

Software Engineering: A Practitioner's Approach

Chapter 22 – Software Testing Strategies

This chapter presents a **strategic view of software testing** as an integral part of software quality assurance. Testing is positioned not just as a debugging activity but as a **planned, systematic process** that starts early in the development lifecycle.

Key Takeaways:

- **Testing Objectives:** Detect errors, validate performance and behavior, and ensure compliance with requirements.
- **Strategic Approach:** Emphasizes planning and layering tests from unit to system level.
- **Test Strategies:** Includes unit, integration, validation, and system testing—each with unique goals and techniques.
- **Test Case Design:** Should be systematic, based on risk, and cover both functional and structural aspects.
- **Testing Process:** Should be iterative and evolve with software growth.
- **Documentation:** Test plans, test cases, and logs are crucial for traceability and accountability.

Overall, the chapter promotes the idea that **effective testing is risk-based, incremental, and aligned with development phases**.