# Defect Management

## 🔹 Definition

**# Source**: **Chatgpt (GPT-5-Standard) at [8/18/2025]**

**Defect Management** is the process of **identifying, recording, analyzing, prioritizing, fixing, retesting, and closing defects (bugs)** that are found during the software testing life cycle.

It ensures that defects are **handled in a structured way**, minimizing their impact on the project and improving the product’s quality.

## **⚙️ Defect Management Process (Lifecycle)**

**# Source**: **Chatgpt (GPT-5-Standard) at [8/18/2025]**

The **Defect Life Cycle** (also called Bug Life Cycle) is the core of defect management. It usually follows these stages:

1. **Defect Identification** – Tester finds an issue during testing.
2. **Defect Logging** – Issue is recorded in a defect tracking tool (e.g., JIRA, Bugzilla).  
   * Includes details: steps to reproduce, severity, screenshots, logs.
3. **Defect Triage/Prioritization** – Project team reviews defect, assigns **priority** (business impact) and **severity** (technical impact).
4. **Defect Assignment** – Defect is assigned to the responsible developer.
5. **Defect Fixing** – Developer analyzes and fixes the defect.
6. **Defect Retesting** – Tester verifies if the fix works.
7. **Defect Closure** – If verified successfully, defect is closed.
8. **Defect Reopening** – If still failing, defect is reopened and cycle continues.

## **🎯 Objectives of Defect Management**

**# Source**: **Chatgpt (GPT-5-Standard) at [8/18/2025]**

1. Ensure **all defects are tracked and visible**.
2. Reduce the number of **escaped defects** in production.
3. Prioritize defect resolution based on **risk and business impact**.
4. Provide **metrics and reports** on defect trends.
5. Improve **software quality** and **customer satisfaction**.

## **📊 Defect Management Metrics**

**# Source**: **Chatgpt (GPT-5-Standard) at [8/18/2025]**

Some key metrics used:

* **Defect Density** → No. of defects per size of code (e.g., per 1,000 lines).
* **Defect Leakage** → No. of defects missed in testing but found in production.
* **Defect Removal Efficiency (DRE)** → % of defects removed before release.
* **Average Defect Age** → Time taken to fix a defect.

## **📝 Example (Simple Defect Log Entry)**

**# Source**: **Chatgpt (GPT-5-Standard) at [8/18/2025]**

* **ID**: BUG-1234
* **Title**: Login button does not redirect to dashboard
* **Severity**: High
* **Priority**: Critical
* **Status**: Open
* **Assigned To**: Dev1
* **Steps to Reproduce**: Enter valid credentials → Click Login → App crashes
* **Expected Result**: User should be redirected to dashboard
* **Actual Result**: App crashes with error 500

## **👥 Who is Involved?**

**# Source**: **Chatgpt (GPT-5-Standard) at [8/18/2025]**

* **Testers** → Identify, log, and retest defects.
* **Developers** → Fix the defects.
* **Project Manager / Product Owner** → Prioritize defects.
* **QA Lead** → Monitor defect trends and reporting.

✅ **In short:** **Defect Management** = A structured approach to **track, prioritize, fix, and report defects** to ensure product quality and reduce risks.