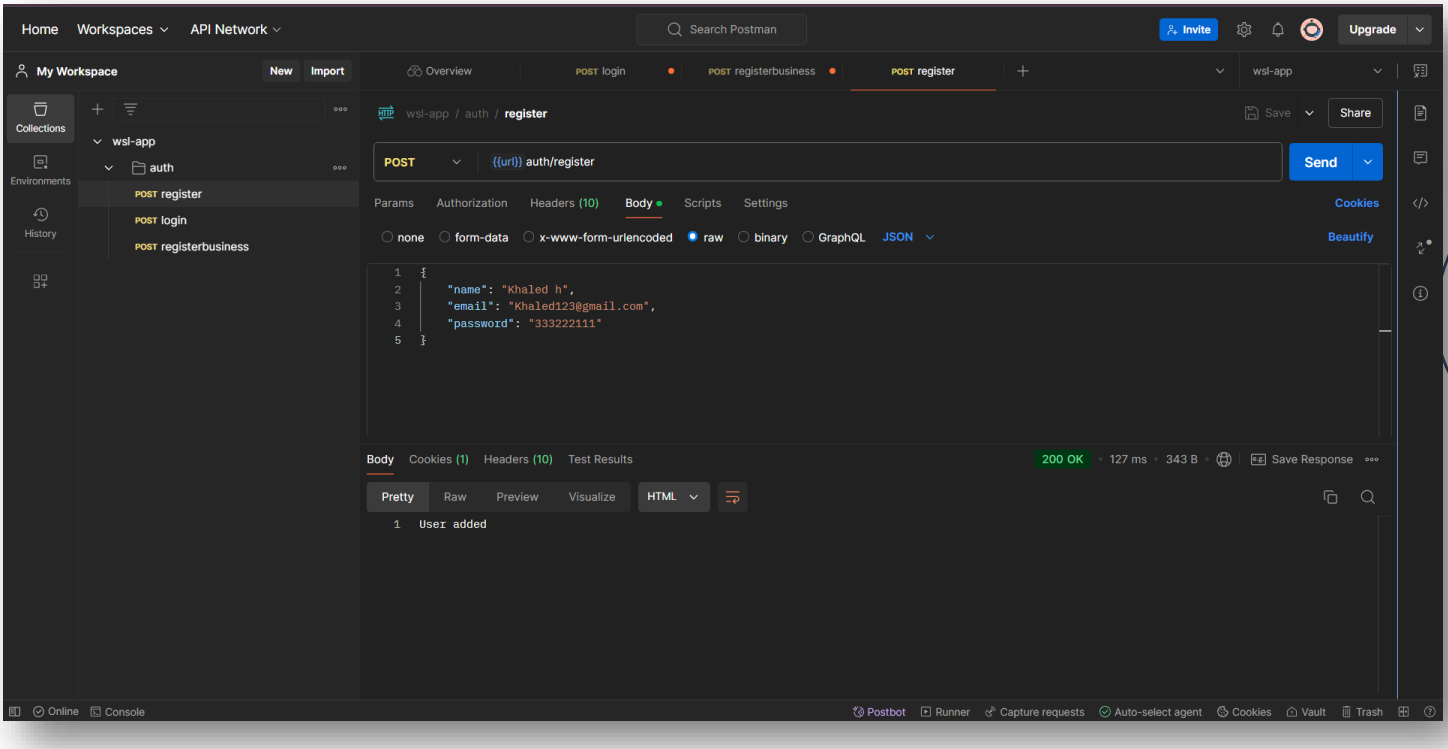
U9-Business registration.	Task 1- UI design	Design the business registration page, including fields for business name, contact information, and other necessary details.
	Task 2 - Frontend implementation	Code the registration form for businesses, making sure it handles validation for all required fields.
	Task 3 - Backend implementation	Develop the backend to handle the storage of business details, verifying inputs, and processing the registration.

Mockups





Appendix 2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My Workspace
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Overview
POST login
POST registerbusiness
POST register
wsl-app
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Environments
History
wsl-app
auth
POST register
POST login
POST registerbusiness
wsl-app / auth / register
Save
Share
POST
{{url}} auth/register
Send
Params
Authorization
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Cookies
none
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x-www-form-urlencoded
raw
binary
GraphQL
JSON
Beautify
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}
Body
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Headers (10)
Test Results
200 OK
127 ms
343 B
Save Response
Pretty
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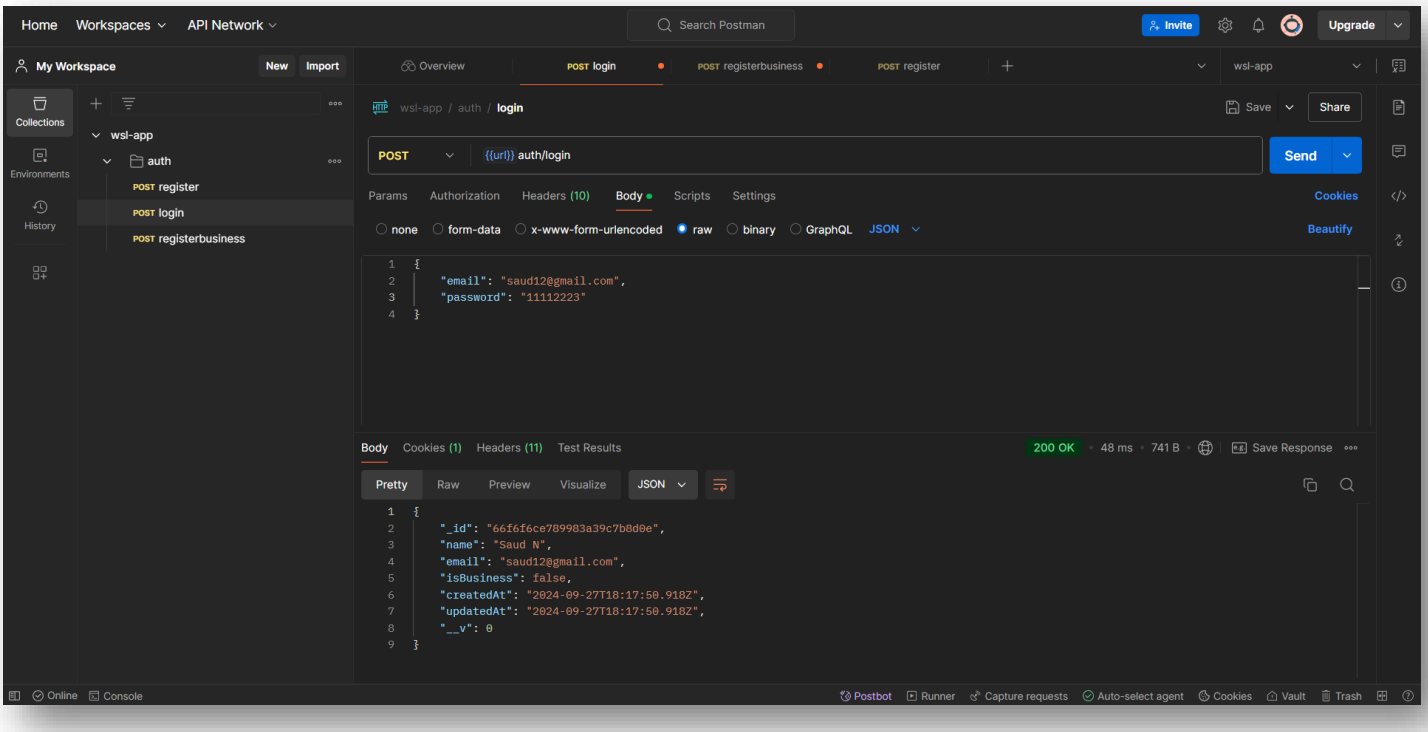
Runner
Capture requests
Auto-select agent
Cookies
Vault
Trash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POST register
POST login
POST registerbusiness
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Save
Share
POST
{{url}} auth/login
Send
Params
Authorization
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Body
Scripts
Settings
Cookies
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form-data
x-www-form-urlencoded
raw
binary
GraphQL
JSON
Beautify
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Body
Cookies (1)
Headers (11)
Test Results
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Save Response
Pretty
Raw
Preview
Visualize
JSON
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}
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Console
Postbot
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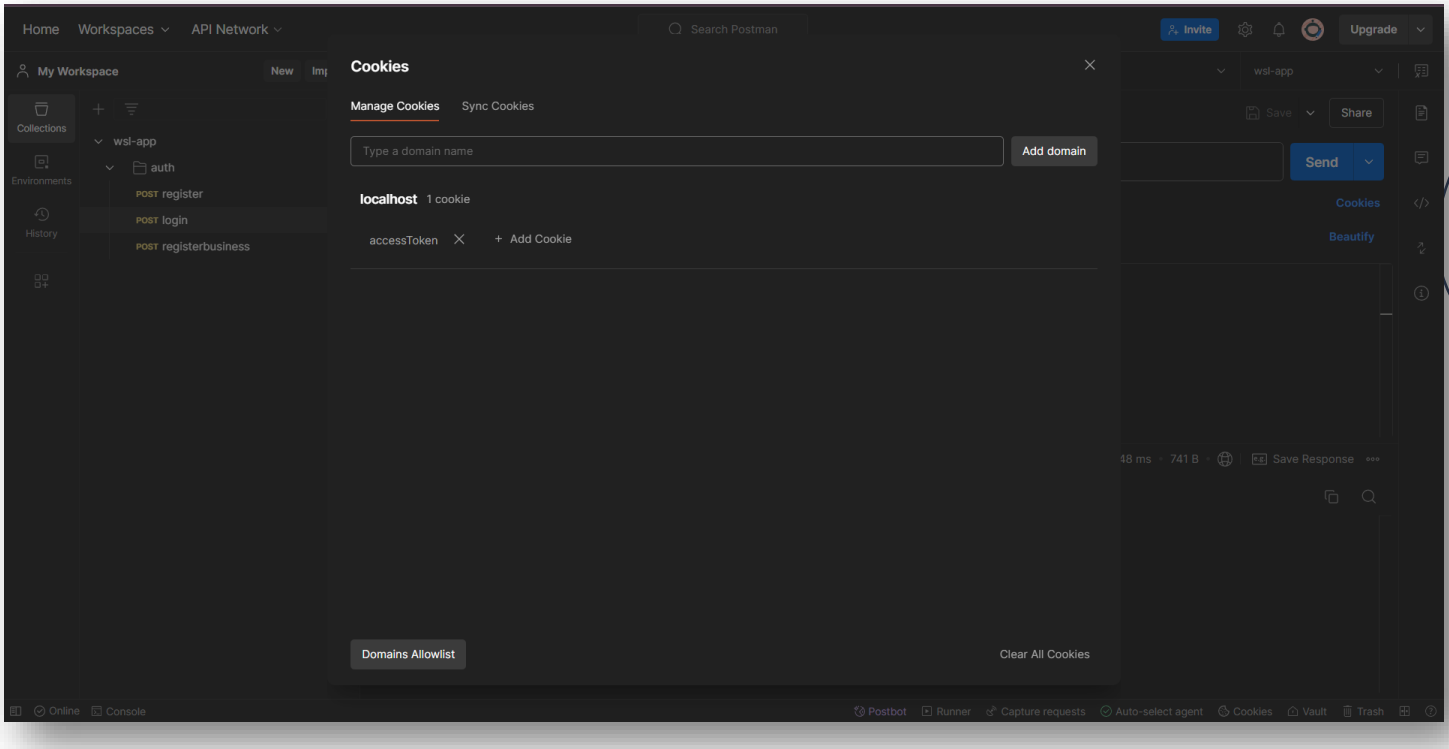
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POST register
POST login
POST registerbusiness
Cookies
Manage Cookies
Sync Cookies
Type a domain name
Add domain
localhost 1 cookie
accessToken
+ Add Cookie
Domains Allowlist
Clear All Cookies
Share
Send
Cookies
Beautify
Save Response
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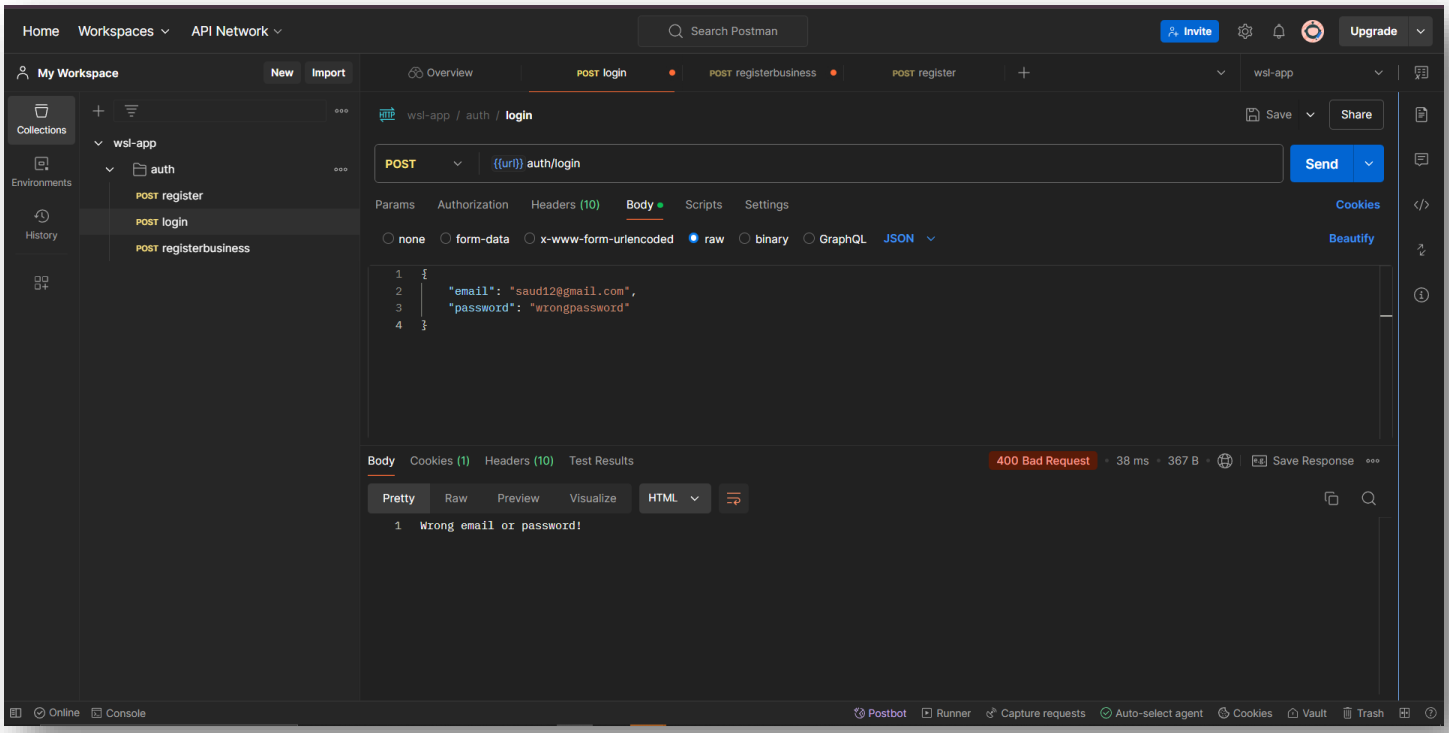
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Environments
History
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Save
Share
POST
{{url}} auth/login
Send
Params
Authorization
Headers (10)
Body
Scripts
Settings
Cookies
none
form-data
x-www-form-urlencoded
raw
binary
GraphQL
JSON
Beautify
{
"email": "saud12@gmail.com",
"password": "wrongpassword"
}
Body
Cookies (1)
Headers (10)
Test Results
400 Bad Request
38 ms
367 B
Save Response
Pretty
Raw
Preview
Visualize
HTML
Wrong email or password!
Online
Console
Postbot
Runner
Capture requests
Auto-select agent
Cookies
Vault
Trash

Appendix 3

Member	Feature	Complete
Talal Alothman	Users can sign up with using valid information.	YES
Talal Alkahtani	Users are directed to their home page after signing up successfully.	YES
Khaled Alharbi	Users can log in after entering their email and password correctly.	YES
	Users can log out successfully	YES
Saud Alkatheeri	Users are directed to their home page after log in successfully.	YES
	Message displayed in case of missing fields of business registration.	YES
Saleh Alghaith	Error messages were correctly displayed in case of invalid password or email.	YES

Appendix 4

Member	Review	Notes
Group review (all team members)	Review the functionality of the Signup, Login/Logout, and Business Registration features.	Signup and Login flows are functioning as expected.
		Password security is in place and meets the security criteria.
	Review the system's usability.	The system is user-friendly with clear navigation elements.
		Buttons and forms are accessible, with appropriate labels and error messages.
	Review any remaining bugs.	Some minor UI alignment issues were identified but do not affect functionality.

Appendix 5

Quality Assurance Plan

Informal Walkthrough

Walkthrough Details

- **Date**: September 29th
- **User Stories Covered**:
  - User login and logout
  - Client signup
  - Business registration

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1. Objective of the Walkthrough

The objective of the walkthrough was to review the implementation and functionality of three key user stories—**user login/logout**, **client registration**, and **business registration**—to ensure they meet the acceptance criteria, identify any potential issues, and gather feedback from team members before concluding the sprint.

2. Summary of the Walkthrough

During the walkthrough, the team demonstrated the following:

- **User login and logout**: Verified that a registered user can successfully log in and log out of the system. The functionality included both client and business user logins.
- **Client registration**: The flow for new clients registering for an account was shown, including input validation, and account creation.
- **Business registration**: The process of a business owner registering a business was demonstrated, ensuring that all fields (business name, email, phone number, categories, etc.) were captured correctly and stored in the database.

The walkthrough was informal and involved all team members. Each story was tested in real-time by simulating user interactions and reviewing both the front-end behavior and back-end processing.

3. Outcome of the Walkthrough

- **Login/Logout Functionality**: The basic login and logout functionality worked as expected. Some minor feedback was given regarding the user experience (e.g., improving the feedback messages when login fails).
- **Client Registration**: The registration process was successful, but an issue with input validation for the phone number field was identified. The team agreed to refine this validation in the next sprint.
- **Business Registration**: The business registration feature worked as intended.