

# Test Strategy

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## 1. Introduction

The Test Strategy document outlines the overall approach to testing the OrangeHRM application. It provides a framework for the testing process, defining the scope, objectives, resources, and techniques to ensure the product meets quality standards.

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## 2. Objectives

The main objectives of the Test Strategy are:

- To ensure the application meets all functional and non-functional requirements.
  - To identify and resolve defects early in the development lifecycle.
  - To validate the application's performance, usability, and reliability.
  - To minimize risks associated with the deployment of the application.
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## 3. Scope of Testing

The scope of testing for this project includes:

- **Functional Testing:**
    - User authentication (login/logout).
    - Employee management (adding, editing, deleting employee profiles).
    - Role-based access control.
  - **Non-Functional Testing:**
    - Usability testing for ease of navigation.
    - Compatibility testing across multiple browsers and devices.
  - **Exclusions:**
    - Performance testing and stress testing are not included in this phase.
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## 4. Test Levels

The following levels of testing will be performed:

1. **Unit Testing:** Conducted by developers to verify individual components.
  2. **Integration Testing:** Validate interactions between modules.
  3. **System Testing:** Comprehensive testing of the application as a whole.
  4. **Regression Testing:** Ensure that new changes do not break existing functionality.
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## 5. Test Types

- **Functional Testing:** Verifying the application against the functional requirements.
  - **Usability Testing:** Ensuring the user interface is intuitive and user-friendly.
  - **Compatibility Testing:** Testing across different browsers (Chrome, Firefox, Edge) and platforms (Windows, macOS).
  - **Exploratory Testing:** Identifying edge cases and undocumented behaviors.
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## 6. Test Environment

- **Operating Systems:** Windows 10/11, macOS.
  - **Browsers:** Google Chrome, Mozilla Firefox, Microsoft Edge.
  - **Database:** MySQL for backend operations.
  - **Tools:** Selenium, Postman, Jira, BrowserStack.
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## 7. Test Data Management

- Test data will be created for scenarios such as employee creation, role management, and report generation.
  - Test data will include:
    - Valid and invalid login credentials.
    - Employee profiles with various roles.
    - Sample contact and emergency contact details.
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## 8. Entry and Exit Criteria

### Entry Criteria:

- All test environments are set up and verified.
- Test cases are reviewed and approved.
- Required tools are configured and accessible.

### Exit Criteria:

- All planned test cases are executed.
  - No critical defects remain unresolved.
  - Test Summary Report is prepared and shared with stakeholders.
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## 9. Defect Management

- Defects will be logged and tracked using Jira.
  - Defect lifecycle stages: New → Assigned → Fixed → Retested → Closed.
  - Defect severity levels: Critical, High, Medium, Low.
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## 10. Tools and Techniques

- **Test Management:** Jira..
  - **API Testing:** Postman.
  - **Defect Tracking:** Jira.
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## 11. Risks and Mitigation

Risk	Mitigation
Unclear requirements	Conduct walkthroughs with stakeholders.
Environment downtime	Maintain a backup environment for testing.
Tight timelines	Prioritize critical test cases and automate repetitive ones.

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## 12. Reporting and Deliverables

- **Test Execution Report:** Summarizing pass/fail rates and defect status.
  - **Defect Reports:** Detailed defect logs with screenshots and reproduction steps.
  - **Final Test Summary Report:** Overall status and readiness for release.
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## 13. Approval

This Test Strategy document must be approved by:

- Project Manager
- QA Lead
- Client Representative