

# Test Coverage Summary

This document provides a comprehensive overview of all implemented tests across the Strata, Stratahub, and Strataforge applications.

## Overview

Application	Test Files	Test Functions
Strataforge	45	545
Stratahub	66	771
Strata	45	545
Total	156	1,861

## Strataforge Tests

Features (18 files)

File	Test Functions	Description
features/activity/activity_test.go	21	Activity tracking and logging
features/announcements/announcements_test.go	14	Announcement management
features/authgoogle/authgoogle_test.go	10	Google OAuth authentication
features/dashboard/dashboard_test.go	6	Dashboard functionality
features/errors/errors_test.go	7	Error handling
features/files/files_test.go	22	File management
features/files/util_test.go	3	File utilities
features/health/health_test.go	6	Health check endpoints
features/heartbeat/heartbeat_test.go	8	Heartbeat monitoring
features/home/home_test.go	3	Home page
features/invitations/invitations_test.go	20	Invitation system
features/login/login_test.go	17	User login
features/logout/logout_test.go	6	User logout

File	Test Functions	Description
features/pages/pages_test.go	19	Page management
features/profile/profile_test.go	16	User profile
features/settings/settings_test.go	19	Application settings
features/status/status_test.go	11	Status endpoints
features/systemusers/systemusers_test.go	19	System user management

### System (11 files)

File	Test Functions	Description
system/auth/auth_test.go	21	Authentication system
system/authutil/password_test.go	13	Password utilities
system/authz/authz_test.go	9	Authorization
system/htmlsanitize/htmlsanitize_test.go	8	HTML sanitization
system/inputval/inputval_test.go	16	Input validation
system/jsonutil/jsonutil_test.go	16	JSON utilities
system/network/ip_test.go	3	Network/IP utilities
system/normalize/normalize_test.go	6	Data normalization
system/status/status_test.go	3	Status utilities
system/tasks/runner_test.go	7	Task runner
system/timezones/timezones_test.go	8	Timezone handling
system/validators/validators_test.go	8	Data validators

### Stores (16 files)

File	Test Functions	Description
store/activity/store_test.go	11	Activity store
store/announcement/announcementstore_test.go	12	Announcement store
store/audit/store_test.go	12	Audit log store
store/emailverify/emailverifystore_test.go	16	Email verification store
store/file/filestore_test.go	14	File store

File	Test Functions	Description
store/folder/folderstore_test.go	13	Folder store
store/invitation/invitationstore_test.go	13	Invitation store
store/logins/loginstore_test.go	11	Login records store
store/oauthstate/oauthstatestore_test.go	10	OAuth state store
store/pages/pagestore_test.go	10	Pages store
store/passwordreset/passwordresetstore_test.go	13	Password reset store
store/ratelimit/store_test.go	11	Rate limiting store
store/sessions/store_test.go	15	Sessions store
store/settings/settingsstore_test.go	6	Settings store
store/users/userstore_test.go	32	Users store

Stratahub Tests

Bootstrap (1 file)

File	Test Functions	Description
bootstrap/startup_test.go	5	Application startup

Features (28 files)

File	Test Functions	Description
features/about/handler_test.go	3	About page
features/activity/handler_test.go	7	Activity tracking
features/announcements/handler_test.go	11	Announcements
features/auditlog/handler_test.go	8	Audit logging
features/authgoogle/handler_test.go	9	Google OAuth
features/contact/handler_test.go	3	Contact page
features/dashboard/handler_test.go	10	Dashboard
features/groups/handler_test.go	12	Group management
features/health/handler_test.go	1	Health check
features/heartbeat/handler_test.go	8	Heartbeat
features/home/handler_test.go	5	Home page

File	Test Functions	Description
features/leaders/handler_test.go	10	Leader management
features/login/handler_test.go	7	User login
features/logout/handler_test.go	4	User logout
features/materials/handler_test.go	7	Materials management
features/members/handler_test.go	11	Member management
features/organizations/handler_test.go	12	Organization management
features/profile/handler_test.go	9	User profile
features/reports/handler_test.go	4	Reporting
features/resources/handler_test.go	7	Resource management
features/settings/handler_test.go	5	Settings
features/status/handler_test.go	8	Status
features/systemusers/handler_test.go	7	System users
features/terms/handler_test.go	3	Terms page
features/uploadcsv/csvutil/parser_test.go	40	CSV parsing
features/userinfo/handler_test.go	4	User information
features/workspaces/handler_test.go	5	Workspace management

## System (17 files)

File	Test Functions	Description
system/auth/auth_test.go	11	Authentication
system/authutil/authutil_test.go	52	Auth utilities
system/authz/authz_test.go	15	Authorization
system/auditlog/logger_test.go	14	Audit logger
system/gates/gates_test.go	25	Feature gates
system/htmlsanitize/htmlsanitize_test.go	43	HTML sanitization
system/indexes/indexes_test.go	18	Database indexes
system/inputval/inputval_test.go	1	Input validation
system/inputval/validators_test.go	8	Input validators
system/normalize/normalize_test.go	7	Data normalization
system/orgutil/orgutil_test.go	24	Organization utilities

File	Test Functions	Description
<a href="#">system/paging/paging_test.go</a>	6	Pagination
<a href="#">system/search/search_test.go</a>	2	Search functionality
<a href="#">system/tasks/runner_test.go</a>	7	Task runner
<a href="#">system/timezones/timezones_test.go</a>	6	Timezone handling
<a href="#">system/txn/txn_test.go</a>	2	Transactions
<a href="#">system/validators/validators_test.go</a>	24	Validators
<a href="#">system/workspace/workspace_test.go</a>	19	Workspace utilities
<a href="#">system/wsauth/wsauth_test.go</a>	8	Workspace auth

## Stores (21 files)

File	Test Functions	Description
<a href="#">store/activity/store_test.go</a>	17	Activity store
<a href="#">store/audit/store_test.go</a>	22	Audit store
<a href="#">store/coordinatorassign/coordinatorassignstore_test.go</a>	13	Coordinator assignments
<a href="#">store/emailverify/store_test.go</a>	21	Email verification
<a href="#">store/groups/groupstore_test.go</a>	7	Groups store
<a href="#">store/logins/loginstore_test.go</a>	3	Login records
<a href="#">store/materialassign/materialassignstore_test.go</a>	21	Material assignments
<a href="#">store/materials/materialstore_test.go</a>	20	Materials store
<a href="#">store/memberships/membershipstore_test.go</a>	13	Memberships store
<a href="#">store/metrics/metricsstore_test.go</a>	3	Metrics store
<a href="#">store/oauthstate/store_test.go</a>	11	OAuth state
<a href="#">store/organizations/organizationstore_test.go</a>	5	Organizations store
<a href="#">store/pages/pagestore_test.go</a>	12	Pages store
<a href="#">store/resourceassign/resourceassignstore_test.go</a>	10	Resource assignments

File	Test Functions	Description
store/resources/resourcestore_test.go	11	Resources store
store/sessions/store_test.go	17	Sessions store
store/settings/settingsstore_test.go	10	Settings store
store/users/userstore_test.go	14	Users store
store/workspaces/workspacestore_test.go	13	Workspaces store

## Strata Tests

### Features (18 files)

File	Test Functions	Description
features/activity/activity_test.go	21	Activity tracking
features/announcements/announcements_test.go	14	Announcements
features/authgoogle/authgoogle_test.go	10	Google OAuth
features/dashboard/dashboard_test.go	6	Dashboard
features/errors/errors_test.go	7	Error handling
features/files/files_test.go	22	File management
features/files/util_test.go	3	File utilities
features/health/health_test.go	6	Health check
features/heartbeat/heartbeat_test.go	8	Heartbeat
features/home/home_test.go	3	Home page
features/invitations/invitations_test.go	20	Invitations
features/login/login_test.go	17	User login
features/logout/logout_test.go	6	User logout
features/pages/pages_test.go	19	Page management
features/profile/profile_test.go	16	User profile
features/settings/settings_test.go	19	Settings
features/status/status_test.go	11	Status
features/systemusers/systemusers_test.go	19	System users

## System (12 files)

File	Test Functions	Description
system/auth/auth_test.go	21	Authentication
system/authutil/password_test.go	13	Password utilities
system/authz/authz_test.go	9	Authorization
system/htmlsanitize/htmlsanitize_test.go	8	HTML sanitization
system/inputval/inputval_test.go	16	Input validation
system/jsonutil/jsonutil_test.go	16	JSON utilities
system/network/ip_test.go	3	Network utilities
system/normalize/normalize_test.go	6	Data normalization
system/status/status_test.go	3	Status utilities
system/tasks/runner_test.go	7	Task runner
system/timezones/timezones_test.go	8	Timezone handling
system/validators/validators_test.go	8	Validators

## Stores (14 files)

File	Test Functions	Description
store/activity/store_test.go	11	Activity store
store/announcement/announcementstore_test.go	12	Announcements
store/audit/store_test.go	12	Audit store
store/emailverify/emailverifystore_test.go	16	Email verification
store/file/filestore_test.go	14	File store
store/folder/folderstore_test.go	13	Folder store
store/invitation/invitationstore_test.go	13	Invitation store
store/logins/loginstore_test.go	11	Login records
store/oauthstate/oauthstatestore_test.go	10	OAuth state
store/pages/pagestore_test.go	10	Pages store
store/passwordreset/passwordresetstore_test.go	13	Password reset
store/ratelimit/store_test.go	11	Rate limiting
store/sessions/store_test.go	15	Sessions store
store/settings/settingsstore_test.go	6	Settings store

File	Test Functions	Description
store/users/userstore_test.go	32	Users store

## Test Categories

### Authentication & Authorization

- Google OAuth integration tests
- Password hashing and validation
- Session management
- Role-based access control (RBAC)
- Workspace authentication

### Data Storage

- MongoDB store operations (CRUD)
- Index management
- Rate limiting
- Audit logging

### Feature Handlers

- HTTP handler tests
- Request/response validation
- Error handling

### Utilities

- Input validation
- HTML sanitization
- JSON utilities
- Timezone handling
- Data normalization


## Test Coverage Analysis

Current Status: All Tests Passing 

All Stratahub tests now compile and pass successfully. Coverage analysis below shows statement coverage for each package.

### Stratahub Coverage by Package

#### Features Coverage

Package	Coverage	Status
features/about	62.5%	 Good



Package	Coverage	Status
features/activity	15.2%	⚠ Low
features/announcements	32.6%	⚠ Moderate
features/auditlog	62.4%	✅ Good
features/authgoogle	22.7%	⚠ Low
features/contact	62.5%	✅ Good
features/dashboard	31.0%	⚠ Moderate
features/groups	6.8%	⚠ Low
features/health	47.6%	⚠ Moderate
features/heartbeat	15.2%	⚠ Low
features/home	43.3%	⚠ Moderate
features/leaders	13.0%	⚠ Low
features/login	12.1%	⚠ Low
features/logout	57.6%	✅ Good
features/materials	7.4%	⚠ Low
features/members	27.7%	⚠ Low
features/organizations	29.9%	⚠ Low
features/profile	63.5%	✅ Good
features/reports	24.0%	⚠ Low
features/resources	9.5%	⚠ Low
features/settings	8.5%	⚠ Low
features/status	70.9%	✅ Good
features/systemusers	10.2%	⚠ Low
features/terms	62.5%	✅ Good
features/uploadcsv/csvutil	47.6%	⚠ Moderate
features/userinfo	87.5%	✅ Excellent
features/workspaces	12.7%	⚠ Low

### Stores Coverage

Package	Coverage	Status
store/activity	86.6%	✅ Excellent

Package	Coverage	Status
store/audit	78.9%	✓ Good
store/coordinatorassign	82.1%	✓ Excellent
store/emailverify	89.7%	✓ Excellent
store/groups	66.7%	✓ Good
store/logins	27.8%	⚠ Low
store/materialassign	84.2%	✓ Excellent
store/materials	78.2%	✓ Good
store/memberships	44.0%	⚠ Moderate
store/metrics	100.0%	✓ Complete
store/oauthstate	72.2%	✓ Good
store/organizations	25.6%	⚠ Low
store/pages	88.0%	✓ Excellent
store/resourceassign	65.1%	✓ Good
store/resources	63.4%	✓ Good
store/sessions	48.2%	⚠ Moderate
store/settings	92.0%	✓ Excellent
store/users	12.2%	⚠ Low
store/workspaces	72.0%	✓ Good

## System Coverage

Package	Coverage	Status
system/auditlog	41.0%	⚠ Moderate
system/auth	45.0%	⚠ Moderate
system/authutil	96.4%	✓ Excellent
system/authz	28.2%	⚠ Low
system/gates	100.0%	✓ Complete
system/htmlsanitize	100.0%	✓ Complete
system/indexes	48.4%	⚠ Moderate
system/inputval	73.3%	✓ Good
system/normalize	100.0%	✓ Complete

Package	Coverage	Status
system/orgutil	48.1%	⚠ Moderate
system/paging	65.5%	✅ Good
system/search	100.0%	✅ Complete
system/tasks	75.0%	✅ Good
system/timezones	78.8%	✅ Good
system/txn	27.3%	⚠ Low
system/validators	51.3%	⚠ Moderate
system/workspace	31.9%	⚠ Moderate
system/wsauth	46.4%	⚠ Moderate

Bootstrap Coverage

Package	Coverage	Status
bootstrap	11.8%	⚠ Low

Coverage Summary

Category	Packages	Avg Coverage	Excellent (>80%)	Good (60-80%)	Moderate (40-60%)	Low (<40%)
Features	27	~35%	2	6	6	13
Stores	19	~65%	7	6	2	4
System	18	~63%	5	4	6	3
Bootstrap	1	11.8%	0	0	0	1

Coverage Gaps (Areas for Improvement)

Based on the coverage analysis, the following areas need attention:

Priority	Area	Current Coverage	Recommendation
High	features/groups	6.8%	Add handler tests for CRUD operations
High	features/materials	7.4%	Add handler tests for material management
High	features/settings	8.5%	Add handler tests for settings pages
High	features/resources	9.5%	Add handler tests for resource management

Priority	Area	Current Coverage	Recommendation
High	features/systemusers	10.2%	Add handler tests for system user CRUD
Medium	store/users	12.2%	Add more store operation tests
Medium	bootstrap	11.8%	Add startup/initialization tests
Medium	features/login	12.1%	Add authentication flow tests

Recommendations

- 1. **Priority Focus:** Improve coverage for feature handlers below 20% coverage
- 2. **Store Layer:** Store packages have good coverage; maintain this level
- 3. **System Utilities:** Most system packages are well-tested; continue pattern
- 4. **Integration Tests:** Consider adding end-to-end tests for complete user flows
- 5. **CI/CD:** Implement test coverage thresholds in CI pipeline

Test Health Summary

Application	Test Status	Coverage Level
Stratahub	✔ All Passing	~50% average
Strataforge	Not verified	Requires analysis
Strata	Not verified	Requires analysis

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