

TDD with Agent

A cheat sheet. Tests define "done." Agent fills in the code. A hook closes the loop.

<p>01 Write failing tests</p> <p>Describe the behavior. Let them fail red.</p>	<p>02 Commit the tests</p> <p>Named rollback point. tests: add failing X.</p>	<p>03 Tell Agent to implement</p> <p>Use the prompt below. Don't include tests.</p>	<p>04 Agent writes code</p> <p>Runs bun test (or your runner).</p>	<p>05 Hook feeds failures back</p> <p>As a new message Agent didn't type.</p>	<p>06 Agent iterates</p> <p>Until green or loop_limit (default 5).</p>	<p>07 Review the diff</p> <p>The review is the point. Slow down.</p>
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The prompt — short enough to paste into every session; the capitalised NOT is not decorative.

Implement the production code to make these tests pass. Do NOT modify the test files.

The hook that closes the loop

Two files, both version-controlled. Adapt the command for your test runner.

```
.cursor/hooks.json
{
  "version": 1,
  "hooks": {
    "stop": [{ "command": "bun run .cursor/hooks/test-loop.ts",
               "loop_limit": 5 }]
  }
}
```

```
.cursor/hooks/test-loop.ts
import { $ } from "bun";
await Bun.stdin.text();
const r = await $`bun test`.quiet().nothrow();
const out = (r.stderr.toString() + r.stdout.toString());
if (r.exitCode === 0) process.stdout.write("{}\n");
else process.stdout.write(JSON.stringify({
  followup_message: `Tests are still failing:\n\n${out}\n\n` +
    `Fix the issues. Do NOT modify test files.`
}) + "\n");
```

When this pattern fits

✓ Good fit

Well-scoped features with clear behavior. Codebases with healthy coverage. Refactors where you can write characterization tests first.

✗ Poor fit

Exploratory work. UI tweaks and styling (screenshot review is the loop). Anything where tests can't capture intent.

⚠ Watch for

Flaky tests (random failures become "bugs"). Coupled tests (fix A, break B). Large suites re-running every iteration.

Portable across runners. Swap **bun test** for **npm test** · **npm jest --no-coverage** · **python -m pytest** · **go test ./...** — structure stays the same.