

Smart Cradle



GROUP 10

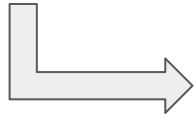
E/17/040 : CHANDRASENA M.M.D.

E/17/356 : UPEKHA H.P.S

E/17/407 : WIJESOORIYA H.D

WHAT WE IMPLEMENT....

Smart Cradle which can be controlled by Mobile Application

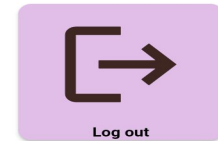
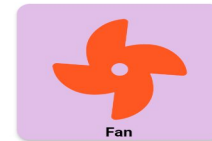
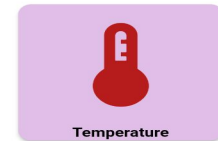
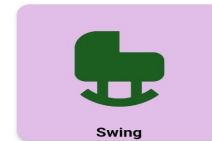
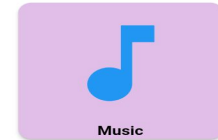
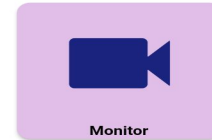
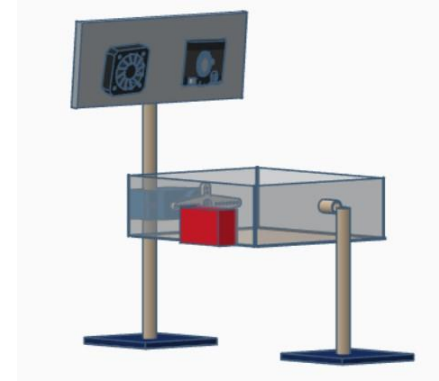
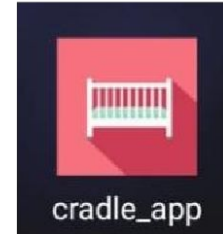


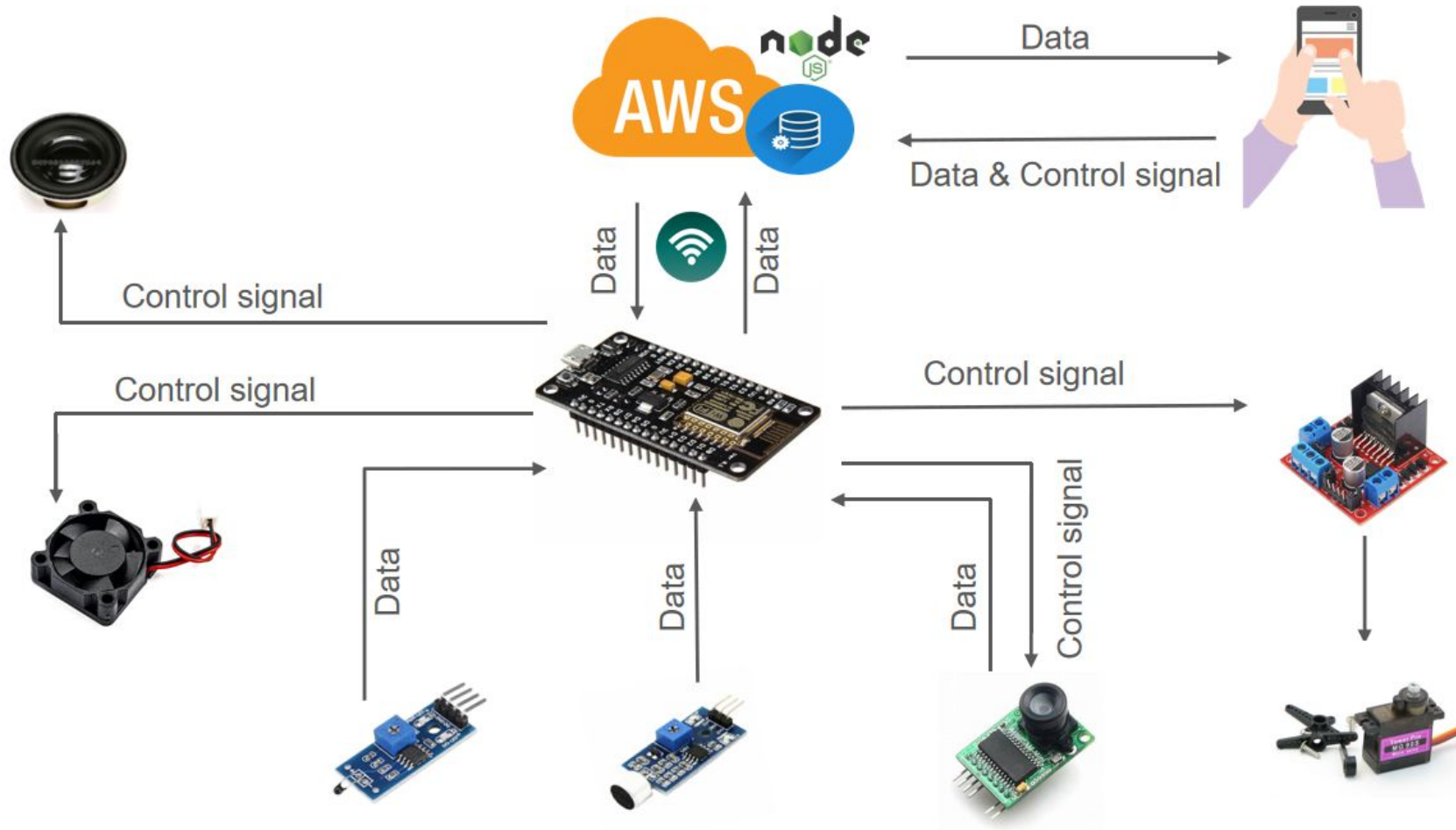
Cry Detection Mechanism



Mobile Application

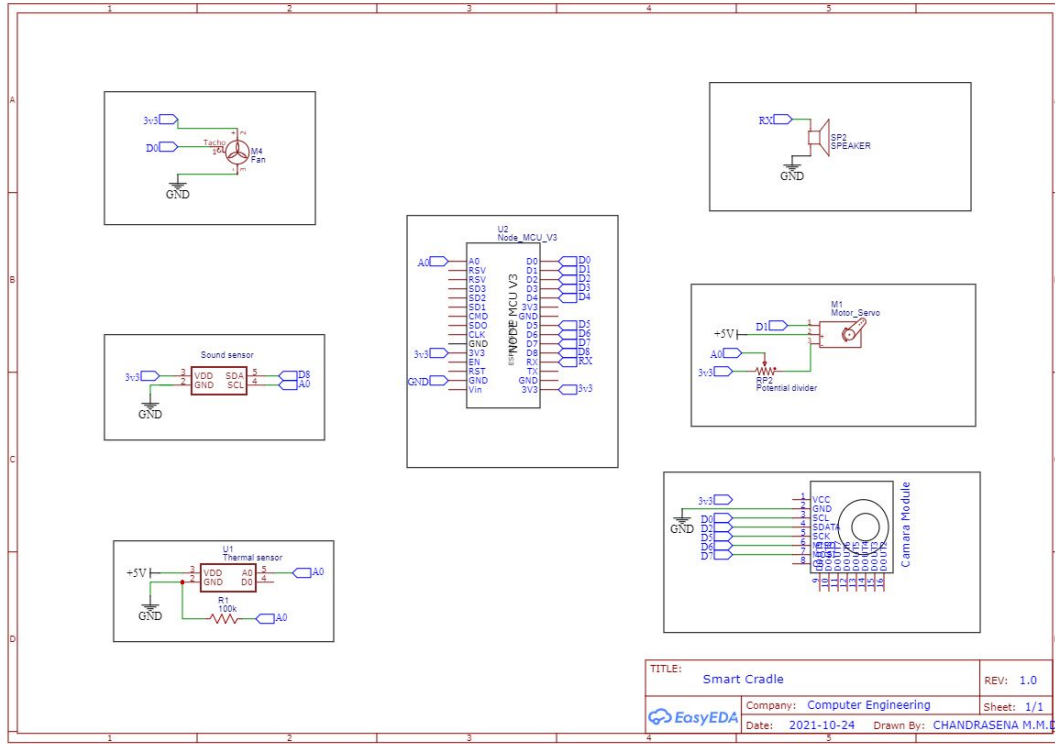
- Monitor the Baby
- Swing the Cradle
- Check the Room Temperature
- Play Music
- Switch on the Fan



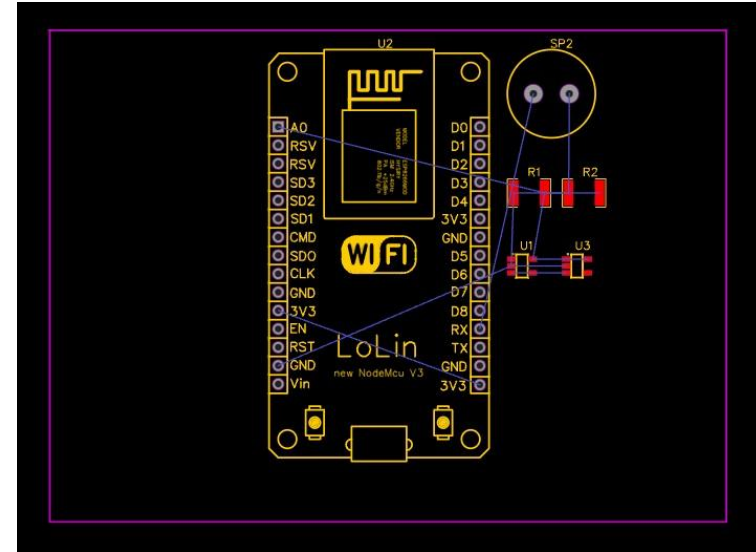


CIRCUIT DESIGN

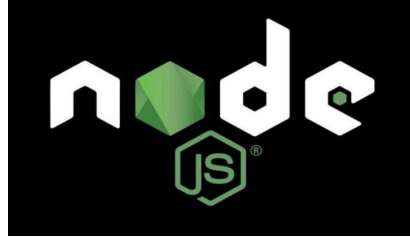
Circuit Diagram



PCB Design



Technologies



Mobile Application

- Open source
- Simple and fast
- Important packages used
 - http
 - secure storage

Backend

- Open source
- Highly scalable
- Fast
- Important libraries used
 - Express
 - joi

Database

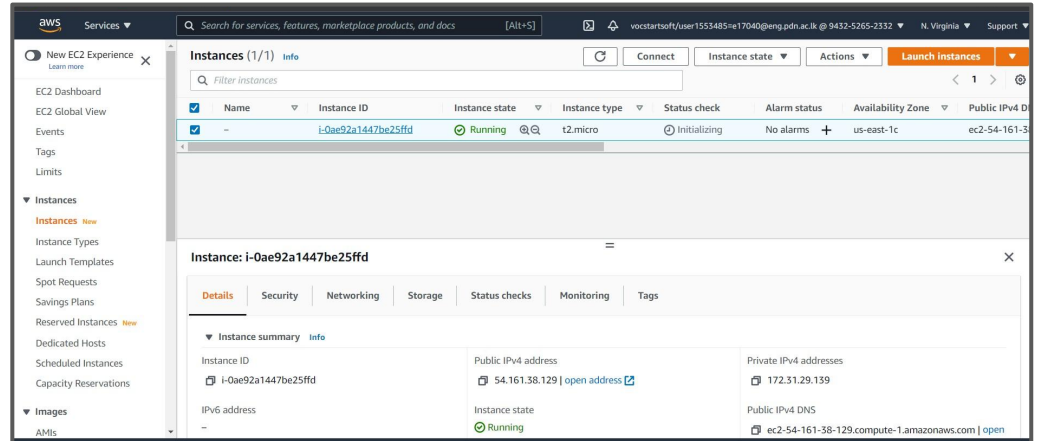
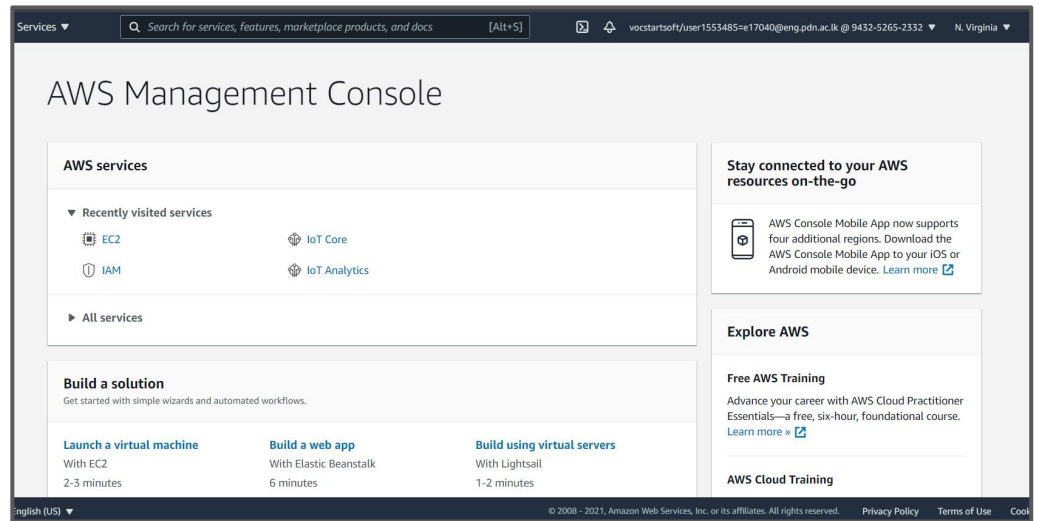
- Secure
- Scalable
- High performance

Cloud Deployment

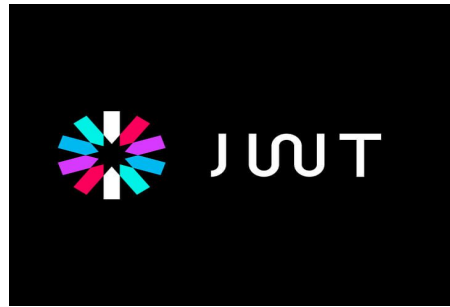


Hosting

- Secure
- Reliable
- Scalable
- Services used
 - EC2
 - Amazon RDS



Security



- JWT authentication
- Password hashing
- Data validation
- Amazon RDS

user_name	password
Ashan	\$2b\$10\$A0IPr23u5J/ECWIouQ.fgu1aFe0NY5H4aUhG7jsnjtu1V4otxHoay
Gayan	\$2b\$10\$Z6.gcv/RqQfcB1sWTPaZEu/.aHCu1hZmy/X91KF7WVLcmlzMOoYcu
Geeshan	\$2b\$10\$dZ6d5UAciGMUCvUJvJaxuuBABczTE/WnNQWeylspIC77xJx1h.e
hasara	\$2b\$10\$ogy9j/yRh.nfmvqK.ZG0wOBvGcEOFvTzkekgvF2ysLwzpnXbtNAT2
Madush	\$2b\$10\$y2qEWX.BaDpM3sdq4gxli0cuw5vGDr7FdLTmcCuB1FiqSDp3paZbS
Nimali	\$2b\$10\$A3s0.SdsCfpqE7ByKj5NLe5B73KpqNn5.egUY00SAosGbWAtqkD2e
Pasindu	\$2b\$10\$B.YQXChaqYGG0GdoAinkAe08/oWaAPGn8uKi9SY0cj2MPhpgtSfH0

```
Pretty Raw Preview Visualize JSON  [icon]
1  [icon]
2    "success": 1,
3    "message": "Successful Login",
4    "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ1c2VyX25hbWUiOiJTYW1hbiIsIm1hdCI6MTYzNDk2MDQzNn0.
           Q_Swf2z17-CmVURkaapnCCaiBz-00kIJTk0lMwSFIJU",
5    "user_name": "Saman"
6  [icon]
```


Testing



Test	Reason
user signup and user logins	It is important to make sure that the system is only accessible by authorized users with accurate user details
add device and remove device	It is important to make sure that the tables in our database are correctly updated.
select device	It is important to make sure that the devices are only accessible by their owners.

Demonstration

Q & A



THANK YOU!

Testing

TEST CASE	RESULT
User should enter all data fields , otherwise cannot proceed	passed
User should enter a valid email	passed
Duplicate user names are not allowed	passed
Duplicate device ids are not allowed	passed
Should enter a valid phone number	passed
Password and confirm password should be same	passed
Number of characters in the username should be in between 5-10	passed
Password should contain more than 6 characters	passed

WHY ?

It is important to make sure that the system is only accessible by authorized users with accurate user details.

```

1 {
2   "user_name": "hasara",
3   "email": "Hasara@gmail.com",
4   "mobile_number": "0715569874",
5   "device_id": "002",
6   "password": "qwerty",
7   "conf_password": "qwerty"
8 }
9

```

Body Cookies Headers (7) Test Results

Pretty Raw Preview Visualize JSON

```

1 {
2   "success": 1,
3   "message": "Successfully signup"
4 }

```

```

1 {
2   "user_name": "hasara",
3   "email": "Hasara@gmail.com",
4   "mobile_number": "0715569874",
5   "device_id": "0040",
6   "password": "qwerty",
7   "conf_password": "qwerty"
8 }

```

Body Cookies Headers (7) Test Results

Pretty Raw Preview Visualize JSON

```

1 {
2   "success": 0,
3   "message": "Already exist user name"
4 }

```

```

TESTING
✓ unit_test.dart 8/8 passed, 58ms
✓ Test the email address 2/2 passed, 32ms
  ✓ Invalid email address returns false 27ms
  ✓ Valid email address returns true 5ms
✓ Test the password 2/2 passed, 9ms
  ✓ Invalid password returns false 4ms
  ✓ Valid password returns true 5ms
✓ Test the Login 4/4 passed, 17ms
  ✓ Both email and passwords are invalid 5ms
  ✓ Password is invalid 4ms
  ✓ Email is invalid 4ms
  ✓ Both email and password are valid 4ms

```

TEST SUMMARY : LOGIN

TEST CASE	RESULT
Login with a valid username and password is allowed	passed
Login with a valid username and invalid password is not allowed	passed
Login with an invalid username and valid password is not allowed	passed
User should enter both data fields (username and password) , otherwise cannot proceed	passed

```

1  {
2    "user_name": "Saman",
3    "password": "Saman123"
4  }
5

```

Body Cookies Headers (7) Test Results Status: 200 OK

Pretty Raw Preview Visualize JSON

```

1  {
2    "success": 1,
3    "message": "Successful Login",
4    "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ1c2VyX25hbWUiOiJTYW1hbiIsImhhdCI6MTYzNTEzMTIyNH0.
5    cAEcxjdcRgFwMxoIGAgOQJw9y_6MmRpcx_gMsfwXgIw",
6    "user_name": "Saman"
7  }

```

```

1  {
2    "user_name": "Saman",
3    "password": "saman123"
4  }
5

```

Body Cookies Headers (7) Test Results

Pretty Raw Preview Visualize JSON

```

1  {
2    "success": 0,
3    "message": "Invalid Password"
4  }

```

```

1  {
2    "user_name": "SamanAB",
3    "password": "saman123"
4  }
5

```

Body Cookies Headers (7) Test Results

Pretty Raw Preview Visualize JS

```

1  {
2    "success": 0,
3    "message": "Invalid Username"
4  }

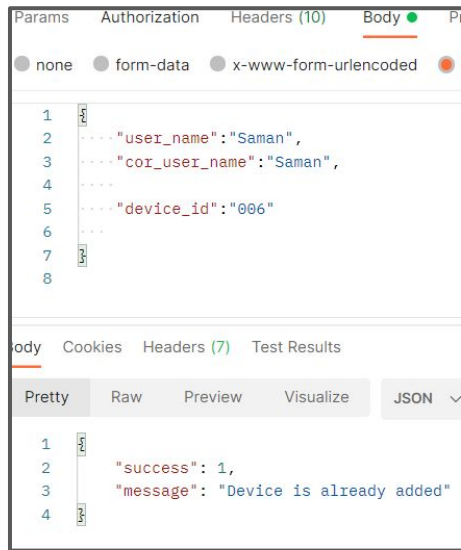
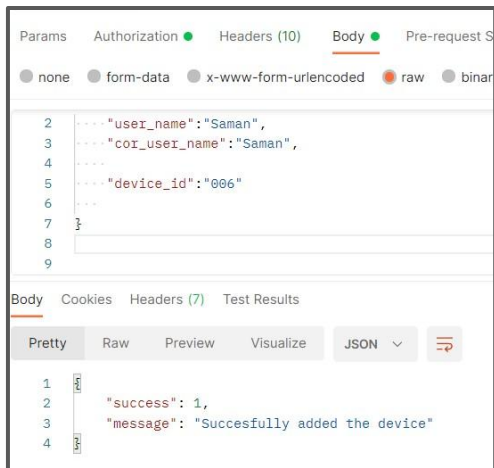
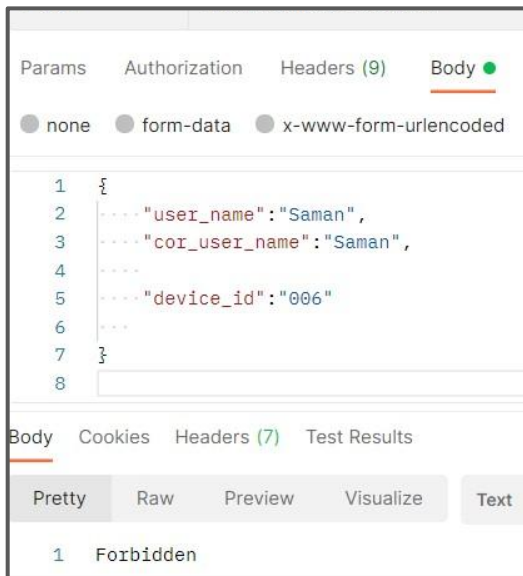
```


TEST SUMMARY : ADD_DEVICE

TEST CASE	RESULT
User should enter all data fields,otherwise cannot proceed	passed
Should enter a valid device id (device id must contain only numbers)	passed
User should not enter an already exist device id,otherwise cannot proceed	passed
JSON web token should be valid ,otherwise cannot proceed	passed

WHY?

It is important to make sure that the tables in our database are correctly updated.



TEST SUMMARY : REMOVE DEVICE

TEST CASE	RESULT
User should enter device id and username(data field should not be empty) ,otherwise cannot proceed	passed
Should enter a valid device id (device id must contain only numbers)	passed
User should enter a device id that belongs to him,otherwise cannot proceed	passed
JSON web token should be valid ,otherwise cannot proceed	passed

```
1  {
2    "user_name": "Saman",
3    "cor_user_name": "Saman",
4    "device_id": "006"
5  }
6  .....
7  {
8  }
9
```

Cookies Headers (7) Test Results

pretty Raw Preview Visualize JSON

```
1  {
2    "success": 1,
3    "message": "Succesfully Deleted"
4  }
```

```
1  {
2    "user_name": "Saman",
3    "cor_user_name": "Saman",
4    "device_id": "900"
5  }
6  .....
7  {
8  }
9
```

body Cookies Headers (7) Test Results

Pretty Raw Preview Visualize

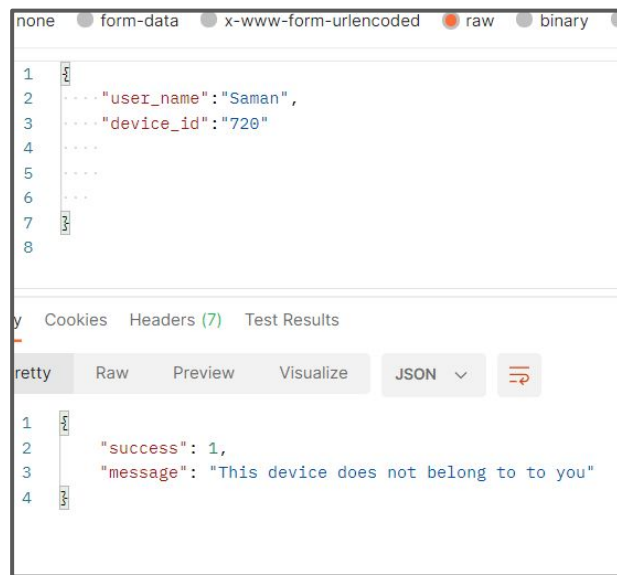
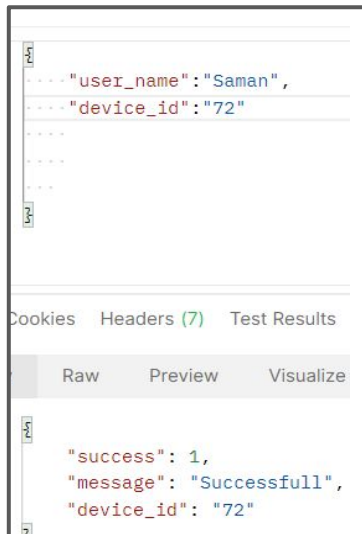
```
1  {
2    "success": 1,
3    "message": "invalid id"
4  }
```

TEST SUMMARY : SELECT DEVICE

TEST CASE	RESULT
User should enter a device id(data field should not be empty) ,otherwise cannot proceed	passed
Should enter a valid device id (device id must contain only numbers)	passed
User should enter a device id that belongs to him,otherwise cannot proceed	passed
JSON web token should be valid ,otherwise cannot proceed	passed

WHY?

It is important to make sure that the devices are only accessible by their owners.

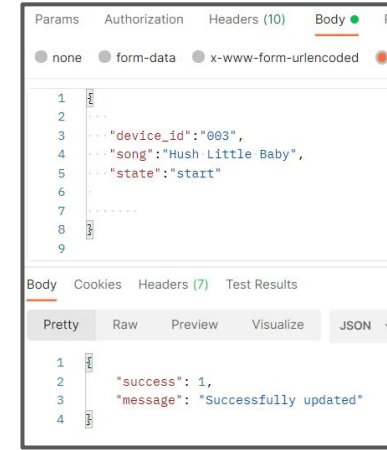


WHY?

It is important to make sure that the basic functionalities of our product are working properly

TEST SUMMARY : PLAY MUSIC

TEST CASE	RESULT
User should select a song and give a state (start or stop),otherwise cannot proceed	passed
JSON web token should be valid ,otherwise cannot proceed	passed



TEST SUMMARY : FAN

TEST CASE	RESULT
User should select a speed and give a state (on or off),otherwise cannot proceed	passed
JSON web token should be valid ,otherwise cannot proceed	passed

