

# Scraping Product Prices with Python

## Objective:

The goal of this project is to develop a web scraping script that extracts pricing and product information from Amazon. Students will use Python and essential third-party libraries to gather and analyze data, helping businesses make informed decisions.

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## Project Requirements:

### 1. Setup Environment:

- Ensure Python 3.x is installed.
- Install necessary libraries using:  
pip install requests beautifulsoup4

### 2. Understanding Web Scraping:

- Learn the basics of HTTP requests and responses.
- Understand how to inspect web pages using browser developer tools.

### 3. Scraping Amazon Data:

- Use the **requests** library to fetch HTML content from an Amazon product page.
- Utilize **BeautifulSoup** to parse and extract relevant details, such as:
  - Product Name
  - Price
  - Ratings & Reviews
  - Availability

### 4. Data Storage & Output:

- Store the extracted data in a structured format (CSV/JSON file or a database).
- Print the extracted data in a user-friendly format.

### 5. Handling Anti-Scraping Measures:

- Implement request headers to mimic human browsing.
- Add delays between requests to prevent blocking.
- Discuss ethical scraping and Amazon's **robots.txt** policy.

### 6. Enhancement & Future Scope:

- Extend the script to track price changes over time.
  - Automate notifications for price drops.
  - Use visualization tools to analyze pricing trends.
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**Deliverables:**

- Python script with proper documentation and comments.
- A report explaining the methodology, challenges, and future improvements.
- Sample extracted data (CSV or JSON file).

**Evaluation Criteria:**

- Code correctness and efficiency.
  - Proper usage of `requests` and `BeautifulSoup`.
  - Ability to extract and store meaningful data.
  - Handling of anti-scraping mechanisms.
  - Documentation and presentation of the findings.
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**Submission Deadline:** 06-03-2025

Happy Coding!

Reference:- <https://oxylabs.io/blog/how-to-scrape-amazon-product-data>