Demo Web Shop

**Test Strategy**

**Revision History**

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| Date | Version | Author | Description |
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**1. Scope**

This Test Strategy Document applies to the Demo Web Shop e-commerce application and outlines the structured testing approach using the Waterfall model. It defines the process, tools, roles, environments, and deliverables required to ensure product quality through sequential development and testing phases.

The scope includes:

* Definition of all testing phases: Requirement Analysis, Test Planning, Test Case Design, Test Execution, and Closure.
* Roles and responsibilities across QA, Developers, Business Analysts.
* Manual and automation testing process and defect lifecycle.
* Environment setup and test data requirements.
* Test entry/exit criteria at each phase.
* Formal test review and sign-off process post UAT.

**2. Test Approach**

In the Waterfall model, testing is a distinct, structured phase that begins after development is complete. QA begins by analysing finalized requirements, then proceeds through:

* Test Case Design based on SRS documents.
* Environment Setup before execution.
* Functional & Integration Testing on completed build.
* Defect Logging, Re-testing, and Regression.
* Final Acceptance Testing (UAT) before release.

**2.2 Testing Levels**

* Unit Testing – Performed by developers.
* Integration Testing – Validate data flow between modules.
* System Testing – Validate complete business workflows.
* User Acceptance Testing (UAT) – Conducted by business stakeholders.

**2.3 Roles & Responsibilities**

|  |  |
| --- | --- |
| Roles | Responsibilities |
| Developer | |  | | --- | | Code implementation and unit testing | |
| QA Engineer | |  | | --- | | Test design, execution, and defect report | |
| QA lead | |  | | --- | | Test planning, tracking, triage management | |
| Business Analyst | Requirement clarification |
| Product Owner | |  | | --- | | Requirement validation and UAT | |

**2.4 Types of Testing**

- Functional Testing  
- Regression Testing  
- Performance Testing  
- Security Testing  
- Usability & Compatibility Testing  
- Exploratory Testing

**2.5 Automation Strategy**

- Framework: Selenium WebDriver (Java)  
- Automated Modules: Login, Product Search, Cart, Checkout  
- Manual Focus: UI/UX Testing, Ad-hoc Testing, and Edge Cases

**3. Test Environment**

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| --- | --- | --- |
| Environment | Purpose | Setup |
| Dev | Developer Unit Testing | Local build, minimal DB |
| QA/Test | System & Integration Testing | selenium, Jenkins, Jira, Chrome/Firefox |
| UAT | |  | | --- | | Final Verification | | |  | | --- | | Staging-like setup with real test data | |

Test Data Strategy

- Backup: Prior to each test cycle via DB snapshots.  
- Restore: Before regression or major test runs using SQL scripts or Docker.  
- Responsibility: QA Lead coordinates with DevOps.

**4.Testing Tools**

|  |  |
| --- | --- |
| Tools | Purpose |
| Jira +TestRail | Test management |
| Selenium WebDriver | Ui automation |
| JMeter | Load testing |
| Jenkins | CI integration |
| Slack/Confluence | Team communication and documentation |

**. Release Control**

-Release Format: vMajor.Minor. Patch (e.g., v1.0.0)  
- Build Tagging: Done in Jenkins post-validation  
- Code Freeze: Enforced before test execution  
- Regression Planning: Based on modified modules  
- UAT: Conducted post-QA sign-off  
- Final Sign-Off: After successful UAT validation

**5.Risk Analysis**

|  |  |  |
| --- | --- | --- |
| Risk ID | Description | Mitigation |
| R1 | |  | | --- | | Late requirements | | |  | | --- | | Freeze SRS before test design | |
| R2 | Build delays | |  | | --- | | Align dev/test calendars | |
| R3 | Insufficient data | Maintain reusable datasets |
| R4 | |  | | --- | | Env issues | | |  | | --- | | Define backup environments | |
| R5 | |  | | --- | | High UAT defects | | Buffer & thorough pre-UAT testing |
| R6 | Automation failures | Stability validation each cycle |
| R7 | |  | | --- | | QA unavailability | | |  | | --- | | Cross-train team members | |

**6. Review and Approvals**

|  |  |
| --- | --- |
| Role | Responsibilities |
| QA Lead | Owns testing strategy and QA deliverables |
| Project Manager | Validates alignment with schedule and milestones |
| Product Owner | Signs off based on business requirement validation |
| Development Lead | Ensures technical readiness and environment availability |