Test Report and Coverage Document

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Test coverage and analysis report:

Objective: To validate the functionality of the /users,/posts and /comments endpoints with focus on
  > Searching for a user by username.
  > Fetching posts and comments associated with the user.
  > Validating the format of emails in comments

Executive Summary:

S.NO	Test description	Status	Remarks
1	Searching for the user "Delphine"	Passed	User available
2	Fetch posts for the user "Delphine"	Passed	Posts available
3	Validate comments for posts	Passed	Comments available
4	Validate email formats	Failed	There are emails in invalid format: Invalid email addresses found: Lucio@gladys.tv Shemar@ewell.name Jackeline@eva.tv Marianna_Wilkinson@rupert.io Marcia@name.biz
5	Searching for the user "Elwyn.Skiles"	Passed	User available
6	Fetch posts for the user "Elwyn.Skiles"	Passed	Posts available
7	Validate comments for posts	Passed	Comments available
8	Validate email formats	Failed	There are emails in invalid format: Invalid email addresses found: Buford@shaylee.biz Maria@laurel.name Jaeden.Towne@arlene.tv Ethelyn.Schneider@emelia.co.uk Georgianna@florence.io
9	Searching for the user "Natarajan"	Failed	User available
10	Searching for the user "NULL"	Failed	Posts available

Defects:

S.NO	Defect description	Remarks
1	Invalid email format in comment(eg.,Maria@laurel.name)	Email validation bug

Test Scenarios and Coverage :
- > Search for Username "Delphine"
  - Search for a valid username ("Delphine").
    - o **Expected Result**: User details for "Delphine" should be returned with status code 200.
  - Search for an invalid username (e.g., "NotExist").
    - o **Expected Result**: API returns an empty array or appropriate error message, with status code 404 or 200 (with empty data).
- > Fetch Posts for User "Delphine"
  - Fetch posts for "Delphine" if posts are available.
    - o **Expected Result**: List of posts should be returned with status code 200.
- > Fetch Comments for Each Post
  - Fetch comments for a post.
    - o **Expected Result**: A list of comments should be returned with status code 200.

- > Validate Email Format in Comments
  - Validate valid email format in comments (e.g., test@gmail.com).
    - o **Expected Result**: Ensure all emails in the comments section conform to a valid email format.

Test Data:
- **Valid Username**: Delphine, Elwyn.Skiles
- **Invalid Username**: Natarajan, NULL

Test execution report:

Cucumber execution report :

Failures in the reports are intentionally induced and it is scenario and test data based.

Overall execution summary:

2 FAILED		3 PASSED
60% passed 5 executed	**22 seconds ago** last run	**4.21 seconds** duration
Mac OS X	Java HotSpot(TM) 64-Bit Server VM 11.0.16+11-LTS-199	cucumber-jvm 7.20.1

Q Search with text or @tags
You can search with plain text or Cucumber Tag Expressions to filter the output

☑ failed ☑ passed

Scenario based execution summary:

@SurepayTesting
Feature: Verification of user and respective posts

As an API consumer
I want to retrieve posts written by specific users
So that I can analyze their content

Background:

✅ **Given** the JSONPlaceholder API is available

@FunctionalTesting @IntegrationTesting
Scenario Outline: Verify posts written by Delphine

✅ **When** I search for user with username "<Username>"
❌ **Then** the user should be found in the system
🔵 **And** validate the emailID of the user "<email>"
🔵 **When** I retrieve all posts written by the user
🔵 **Then** there should be posts available
🔵 **And** each post should have valid title and body
🔵 **And** retrieve comments for each post
🔵 **Then** validate email in each comment section

Examples:

	Username	email
✅	Delphine	Chaim_McDermott@dana.io
✅	Elwyn.Skiles	Telly.Hoeger@billy.biz
❌	Natarajan	Rey.Padberg@karina.biz
❌	NULL	Null@test.com

@UsersPostsTesting @SmokeTesting
Scenario: Validate post structure

✅ **When** I search for user with username "Delphine"
✅ **And** I retrieve all posts written by the user
✅ **Then** each post should have required fields
✅ **And** no. of posts should be greater than 0

CIRCLE CI execution report :

Failures in the reports are intentionally induced and it is scenario and test data based.

build-and-test ✓ Success

⟳ Rerun ▾   ···

Duration / Finished	Queued	Executor / Resource Class	Branch	Commit	Author & Message
⏱ 42s / 5h ago	⧗ 0s	🐳 Docker / Large ↗ ⓘ	⦗ main	⟜ 27fc343	⊙ Update config.yml Changed store test results to store artifacts as suggested by CircleCI docs

⚠ You're using a deprecated Docker convenience image. Upgrade to a next-gen Docker convenience image.

STEPS   TESTS   TIMING   ARTIFACTS   RESOURCES

Accessible step output ⬤○

▸ ✓ Spin up environment	25s	🔍 ⟐ ⭳
▸ ✓ Preparing environment variables	0s	🔍 ⟐ ⭳
▸ ✓ Checkout code	0s	🔍 ⟐ ⭳
▸ ✓ Set up Maven Dependencies	6s	🔍 ⟐ ⭳
▸ ✓ Run API Tests	9s	🔍 ⟐ ⭳
▸ ✓ Uploading artifacts	0s	🔍 ⟐ ⭳
▸ ✓ Uploading artifacts	0s	🔍 ⟐ ⭳

Conclusion:

This test coverage and execution report outlines the API testing approach, test cases, and scenarios to ensure the correct functionality and robustness of the jsonplaceholder.typicode.com API, specifically for fetching the user "Delphine" and validating the comments' email format