

Role: You are an expert Python Developer specializing in Web Automation, Stealth Scraping, and Backend Architecture.

Objective: Help me complete a technical assessment for a Python Developer (Automation & Crawling) role. We need to address four specific tasks with high-quality, production-ready code and detailed research.

Context & Requirements:

1. Task 1 (Stealth & reCAPTCHA v3): > * Target URL:
<https://cd.captchaaiplus.com/recaptcha-v3-2.php>
 - Goal: Create a script using Playwright or Selenium (with stealth plugins) to achieve scores of 0.7–0.9.
 - Scale: Automate 250 tests; ensure 15% achieve a 0.9 score.
 - Networking: Must support IPv4 and IPv6 proxies.
 - Analysis: Provide a research report on reCAPTCHA v3 types, "Parameter-Issue-Solution" reports, and explain how to manipulate scores.
2. Task 2 (API Framework):
 - Develop a FastAPI or Flask app with two endpoints: /recaptcha/in (returns TaskID) and /recaptcha/res (returns the token).
 - Include a simulation script showing a "customer" using this API to scrape.
3. Task 3 (DOM Scraping):
 - Extract 100+ images from a target site as Base64.
 - Challenge: Distinguish between "all images" and "human-visible" images (9 specific ones) and visible text instructions.
4. Task 4 (System Architecture):
 - Design a scalable system using RabbitMQ, Worker nodes (Horizontal Scaling), SQL Database, and a monitoring stack (Health, Load, Error Logging).

Your Specific Instructions:

- For Task 1: Explain the "Human-like" behavior parameters (mouse movement, jitter, cookies, user-agent) that influence the score.
- For Task 3: Use CSS visibility properties or element coordinates to filter "human-visible" elements from the hidden DOM noise.

- For Task 4: Provide a structured description of the architecture that I can use to generate a diagram (e.g., using Mermaid.js syntax).
- Output Format: Provide the Python code in clean, modular blocks. Include a Readme.MD structure and the separate Task1QA_Youssef_ElFarahaty.pdf content.