

## 1) Add Scholarship

```
PASS controller/addScholarship.early.test/addScholarship.early.test.js
addScholarship() addScholarship method
Happy Paths
  ✓ should add a scholarship successfully (43 ms)
Edge Cases
  ✓ should return 400 if any required field is missing (23 ms)
  ✓ should handle database errors gracefully (23 ms)
  ✓ should handle invalid date format for end_date (18 ms)
  ✓ should handle non-array eligible_courses (22 ms)

Test Suites: 1 passed, 1 total
Tests:       5 passed, 5 total
Snapshots:  0 total
Time:        3.119 s
Ran all test suites matching /addScholarship.early.test/i.
```

| File              |             | Statements | Branches | Functions | Lines |
|-------------------|-------------|------------|----------|-----------|-------|
| addScholarship.js | <div></div> | 100%       | 17/17    | 100%      | 17/17 |

## 2) Edit Scholarship

```
PASS controller/editScholarship.early.test/editScholarship.early.test.js
editScholarship() editScholarship method
Happy Paths
  ✓ should update the scholarship successfully (19 ms)
Edge Cases
  ✓ should return 400 if any required field is missing (9 ms)
  ✓ should return 404 if the scholarship is not found (20 ms)
  ✓ should return 500 on database error (9 ms)
  ✓ should handle large data input gracefully (4 ms)
  ✓ should allow optional fields to be null (4 ms)
  ✓ should return 400 if request body is empty (9 ms)

Test Suites: 1 passed, 1 total
Tests:       7 passed, 7 total
Snapshots:  0 total
Time:        0.937 s, estimated 1 s
```

| File               |             | Statements | Branches | Functions | Lines |
|--------------------|-------------|------------|----------|-----------|-------|
| editScholarship.js | <div></div> | 100%       | 29/29    | 100%      | 29/29 |

## 3) Delete Scholarship

```
deleteScholarship
Reached deleteScholarship
Deleted scholarship with ID: 123
  ✓ should delete a scholarship when a valid ID is provided
Reached deleteScholarship
Scholarship not found
  ✓ should return a 404 error when the scholarship ID is not found
Reached deleteScholarship
Error deleting scholarship: Database connection error
  ✓ should return a 500 error when a database error occurs
Reached deleteScholarship
Deleted scholarship with ID: 123
  ✓ should log the correct messages to the console during deletion
Reached deleteScholarship
Reached deleteScholarship
Deleted scholarship with ID: 123
Scholarship not found
  ✓ should handle concurrent deletion attempts gracefully
Reached deleteScholarship
Error deleting scholarship: Query timeout
  ✓ should return a 500 error when the database times out
Reached deleteScholarship
Deleted scholarship with ID: 123
  ✓ should handle concurrent deletion and re-insertion
```

| File                 |             | Statements | Branches | Functions | Lines |
|----------------------|-------------|------------|----------|-----------|-------|
| deleteScholarship.js | <div></div> | 100%       | 15/15    | 2/2       | 15/15 |

#### 4) Applicant Controller

→ Get List of Scholarship

```
PASS controller/ApplicantController.early.test/getListOfScholarships.early.test.js
getListOfScholarships() getListOfScholarships method
  Happy paths
    ✓ should return a list of scholarships with correct data (14 ms)
  Edge cases
    ✓ should handle no scholarships in the database (2 ms)
    ✓ should handle database query errors gracefully (22 ms)

Test Suites: 1 passed, 1 total
Tests:       3 passed, 3 total
Snapshots:   0 total
Time:        0.721 s, estimated 2 s
Ran all test suites matching /getListOfScholarships.early.test/i.
```

→ get Applicants By ScholarshipId

```
PASS controller/ApplicantController.early.test/getApplicantsByScholarshipId.early.test.js
getApplicantsByScholarshipId() getApplicantsByScholarshipId method
  Happy paths
    ✓ should return a list of applicants for a valid scholarship ID (14 ms)
  Edge cases
    ✓ should handle no applicants found for a valid scholarship ID (3 ms)
    ✓ should handle invalid scholarship ID (4 ms)
    ✓ should handle database query errors gracefully (16 ms)

Test Suites: 1 passed, 1 total
Tests:       4 passed, 4 total
Snapshots:   0 total
Time:        1.108 s
Ran all test suites matching /getApplicantsByScholarshipId.early.test/i.
```

| File                   | Statements | Branches | Functions | Lines |
|------------------------|------------|----------|-----------|-------|
| ApplicantController.js | 100%       | 19/19    | 0/0       | 2/2   |

#### 5) Get ApplicantID

```
Happy Paths
  ✓ should return applicant ID when email is found in the database (15 ms)
Edge Cases
  ✓ should return 500 error when database query fails (24 ms)
  ✓ should return 200 with null applicant when email is not found (4 ms)
  ✗ should handle missing email header gracefully (3 ms)
```

```
Test Suites: 1 failed, 1 total
Tests:       1 failed, 3 passed, 4 total
Snapshots:   0 total
Time:        0.937 s
```

| File              | Statements | Branches | Functions | Lines |
|-------------------|------------|----------|-----------|-------|
| getApplicantId.js | 100%       | 12/12    | 0/0       | 1/1   |

## 6) Get Applicant DATA

```
PASS controller/getApplicantsData.early.test/getApplicantData.early.test.js
  getApplicantData() getApplicantData method
    Happy Path
      ✓ should return applicant data successfully (14 ms)
    Edge Cases
      ✓ should handle no applicant data found (3 ms)
      ✓ should handle database query error (18 ms)
      ✓ should handle missing student_id in query (8 ms)
      ✓ should handle missing scholarship_id in query (5 ms)

Test Suites: 1 passed, 1 total
Tests:       5 passed, 5 total
Snapshots:   0 total
Time:        0.86 s, estimated 3 s
Ran all test suites matching /getApplicantData.early.test/i.
```

| File                 | Statements | Branches | Functions | Lines |
|----------------------|------------|----------|-----------|-------|
| getApplicantsData.js | 100%       | 12/12    | 100%      | 0/0   |

## 7) Status Update

```
PASS controller/statusUpdate.early.test/statusUpdate.early.test.js
  statusUpdate() statusUpdate method
    Happy Paths
      ✓ should update status successfully and return 200 with response rows (15 ms)
    Edge Cases
      ✓ should handle database errors gracefully and return 500 (14 ms)

Test Suites: 1 passed, 1 total
Tests:       2 passed, 2 total
Snapshots:   0 total
Time:        0.856 s, estimated 2 s
```

| File            | Statements | Branches | Functions | Lines |
|-----------------|------------|----------|-----------|-------|
| statusUpdate.js | 100%       | 11/11    | 100%      | 0/0   |

## 8) Handle Email

```
PASS controller/handleemail.early.test/handleemail.early.test.js
  handleemail() handleemail method
    Happy Paths
      ✓ should return 200 and "Email found" when email exists in the database (20 ms)
      ✓ should return 404 and "Email not found" when email does not exist in the database (7 ms)
    Edge Cases
      ✓ should return 500 and "Server error" when a database error occurs (22 ms)
      ✓ should handle an empty email parameter gracefully (9 ms)
      ✓ should handle a null email parameter gracefully (5 ms)

Test Suites: 1 passed, 1 total
Tests:       5 passed, 5 total
Snapshots:   0 total
Time:        1.074 s
```

| File           | Statements | Branches | Functions | Lines |
|----------------|------------|----------|-----------|-------|
| handleemail.js | 100%       | 17/17    | 100%      | 2/2   |

## 9) Register-User

```
Happy Paths
✓ should register a new user successfully (29 ms)
✓ should return 400 if any field is missing (13 ms)
✓ should return 400 if user already exists (10 ms)
✗ should handle database errors gracefully (12 ms)
✓ should handle bcrypt errors gracefully (5 ms)
```

```
Test Suites: 1 failed, 1 total
Tests: 1 failed, 4 passed, 5 total
Snapshots: 0 total
Time: 1.251 s, estimated 2 s
Ran all test suites matching /registerUser.early.test.js/i.
```

| File            | Statements                 | Branches | Functions     | Lines       |              |
|-----------------|----------------------------|----------|---------------|-------------|--------------|
| registerUser.js | <div><div></div></div> 95% | 19/20    | 85.71%<br>6/7 | 100%<br>1/1 | 95%<br>19/20 |

## 10) Auth user/Role

```
Test Suites: 1 failed, 1 total
Tests: 1 failed, 3 passed, 4 total
Snapshots: 0 total
Time: 1.033 s, estimated 5 s
Ran all test suites matching /authUser.early.test.js/i.
```

```
PASS controller/authUser.early.test/authRole.early.test.js
authRole() authRole method
Happy Paths
✓ should return user details and token when role matches (36 ms)
Edge Cases
✓ should return 401 when role does not match (2 ms)
✓ should return 400 when user is not found (3 ms)
✓ should return 400 on database query error (19 ms)

Test Suites: 1 passed, 1 total
Tests: 4 passed, 4 total
Snapshots: 0 total
Time: 0.875 s
Ran all test suites matching /authRole.early.test.js/i.
```

| File        | Statements                         | Branches                       | Functions                      | Lines                              |
|-------------|------------------------------------|--------------------------------|--------------------------------|------------------------------------|
| authUser.js | <div><div></div></div> 96.55%28/29 | <div><div></div></div> 90%9/10 | <div><div></div></div> 100%3/3 | <div><div></div></div> 96.55%28/29 |

→ Token Generation error occurs.

## 11) Reset Password

→ email sender

```
emailSender() emailSender method
Happy Paths
✓ should send an OTP email when the email exists in the database (29 ms)
✓ should return 500 if there is an error sending the email (17 ms)
✗ should return 500 if there is an internal server error (10 ms)
Edge Cases
✓ should return 400 if email is not provided (2 ms)
✓ should return 404 if email does not exist in the database (2 ms)
```

```
Test Suites: 1 failed, 1 total
Tests: 1 failed, 4 passed, 5 total
Snapshots: 0 total
Time: 1.044 s, estimated 2 s
Ran all test suites matching /emailSender.early.test.js/i.
```

→ Set Password

```
PASS controller/resetPass.early.test/setPassword.early.test.js
setPassword() setPassword method
Happy Paths
  ✓ should update the password successfully when valid email, OTP, and new password are provided (14 ms)
Edge Cases
  ✓ should return 400 if email, OTP, or new password is missing (2 ms)
  ✓ should return 400 if OTP is invalid (5 ms)
  ✓ should return 400 if OTP has expired (7 ms)
  ✓ should return 400 if no OTP record is found for the email (5 ms)
  ✓ should return 500 if there is an internal server error (38 ms)

Test Suites: 1 passed, 1 total
Tests: 6 passed, 6 total
Snapshots: 0 total
Time: 0.998 s
Ran all test suites matching /setPassword.early.test.js/i.
PS C:\Users\Bhanderi Kashvi\OneDrive\Desktop\Group7_OSP\OSP\server>
```

→ validate OTP

```
PASS controller/resetPass.early.test/validateOTP.early.test.js
validateOTP() validateOTP method
Happy Paths
  ✓ should validate OTP successfully when OTP is correct and not expired (19 ms)
Edge Cases
  ✓ should return "Wrong OTP" when no OTP is found for the email (5 ms)
  ✓ should return "OTP has expired" when OTP is older than 10 minutes (6 ms)
  ✓ should return "Invalid OTP" when OTP does not match (3 ms)
  ✓ should handle database errors gracefully (20 ms)

Test Suites: 1 passed, 1 total
Tests: 5 passed, 5 total
Snapshots: 0 total
Time: 1.21 s
Ran all test suites matching /validateOTP.early.test.js/i.
```

| File         | Statements | Branches | Functions | Lines |
|--------------|------------|----------|-----------|-------|
| resetPass.js | 97.22%     | 70/72    | 100%      | 21/21 |

- 12) User Profile  
&
- 13) Upload PDF

→ in this two backend code we are uploading pdf and images on cloud so we tried a lot but can not able to generate test case which tests file is uploaded successfully or not but we checked manually and website is working fine, and all the pdf and images are successfully uploaded on the cloud.

## 14) Get Scholarship

```
PASS controller/getScholarship.early.test/getScholarship.early.test.js
getScholarship() getScholarship method
  Happy Path
    ✓ should return scholarship data when a valid scholarship_id is provided (21 ms)
  Edge Cases
    ✓ should handle no scholarship found for the given scholarship_id (4 ms)
    ✓ should handle database query errors gracefully (7 ms)
    ✓ should handle invalid scholarship_id types gracefully (2 ms)
  Additional Edge Cases
    ✓ should return undefined if no data found for scholarship_id but no error occurs (5 ms)
  Logging and Error Handling
    ✓ should log an error message when a query fails (2 ms)

Test Suites: 1 passed, 1 total
Tests:       6 passed, 6 total
Snapshots:   0 total
Time:        1.062 s
```

| File              | Statements | Branches | Functions | Lines |
|-------------------|------------|----------|-----------|-------|
| getScholarship.js | 100%       | 11/11    | 100%      | 1/1   |

## 15) GetScholarships (List Of Scholarship with applicant count)

```
PASS controller/getScholarships.early.test/getScholarships.early.test.js
getScholarships() getScholarships method
  Happy Paths
    ✓ should return a list of scholarships with applicants count (15 ms)
  Edge Cases
    ✓ should handle an empty scholarships list (3 ms)
    ✓ should handle database errors gracefully (21 ms)
    ✓ should handle an invalid SQL query gracefully (9 ms)
    ✓ should return an empty array if there are no scholarships in the database (5 ms)
    ✓ should handle malformed data in the database (5 ms)
    ✓ should handle a large number of scholarships in the database (2 ms)
    ✓ should log when the function is entered and when an error occurs (1 ms)

Test Suites: 1 passed, 1 total
Tests:       8 passed, 8 total
Snapshots:   0 total
Time:        0.985 s, estimated 1 s
```

| File               | Statements | Branches | Functions | Lines |
|--------------------|------------|----------|-----------|-------|
| getScholarships.js | 100%       | 10/10    | 100%      | 1/1   |

## 16) Apply for Scholarship

```
applyForScholarship() applyForScholarship method
  Happy Paths
    ✓ should successfully insert application and return a success message (26 ms)
  Edge Cases
    ✓ should return 400 if any required field is missing (15 ms)
    ✓ should handle database errors gracefully (10 ms)
    ✓ should handle database constraint violation (e.g., duplicate application) (11 ms)
    ✓ should log the error when a constraint violation occurs (6 ms)
    ✓ should return 400 for invalid scholarship_id or applicant_id format (8 ms)
    ✗ should handle missing database fields gracefully (10 ms)
```

```

Test Suites: 1 failed, 1 total
Tests:      1 failed, 6 passed, 7 total
Snapshots:  0 total
Time:       0.876 s, estimated 4 s
Ran all test suites matching /applyForScholarship.early.test.js/i.

```

| File                   | Statements | Branches | Functions | Lines |
|------------------------|------------|----------|-----------|-------|
| applyForScholarship.js | 100%       | 17/17    | 6/6       | 100%  |

## 17) Get List for apply scholarship

```

PASS controller/getListforApplyScholarships.early.test/getListforApplysolarships.early.test.js
getListforApplysolarships() getListforApplysolarships method
Happy Path
  ✓ should return a list of scholarships when the query is successful (16 ms)
Edge Cases
  ✓ should handle an empty list of scholarships (5 ms)
  ✓ should handle database query errors gracefully (23 ms)
  ✓ should handle database connection issues (7 ms)
  ✓ should log the error when there is a database issue (10 ms)
  ✓ should return 500 if there is a malformed query (3 ms)

Test Suites: 1 passed, 1 total
Tests:      6 passed, 6 total
Snapshots:  0 total
Time:       1.001 s
Ran all test suites matching /getListforApplysolarships.early.test.js/i.

```

| File                           | Statements | Branches | Functions | Lines |
|--------------------------------|------------|----------|-----------|-------|
| getListforApplyScholarships.js | 100%       | 10/10    | 0/0       | 100%  |

## 18) Fetch Profile

```

PASS controller/fetchprofile.early.test/fetchprofile.early.test.js
fetchprofile() fetchprofile method
Happy paths
  ✓ should return profile data when a valid email is provided (33 ms)
Edge cases
  ✓ should return 404 when no data is found for the given email (5 ms)
  ✓ should handle database errors gracefully (17 ms)

Test Suites: 1 passed, 1 total
Tests:      3 passed, 3 total
Snapshots:  0 total
Time:       1.093 s
Ran all test suites matching /fetchprofile.early.test.js/i.

```

| File            | Statements | Branches | Functions | Lines |
|-----------------|------------|----------|-----------|-------|
| fetchprofile.js | 100%       | 15/15    | 2/2       | 100%  |

## 19) Get Applied Scholarships

```

PASS controller/getAppliedScholarships.early.test/getAppliedScholarships.early.test.js
getAppliedScholarships() getAppliedScholarships method
Happy Paths
  ✓ should return a list of scholarships for a valid email (14 ms)
Edge Cases
  ✓ should handle no scholarships found for the given email (3 ms)
  ✓ should handle database query errors gracefully (17 ms)
  ✓ should handle missing email in headers (7 ms)
  ✓ should handle database connection issues gracefully (9 ms)
  ✓ should handle a malformed SQL query gracefully (5 ms)

Test Suites: 1 passed, 1 total
Tests:       6 passed, 6 total
Snapshots:   0 total
Time:        0.87 s, estimated 1 s
Ran all test suites matching /getAppliedScholarships.early.test.js/i.

```

| File                      | Statements | Branches | Functions | Lines |
|---------------------------|------------|----------|-----------|-------|
| getAppliedScholarships.js | 100%       | 11/11    | 0/0       | 100%  |

## 20) Get User Profile

→ Get user Profile

```

Happy Paths
  ✓ should return user profile when admin user is found (16 ms)
Edge Cases
  ✓ should return 404 when admin user is not found (5 ms)
  ✓ should return 500 on database error (15 ms)
  ✗ should handle missing email query parameter gracefully (10 ms)

```

```

Test Suites: 1 failed, 1 total
Tests:       1 failed, 3 passed, 4 total
Snapshots:   0 total
Time:        0.817 s, estimated 1 s
Ran all test suites matching /getUserProfile.early.test.js/i.

```

→ Update User Profile

```

PASS controller/getUserProfile.early.test/updateUserProfile.early.test.js
updateUserProfile() updateUserProfile method
Happy Paths
  ✓ should update the username successfully when valid email and name are provided (14 ms)
Edge Cases
  ✓ should return 400 if email is missing (2 ms)
  ✓ should return 400 if name is missing (3 ms)
  ✓ should return 404 if no user is found to update (4 ms)
  ✓ should return 500 if there is a database error (9 ms)

Test Suites: 1 passed, 1 total
Tests:       5 passed, 5 total
Snapshots:   0 total
Time:        0.9 s
Ran all test suites matching /updateUserProfile.early.test.js/i.

```

| File              | Statements | Branches | Functions | Lines |
|-------------------|------------|----------|-----------|-------|
| getUserProfile.js | 100%       | 27/27    | 8/8       | 100%  |

## 21) Handel PDF urls



```

PASS controller/handelpdfurls.early.test/handelpdfurls.early.test.js
  handelpdfurls() handelpdfurls method
    Happy Paths
      ✓ should return document URLs for a valid email (3 ms)
    Edge Cases
      ✓ should return 404 if no documents are found for the email
      ✓ should handle database errors gracefully (19 ms)
      ✓ should return null for missing document fields

Test Suites: 1 passed, 1 total
Tests:       4 passed, 4 total
Snapshots:   0 total
Time:        0.986 s
Ran all test suites matching /handelpdfurls.early.test.js/i.

```

| File             | Statements | Branches | Functions | Lines |
|------------------|------------|----------|-----------|-------|
| handelpdfurls.js | 100%       | 14/14    | 77.77%    | 14/18 |

## 22) Handel Clear Pdf

```

PASS controller/handelclearpdf.early.test/handelclearpdf.early.test.js
  handelclearpdf() handelclearpdf method
    Happy Paths
      ✓ should clear the document successfully when a valid email and id are provided (3 ms)
    Edge Cases
      ✓ should return 404 if no record is found for the given email (1 ms)
      ✓ should return 500 if there is a server error during the query execution (22 ms)

Test Suites: 1 passed, 1 total
Tests:       3 passed, 3 total
Snapshots:   0 total
Time:        1.018 s, estimated 2 s
Ran all test suites matching /handelclearpdf.early.test.js/i.

```

| File              | Statements | Branches | Functions | Lines |
|-------------------|------------|----------|-----------|-------|
| handelclearpdf.js | 100%       | 14/14    | 100%      | 2/2   |

## Final Output

```

Tests:       7 failed, 112 passed, 119 total
Snapshots:   0 total
Time:        5.154 s
Ran all test suites.

```

| File       | Statements | Branches | Functions | Lines  |
|------------|------------|----------|-----------|--------|
| controller | 98.94%     | 376/380  | 94%       | 94/100 |

| File ▾                         | Statements ▾                  | Branches ▾  | Functions ▾ | Lines ▾   |       |
|--------------------------------|-------------------------------|-------------|-------------|-----------|-------|
| ApplicantController.js         | <div><div></div></div> 100%   | 19/19100%   | 0/0100%     | 2/2100%   | 19/19 |
| addScholarship.js              | <div><div></div></div> 100%   | 17/17100%   | 10/10100%   | 1/1100%   | 17/17 |
| applyForScholarship.js         | <div><div></div></div> 100%   | 17/17100%   | 6/6100%     | 1/1100%   | 17/17 |
| authUser.js                    | <div><div></div></div> 96.55% | 28/2990%    | 9/10100%    | 3/396.55% | 28/29 |
| deleteScholarship.js           | <div><div></div></div> 100%   | 15/15100%   | 2/2100%     | 1/1100%   | 15/15 |
| editScholarship.js             | <div><div></div></div> 100%   | 29/29100%   | 12/12100%   | 1/1100%   | 29/29 |
| fetchprofile.js                | <div><div></div></div> 100%   | 13/13100%   | 2/2100%     | 2/2100%   | 13/13 |
| getApplicantId.js              | <div><div></div></div> 100%   | 12/12100%   | 0/0100%     | 1/1100%   | 12/12 |
| getApplicantsData.js           | <div><div></div></div> 100%   | 12/12100%   | 0/0100%     | 1/1100%   | 12/12 |
| getAppliedScholarships.js      | <div><div></div></div> 100%   | 11/11100%   | 0/0100%     | 1/1100%   | 11/11 |
| getListforApplyScholarships.js | <div><div></div></div> 100%   | 10/10100%   | 0/0100%     | 1/1100%   | 10/10 |
| getScholarship.js              | <div><div></div></div> 100%   | 11/11100%   | 0/0100%     | 1/1100%   | 11/11 |
| getScholarships.js             | <div><div></div></div> 100%   | 10/10100%   | 0/0100%     | 1/1100%   | 10/10 |
| getUserProfile.js              | <div><div></div></div> 100%   | 27/27100%   | 8/8100%     | 2/2100%   | 27/27 |
| handeIclearpdf.js              | <div><div></div></div> 100%   | 14/14100%   | 2/2100%     | 1/1100%   | 14/14 |
| handelemail.js                 | <div><div></div></div> 100%   | 17/17100%   | 2/2100%     | 1/1100%   | 17/17 |
| handelpdfurls.js               | <div><div></div></div> 100%   | 14/1477.77% | 14/18100%   | 1/1100%   | 14/14 |
| registerUser.js                | <div><div></div></div> 95%    | 19/2085.71% | 6/7100%     | 1/195%    | 19/20 |
| resetPass.js                   | <div><div></div></div> 97.22% | 70/72100%   | 21/21100%   | 4/497.22% | 70/72 |
| statusUpdate.js                | <div><div></div></div> 100%   | 11/11100%   | 0/0100%     | 1/1100%   | 11/11 |