

# Communities A Social Media Platform(SM02)

## Test Plan

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## Test Overview

Communities is an online social media platform that allows users to create and join communities based on their interests. Users can create communities, post content, comment on posts, and interact with other users. The platform also includes other features such as chat, search, and recommendations and certain level of moderation.

This document outlines the test plan for Communities, including the modules to be tested, the types of tests to be conducted, and the test analysis.

The test plan includes the following operations/modules that will be tested:

- Authentication Modules
  - Login Module
  - Signup Module
  - Token Authentication Module
  - E2EE Module
- User Modules
  - Guest User Module
  - Registered User Module
  - Admin User Module
  - Moderator User Module
  - Superuser Module
- System Modules
  - Cache Manager Module
  - Recommender System Module
  - Job Scheduler Module
  - Services Module
    - \* Feed Service
    - \* Comments Service
    - \* Post Service

- \* Search Service
- \* Votes Service
- \* Chat Service
- \* Connections Service
- \* Scoring Service
- DB Access Modules
  - User Module
  - Post Module
  - Comment Module
  - Vote Module
  - Chat Module
  - Community Module
- UI Modules
  - Listing Module
- Other Modules
  - Notification Module
  - Reporting Module
  - Moderation Module

The test plan includes the following sections:

- Test Overview: A brief overview of the test plan which also lists the operations/modules that will be tested.
- Test Details: Detailed information about the unit tests, integration testing, system testing, and performance testing.
- Test Analysis: A summary of the test statistics, functional test report, and performance test report.
  - Test Statistics: The number of classes, methods, modules tested, test cases, and test cases failed.
  - Functional Test Report: A summary of the functional test cases for each module, including the type of testing method used.
  - Performance Test Report: A summary of the performance test plan and report.

## Test Details

### Integrating testing

The order in which you will integrate your modules and test cases for integrated modules.

### System testing

### Performance testing

## Unit Tests

### Authentication Module

Table 1: Authentication Module Unit Test

S.No	Module Name	Function	Conditions to be tested	Inputs	Expected Output	Status
UT-1.1.a	Login Module	Login user using Interanl sign-in	Incorrect Credentials	user: unknown-username <b>or</b> wrong-password, status: user-not-found <b>or</b> wrong-password (from User Module)	return: invalid-credentials	F
UT-1.1.b	Login Module	Login User using Google OAuth	Incorrect Credentials (OAuth)	user: incorrect-email <b>or</b> wrong-password, status: user-not-registered <b>or</b> wrong-password (from OAuth)	return: invalid-credentials	F

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Table 1: Authentication Module Unit Test (Continued)

S.No	Module Name	Function	Conditions to be tested	Inputs	Expected Output	Status
UT-1.1.c	Login Module	Login User	Correct Credentials	user: registered-username <b>and</b> correct-password, status: OK (from User Module or OAuth)	return: OK <b>and</b> JSON Web-token	P
UT-1.1.d	Token Module	Validate JWT	Invalid Token	cookie: invalid-token	The module extracts the header and the payload from the request and recalculates the signature and matches it with the token, in this case it does not match and hence returns <b>returns:</b> invalid-token	F
UT-1.1.e	Signup Module	Signup User	Username already taken	user: already-taken-username <b>and</b> password <b>and</b> email-id, DB-status: username-taken	return: username-taken	F
UT-1.1.f	Signup Module	Signup User	Unverified email id	user: username <b>and</b> password <b>and</b> unverified-email-id, email-service-status: email-verification-timeout	return: email-unverified	F
UT-1.1.g	Signup Module	Signup User	Passwords Don't Match	user: username <b>and</b> invalid-password <b>and</b> email-id	return: password-mismatch	F
UT-1.1.h	Signup Module	Signup User	Valid Credentials	user: username <b>and</b> password <b>and</b> email-id, DB-status: user-created	return: user-created <b>and</b> JWT and redirects user to home page	P
UT-1.1.i	E2EE Module	TO-BE-FILLED	Invalid Key			F

### User Module

S.No	Module Name	Conditions to be tested	Test Data	Expected Output	Status
UT-2.1.a					

### System Module

S.No	Module Name	Conditions to be tested	Test Data	Expected Output	Status
UT-3.1.a					

#### DB Access Module

S.No	Module Name	Function	Conditions to be tested	Test Data	Expected Output	Status
UT-4.1.a	User Module	Access User Info	Invalid User	user: unknown-user, status: user-not-found	return: user-not-found	F
UT-4.1.b	User Module	Access User Info	Valid User	user: known-user, status: OK	return: OK	P
UT-4.1.c	User Module	Access User Followings	Invalid User, Access not available	user: unknown-user, status: access-denied	return: access-denied	F
UT-4.1.d	User Module	Access User Followings	Valid User, Access available	user: known-user, status: OK	return: OK	P
UT-4.1.e	Post Module	Access Post Info	Invalid Post, Access not available	post: unknown-post, status: access-denied	return: access-denied	F
UT-4.1.f	Post Module	Access Post Info	Valid Post, Access available	post: known-post, status: OK	return: OK	P
UT-4.1.g	Post Module	Access Post Comments	Invalid Post, Access not available	post: unknown-post, status: access-denied	return: access-denied	F
UT-4.1.h	Post Module	Access Post Comments	Valid Post, Access available	post: known-post, status: OK	return: OK	P
UT-4.1.i	Post Module	Access Post Votes	Invalid Post, Access not available	post: unknown-post, status: access-denied	return: access-denied	F
UT-4.1.j	Post Module	Access Post Votes	Valid Post, Access available	post: known-post, status: OK	return: OK	P
UT-4.1.k	Post Module	Access Post Community	Invalid Post, Access not available	post: unknown-post, status: access-denied	return: access-denied	F
UT-4.1.l	Post Module	Access Post Community	Valid Post, Access available	post: known-post, status: OK	return: OK	P
UT-4.1.m	Comment Module	Access Comment Info	Invalid Comment, Access not available	comment: unknown-comment, status: access-denied	return: access-denied	F
UT-4.1.n	Comment Module	Access Comment Info	Valid Comment, Access available	comment: known-comment, status: OK	return: OK	P
Ut-4.1.o	Comment Module	Access Comment Votes	Invalid Comment, Access not available	comment: unknown-comment, status: access-denied	return: access-denied	F
UT-4.1.p	Comment Module	Access Comment Votes	Valid Comment, Access available	comment: known-comment, status: OK	return: OK	P

S.No	Module Name	Function	Conditions to be tested	Test Data	Expected Output	Status
UT-4.1.q	Comment Module	Access Comment Post	Invalid Comment, Access not available	comment: unknown-comment, status: access-denied	return: access-denied	F
UT-4.1.r	Comment Module	Access Comment Post	Valid Comment, Access available	comment: known-comment, status: OK	return: OK	P
UT-4.1.s	Vote Module	Access Vote Info	Invalid Vote, Access not available	vote: unknown-vote, status: access-denied	return: access-denied	F
UT-4.1.t	Vote Module	Access Vote Info	Valid Vote, Access available	vote: known-vote, status: OK	return: OK	P
UT-4.1.u	Vote Module	Access Vote Post	Invalid Vote, Access not available	vote: unknown-vote, status: access-denied	return: access-denied	F
UT-4.1.v	Vote Module	Access Vote Post	Valid Vote, Access available	vote: known-vote, status: OK	return: OK	P
UT-4.1.w	Vote Module	Access Vote Comment	Invalid Vote, Access not available	vote: unknown-vote, status: access-denied	return: access-denied	F
UT-4.1.x	Vote Module	Access Vote Comment	Valid Vote, Access available	vote: known-vote, status: OK	return: OK	P
UT-4.1.y	Chat Module	Access Chat Info	Invalid Chat, Access not available	chat: unknown-chat, status: access-denied	return: access-denied	F
UT-4.1.z	Chat Module	Access Chat Info	Valid Chat, Access available	chat: known-chat, status: OK	return: OK	P
UT-4.1.aa	Chat Module	Access Chat Messages	Invalid Chat, Access not available	chat: unknown-chat, status: access-denied	return: access-denied	F
UT-4.1.ab	Chat Module	Access Chat Messages	Valid Chat, Access available	chat: known-chat, status: OK	return: OK	P
UT-4.1.ac	Community Module	Access Community Info	Invalid Community, Access not available	community: unknown-community, status: access-denied	return: access-denied	F
UT-4.1.ad	Community Module	Access Community Info	Valid Community, Access available	community: known-community, status: OK	return: OK	P
UT-4.1.ae	Community Module	Access Community Posts	Invalid Community, Access not available	community: unknown-community, status: access-denied	return: access-denied	F
UT-4.1.af	Community Module	Access Community Posts	Valid Community, Access available	community: known-community, status: OK	return: OK	P
UT-4.1.ag	Community Module	Access Community Users	Invalid Community, Access not available	community: unknown-community, status: access-denied	return: access-denied	F
UT-4.1.ah	Community Module	Access Community Users	Valid Community, Access available	community: known-community, status: OK	return: OK	P

S.No	Module Name	Function	Conditions to be tested	Test Data	Expected Output	Status
UT-4.1.ai	Community Module	Access Community Mods	Invalid Community, Access not available	community: unknown-community, status: access-denied	return: access-denied	F
UT-4.1.aj	Community Module	Access Community Mods	Valid Community, Access available	community: known-community, status: OK	return: OK	P

### UI Module

S.No	Module Name	Conditions to be tested	Test Data	Expected Output	Status
UT-5.1.a	Listing	Valid List	post: known-post, status: OK	return: OK	P
UT-5.1.b		Invalid List	post: unknown-post, status: post-not-found	return: post-not-found	F

### Other Module

S.No	Module Name	Conditions to be tested	Test Data	Expected Output	Status
UT-6.1.a	Notification Module	Invalid Notification	notification: unknown-notification, status: notification-not-found	return: notification-not-found	F
UT-6.1.b		Valid Notification	notification: known-notification, status: OK	return: OK	P
UT-6.1.c	Reporting Module	Invalid Report	report: unknown-report, status: report-not-found	return: report-not-found	F
UT-6.1.d		Valid Report	report: known-report, status: OK	return: OK	P
UT-6.1.e	Moderation Module	Invalid Moderation	moderation: unknown-moderation, status: moderation-not-found	return: moderation-not-found	F
UT-6.1.f		Valid Moderation	moderation: known-moderation, status: OK	return: OK	P

### Integration Testing

Integrating different modules and testing  
Unit tested submodules combined and tested  
Use bottom-up approach for integration of modules

S.No	Modules Integrated	Condition to be tested	Test Data	Expected Output	Status
1.1					

### System Testing

Testing of system as a whole

## Performance Testing

Performance testing plan

## Test Analysis

We discussed the following seven types of black box testing in the class: equivalence class partitioning, boundary value analysis, error guessing, state based testing, cause-effect graphing, pair-wise testing, and special cases.

Performance test plan/report

## Test Statistics

- Number of classes:
- Number of methods:
- Number of modules tested:
- Number of test cases:
- Number of test cases failed:

## Functional Test Report

Functional test summary in the form of a table

Test case count for each module

Type of testing method used

equivalence class partitioning

boundary value analysis

cause-effect graphing

pair-wise testing

special cases

error guessing

state based testing

S.No	Module Name	Test Case Count	Testing Method
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## Performance Test Report