



Software Engineer (IT314)

G21 - Online Forum

Unit Testing

Introduction

Unit testing is a software development practice in which individual components or functions of code are tested in isolation if they function correctly. Popular tools for unit testing Javascript codes are Jest, Mocha, Jasmine, etc. We have used mocha in our case.

Results

50 passing (57ms)
5 failing

File	% Stmts	% Branch	% Funcs	% Lines	Uncovered Line #s
All files	95.11	89.55	96.96	96.38	
controllers	94.71	89.55	96.96	96.06	
authenticateAdmin.js	100	100	100	100	
login.js	100	100	100	100	
myProfileControllers.js	87.35	77.27	87.5	89.02	75-76,164-176
questionController.js	100	100	100	100	
replyController.js	100	100	100	100	
signup.js	96.29	94.73	100	100	50
spaceControllers.js	97.56	83.33	100	100	72
models	100	100	100	100	
answer.js	100	100	100	100	
question.js	100	100	100	100	
replies.js	100	100	100	100	
spaces.js	100	100	100	100	
user.js	100	100	100	100	

Given Below are the controllers for which we have created test

1. Authentication

`authenticateAdmin`

- ✓ should return false if user is not found
- ✓ should return false if password does not match
- ✓ should return the admin if authentication is successful

`POST /login`

- ✓ should return 403 if email is not found
- ✓ should return 403 if password does not match
- ✓ should return 201 and a token if authentication is successful
- ✓ should handle internal server errors

2. Profile Controller

- `showProfileAnalytics`

`myProfileControllers`

`showProfileAnalytics`

- ✓ should return profile analytics
- ✓ should return 404 if profile not found
- ✓ should return 500 on error

`deactivateAccount`

- ✓ should deactivate account
- ✓ should return 404 if user not found
- ✓ should return 500 on error

- deactivateAccount

- deleteAccount

```
deleteAccount
User deleted: { _id: '123' }
  ✓ should delete account
  1) should return 404 if user not found
Failed to delete user account: Error: Error
  at Context.<anonymous> (file:///Users/mananpatel/G21_AskAtEase/test/myProfileControllers.test.js:121:57)
)
  at callFn (/Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runnable.js:364:21)
  at Runnable.run (/Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runnable.js:352:5)
  at Runner.runTest (/Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runner.js:677:10)
  at /Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runner.js:800:12
  at next (/Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runner.js:592:14)
  at /Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runner.js:602:7
  at next (/Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runner.js:485:14)
  at Immediate._onImmediate (/Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runner.js:570:5)
  at process.processImmediate (node:internal/timers:483:21)
  ✓ should return 500 on error
```

- reactiveAccount

```
reactivateAccount
  ✓ should reactivate account
  ✓ should return 404 if user not found
  ✓ should return 500 on error
```

- changePassword

```
changePassword
  ✓ should change password
  ✓ should return 400 if new password is not provided
  2) should return 400 if new password is invalid
  ✓ should return 404 if user not found
  ✓ should return 500 on error
```

- followUser

```
followUser
  ✓ should follow a user
  ✓ should return 404 if follower user not found
  ✓ should return 404 if following user not found
  ✓ should return 500 on error
```

- getTheFeed

```
getTheFeed
  3) should get the feed
  4) should return 404 if user not found
  5) should return 200 if no posts to display
  ✓ should return 500 on error
```

3. Finding Similar Questions

```
POST /findSimilarQuestions
{}
  ✓ should return 400 if questionName is not provided
{ questionName: 'What is AI?' }
  ✓ should return relevant questions based on similarity
{ questionName: 'What is AI?' }
  ✓ should handle errors and return 500
```

4. Reply Controller

- replyToAnswer

```
replyController
  replyToAnswer
    ✓ should return 400 if reply or answerId is missing
    ✓ should create a reply and update the answer
    ✓ should return 404 if answer not found
    ✓ should return 500 on error
```

5. Space Controller

- createSpace

```
spaceControllers
  createSpace
    ✓ should create a new space
    ✓ should return 500 on error
```

- getAllSpaces

```
getAllSpaces
  ✓ should get all spaces
  ✓ should return 500 on error
```

- addQuestionToSpace

```
addQuestionToSpace
  ✓ should add a question to a space
  ✓ should return 404 if space not found
  ✓ should return 500 on error
```

- getSpaceQuestions

```

    ✓ should return 500 on error
    getSpaceQuestions
      ✓ should get all questions in a space
      ✓ should return 404 if space not found
Error fetching questions: Error: Error
    at Context.<anonymous> (file:///Users/mananpatel/G21_AskAtEase/test/spaceControllers.test.js:130:52)
    at callFn (/Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runnable.js:364:21)
    at Runnable.run (/Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runnable.js:352:5)
    at Runner.runTest (/Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runner.js:677:10)
    at /Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runner.js:800:12
    at next (/Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runner.js:592:14)
    at /Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runner.js:602:7
    at next (/Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runner.js:485:14)
    at Immediate._onImmediate (/Users/mananpatel/G21_AskAtEase/node_modules/mocha/lib/runner.js:570:5)
    at process.processImmediate (node:internal/timers:483:21)
    ✓ should return 500 on error

```