



ASSIGNMENT BERR 2423 DATABASE AND CLOUD SYSTEM

SEM 2 2023/2024

GROUP B

(DEVELOPERS) MEMBERS:

NO	NAME	MATRIC NUMBER
1	KHAIRUL IKHWAN BIN KHAIRUL RIZAL	B022210170
2	ANG WEI DING	B022210151
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4	KOK YU YUAN	B022210136

Introduction

The purpose of this report is to present a comprehensive overview of a newly developed battle simulator designed to offer an engaging and strategic gaming experience. This simulator allows players to engage in tactical combat, manage resources, and compete for top positions on the leaderboard. Each player is uniquely identified by a token, ensuring precise tracking of individual progress and achievements.

The game structure comprises various elements, including player statistics, enemy encounters, and inventory management. Players' statistics, such as health points, attack actions, evade points, inventory capacity, and current scores, are pivotal for navigating the challenges posed by enemies. The simulator features an action system where players must choose between attacking, evade the enemy's attacks, utilizing potions, or defending to mitigate damage.

Effective inventory management is crucial, as players can hold up to five items, primarily potions, which provide benefits like health restoration, increased attack actions, or enhanced magic power. The game also includes a wiki detailing about the enemy's information, such as health and attack strategies, aiding players in making informed decisions.

Progress and competitive standing are tracked via a leaderboard displaying player names, scores, and ranks. The report will also cover the process of creating new player accounts, ensuring that individual game statistics are recorded from the outset. The core gameplay loop involves players battling enemies until their health is depleted. Actions require points that can be refilled using potions earned through defeating enemies. Strategic inventory management is essential, particularly when players must delete items to make space for new ones. Scores are submitted to the leaderboard upon defeat, incentivizing continuous improvement and competition.

This report aims to detail the game's mechanics, functionalities, and strategic elements, providing a clear understanding of the battle simulator's design and operational framework. The ultimate goal is to offer a challenging and rewarding gaming experience that encourages strategic thinking and competitive play.

The design database model and hosted on Mongo Atlas

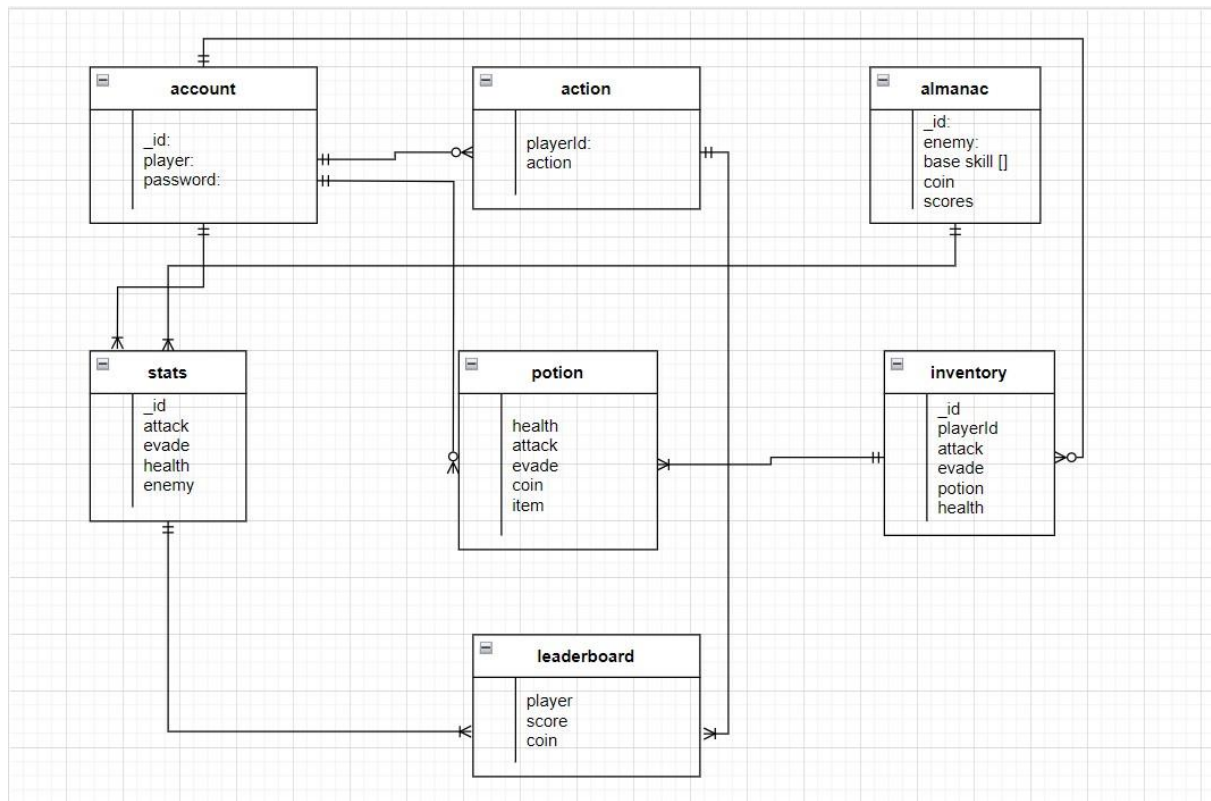


Figure 1: database entity relationship model.

The RESTful API Sequence Diagram

1. Registration

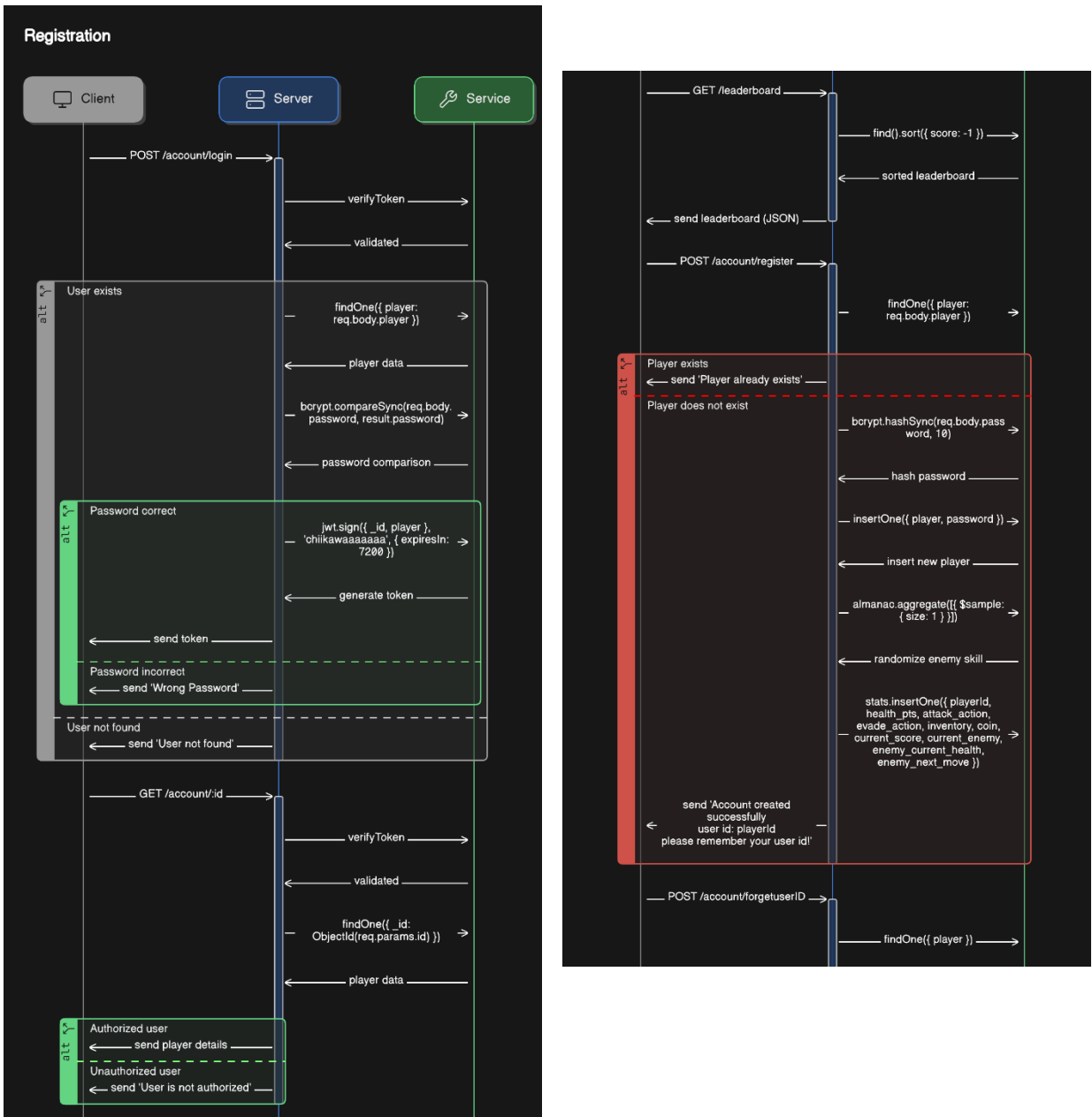


Figure 2.1: registration sequence diagram (part 1)

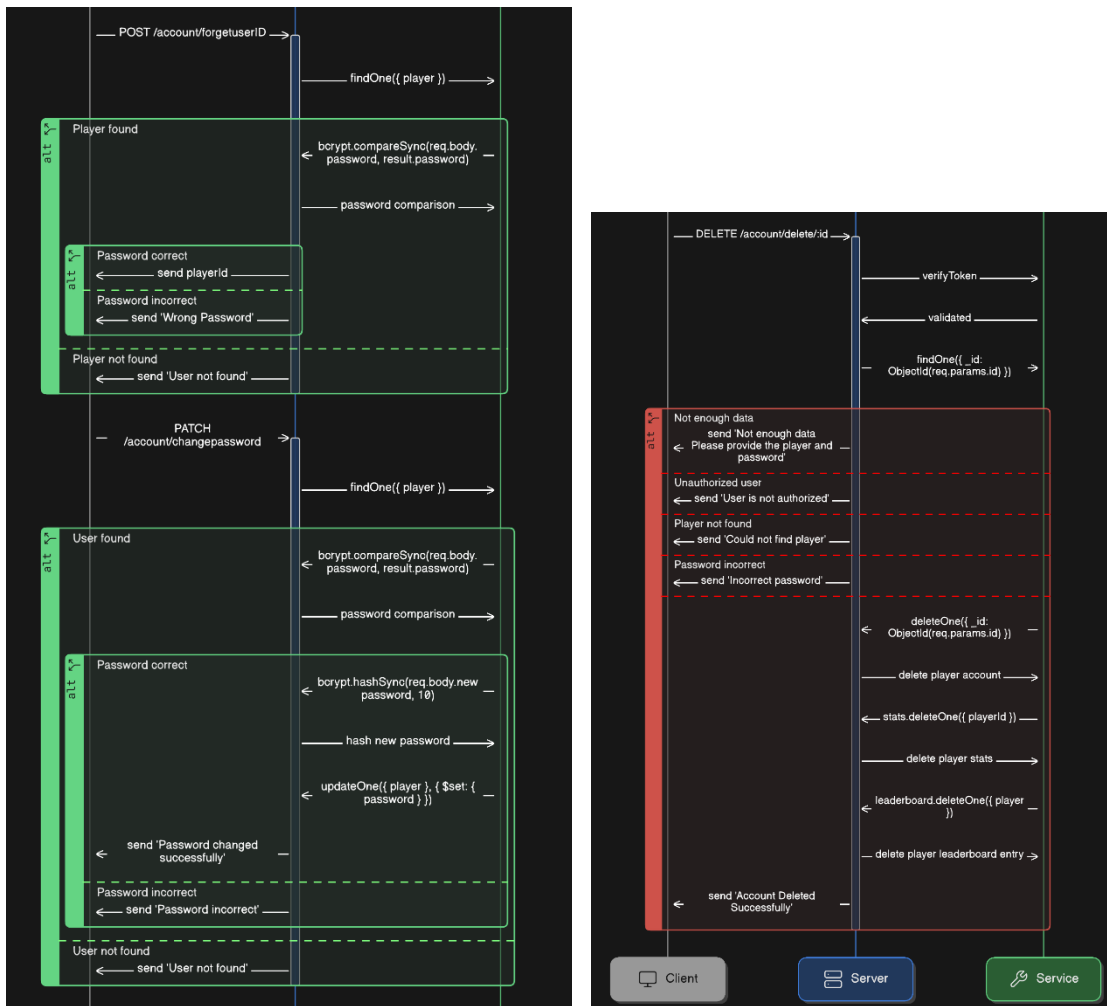


Figure 2.2: registration sequence diagram (part 2)

2. Inventory

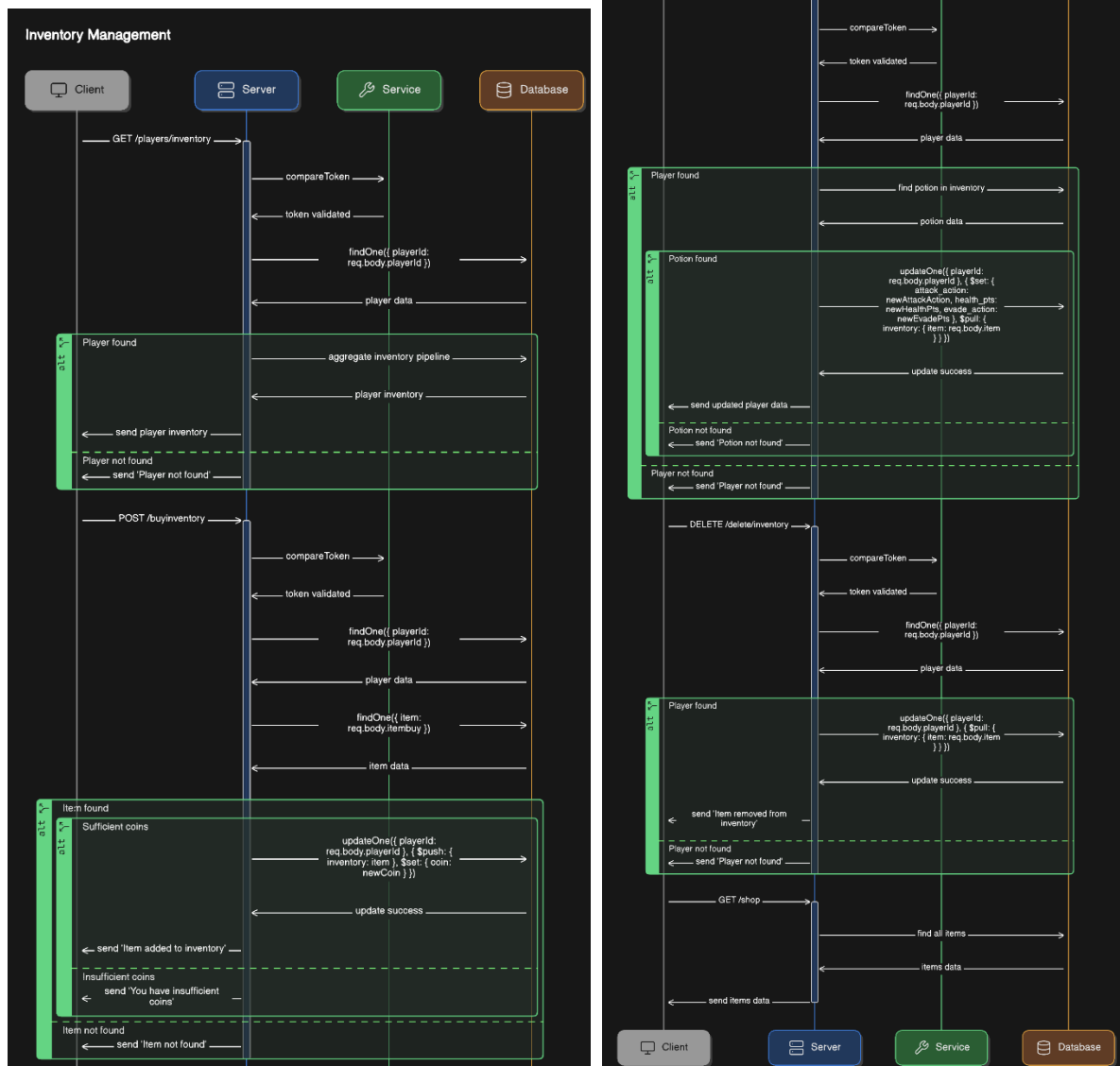


Figure 3: inventory sequence diagram

3. Next action

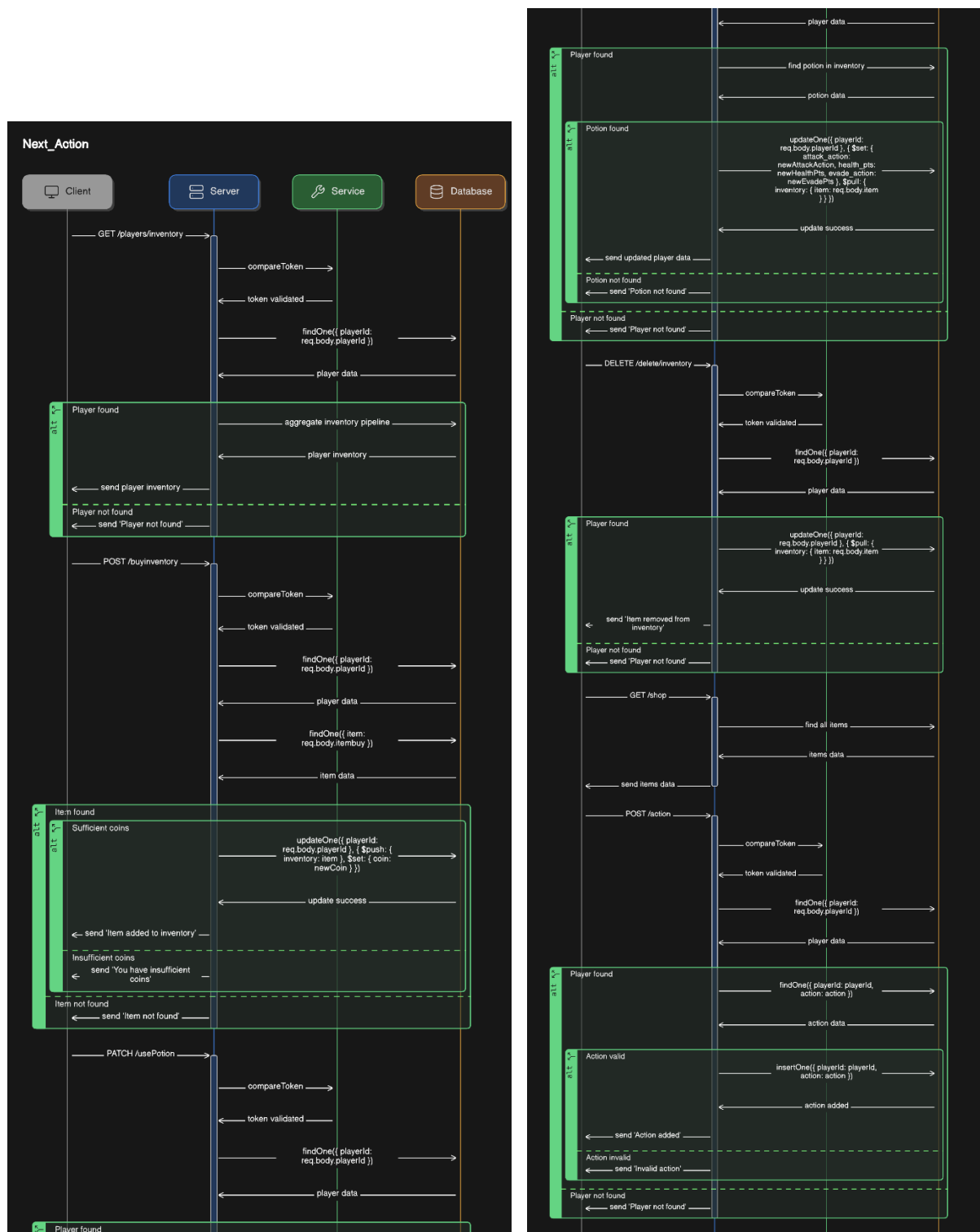


Figure 4.1: next action sequence diagram (part 1)

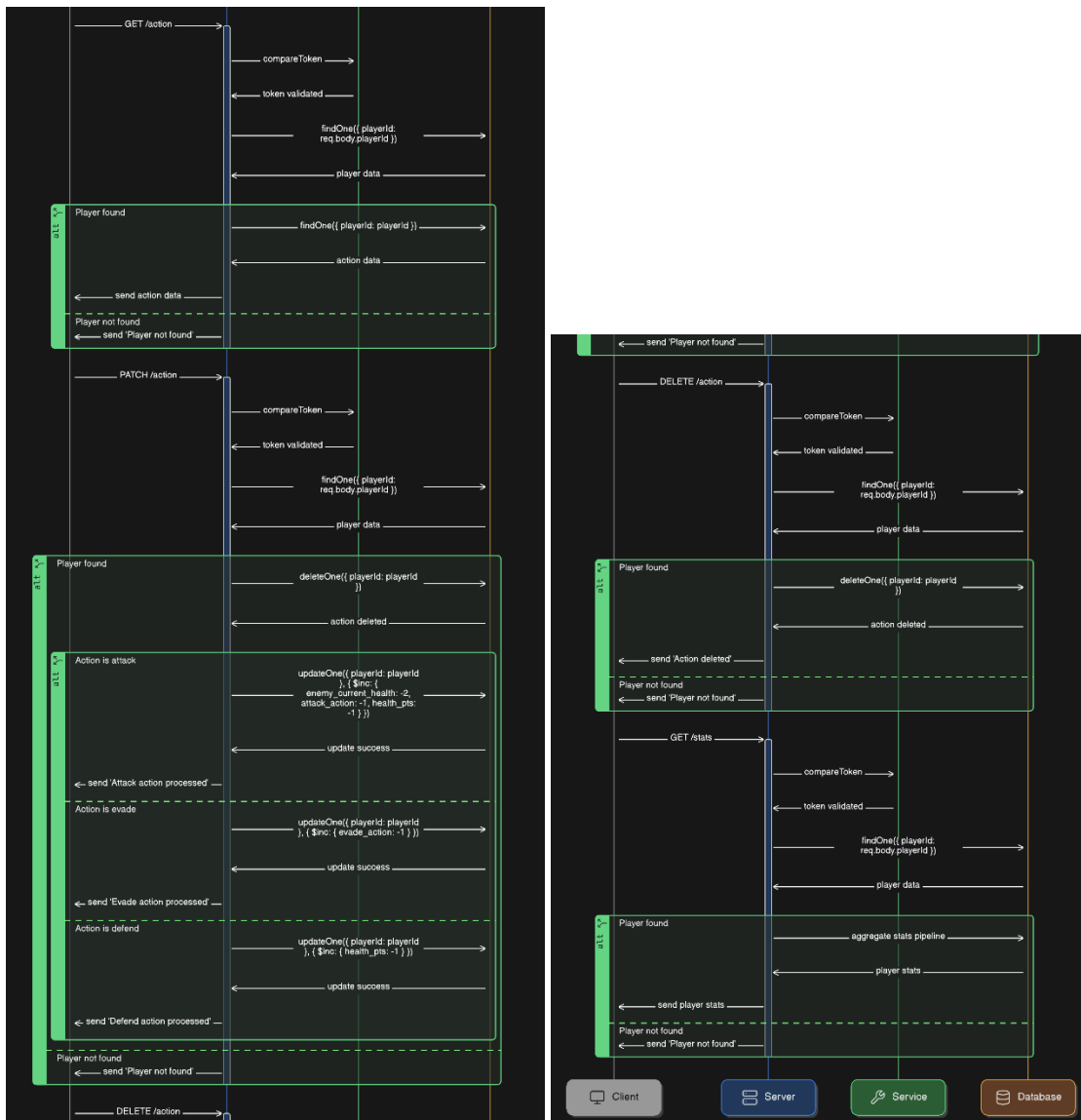


Figure 4.2: next action sequence diagram (part 2)

The development track record and the project source code are pushed to the Github Repository

Branch	Updated	Check status	Behind / Ahead	Pull request	
main	6 hours ago	✓ 2 / 2	Default		🗑️ ...
another_one	6 hours ago		2 10		🗑️ ...
Klimalima-patch-1	8 hours ago		6 3	🔗 #34	🗑️ ...
fix_bugs	9 hours ago		8 21	🔗 #32	🗑️ ...
fix_inventory	yesterday		18 2	🔗 #24	🗑️ ...
register_fix	yesterday		21 2	🔗 #21	🗑️ ...
brianlov	yesterday		21 3	🔗 #19	🗑️ ...
chiikawa	4 days ago		23 13	🔗 #16	🗑️ ...
next_move_khai	last week		27 7	🔗 #15	🗑️ ...
BrianInventory	3 weeks ago		77 21	🔗 #17	🗑️ ...
Hazwan106-patch-1	last month		40 0	🔗 #12	🗑️ ...
ang_branch	last month		77 9	🔗 #11	🗑️ ...
newstats2	last month		41 1		🗑️ ...
newstats	last month	✓ 2 / 2	77 0		🗑️ ...
khai_merge	last month		43 0	🔗 #10	🗑️ ...
Khairul_MongoConnection	last month		74 0	🔗 #8	🗑️ ...
Dilesh	2 months ago		77 2		🗑️ ...

Figure 5: development track record

The working version of your RESTful API are hosted on Microsoft Azure Cloud

The screenshot displays the Microsoft Azure portal interface for a web application named 'dungeonsurvival'. The left sidebar contains navigation options such as Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Microsoft Defender for Cloud, Events (preview), Better Together (preview), Deployment, Deployment slots, Deployment Center, Performance, Load Testing, Settings, Environment variables, Configuration, Authentication, and Application Insights. The main content area is divided into several sections:

- Essentials:** Provides key information about the resource group ('dungeonsurvival_group'), status ('Running'), location ('East Asia'), subscription ('Azure for Students'), and subscription ID. It also lists the default domain, app service plan, operating system, health check, and GitHub project.
- Properties:** Details the web app's name, publishing model, runtime stack, and domains (default and custom).
- Deployment Center:** Shows deployment logs, the last deployment status (successful), and the deployment provider (GitHub Actions).
- Application Insights:** Displays the name of the application insights instance and its region.

Figure 6: the working version on Microsoft Azure Cloud



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GROUP B

(PLAYER 1)

MEMBER:

NO	NAME	MATRIC NUMBER
1	HAZWANI HUMAIRA BINTI HAIRULISAM	B022210176



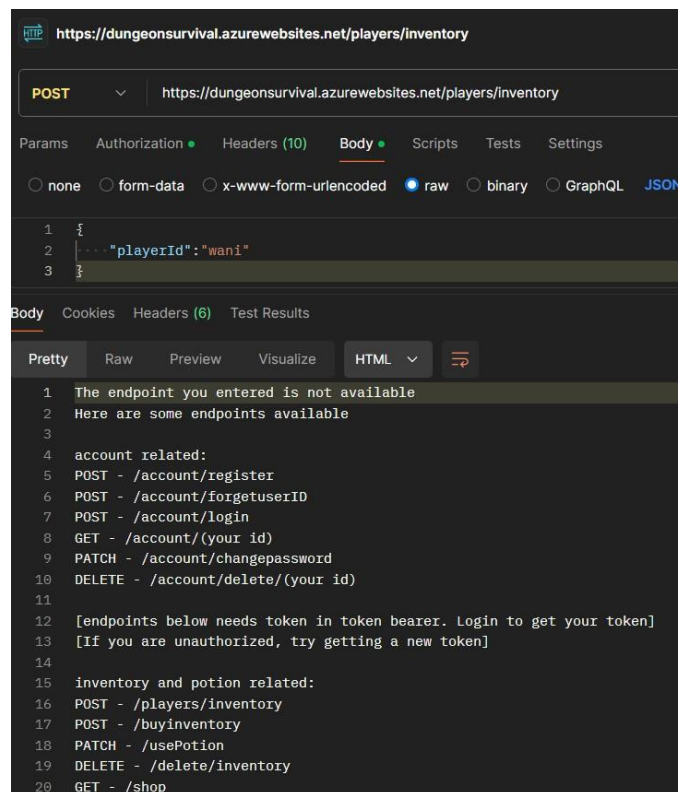


Figure 6

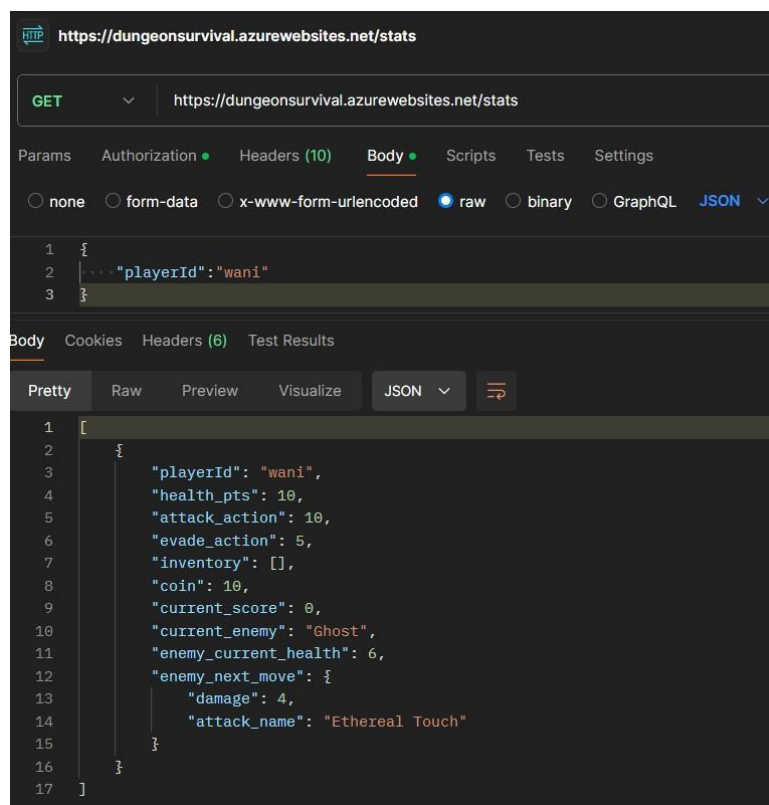


Figure 7 Player's status

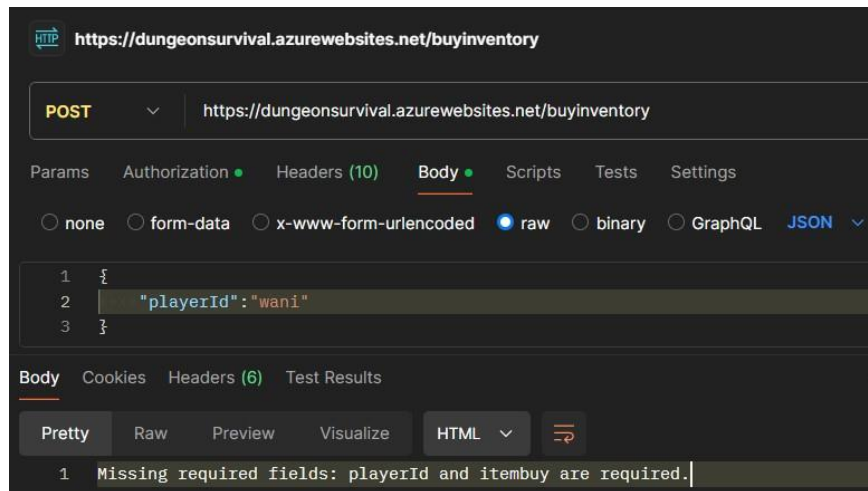


Figure 8 Missing fields

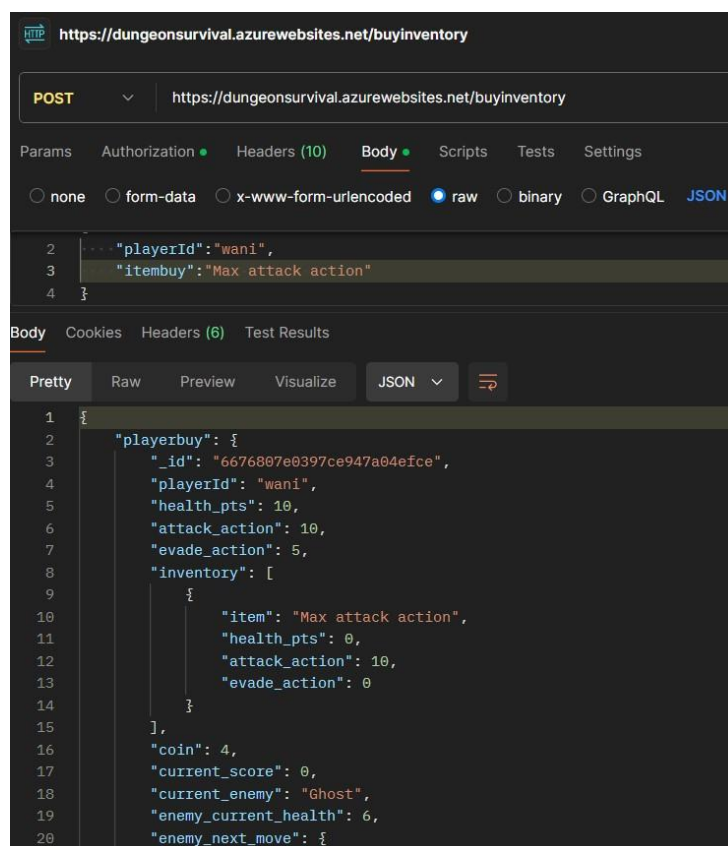


Figure 9 Buy items

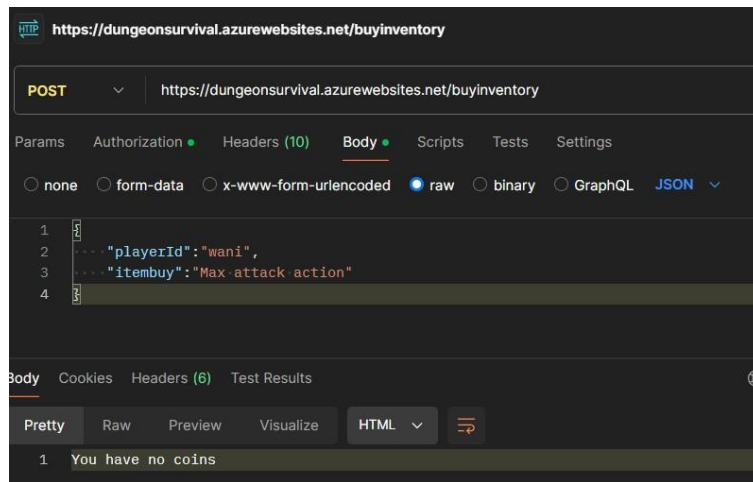


Figure 10 Does not have enough coins to buy items

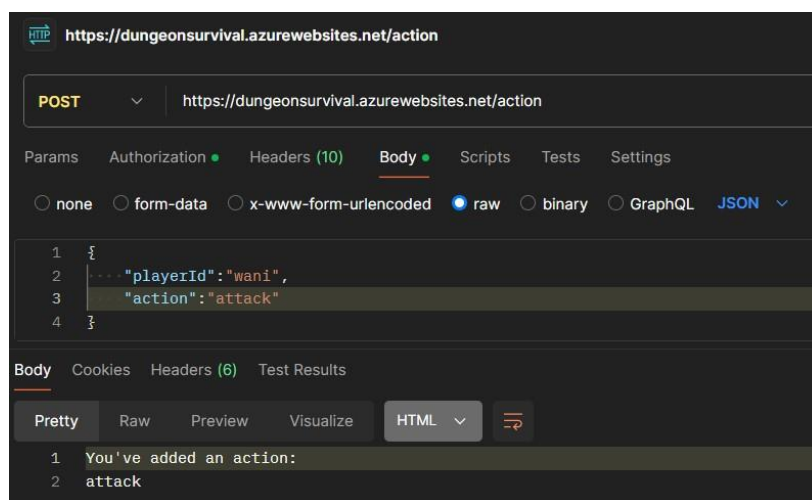


Figure 11 Attack enemy

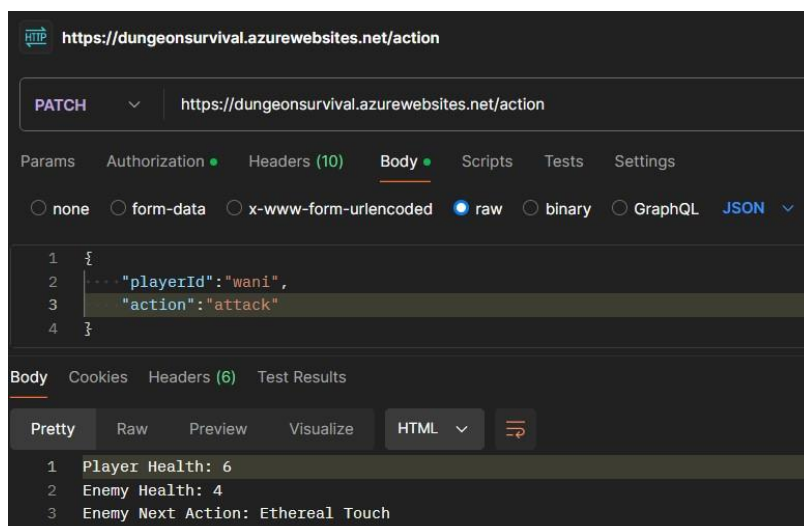


Figure 12 Attack feedback

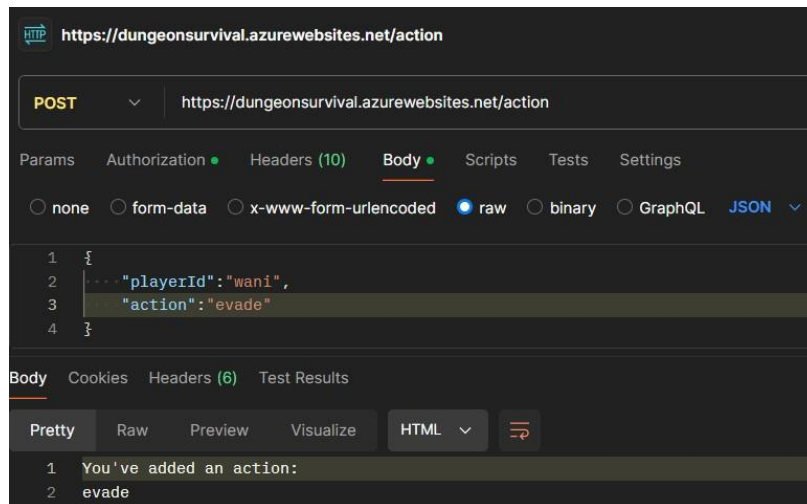


Figure 13 Evade enemy

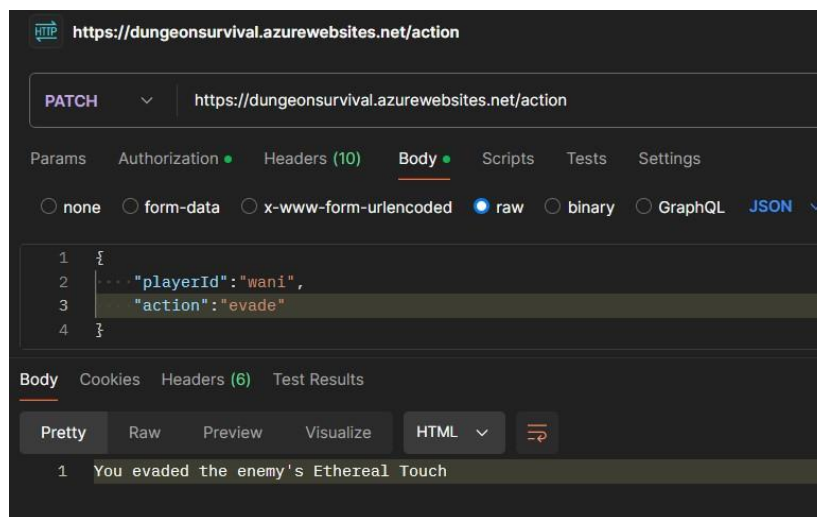


Figure 14 Evade feedback

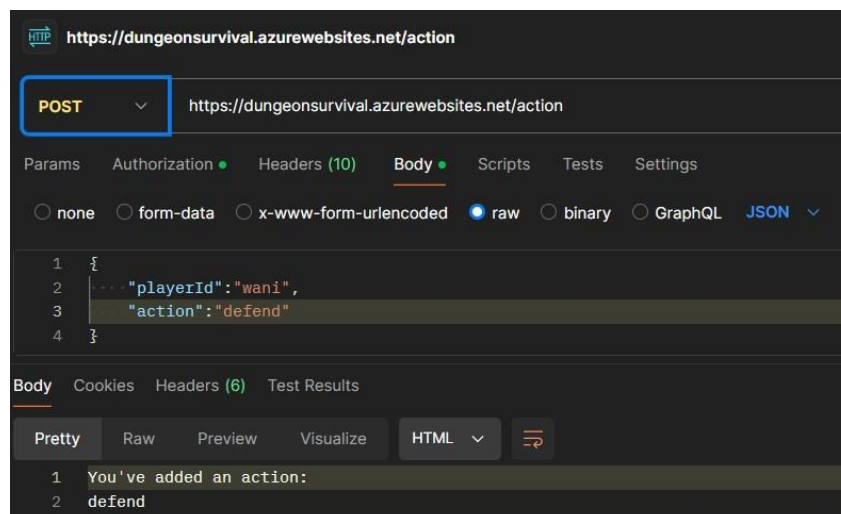


Figure 15 Defend from enemy's attacks

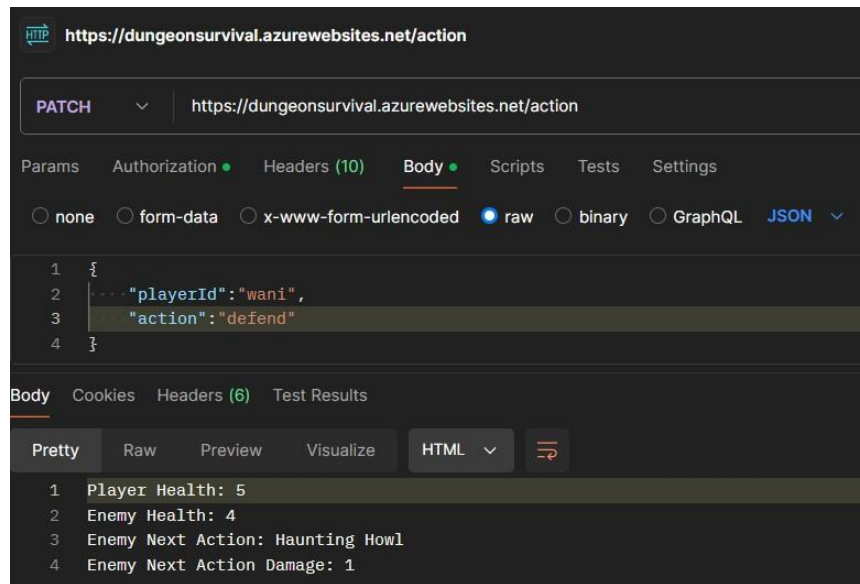


Figure 16 Defend feedback

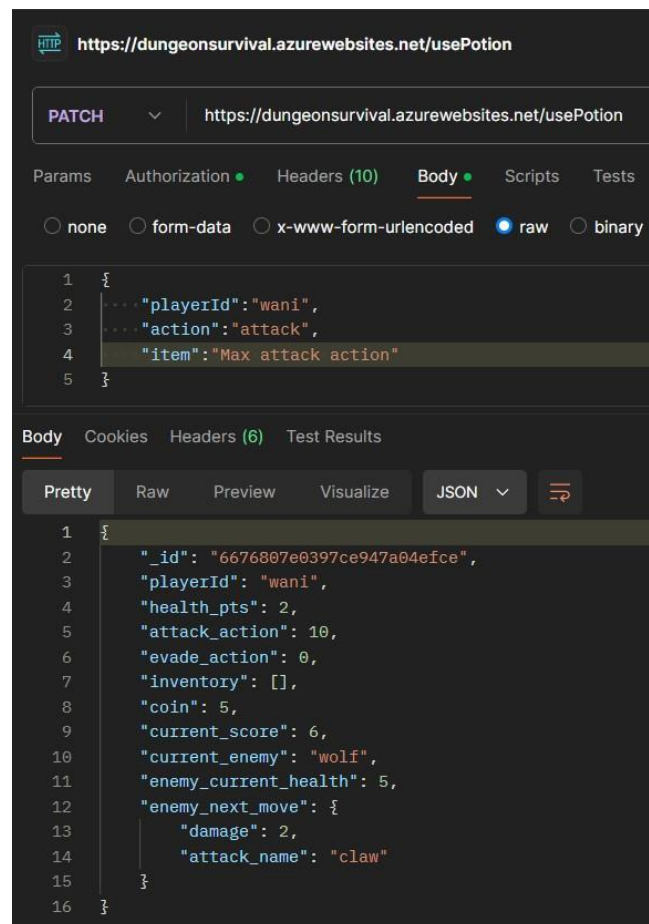


Figure 17 Use item in inventory to attack

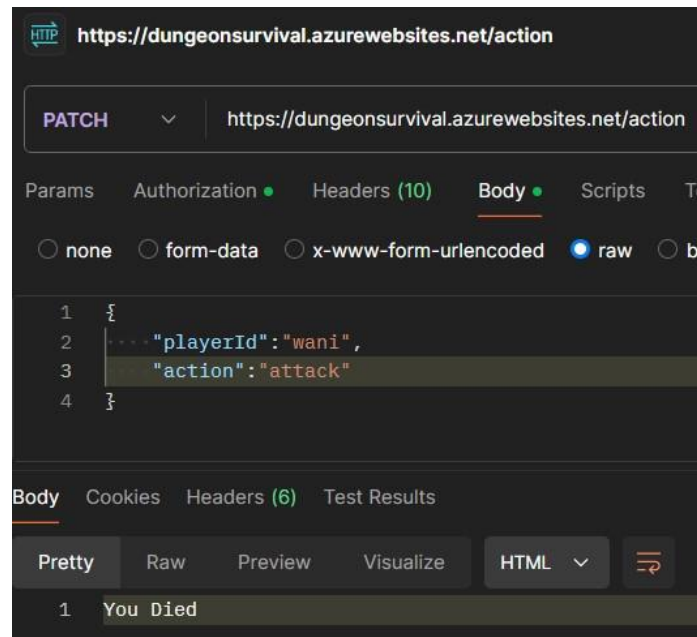


Figure 18 Game end

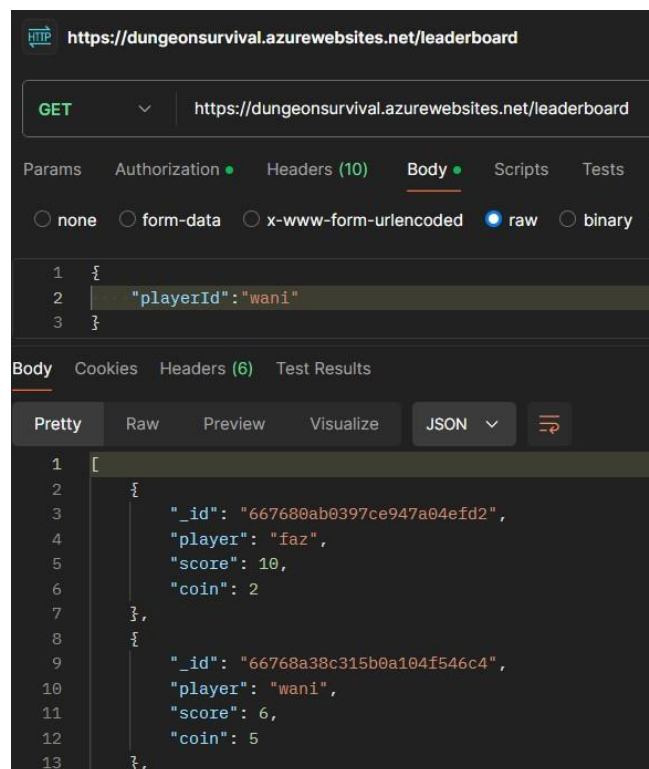


Figure 19 Leaderboard

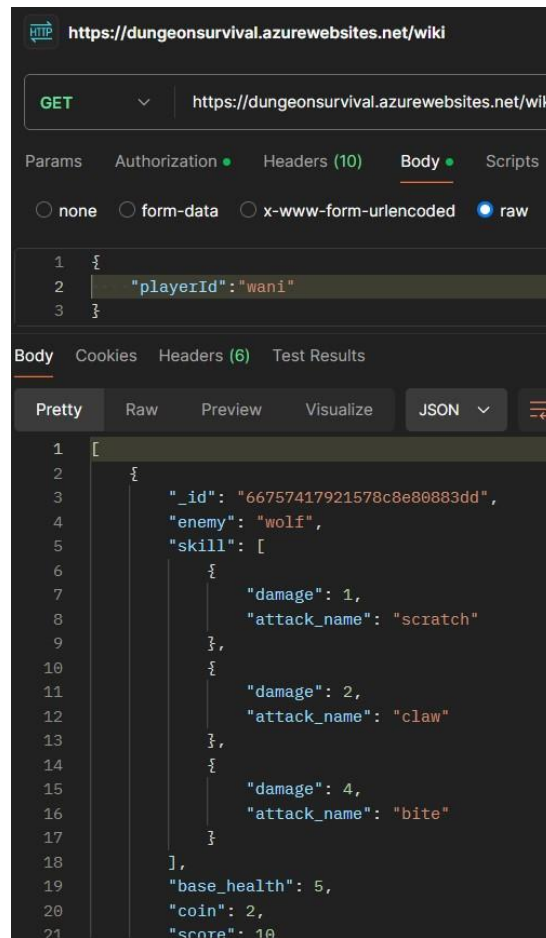


Figure 20 Wiki

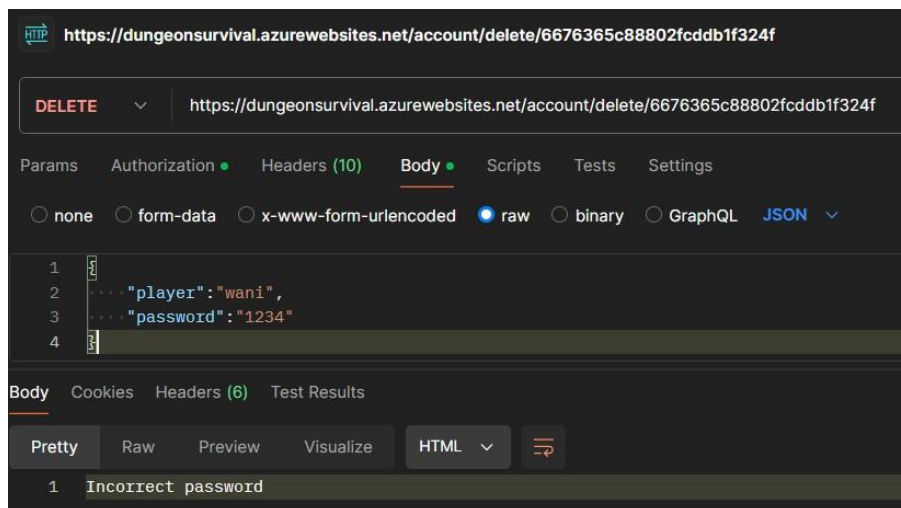


Figure 21 Incorrect password to delete account

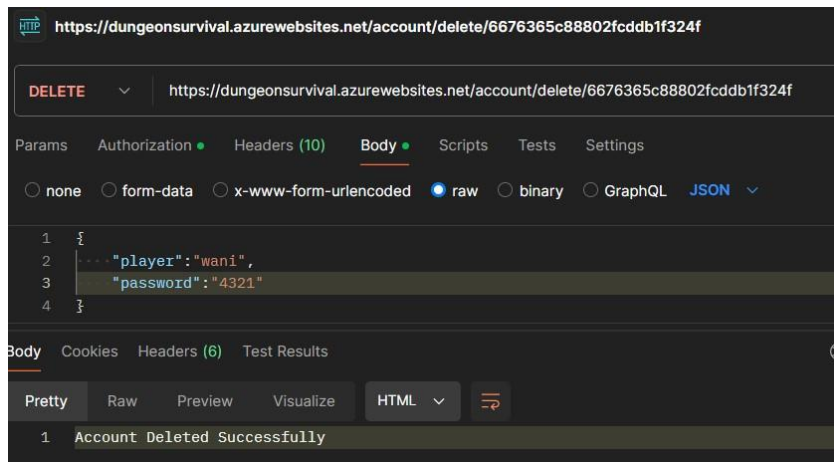


Figure 23 Successfully delete account

Bugs In The Game

1. After the player had lost the game (died) as in Figure 24, the player can not play the game again or in other word can not start the game over from the start, Figure 25. Instead we need to delete the old account first and register again to be able to play the game again.

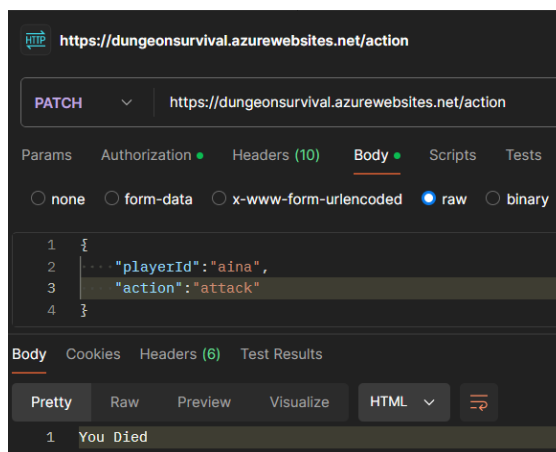


Figure 24 Game lost

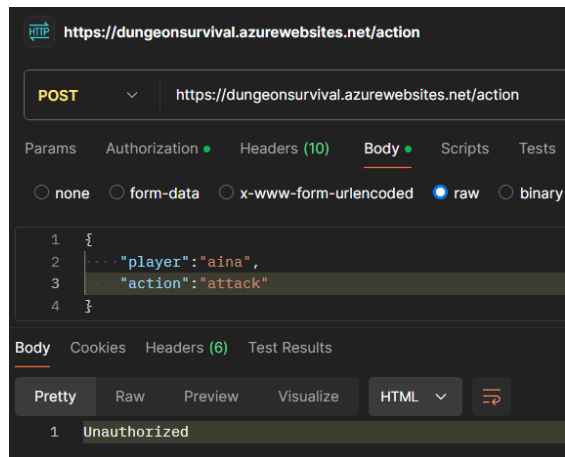


Figure 25

2. At the buy inventory part, if the player enters an item name that is not in the shop list, the output takes a long time to process and, in the end, came out as 504.0 Gateway timeout. The developers should have put a message indicating that the item that the player wants to buy is not in the list, Figure 26.

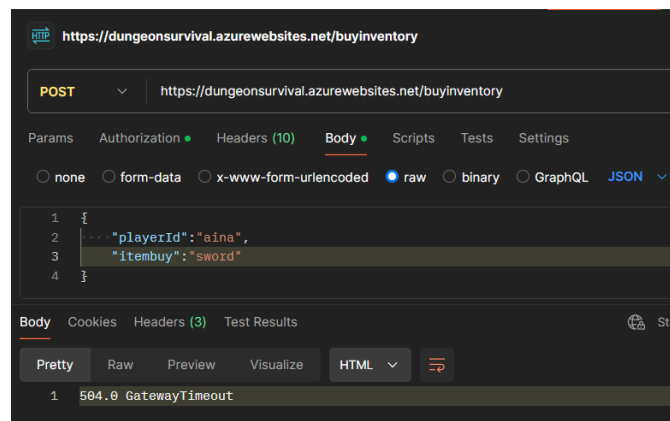


Figure 26 Gateway Timeout

3. In the login part, error that the player did is incorrect 'player' username and the message that came out is "wrong password" as in Figure 27. The correct message that should have come out is "wrong username". This error could cause the player to not realise that the error is actually the username and not the password.

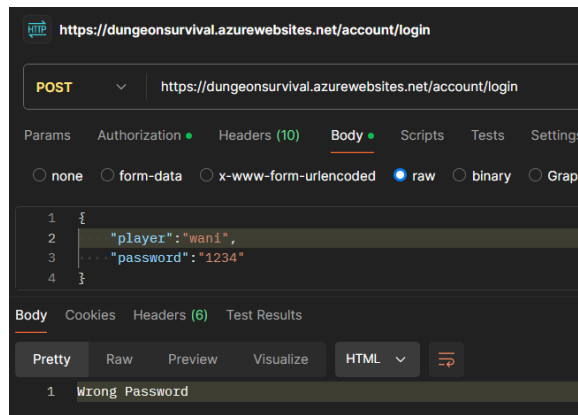


Figure 27 Wrong password

4. The next bug is at the inventory part. After the player had purchase an item from the shop, the data is stored into the player's inventory as in Figure 28. But if the player wants to delete the purchased item, the player's coins is not given back since the item had not even been used yet, Figure 30.

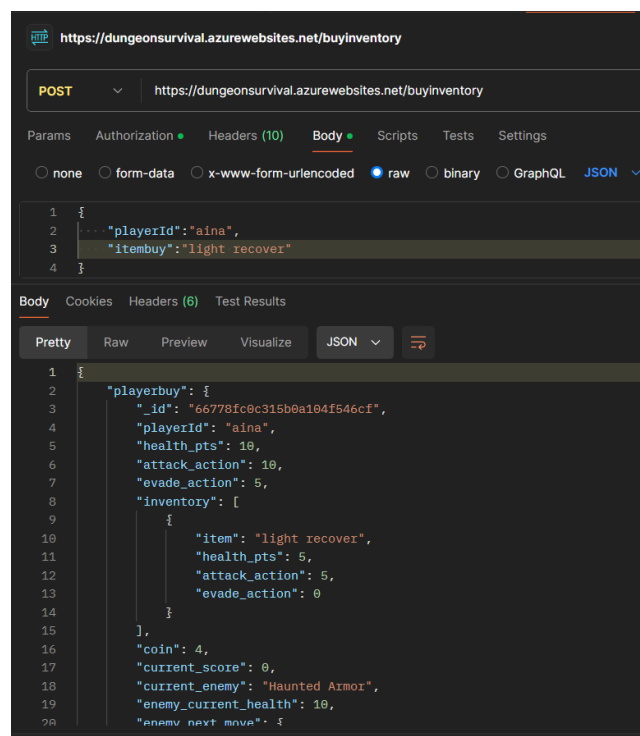


Figure 28 Buy item

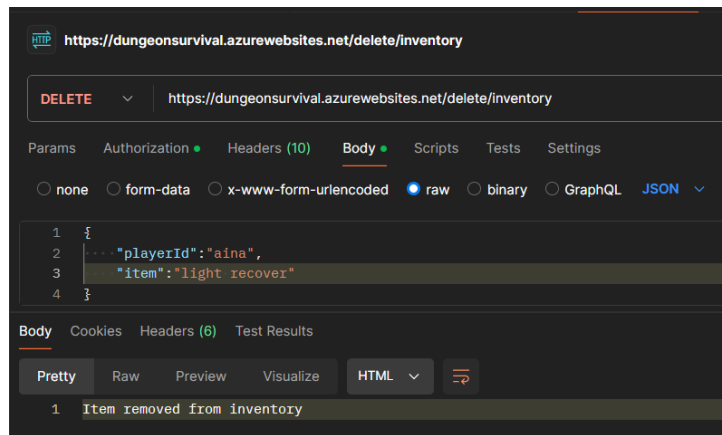


Figure 29 Item deleted from inventory

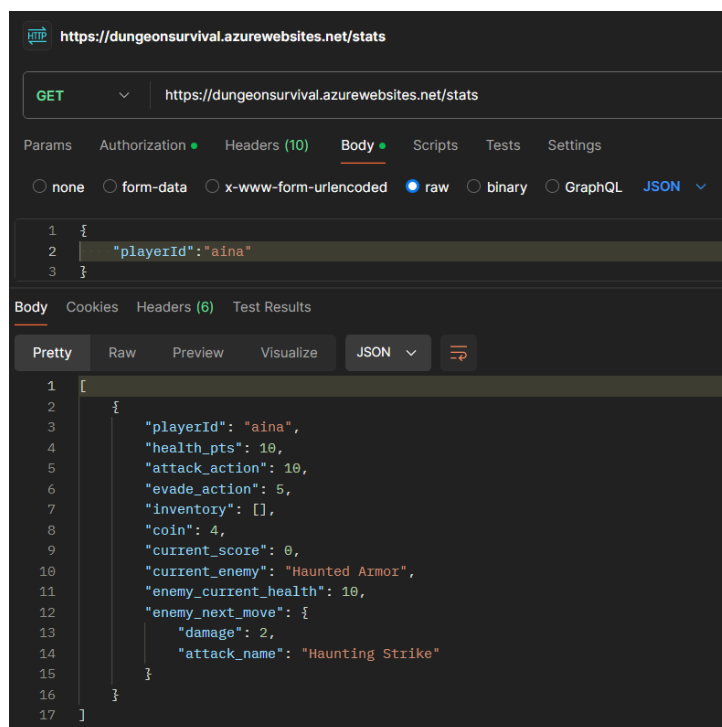


Figure 30 Player's status and coins is still the same 4 even after deleted the items



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ELEKTRONIK DAN KOMPUTER

ASSIGNMENT BERR 2423 DATABASE AND CLOUD SYSTEM

SEM 2 2023/2024

GROUP B

(PLAYER 2) MEMBER:

NO	NAME	MATRIC NUMBER
1	FAZLIN NADIRAH BINTI RAMLI	B022210195

The game flows

1. Registration player

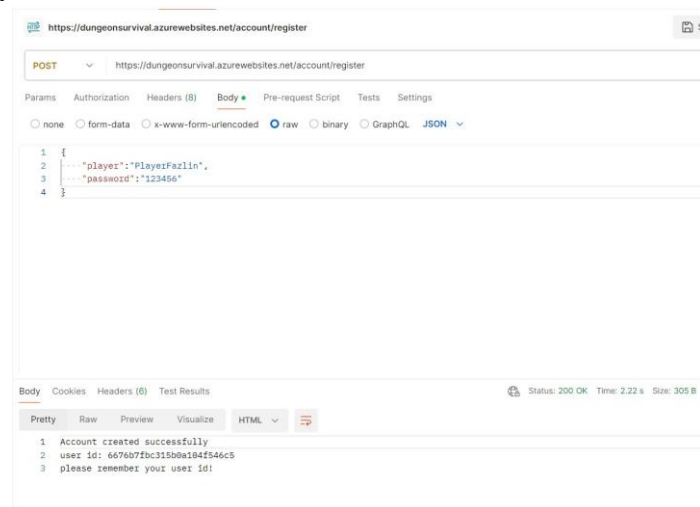


Figure 1: player registration using POST

2. Get a token

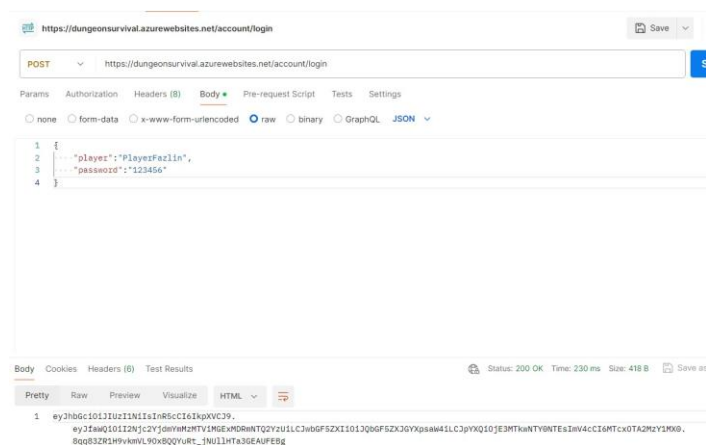


Figure 2: get a token to authorize the flow of game

3. Show the player identity and enemy's identity

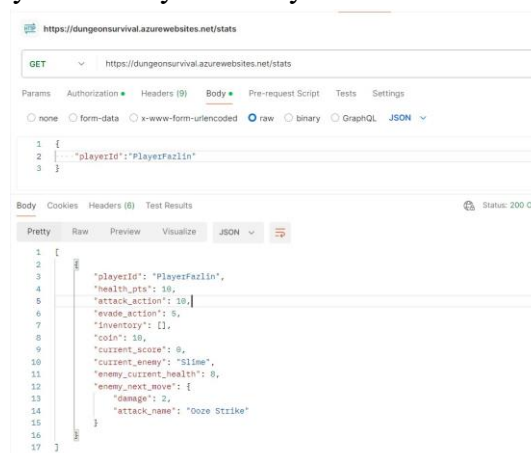


Figure 3: current player’s and enemy’s status

4. Go to the shop to look the inventory

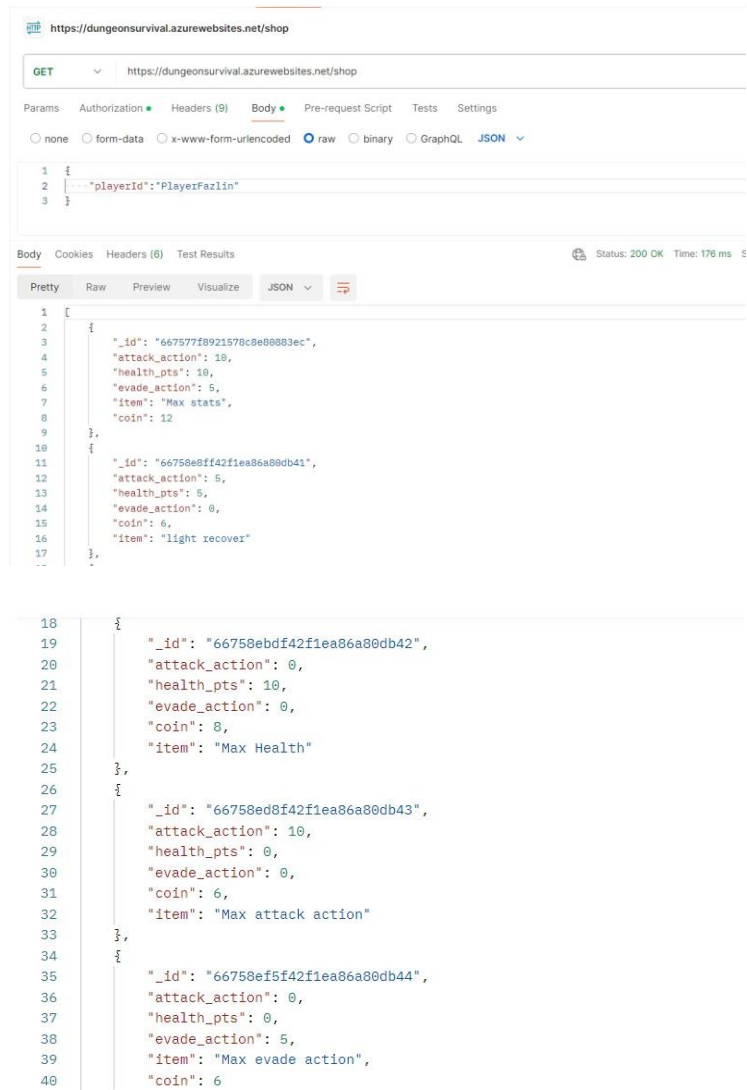


Figure 4: list of the inventory in shop

5. First move from player

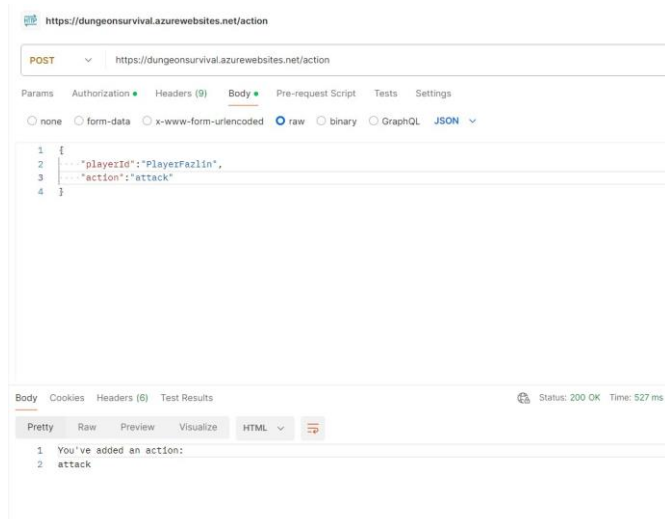


Figure 5: first move is attack

6. After the first move, know the enemy next move

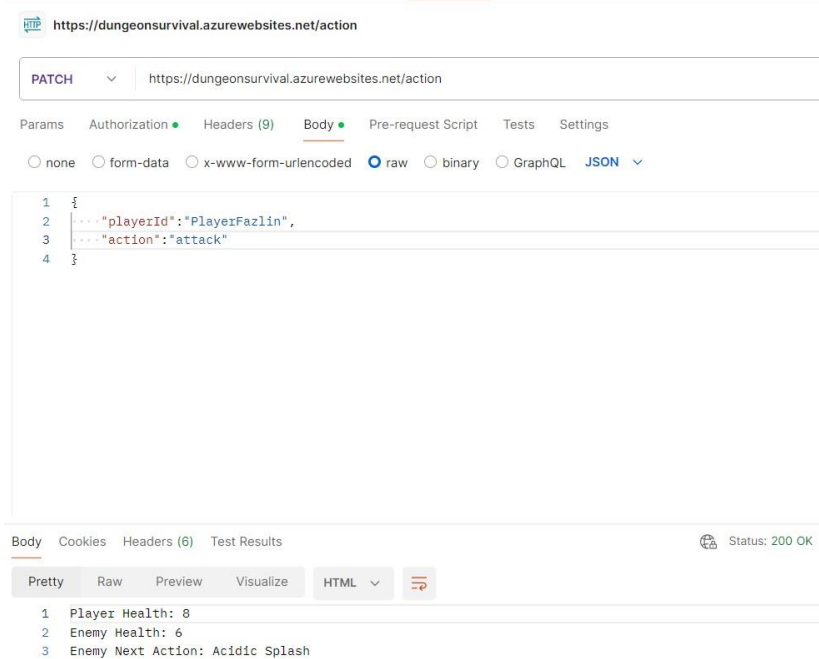


Figure 6: show that enemy next move and player's and enemy's health

7. Buy an inventory

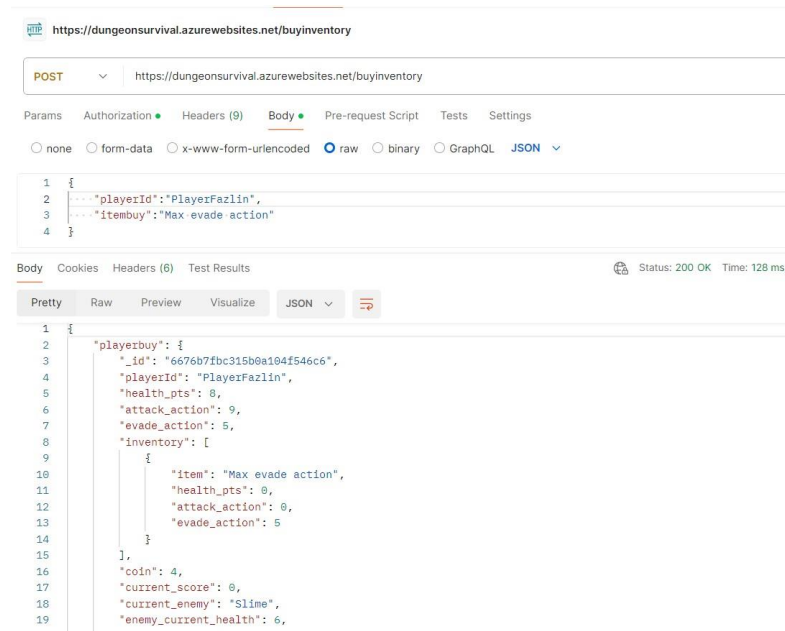


Figure 7: show that player buy an inventory

8. Inventory added to my account

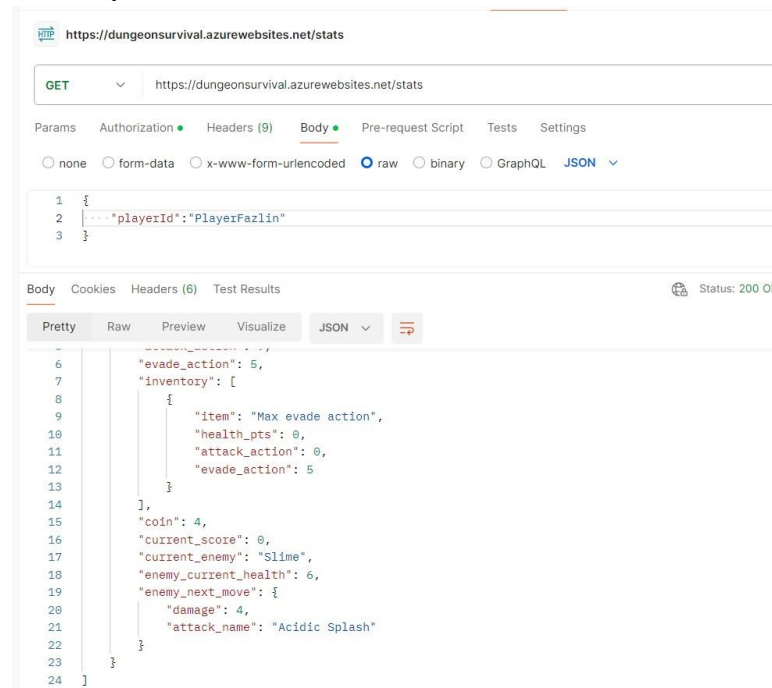


Figure 8: show that inventory inserted in player account

9. Use my inventory

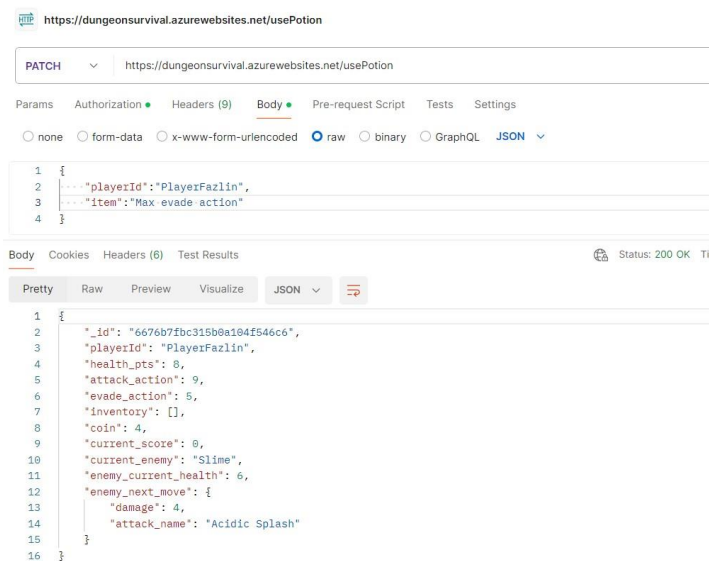


Figure 9: player use the inventory

10. My inventory back to zero in my account after use it

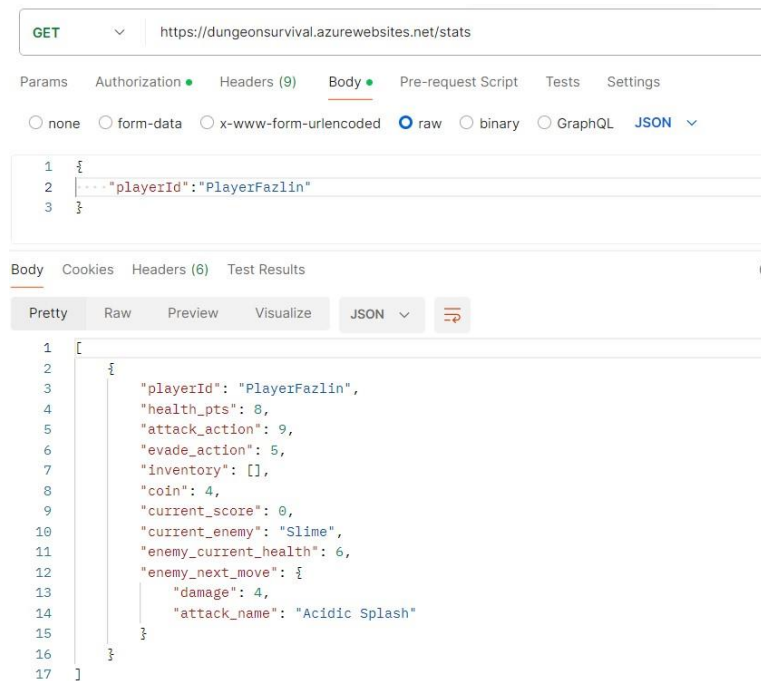


Figure 10: account display that inventory back to empty

11. My next move is evade

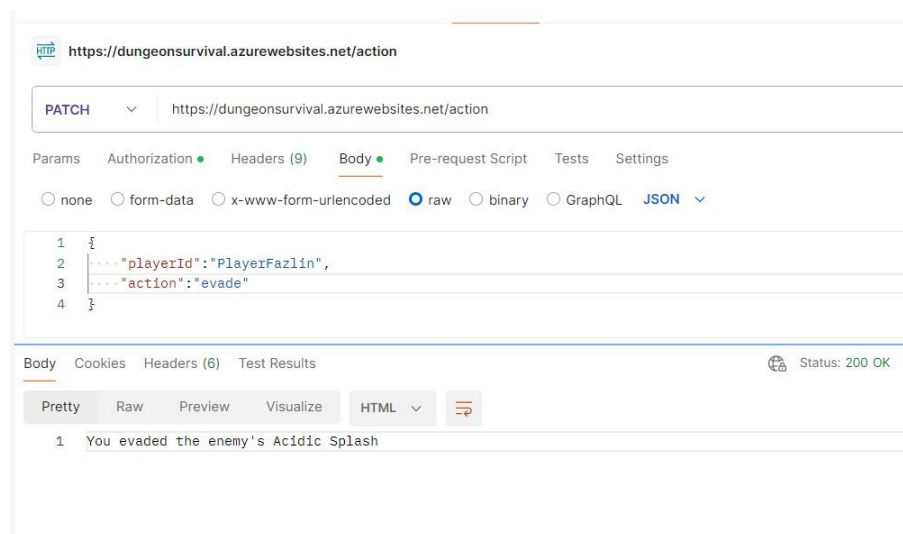


Figure 11: next action is evade

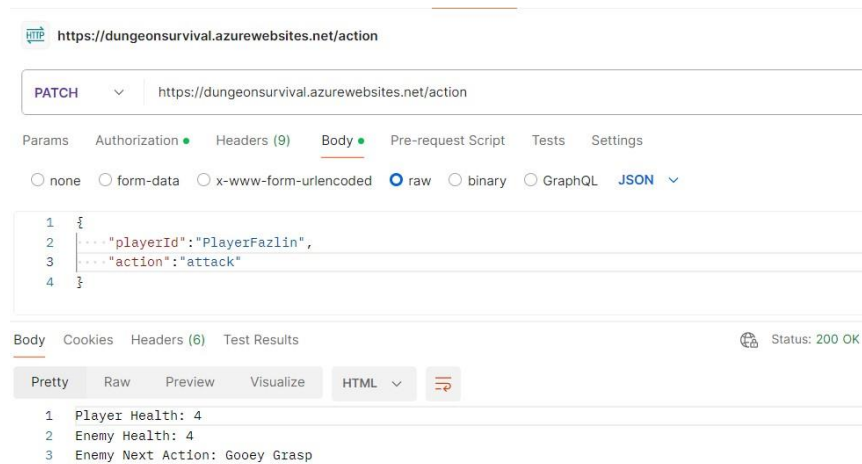


Figure 12: next action is attack

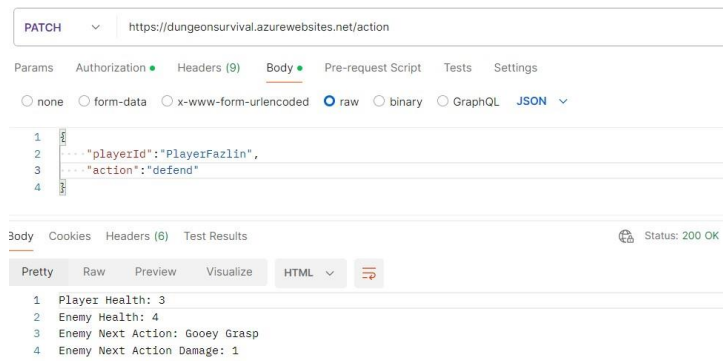


Figure 13: next action is defend

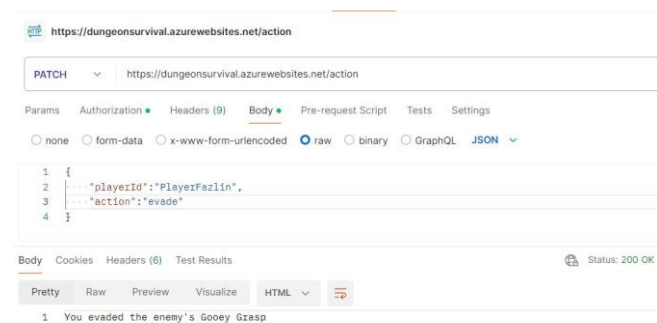


Figure 14: next action is evade

12. Player lost

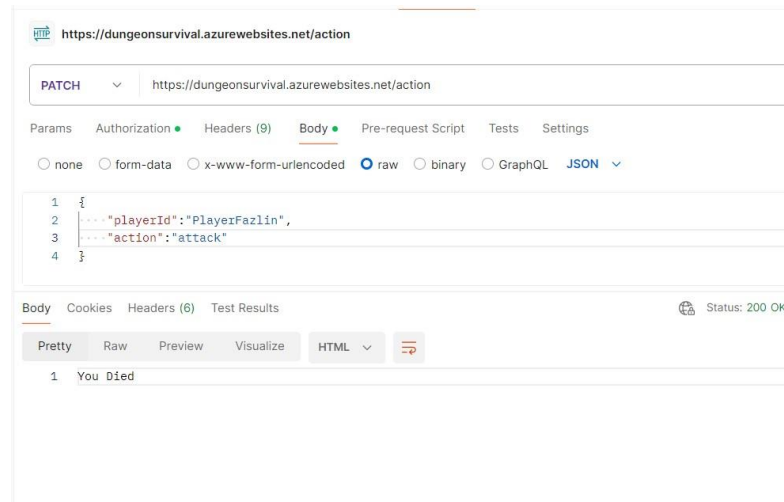


Figure 15: player lost

13. Leaderboard

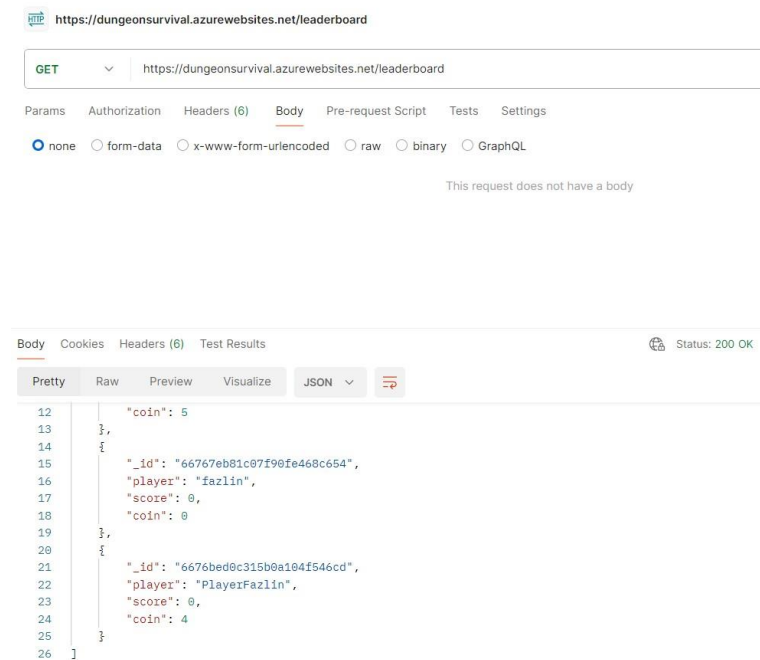


Figure 16: leaderboard display

Bugs In The Game

1. If players lost, player have to create a new account to play this game for second time
Can not use same playerId to continue the game
So all the coin that left or the score are waste

```
2  {
3    "_id": "667680ab0397ce947a04efd2",
4    "player": "faz",
5    "score": 10,
6    "coin": 2
7  },
8  {
9    "_id": "66768a38c315b0a104f546c4",
10   "player": "wani",
11   "score": 6,
12   "coin": 5
13 },
14 {
15   "_id": "66767eb81c07f90fe468c654",
16   "player": "fazlin",
17   "score": 0,
18   "coin": 0
19 },
20 {
21   "_id": "6676bed0c315b0a104f546cd",
22   "player": "PlayerFazlin",
23   "score": 0,
24   "coin": 4
25 }
```

Figure 17: leaderboard show that player name “fazlin” have to create 3 different account to play the game

2. For starting game, the player has no coin.
So player cannot proceed to but inventory to playing the game

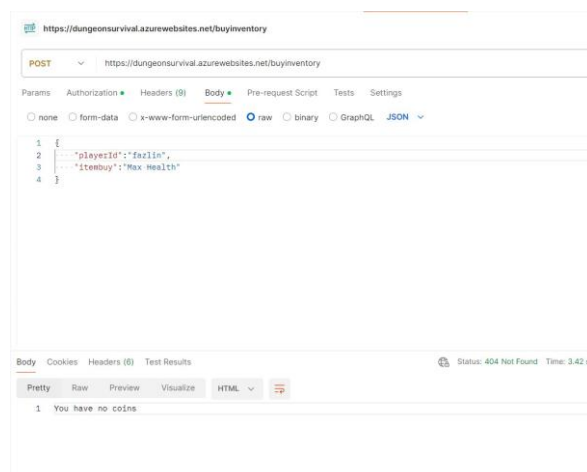


Figure 18: no coin for the player to proceed buying the inventory

FAKULTI TEKNOLOGI DAN KEJURUTERAAN ELEKTRONIK DAN KOMPUTER

SESSION 2023/2024 SEMESTER 2 BENR2423

DATABASE AND CLOUD SYSTEM ASSIGNMENT PROJECT EVALUATION FORM **Group Members:**

Student Name	Student Number	Signature
KHAIRUL IKHWAN BIN KHAIRUL RIZAL	B022210170	KHAIRUL
KOK YU YUAN B022210136	B022210136	YU YUAN
DILESHLAKSHAN A/L MANOGARAN	B022210162	DILESH
BRIAN OOI TEIK SHENG	B022210122	BRIAN
ANG WEI DING	B022210151	WEI DING
MUHAMMAD ZARIF HAKIMI BIN ZULKIFLY	B022210148	HAKIMI
HAZWANI HUMAIRA BINTI HAIRULISAM	B022210176	HAZWANI
FAZLIN NADIRAH BINTI RAMLI	B022210195	FAZLIN

	Rubrics					CLO/PO	Marks
Cloud and database development skillset	A complete application with clear and precise comment, main program functions.	A good application developed with most of the main program functions has been presented.	An average application with lacking few important API.	A basic application with only few APIs.	No submission	CLO3/PO5	/10
	Detail development progress, track records and team works can be seen on Github.	Important development details can be seen on Github, but lacking team working records.	Partial implementation of application security.	No consideration on the application security.			
	4	3	2	1	0		
Project Functionality	The system is hosted on the cloud and working properly.	The design of system is carried out, but partially working.	The design of system is carried out, but partially working.	The design of system is carried out, but not working accordingly.	No submission	CLO3/PO5	/10
	All test procedures are provided in Postman.	Most test procedures are provided in Postman.	No procedures are provided.	No procedures are provided.			
	4	3	2	1	0		
Total (x/20)							