# **Test Plan vs Test Cases**

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## **📖 Introduction**

Test Plan and Test Cases are critical components of the Software Testing Life Cycle (STLC).

* Test Plan = Strategic document (What to test? How to test?)
* Test Cases = Tactical steps (Detailed validation steps)

Both ensure systematic and efficient testing.

## **📋 Test Plan**

### **What is a Test Plan?**

A high-level document outlining the scope, approach, resources, and schedule for testing.

### **Components of a Test Plan**

| **Section** | **Description** |
| --- | --- |
| 1. Test Plan ID | Unique identifier (e.g., TP\_Login\_2024). |
| 2. Introduction | Purpose, scope, and objectives. |
| 3. Test Items | Features/modules to be tested. |
| 4. Features to be Tested | List of functionalities (e.g., Login, Payment). |
| 5. Features Not to be Tested | Exclusions (e.g., Third-party APIs). |
| 6. Test Approach | Testing types (Manual/Automation). |
| 7. Entry & Exit Criteria | Conditions to start/stop testing. |
| 8. Test Deliverables | Reports, logs, test cases. |
| 9. Resource Allocation | Team, tools, environments. |
| 10. Risks & Mitigations | Potential issues & solutions. |
| 11. Schedule | Timelines for each phase. |

✅ Example:

"Verify login functionality across Chrome, Firefox, and Safari with valid/invalid credentials."

## **📝 Test Cases**

### **What is a Test Case?**

A step-by-step instruction to validate a specific functionality.

### **Components of a Test Case**

| **Field** | **Description** |
| --- | --- |
| Test Case ID | Unique ID (e.g., TC\_Login\_01). |
| Test Scenario | High-level description (e.g., "Verify login with valid credentials"). |
| Test Steps | Detailed actions (e.g., "1. Enter email, 2. Enter password, 3. Click Login"). |
| Test Data | Input values (e.g., Email: user@test.com, Password: Test@123). |
| Expected Result | What should happen (e.g., "User logs in successfully"). |
| Actual Result | Observed outcome (Filled during execution). |
| Status | Pass/Fail/Blocked. |
| Priority | Critical/High/Medium/Low. |

✅ Example:

| TC\_ID | Scenario | Steps | Expected Result |
| --- | --- | --- | --- |
| TC\_01 | Valid Login | 1. Enter email & password.  2. Click Login. | Homepage loads. |
| TC\_02 | Invalid Login | 1. Enter wrong password.  2. Click Login. | Error message appears. |

## **🆚 Test Plan vs Test Cases**

| **Aspect** | **Test Plan** | **Test Cases** |
| --- | --- | --- |
| Purpose | Defines strategy. | Defines execution steps. |
| Level | High-level (Project-wide). | Low-level (Feature-specific). |
| Ownership | Test Manager/Lead. | Test Engineers. |
| Content | Scope, resources, risks. | Step-by-step validation. |
| Tools | JIRA, Confluence. | TestRail, Excel, Zephyr. |

✅ Analogy:

* Test Plan = Battle strategy (How to win the war).
* Test Cases = Soldier’s orders (How to capture each hill).

## **🏆 Best Practices**

### **For Test Plans**

✔ Involve stakeholders (Devs, BAs, PMs).  
✔ Update regularly (Agile projects need dynamic plans).  
✔ Define clear entry/exit criteria.

### **For Test Cases**

✔ Keep them atomic (One test case = One scenario).  
✔ Use clear, concise steps.  
✔ Prioritize based on risk.  
✔ Review & maintain (Remove obsolete cases).

### **For Both**

✔ Version control (Track changes in Git).  
✔ Link to requirements (Traceability matrix).

## **📂 Examples & Templates**

### **Test Plan Template**

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1. \*\*Test Plan ID\*\*: TP\_Checkout\_2024

2. \*\*Objective\*\*: Ensure seamless checkout process.

3. \*\*Features to Test\*\*: Cart, Payment, Order Confirmation.

4. \*\*Approach\*\*: 70% Automation (Selenium), 30% Manual.

5. \*\*Entry Criteria\*\*: Dev complete, Smoke test passed.

6. \*\*Exit Criteria\*\*: 95% pass rate, Critical bugs fixed.

7. \*\*Risks\*\*: Payment gateway downtime → Mock API testing.

### **Test Case Template (Excel/TestRail)**

| TC\_ID | Scenario | Steps | Expected Result | Priority |
| --- | --- | --- | --- | --- |
| TC\_01 | Add to Cart | 1. Click "Add to Cart". | Item appears in cart. | High |
| TC\_02 | Empty Cart | 1. Remove all items. | "Cart is empty" message. | Medium |

## **🌍 Real-World Example**

### **Case: Amazon Checkout Bug**

* Test Plan Gap: No load testing for peak sales.
* Test Case Missed: "1000+ concurrent users checkout."
* Result: Website crashed on Black Friday.
* Fix: Added performance test cases in the plan.

## **📚 References**

* [ISTQB Test Documentation](https://www.istqb.org/)
* [TestRail Test Case Mgmt](https://www.gurock.com/testrail/)
* [Google Test Guidelines](https://testing.googleblog.com/)

🔹 Conclusion:

* Test Plan = Roadmap for testing efforts.
* Test Cases = Execution guide for testers.
* Combine both for structured, efficient testing.