# Tavily Web Scraper

GitHub

**TL;DR:** HTTP-first scraper with Playwright fallback, proxies, robots & CAPTCHA detection.

## RUN SNAPSHOT

| | | | |
|---|---|---|---|
| Total URLs<br>**1,000** | Success rate<br>**24.1%** | HTTP-only share<br>**93.8%** | Browser share<br>**6.2%** |
| P95 HTTP latency<br>**5.0s** | P95 browser latency<br>**10.0s** | CAPTCHA rate<br>**1.5%** | Robots blocked<br>**39.7%** |

## DESIGN

- **HTTP-first:** async `httpx` + Selectolax on all URLs, with rotated headers and proxies.
- **Fallback:** `needs_browser` sends only incomplete/blocked/JS pages to Playwright.
- **Scheduling & compliance:** `DomainScheduler` caps domain load; `RobotsClient` enforces robots.txt; CAPTCHAs detected & bucketed.

## APPROACH & METHODOLOGY

**Spec-Driven Development (SDD)** — SDDRush framework

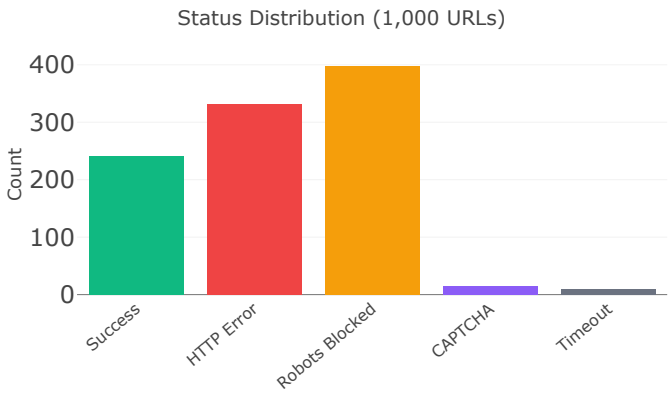
**TL;DR:** I write specs + guardrails → AI plans → agent executes tickets → I review/ship.

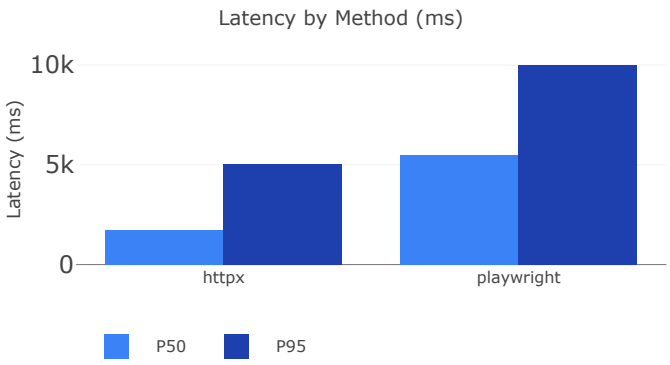
All specs, tickets & prompts for this project: tavily/.sdd/

## KEY ARCHITECTURE DECISIONS

- **ADR-001 Hybrid Strategy:** Two-stage pipeline (HTTP → Browser) balances speed vs accuracy.
- **ADR-002 Domain Scheduling:** Per-domain concurrency caps + adaptive backoff prevent blocks.

## METRICS & INSIGHTS




## LIMITS & NEXT STEPS

- **Hard domains:** CAPTCHA/robots-heavy sites recorded, not bypassed.
- **Heuristics:** `needs_browser` is intentionally simple; per-domain or learned policies are natural future work.
- **Scale & cost:** single-node sharded; extensible to distributed runners + proxy/cost dashboards.

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