What is the test pyramid?

3 November 2026 · 4 min read · blogs.iictp.org/what-is-the-test-pyramid

The test pyramid is a rule of thumb for balancing automated tests: write many small, fast unit tests, fewer integration tests, and only a handful of slow end-to-end tests. The shape matters because tests lower down are cheaper to run and easier to diagnose.

TL;DR The short version

- The test pyramid means many fast unit tests, fewer integration tests and only a handful of slow end-to-end tests.
- Each layer up costs more to run, maintain and debug, so most checks belong lower down.
- Fix flaky tests quickly, and keep the suite fast so it can run on every change, the core of CI/CD.

Read online, listen to it, or change the text size: https://blogs.iictp.org/what-is-the-test-pyramid

What are the three layers?

- **Unit tests** check one function or class in isolation and run in milliseconds.
- **Integration tests** check that parts work together, for example code and a database.
- **End-to-end tests** drive the whole system the way a user would, and are the slowest and most fragile.

Why is it a pyramid and not a rectangle?

Every layer you climb costs more to run, more to maintain and more to debug when it fails. A suite that is mostly end-to-end tests is slow and flaky, so people stop trusting it. Many cheap tests at the bottom give fast feedback and pinpoint failures.

What is a flaky test, and why is it a problem?

A flaky test sometimes passes and sometimes fails with no code change. It teaches the team to ignore red builds, which hides real failures. Fix it or remove it quickly, and find the cause, which is often timing, shared data or a network call.

Does the pyramid mean never write end-to-end tests?

No. Keep a few for the journeys that matter most, such as signing up and paying. The pyramid is about proportion, not about banning a layer.

How does it relate to continuous integration?

Fast tests make it practical to run checks on every change before it merges, which is the core of CI and CD. A suite that takes an hour defeats the purpose.

> Related credential: Associate Technical Practitioner. Explore the exam facts and syllabus.

Sources and further reading

1. Cohn, M. (2009). Succeeding with Agile. Addison-Wesley.
2. Fowler, M. “TestPyramid”. martinfowler.com/bliki/TestPyramid.html.

Published by IICTP, an independent technical credential body, on 3 November 2026. The current version of this post is at https://blogs.iictp.org/what-is-the-test-pyramid. More guides: blogs.iictp.org.