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 , security and availability 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 and Recruitment
- 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, availability, 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:
- Designing and executing manual and automated test cases.
- Functional, non-functional and API testing.
- Ensuring all testing activities meet the defined quality standards and deadlines.

Team Members

Name	Role	Responsibilities
Salma Muhammad	Team Leader	- Organizing and assigning tasks to team members. - Monitoring project progress and ensuring deadlines are met.

Sara Haitham	Tester	● Reviewing the team's work and ensuring quality standards. ● Providing guidance, support, and resolving any issues within the team. ● Executing test cases according to the test plan.
Afnan Muhammad	Tester	● Executing test cases according to the test plan. ● Reporting bugs clearly with steps, expected results, and actual results. ● Collaborating with the team leader to improve test coverage
Jana Muhammad	Tester	● Documenting test results accurately. ● Identifying inconsistencies or defects and reporting them. ● Participating in team meetings and sharing feedback.

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 (Selenium, Postman, Excel sheet , google sheet, word , google docs).

- 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 .
- 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 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 (Out of Scope)

Regression and Iteration Testing is out of scope for this project because there were no code changes or developers involved. Therefore, there was no need to re-run test cases after modifications. However, we are aware of its importance and, in a real scenario, it would be executed using Selenium WebDriver for automated test execution and Jira for defect tracking and reporting.

2.1.4 Final Release / User Acceptance Testing (Out of Scope)

Final Release Testing, including User Acceptance Testing (UAT), is out of scope for this project because there was no real customer or production environment. Our testing was limited to the OrangeHRM demo website. However, we understand that

UAT is important in real projects to validate that the system meets business and operational requirements before deployment.

2.1.5 **Testing completeness Criteria**

Testing is considered complete when:
- All planned test cases have been executed
- All major defects are verified.
- All deliverables (test cases, techniques, bug reports , test plan and execution schedule) are approved by the Test Lead.

2.2 Test Levels

- **Building Tests / Initial Testing Levels (Out of Scope)**

  The initial testing levels described, including Build Acceptance Tests, Smoke Tests, and Bug Regression Testing, are out of scope for this project. Our team worked on Manual Functional Testing using the OrangeHRM demo site. There were no developers to create new builds or updates, and automated testing tools like Selenium were not applied. However, we understand that these testing levels are important in real projects to ensure system stability and defect resolution before deeper testing.

2.2.1 **Milestone Tests**

2.2.1.1 *Level 1 - 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.

2.2.2 **Release Tests**

2.2.2.1 *Level 2 - Standard Tests*
Standard tests validate all functional and non-functional requirements as per the SRS.
These include:
- Functional validation of all modules (User role , Leave, Recruitment,).
- 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

2.2.3 Bug Regression Testing (Out of Scope)

Bug Regression Testing, which involves re-executing test cases after defect fixes and using automation tools like Selenium, is out of scope for our project. Since there were no developers making code changes, no defect fixes were applied on the OrangeHRM demo site. Our testing focused solely on Manual Functional Testing, although we understand the regression process and its importance for ensuring system stability after updates

2.2.4 Bug Triage (Out of Scope)

Bug Triage, including formal meetings to review, prioritize, and assign defect fixes, was out of scope for our project. Since there were no developers applying fixes on the OrangeHRM demo site, our team focused on logging and documenting defects manually. We understand the importance of Bug Triage in managing defect resolution, maintaining visibility, and ensuring high-priority issues are addressed promptly in real projects.

2.2.5 Suspension & Resumption Criteria (Informational / Out of Scope)

Suspension and resumption criteria describe when testing activities may be paused due to critical defects, environment issues, or major system changes. In our project, testing on the OrangeHRM demo site did not require any suspension, as the environment was stable and no critical defects were encountered. We understand the importance of these criteria for ensuring meaningful and accurate test execution in real-world projects.

2.3 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.

- The application demonstrates functional and non-functional stability across all tested modules.
- Each test area (Admin, User Role Leave, Recruitment,) 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 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	Status Report	Summarizes testing activities, defects, and progress.
	Test Execution Schedule	Provides overall test results per module or feature.
	Closure 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 – 29 Nov 2025).

Deliverable Type	Deliverable Name	Description / Purpose	Owner
Documents	**Test Approach / Plan**	Defines the overall testing strategy, objectives, and scope.	QA Team
	Test Schedule	Outlines testing timelines, milestones, and task allocation.	QA Team
	Test Specifications	Defines the structure and objectives of test cases and testing areas.	QA Team

	Requirements Traceability Matrix (RTM)	Maps test cases to functional and non-functional requirements to ensure full coverage.	QA Team
Test Cases / Reports	Test Cases and Results	Manual and automated test cases, including execution results and status.	QA Team
	Defect Reports	Detailed documentation of defects with severity, priority, and evidence.	QA Team
	Test Coverage Report	Measures the extent of requirement and functionality coverage.	QA Team
Reports	Daily / Weekly Status Reports	Summarizes daily progress, executed cases, and defects found.	QA Team
	Final Test Summary Report (Sign-Off)	Consolidates final test outcomes, metrics, and closure details.	QA Team

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

The testing workflow for the OrangeHRM HR Management System ensures that all defects are accurately reported, tracked, and verified, even in the absence of a development team.

Testing Workflow (as applied by our Testing Team):

1. **Testers execute manual and automated test cases** across all modules.

2. **The Test Lead reviews and validates the defect** to ensure accuracy, severity, and priority.

3. Because there is **no development team**, defects are logged for documentation and analysis purposes rather than escalation for fixes.

4. **Regression retesting only applies to test scenarios recreated by the team**, not developer fixes.

5. Defects remain with statuses such as:

- ○ **Open** – confirmed defect

- ○ **Deferred / Known Issue** – no fix available due to lack of development support

- ○ **Closed (Not Applicable)** – if the issue cannot be reproduced again

6. **All defects are discussed in weekly bug triage meetings** led by the Test Lead to maintain clear tracking, prioritization, and reporting.

Purpose of this workflow:
To ensure full transparency, proper documentation, and accurate reporting of all issues discovered during the testing cycle, even without developer involvement.

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

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 , 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
Test Management	Google Sheets / Excel	Document and track test cases
Bug Tracking	google docs	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
- 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 Level	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 ID	Priority Level	Priority Description
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 , 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