

ORANGEHRM SYSTEM TESTING

PROJECT: TEST PLAN

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1 Introduction

This Test Plan defines the overall approach, scope, and objectives for testing the **OrangeHRM HR Management System** under the Digital Egypt Pioneer Initiative. It outlines the testing strategy, resources, tools, and schedule required to ensure that all system functions meet the specified requirements in the SRS.

The plan establishes clear procedures for manual and automated testing, covering functional and non-functional aspects of the system. It ensures that all defects are identified, documented, and resolved to deliver a stable, secure, and high-quality HR management solution.

1.1 Scope

The scope of this Test Plan covers the functional and non-functional testing of the **OrangeHRM HR Management System**. The objective is to verify that all modules perform as intended and meet the quality standards defined in the SRS.

Testing activities will include manual and automation testing of core modules such as Admin, PIM (Personal Information Management), Leave, Time, Recruitment, and Performance.

The testing will focus on:

- Validating system functionality, usability, and data accuracy.
- Ensuring role-based access and workflow correctness.
- Detecting and documenting defects for resolution.
- Executing regression testing through automation for critical features.

Performance and security testing are excluded from the current project scope.

1.1.1 In Scope

The **OrangeHRM HR Management System** Test Plan defines the testing approach for functional, integration, system, regression, and user acceptance testing.

The scope includes:

- Verification of all functional and non-functional requirements stated in the SRS.
- End-to-end testing of workflows across all in-scope modules: Admin, PIM, Leave, Time, Recruitment, and Performance.
- Validation of role-based access control and data consistency between modules.
- Execution of manual and automated test cases for critical business functionalities.
- API testing to ensure data accuracy and backend stability.

1.1.2 Out of Scope

The following areas are excluded from the scope of this Test Plan:

- Testing of external systems not integrated with **OrangeHRM**.
- Performance, load, and security penetration testing.
- Business continuity and disaster recovery testing.
- Testing of mobile or third-party platform compatibility.

1.2 Quality Objective

1.2.1 Primary Objective

The primary objective of this testing project is to ensure that the **OrangeHRM HR Management System** fully meets the functional and non-functional requirements defined in the SRS.

Testing aims to confirm that all system components operate correctly, reliably, and efficiently, and that each feature performs according to user expectations and business needs.

Any modifications or additions to the requirements will be verified and tested with the highest quality standards achievable within the project timeline and available resources.

1.2.2 Secondary Objective

The secondary objective is to identify and document all defects, risks, and inconsistencies within the system, ensuring they are communicated clearly to the development team and resolved before release.

This involves systematic and comprehensive testing to validate that all modules are stable, integrated correctly, and meet the required quality benchmarks.

1.3 Roles and Responsibilities

Roles and responsibilities in this project define how the testing team collaborates to ensure the quality and reliability of the **OrangeHRM HR Management System**.

Each team member is assigned specific duties that align with the project's objectives, ensuring efficient planning, execution, and reporting throughout the testing lifecycle.

1.3.1 Testing Team

Responsibilities include:

- Reviewing the software requirements specification (SRS) and identifying test scenarios.
- Designing and executing manual and automated test cases.
- Functional, non-functional and API testing.
- Logging, tracking, and retesting defects using Jira.
- Preparing daily and weekly test reports.
- Ensuring all testing activities meet the defined quality standards and deadlines.

Team Members

Name	Role	Responsibilities
Salma Muhammad	Team Leader	<input type="checkbox"/> Organizing and assigning tasks to team members. <input type="checkbox"/> Monitoring project progress and ensuring deadlines are met.

		<input type="checkbox"/> Communicating with stakeholders and clarifying requirements. <input type="checkbox"/> Reviewing the team's work and ensuring quality standards. <input type="checkbox"/> Providing guidance, support, and resolving any issues within the team.
Sara Haitham	Tester	<input type="checkbox"/> Executing test cases according to the test plan. <input type="checkbox"/> Reporting bugs clearly with steps, expected results, and actual results. <input type="checkbox"/> Re-testing fixed issues to confirm proper resolution. <input type="checkbox"/> Ensuring the product meets functional requirements. <input type="checkbox"/> Collaborating with the team leader to improve test coverage
Afnan Muhammad	Tester	<input type="checkbox"/> Performing functional and usability tests. <input type="checkbox"/> Documenting test results accurately. <input type="checkbox"/> Identifying inconsistencies or defects and reporting them. <input type="checkbox"/> Supporting the team in regression and smoke testing. <input type="checkbox"/> Participating in team meetings and sharing feedback.
Jana Muhammad	Tester	<input type="checkbox"/> Executing manual test scenarios and reporting issues. <input type="checkbox"/> Validating user flows and checking for edge cases. <input type="checkbox"/> Maintaining test documentation for assigned tasks. <input type="checkbox"/> Collaborating with other testers to ensure full coverage. <input type="checkbox"/> Verifying that the system behaves as expected after updates

1.3.2 Testing Process Management Team

The **Testing Process Management** role ensures smooth coordination and quality assurance across all testing phases.

In this project, this responsibility is handled by all the team members equally who ensured covering all the key responsibilities including:

- Manage the testing workflow and documentation.
- Review and approve test deliverables (Test Plan, Test Cases, report).
- Monitor progress and ensure adherence to schedule.
- Conduct defect triage meetings and coordinate issue resolution.
- Ensure compliance with the defined test strategy and project objectives.

1.4 Assumptions for Test Execution

The following assumptions are made for the successful execution of the testing activities for the **OrangeHRM HR Management System** under the **Digital Egypt Pioneer Initiative**:

- The OrangeHRM system (under test) is already deployed, stable, and accessible for the testing team throughout the project duration (5 Oct – 5 Dec 2025).
- The SRS document and related functional requirements are complete, reviewed, and approved prior to test case design.

- The Test Plan and Test Cases will be approved by the Test Lead (Salma Muhammad) before execution begins.
- Test data required for execution will be prepared and validated before each test cycle.
- The testing team will have continuous access to the application, test environment, and required tools (Jira, Selenium, Postman).
- Any technical issues or test environment failures will be reported immediately to the Test Lead for resolution.
- All test results, defects, and progress updates will be documented and shared daily via the team's chosen collaboration and bug tracking tools (Jira).
- All team members are responsible for maintaining testing quality, accuracy of documentation, and adherence to the project schedule.
- Dependencies or blockers affecting test execution will be communicated as soon as identified to ensure timely resolution.

1.5 Constraints for Test Execution

The following constraints have been identified for the execution of testing activities for the **OrangeHRM HR Management System** under the **supervision of Eng. Abdulrahman Ramadan**:

- The testing team depends on the OrangeHRM public demo environment for system access, which may occasionally experience downtime or limited availability.
- Since the project is focused solely on testing, the team has no control over application code changes or underlying system configurations.
- The test environment, test data, and user accounts must be prepared and verified before the start of testing activities.
- Any technical issues, login problems, or access restrictions in the OrangeHRM environment may delay test execution.
- All defect reporting and documentation must follow the defined workflow and be logged in the chosen tool (Jira) with proper evidence.
- Team members must adhere to the testing schedule (5 Oct – 5 Dec 2025) and report any blockers or dependencies immediately.
- API testing activities depend on consistent access to the relevant interfaces or data sources; restricted access could limit testing depth.
- Internet connectivity and tool availability (e.g., Selenium, Postman) are critical for timely automation and API testing.

1.6 Definitions

Bug / Defect:

Any error, flaw, or malfunction in the **OrangeHRM system** that prevents a feature or process from performing as expected according to the Software Requirements Specification (SRS). A bug may involve incorrect functionality, missing behaviour, interface issues, or data inconsistencies that impact the user experience or system accuracy.

Enhancement:

Any suggested improvement or modification intended to optimize the workflow, usability, or

performance of the system that is not included in the current requirements. Enhancements may involve new feature requests, UI improvements, or process optimizations identified during testing. Such enhancements can be considered for future releases following an appropriate Change Management or approval process.

2 Test Methodology

2.1 Purpose

2.1.1 Overview

The purpose of this Test Plan is to define the testing strategy, scope, techniques, and processes applied during the testing of the **OrangeHRM HR Management System**.

Testing ensures that all functional and non-functional requirements defined in the SRS are validated and that the product meets quality expectations.

This document outlines:

- Testing strategies for manual, automation and API testing.
- Bug-tracking and defect management procedures.
- Risk identification and mitigation approaches.
- Required testing resources, tools, and responsibilities.
- Test scheduling and deliverables across all phases.

Testing OrangeHRM involves structured methodologies combining manual and automated testing, guided by well-defined techniques based on requirement coverage and test case priority.

2.1.2 Usability Testing

Usability testing verifies that the **OrangeHRM interface** is intuitive, user-friendly, and consistent with HR workflow expectations.

The **Digital Egypt Pioneer Initiative** performs this manually, focusing on:

- Ease of navigation and layout clarity.
- Input field validation and error message accuracy.
- Accessibility and visual consistency across pages.

Findings are documented and discussed with the Test Lead for evaluation and improvement recommendations.

2.1.3 Regression and Iteration Testing

Regression testing ensures that previously tested functionalities remain intact after changes or bug fixes.

Each iteration cycle involves re-running selected test cases — manually and through automation — to confirm system stability.

Focus areas include:

- Secure Login and Role Management.
- Leave Request and Approval Workflow.
- Employee Record Creation and Updates.

- Data validation between modules (Admin, PIM, Leave, Recruitment).

Automated regression testing will be executed using **Selenium WebDriver**, while defect tracking and reporting are managed through **Jira**

2.1.4 Final Release Testing (User Acceptance Testing)

Final testing validates that **OrangeHRM** meets its intended business and operational requirements.

The User Acceptance Testing (UAT) phase ensures:

- All high-priority test cases pass successfully.
- No critical (severity 1 or 2) defects remain unresolved.
- The system performs as expected in end-to-end HR scenarios.

This phase confirms the product's readiness for deployment and reporting.

2.1.5 Testing completeness Criteria

Testing is considered complete when:

- All planned test cases have been executed and passed.
- All major defects are fixed and verified.
- Regression tests confirm system stability.
- All deliverables (test cases, reports, and defect logs) are approved by the Test Lead.

2.2 Test Levels

2.2.1 Building Tests

Testing for the **OrangeHRM HR Management System** is structured into multiple levels to ensure comprehensive coverage across all system functionalities and releases.

Each level focuses on a specific objective — from verifying basic operability to validating end-to-end business processes.

2.2.1.1 Level 1 - Build Acceptance Tests

This initial testing phase verifies that the OrangeHRM application is accessible, stable, and ready for testing.

Since the team uses an existing deployed environment, this step focuses on confirming that:

- The OrangeHRM demo site loads successfully.
- Required modules (Admin, PIM, Leave, Recruitment, etc.) are accessible.
- User login credentials are valid and functional.

If any of these checks fail, formal testing will be postponed until the environment is stable.

2.2.1.2 Level 2 - Smoke Tests

Smoke testing ensures that the critical functionalities of OrangeHRM are working before deeper testing begins.

This includes:

- Logging in with valid credentials.
- Accessing key modules (PIM, Leave, Recruitment).
- Navigating between dashboards and menus.

Smoke tests will be executed manually and through Selenium scripts, typically taking less than one hour.

If any smoke test fails, the affected module will be excluded from further testing until fixed.

2.2.1.3 Level 2a - Bug Regression Testing

Bug regression testing is performed after each update or bug fix to confirm that previously reported defects are resolved and no new issues were introduced.

This process includes:

- Re-executing failed test cases marked as “Fixed – Retest”.
- Running a partial regression suite focusing on high-priority defects.
- Logging results in the defect management tool (Jira).

2.2.2 Milestone Tests

2.2.2.1 Level 3 - Critical Path Tests

Critical Path Testing targets core HR workflows essential to system functionality and daily operations.

These test cases focus on the modules most frequently used and most critical to business value, including:

- Employee creation and information management (PIM).
- Leave request, approval, and rejection workflow.
- User role and permission validation.
- Login and authentication behaviour.

Critical path tests are executed once per major testing milestone — typically at the end of each weekly cycle.

2.2.3 Release Tests

2.2.3.1 Level 4 - Standard Tests

Standard tests validate all functional and non-functional requirements as per the SRS.

These include:

- Functional validation of all modules (Admin, PIM, Leave, Recruitment, Performance).
- API endpoint validation for CRUD operations.
- UI consistency and usability verification.

These test cases are executed once per full testing cycle, with a combination of manual and automated tests to confirm system readiness for release

2.3 Bug Regression

Bug regression testing is a key activity throughout all testing phases of the **OrangeHRM HR Management System** project.

Whenever a defect is marked as “**Fixed – Ready for Retest**”, the test team will re-execute the associated test cases to confirm that the issue has been resolved and no new problems have been introduced.

Regression Process:

- Once the fix is confirmed, the defect status will be updated to “**Closed – Fixed**.”
- If the defect persists, it will be **reopened** in the defect management tool with detailed retest results and evidence.

- Severity 1 (Critical) and Severity 2 (Major) defects will receive **highest retest priority** and be reported immediately to the Test Lead for escalation.

Regression testing will be performed manually and through automation using Selenium where applicable (e.g., login, leave request, and employee management modules).

2.4 Bug Triage

Bug triage meetings will be conducted by the **Test Lead** to ensure effective management and prioritization of all reported defects.

The triage process helps maintain visibility of testing progress, defect impact, and resolution status.

Triage Process:

- Triage meetings will be held weekly or more frequently based on the defect discovery rate.
- The Test Lead will review all open defects, verify their severity and priority, and assign appropriate owners within the testing team for retesting.
- Team members will discuss defect patterns, retest timelines, and any blockers affecting execution.
- Updated bug status reports will be maintained in Jira and shared with all team members at the end of each triage session.

The purpose of bug triage is to:

- Ensure that all defects are logged clearly with sufficient evidence.
- Confirm that high-priority bugs are addressed and retested promptly.
- Maintain transparency and consistency in the defect management process.

2.5 Suspension Criteria and Resumption Requirements

Testing activities may be suspended if specific conditions prevent accurate or meaningful test execution.

The following criteria define when testing will be paused and what is required for it to resume:

- Suspension Criteria

Testing will be suspended if:

- Smoke or Critical Path tests (Level 1 or 2) fail due to critical defects that block access to key modules such as Login, PIM, or Leave Management.
- A Severity 1 (Critical) defect causes repeated application crashes or data loss.
- The test environment (server, demo site, or credentials) becomes unavailable or unstable.
- There is a major change in scope or system behaviour that invalidates existing test cases.

Resumption Requirements

Testing will resume when:

- The blocking issues have been resolved, verified, and retested successfully.
- A stable and accessible environment is restored.
- Updated documentation or builds are provided (if applicable).
- The Test Lead confirms that the affected modules are ready for retesting.

During suspension, the **Test Lead (Salma Muhammad)** will communicate the issue in the defect tracker and document all pending actions for traceability.

2.6 Test Completeness

Testing for the **OrangeHRM HR Management System** will be considered complete once the following conditions are met:

2.6.1 Standard Conditions

- All planned manual and automated test cases have been executed.
- All high and medium-priority defects (Severity 1 and 2) have been resolved, retested, and closed.
- Regression testing confirms that fixed bugs did not impact other functionalities.
- The application demonstrates functional and non-functional stability across all tested modules.
- Each test area (Admin, PIM, Leave, Recruitment, Performance) is signed off as completed by the **Test Lead**.
- Final Test Summary Report has been submitted and approved.

3 Test Deliverables

The testing process for **OrangeHRM** will produce several key deliverables that document planning, execution, and results.

Deliverables are grouped into three main categories: Documents, Test Artifacts, and Reports.

Category	Deliverable	Description / Purpose
Documents	Test Plan	Defines testing scope, approach, and strategy (this document).
	Test Schedule	Outlines testing timeline, milestones, and responsibilities.
Test Artifacts	Test Scenarios & Test Cases	Contain detailed steps, inputs, and expected results for manual and automated testing.
	Defect Reports	Logged issues with severity, priority, reproduction steps, and screenshots.
Reports	Daily Status Report	Summarizes daily testing activities, defects, and progress.
	Test Execution Report	Provides overall test results per module or feature.
	Final Test Summary Report	Consolidates outcomes, metrics, and sign-offs to mark project completion.

Each deliverable supports traceability, accountability, and evaluation of the OrangeHRM testing outcomes.

3.1 Deliverables Matrix

The following artifacts will be produced throughout the **OrangeHRM HR Management System** Testing Project.

These deliverables support the testing lifecycle and ensure quality, transparency, and traceability

of results.

The matrix will be updated regularly during the project timeline (5 Oct – 5 Nov 2025).

Deliverable Type	Deliverable Name	Description / Purpose	Owner
Documents	Test Approach / Plan	Defines the overall testing strategy, objectives, and scope.	Salma Muhammad (Team Leader)
	Test Schedule	Outlines testing timelines, milestones, and task allocation.	Salma Muhammad (Team Leader)
	Test Specifications	Defines the structure and objectives of test cases and testing areas.	Salma Muhammad (Team Leader)
	Requirements Traceability Matrix (RTM)	Maps test cases to functional and non-functional requirements to ensure full coverage.	Sara – Afnan – Jana (Testers) under supervision of Salma
Test Cases / Reports	Test Cases and Results	Manual and automated test cases, including execution results and status.	Sara – Afnan – Jana
	Defect Reports	Detailed documentation of defects with severity, priority, and evidence.	All Testers
	Test Coverage Report	Measures the extent of requirement and functionality coverage.	All Testers
Reports	Daily / Weekly Status Reports	Summarizes daily progress, executed cases, and defects found.	Salma Muhammad (Team Leader)
	Final Test Summary Report (Sign-Off)	Consolidates final test outcomes, metrics, and closure details.	Salma Muhammad (Team Leader)

3.2 Documents

3.2.1 Test Approach Document

The Test Approach defines the testing methodology and scope based on the SRS and project objectives.

It outlines the types of testing used (manual, automation, and API) and the key techniques applied, including risk-based and requirement-based testing.

This document serves as the foundation for all testing activities and is reviewed by the **Test Lead** and **testing team members** for approval.

3.3 Defect Tracking & Debugging

3.3.1 Testing Workflow

The testing workflow for the **OrangeHRM HR Management System** ensures that all defects are accurately reported, tracked, and resolved.

The process flow followed by the **Digital Egypt Pioneer Initiative Team** is:

1. Tester executes test cases (manual or automated).
2. If a defect is found, it is logged in **Jira** with clear evidence (screenshots, steps to reproduce, environment details).
3. The Test Lead reviews and validates the defect.
4. Once confirmed, the issue status is set to “*Open*” and prioritized.
5. After the fix is applied (if applicable), the tester performs regression testing.
6. If the issue is resolved, it is marked “*Closed*.” Otherwise, it is “*Reopened*.”

All defects are discussed in regular bug triage meetings led by the Test Lead to ensure correct prioritization and tracking.

3.3.2 Defect Reporting and Prioritization

All defects must be logged in the team’s bug tracking tool (Jira) with sufficient detail and evidence.

Each defect includes:

- **Module:** (e.g., Login, Leave, PIM)
- **Severity and Priority**
- **Summary & Detailed Description**
- **Steps to Reproduce**
- **Expected vs. Actual Result**
- **Attachments / Screenshots**
- **Response time targets:**

Priority	Response	Resolution Target
High (Critical)	Within 1 day	Fixed within 2 days
Medium	Within 2 days	Fixed within 4 days
Low	Within 3 days	Fixed within 5 days

Defect status and progress are reviewed during weekly triage meetings.

Resolution - Only DEVELOPER will update based on the defect.

Module - For an application with multiple modules, select appropriate module for the defect reported.

URL - Add URL if any.

Assigned to - To be updated by Developer, for whom the ticket is assigned to.

Priority - Set a priority based on severity.
Summary - Summary of the defect, bug or issue.
Detailed Desc. - Details of the defect, bug or issue.
Upload file - Attach evidence file.
Submit - Submit the bug ticket.

3.4 Reports

3.4.1 Testing status reports

A weekly status report will summarize:

- Number of test cases executed / passed / failed.
- Number of new, open, and closed defects.
- Key issues and risks.
- Progress against the schedule.

3.4.2 Phase Completion Reports

At the end of each major testing phase (e.g., Smoke Testing, UAT), a Phase Completion Report will be created.

It includes:

- Total and executed test cases.
- Pass/fail statistics.
- Defect summary by severity.
- Outstanding risks and lessons learned.

3.4.3 Test Final Report - Sign-Off

At project closure, the Final Test Summary Report will confirm that testing objectives were met and the system meets quality standards.

It includes:

- Test case coverage and pass rate.
- Final defect metrics and closure status.
- Confirmation that all critical modules passed.
- Sign-off by the **Test Lead** on behalf of the team.

4 Resource & Environment Needs

4.1 Testing Tools

Purpose	Tool / Technology	Usage
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Test Management	Google Sheets / Excel	Document and track test cases
Bug Tracking	Jira	Log and manage defects
Automation Testing	Selenium WebDriver + TestNG	Execute automated regression tests
API Testing	Postman	Validate REST endpoints

4.2 Test Environment

4.2.1 Hardware

Testing will be conducted on personal or institutional computers with at least:

- Intel Core i5 Processor / 8 GB RAM / Stable Internet Connection.
All testers will access the **OrangeHRM Demo Environment** for execution.

4.2.2 Software

Minimum software required:

- Windows 10 / 11 Operating System
- Google Chrome / Firefox Browser
- Java JDK 8 or later
- Selenium, Postman Workbench
- Microsoft Excel or Google Sheets for documentation

4.3 Bug Severity and Priority Definition

4.3.1 Severity List

Severity ID	Severity	Severity Description
1	Critical	Causes complete system failure or major feature breakdown; no workaround available; immediate fix required.
2	Major	Significantly affects functionality or performance; system is still operational but with major limitations.
3	Medium	Partially affects functionality; workaround exists; does not stop core operations.
4	Minor	Cosmetic issue or minor inconvenience; does not affect functionality or user workflow.

4.3.2 Priority List

Priority	Priority Level	Priority Description
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5	Must Fix (High)	Requires immediate attention; issue must be resolved before release or next build.
4	Should Fix (High)	Important to fix soon; affects usability or performance but not blocking.
3	Fix When Have Time (Medium)	Can be addressed later; does not impact core functionality or deadlines.
2	Low Priority (Low)	Minor issue with little to no impact; fix if time permits.
1	Trivial (Low)	Very small or cosmetic issue; fixing is optional and low impact.

4.4 Bug Reporting

Effective defect communication is critical to maintaining testing quality.

All team members will log defects in **Jira**, including severity, priority, reproduction steps, screenshots, and comments.

The **Test Lead** will review all new bugs daily to ensure accurate categorization and will maintain the project's defect reporting sheet for traceability and metrics.

5 Terms/Acronyms

Term / Acronym	Definition
API	Application Programming Interface
DB	Database
RTM	Requirements Traceability Matrix
UAT	User Acceptance Testing
QA	Quality Assurance
UI/UX	User Interface / User Experience
SRS	Software Requirements Specification
PIM	Personal Information Management
TMS	Test Management System