

y Giorgio Sironi

## CHECKLIST: TEST-DRIVEN DEVELOPMENT

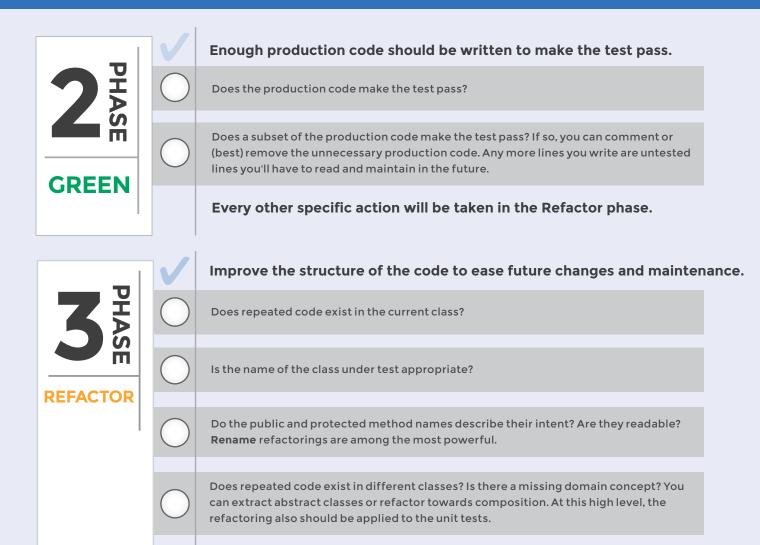
Test-Driven Development (TDD) is described by a basic red-green-refactor cycle, constantly repeated to add new features or fix bugs. This checklist is written in the form of questions we should ask ourselves while going through the different phases of the cycle, and that are often overlooked because the cycle is apparently so simple.

	The development of every new feature should start with a failing test.
<b>1</b> ₽	Have you checked the code into your remote or local repository? In case the code breaks, a revert is faster than a rewrite.
	Have you already written some production code? If so, comment it or (best) delete it so to not be implicitly tied to an API while writing the test.
RED	Have you chosen the right unit to expand? The modified class should be the one that remains more cohesive after the change, and often new classes should be introduced instead of accommodating functionalities in existing ones.
	Does the test fail? If not, rewrite the test to expose the lack of functionality.
	Does a subset of the test already fail? If so, you can remove the surplus part of the test, avoiding verbosity; it can come back in different test methods.
	Does the test prescribe overly specific assertions or expectations? If so, lessen the mock expectations by not checking method calls order or how many times a method is called; improve the assertions by substituting equality matches with matches over properties of the result object.
	Does the test name describe its intent? Make sure it is not tied to implementation details and works as low-level documentation.
	How much can you change in a hypothetical implementation without breaking the test (making it brittle)?
	Is the failure message expressive about what is broken? Make sure it describes where the failing functionality resides, highlighting the right location if it breaks in the future.
	Are magic numbers and strings expressed as constants? Is there repeated code? Test code refactoring is easy when done early and while a test fails, since in the TDD paradigm it is more important to keep the test failing than to keep it passing.



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## **ABOUT THE AUTHOR**



Giorgio Sironi is a programmer and architect (the kind that writes code) with a focus on testing and open source; he maintains the PHPUnit\_Selenium project. Giorgio believes that programming is one of the hardest and most beautiful jobs in the world.

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