**Software Test Plan (STP) – Insurance Workflow Automation System**

**Project:** Insurance Workflow Automation System (IWAS)  
**Version:** 1.0  
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**Status:** Draft

**1. Introduction**

**Purpose:**  
This document defines the test plan for the IWAS v1.0. It ensures that all functional and non-functional requirements defined in the SRS are verified through systematic testing.

**Scope:**  
Testing covers automation of insurance business processes: new business intake, underwriting, policy administration, billing, claims, endorsements, renewals, and compliance.

**References:**

* IWAS SRS v1.0 (31-08-2025)
* Design Specifications v1.0
* IRDAI / GDPR Compliance Guidelines

**Definitions:**

* **IWAS**: Insurance Workflow Automation System
* **FR**: Functional Requirement
* **NFR**: Non-Functional Requirement
* **RTM**: Requirements Traceability Matrix
* **UAT**: User Acceptance Testing

**2. Test Items**

* Workflow orchestration & task management
* Policy lifecycle automation (issuance, renewals, endorsements, cancellations)
* Claims workflow automation (FNOL to settlement)
* Document & e-signature handling
* Communication & notifications (Email/SMS/Push)
* Reporting, dashboards, and compliance automation
* Security & data management

**3. Features to be Tested**

Mapped to **SRS Requirements (FR-1 … FR-31, NFRs)**:

* **FR-1 to FR-5**: Workflow orchestration & SLA tracking
* **FR-6 to FR-9**: Policy lifecycle automation
* **FR-10 to FR-15**: Claims workflow automation
* **FR-16 to FR-19**: Task automation & escalations
* **FR-20 to FR-23**: Notifications & communication templates
* **FR-24 to FR-27**: Reporting & compliance automation
* **FR-28 to FR-31**: Security & data management
* **NFR-1**: Performance (handle ≥10,000 users, <2s claims processing)
* **NFR-2**: Security (MFA, OAuth 2.0, data encryption, GDPR/IRDAI compliance)
* **NFR-3**: Reliability (99.9% uptime, 1-hr disaster recovery)
* **NFR-4**: Usability (multi-language support, intuitive UI)

**4. Features Not to be Tested**

* Hardware integrations (biometric devices, printers – future scope)
* Third-party external fraud detection tools (assumed vendor-tested)
* Payment gateway core logic (limited to API integration only)

**5. Test Approach / Strategy**

**Levels:**

* Unit Testing – individual modules (workflow engine, premium calculator)
* Integration Testing – cross-module flows (policy → billing → claims)
* System Testing – full end-to-end insurance workflows
* UAT – role-based testing by business stakeholders (agents, underwriters, claims adjusters)

**Types of Testing:**

* Functional testing (policies, claims, tasks, notifications)
* Regression testing (post-changes)
* Performance/load testing (high user concurrency, bulk claims)
* Security testing (RBAC, data encryption, fraud detection)
* Usability testing (portals & mobile app interfaces)

**Entry Criteria:** Stable build delivered, test environment ready, test data prepared.  
**Exit Criteria:** 100% planned test cases executed, no open critical defects, UAT sign-off.

**5.1 Security Validation**

* Verify RBAC (role-based access control) across all modules
* Validate MFA for workflow approvers (FR-30)
* Test encryption at rest/in-transit (FR-29)
* Penetration testing for claims and KYC workflows
* Compliance checks against GDPR & IRDAI policies

**6. Test Environment**

**Hardware:**

* Cloud servers (AWS/Azure/GCP with Kubernetes)
* Client devices: Desktop, Laptop, Mobile (Android ≥ 10, iOS ≥ 13)

**Software:**

* IWAS build v1.0
* PostgreSQL/SQL Server (managed)
* Insurance Core APIs, DMS, CRM

**Tools:**

* Selenium (UI automation)
* Postman (API validation)
* JMeter (load/performance)
* Jira (defect tracking)
* Jenkins (CI/CD pipeline)

**Test Data:**

* Synthetic customer data (with masked PII/PHI)
* Sample insurance policies (life, motor, health, property)
* Claims datasets with valid & invalid workflows

**7. Test Schedule**

* Test case design: **15-Sep-2025**
* Environment setup: **18-Sep-2025**
* Execution start: **20-Sep-2025**
* Execution end: **05-Oct-2025**
* UAT: **07-Oct-2025 to 10-Oct-2025**

**8. Test Deliverables**

* Test Plan (this document)
* Test Cases (mapped to FRs & NFRs)
* Automated test scripts
* Test Data sets
* Execution logs & defect reports
* Final Test Summary Report

**9. Roles & Responsibilities**

|  |  |  |
| --- | --- | --- |
| **Role** | **Name** | **Responsibility** |
| QA Lead | Lalithadithya | Prepare plan, coordinate execution |
| Test Engineer | Khushi Kogganur | Design & execute test cases, log defects |
| Developer | Keerti kallugadde | Fix defects, provide builds |
| Product Owner | Kashish K S | Validate results, approve sign-off |

**10. Risks & Mitigation**

|  |  |
| --- | --- |
| **Risk** | **Mitigation** |
| Delay in stable build | Request smoke builds early |
| Dependency on 3rd-party APIs | Use mocks & stubs |
| Sensitive data exposure | Use synthetic/masked test data |
| High load in production | Conduct stress testing early |

**11. Assumptions & Dependencies**

* Core APIs, CRM, and DMS are stable and available.
* Test data will be shared before execution.
* Notification services (SMS/Email) will have sandbox accounts.

**12. Suspension & Resumption Criteria**

**Suspend if:**

* Environment down > 4 hrs
* Build blocks >30% test cases

**Resume if:**

* Blocking issues resolved
* Test environment restored

**13. Test Case Management & Traceability**

Sample RTM mapping (full RTM in appendix):

* **FR-1 (Policy issuance workflow)** → TC-Pol-01, TC-Pol-02
* **FR-10 (Claims initiation)** → TC-Clm-01, TC-Clm-02
* **FR-20 (Customer notifications)** → TC-Not-01
* **NFR-1 (Performance: 10,000 users)** → TC-Perf-01
* **NFR-2 (Security: MFA, encryption)** → TC-Sec-01, TC-Sec-02

**14. Test Metrics & Reporting**

**Metrics collected:**

* % test cases executed
* % passed / failed
* Defect density & aging
* Requirement coverage %

**Reports:**

* Daily execution summary
* Final Test Summary Report

**15. Approvals**

|  |  |  |
| --- | --- | --- |
| **Role** | **Name** | **Signature / Date** |
| QA Lead |  |  |
| Dev Lead |  |  |
| Product Owner |  |  |