

IT314 Software Engineering

UNIT TESTING - BACKEND

GROUP 29 - Market Connect

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1. Unit Testing Overview

1.1 Coverage Metrics Code coverage metrics measure the extent to which source code is executed by tests:

- Statements: Percentage of executable statements executed by tests
- Branches: Percentage of conditional branches (if/else) executed
- Functions: Percentage of function definitions executed
- Lines: Percentage of source code lines executed

2. Overall Coverage Summary

2.1 Executive Summary

All files

92.44% Statements 2630/2845 **87.67%** Branches 1287/1468 **89.35%** Functions 277/310 **92.79%** Lines 2460/2651

The project achieves strong overall unit test coverage with statements (92.44%), branches(87.67%), functions (89.35%), and lines (92.79%) around **90%**. Branch coverage (87.67%) indicates room for improvement in testing conditional logic.

3. Terminal Outputs

JS googleAuth.test.js U JS socket.startIntervals.test.js U X

New folder (5) > Backend > tests > JS socket.startIntervals.test.js > ...

```
1 const path = require("path");
```

PROBLEMS	OUTPUT	DEBUG CONSOLE	PORTS	TERMINAL	
Backend/auth	100	96.29	100	100	
googleAuth.js	100	96.29	100	100	7
Backend/config	100	92.3	100	100	
groqConfig.js	100	92.3	100	100	12
Backend/controllers	92.87	88.7	94.66	93.28	
assistantController.js	91.89	85.86	94.11	91.74	...,339-340,369-3
auctionController.js	94.11	95.45	100	94.02	69,91,111,132
cartController.js	85.84	83.33	100	85.18	...,328-329,357-3
categoryController.js	91.76	82.81	100	91.76	...,148,178,191,2
chatController.js	100	97.14	100	100	81
couponController.js	93.75	84.61	100	93.75	91,175,202-203
orderController.js	96.85	91.76	100	96.5	33,44,52,55,80
paymentController.js	96.2	88.46	100	96.81	33-37,197-206
productController.js	98.16	98.33	92.85	98.03	168-169
returnController.js	82.09	76.72	80.76	82.66	...-598,613,654-65
reviewController.js	88	80.76	83.33	89.85	27-35,102,166,196
sellerAnalyticsController.js	100	100	100	100	
sellerController.js	100	100	100	100	
user.js	97.16	90.66	100	98.73	24,343-345
Backend/middlewares	100	100	100	100	
auth.js	100	100	100	100	
multer.js	100	100	100	100	
validateSchema.js	100	100	100	100	
Backend/models	95.96	88.09	100	98.23	
Chat.js	100	100	100	100	
Faq.js	100	100	100	100	
bids.js	100	100	100	100	
category.js	100	100	100	100	
coupon.js	88	85	100	100	58-59,61
order.js	100	100	100	100	
payment.js	100	100	100	100	
product.js	100	100	100	100	
return.js	100	100	100	100	
review.js	100	75	100	100	88
sharedSchemas.js	100	100	100	100	
user.js	91.66	90	100	91.3	96,104
Backend/routes	98.27	83.33	84.61	98.26	
assistant.js	100	100	100	100	
auctionRoutes.js	100	100	100	100	
cart.js	100	100	100	100	

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ASUS Zenbook

4. Results

All Files

All files
92.44% Statements 2638/2845 87.67% Branches 1287/1468 89.35% Functions 277/318 92.79% Lines 2468/2651

Press *n* or *j* to go to the next uncovered block, *b*, *p* or *k* for the previous block.

Filter:

File		Statements		Branches		Functions		Lines	
Backend/auth	<div></div>	100%	65/65	96.29%	26/27	100%	7/7	100%	63/63
Backend/config	<div></div>	100%	10/10	92.3%	12/13	100%	1/1	100%	10/10
Backend/middlewares	<div></div>	100%	49/49	100%	18/18	100%	6/6	100%	48/48
Backend/scripts	<div></div>	100%	111/111	100%	24/24	100%	8/8	100%	110/110
Backend/tests/utlis	<div></div>	100%	8/8	100%	3/3	100%	2/2	100%	8/8
Backend/validations	<div></div>	100%	53/53	100%	0/0	100%	0/0	100%	53/53
Backend/routes	<div></div>	98.27%	228/232	83.33%	20/24	84.61%	11/13	98.26%	227/231
Backend/models	<div></div>	95.96%	119/124	88.09%	37/42	100%	11/11	98.23%	111/113
Backend/tests/mocks	<div></div>	94.48%	480/508	88.62%	335/378	89.47%	85/95	95.68%	355/371
Backend/controllers	<div></div>	92.87%	1434/1544	88.7%	793/894	94.66%	142/150	93.28%	1402/1503

routes

File		Statements		Branches		Functions		Lines	
assistant.js	<div></div>	100%	8/8	100%	0/0	100%	0/0	100%	8/8
auctionRoutes.js	<div></div>	100%	14/14	100%	0/0	100%	0/0	100%	14/14
cart.js	<div></div>	100%	10/10	100%	0/0	100%	0/0	100%	10/10
category.js	<div></div>	100%	10/10	100%	0/0	100%	0/0	100%	10/10
chat.js	<div></div>	100%	9/9	100%	0/0	100%	0/0	100%	9/9
coupon.js	<div></div>	100%	10/10	100%	0/0	100%	0/0	100%	10/10
faq.js	<div></div>	100%	19/19	100%	4/4	100%	2/2	100%	19/19
order.js	<div></div>	100%	12/12	100%	0/0	100%	0/0	100%	12/12
payment.js	<div></div>	100%	11/11	100%	0/0	100%	0/0	100%	11/11
product.js	<div></div>	100%	16/16	100%	0/0	100%	0/0	100%	16/16
return.js	<div></div>	100%	12/12	100%	0/0	100%	0/0	100%	12/12
review.js	<div></div>	90.9%	20/22	83.33%	5/6	66.66%	2/3	90.9%	20/22
seller.js	<div></div>	88.23%	15/17	100%	2/2	66.66%	2/3	87.5%	14/16
sellerAnalyticsRoutes.js	<div></div>	100%	9/9	100%	0/0	100%	0/0	100%	9/9
user.js	<div></div>	100%	53/53	75%	9/12	100%	5/5	100%	53/53

controllers

File ▾		Statements ▾		Branches ▾		Functions ▾		Lines ▾	
assistantController.js	<div><div></div></div>	91.89%	102/111	85.86%	79/92	94.11%	16/17	91.74%	100/109
auctionController.js	<div><div></div></div>	94.11%	64/68	95.45%	21/22	100%	7/7	94.02%	63/67
cartController.js	<div><div></div></div>	85.84%	97/113	83.33%	35/42	100%	13/13	85.18%	92/108
categoryController.js	<div><div></div></div>	91.76%	78/85	82.81%	53/64	100%	5/5	91.76%	78/85
chatController.js	<div><div></div></div>	100%	57/57	97.14%	34/35	100%	7/7	100%	56/56
couponController.js	<div><div></div></div>	93.75%	60/64	84.61%	22/26	100%	5/5	93.75%	60/64
orderController.js	<div><div></div></div>	96.55%	140/145	91.76%	78/85	100%	13/13	96.5%	138/143
paymentController.js	<div><div></div></div>	96.2%	152/158	88.46%	69/78	100%	13/13	96.81%	152/157
productController.js	<div><div></div></div>	98.16%	107/109	98.33%	118/120	92.85%	13/14	98.03%	100/102
returnController.js	<div><div></div></div>	82.09%	188/229	76.72%	89/116	80.76%	21/26	82.66%	186/225
reviewController.js	<div><div></div></div>	88%	66/75	80.76%	21/26	83.33%	5/6	89.85%	62/69
sellerAnalyticsController.js	<div><div></div></div>	100%	26/26	100%	8/8	100%	3/3	100%	26/26
sellerController.js	<div><div></div></div>	100%	57/57	100%	30/30	100%	4/4	100%	54/54
user.js	<div><div></div></div>	97.16%	240/247	90.66%	136/150	100%	17/17	98.73%	235/238

Code coverage generated by Istanbul at 2025-11-29T05:08:18.160Z

models

File ▾		Statements ▾		Branches ▾		Functions ▾		Lines ▾	
Chat.js	<div><div></div></div>	100%	5/5	100%	0/0	100%	0/0	100%	5/5
Faq.js	<div><div></div></div>	100%	3/3	100%	0/0	100%	0/0	100%	3/3
bids.js	<div><div></div></div>	100%	4/4	100%	0/0	100%	0/0	100%	4/4
category.js	<div><div></div></div>	100%	9/9	100%	2/2	100%	1/1	100%	8/8
coupon.js	<div><div></div></div>	88%	22/25	85%	17/20	100%	2/2	100%	17/17
order.js	<div><div></div></div>	100%	6/6	100%	0/0	100%	0/0	100%	6/6
payment.js	<div><div></div></div>	100%	4/4	100%	0/0	100%	0/0	100%	4/4
product.js	<div><div></div></div>	100%	18/18	100%	6/6	100%	1/1	100%	17/17
return.js	<div><div></div></div>	100%	5/5	100%	0/0	100%	0/0	100%	5/5
review.js	<div><div></div></div>	100%	17/17	75%	3/4	100%	4/4	100%	17/17
sharedSchemas.js	<div><div></div></div>	100%	4/4	100%	0/0	100%	0/0	100%	4/4
user.js	<div><div></div></div>	91.66%	22/24	90%	9/10	100%	3/3	91.3%	21/23

scripts

File ▾		Statements ▾		Branches ▾		Functions ▾		Lines ▾	
backfillAddressIds.js	<div><div></div></div>	100%	26/26	100%	8/8	100%	3/3	100%	26/26
createAdmin.js	<div><div></div></div>	100%	28/28	100%	4/4	100%	1/1	100%	28/28
seedData.js	<div><div></div></div>	100%	57/57	100%	12/12	100%	4/4	100%	56/56

Middlewares

File ▾		Statements ▾		Branches ▾		Functions ▾		Lines ▾	
auth.js	<div><div></div></div>	100%	36/36	100%	16/16	100%	4/4	100%	36/36
multer.js	<div><div></div></div>	100%	4/4	100%	0/0	100%	0/0	100%	4/4
validateSchema.js	<div><div></div></div>	100%	9/9	100%	2/2	100%	2/2	100%	8/8