

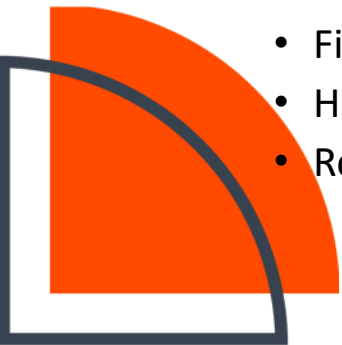
WEB SCRAPPING

Mobil Bekas OLX Indonesia



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Konfigurasi Virtual Env dan requirements

- Buat folder project
 - Big_data_crawl
- Install python 3.8
- Install virtualenv
 - `pip install virtualenv`
- Buat env
 - `Python3.8 -m venv .env3.8`
 - `Source .env3.8\bin\activate`
- Install library
 - `pip install selenium`
 - `pip install Pandas`
 - `pip install beautifulsoup4`
 - `Pip install ipykernel`
- Install chromedriver (sesuaikan dengan versi chrome)
 - `Chromedriver 119.0.6045.105`

Import Library Python



```
1 import time
2 import csv
3 from bs4 import BeautifulSoup
4 from selenium import webdriver
5 from selenium.webdriver.common.by import By
6 from selenium.webdriver.common.keys import Keys
7 from selenium.webdriver.support.ui import WebDriverWait
8 from selenium.webdriver.chrome.service import Service
9 from selenium.webdriver.support import expected_conditions as EC
```

Start Chromedriver + Define URL



```
1 # Path to the Chrome driver
2 driver_path = 'chromedriver-win64/chromedriver.exe'
3 service = Service(driver_path)
4 service.start()
5 driver = webdriver.Chrome(service=service)
6
7 url = 'https://www.olx.co.id/mobil-bekas_c198'
```

Main Code

Part 1

Part 2

Part 3

```
1 try:
2     driver.get(url)
3     scroll_count = 0
4
5     with open('crawl_langsung.csv', mode='w', newline='', encoding='utf-8') as file:
6         writer = csv.writer(file)
7         writer.writerow(['complete_link', 'merk', 'title_car', 'year', 'kilometers_range', 'price']) # Add the header
8
9     while True:
10         try:
11             wait = WebDriverWait(driver, 10) # Adjust the timeout value as needed
12             time.sleep(15)
13         except Exception as e:
14             print(f"An error occurred: {e}")
15             break
16
17         soup = BeautifulSoup(driver.page_source, 'html.parser')
18
19         target_li_elements = soup.find_all('li', {'data-aut-category-id': '198'})
20
21         for target_li in target_li_elements:
22             target_a_tag = target_li.find('a')
23             itemPrice = target_li.find('span', {'data-aut-id': 'itemPrice'})
24             itemSubTitle = target_li.find('div', {'data-aut-id': 'itemSubTitle'})
25             itemTitle = target_li.find('div', {'data-aut-id': 'itemTitle'})
26
27             if target_a_tag:
28                 link = target_a_tag['href']
29                 complete_link = 'https://www.olx.co.id' + link
30
31                 # take text for item
32                 span_item_price = itemPrice.text
33                 price = span_item_price.split()[-1]
34
35                 # take text for year and kilometers range
36                 div_item_sub_title = itemSubTitle.text
37                 parts = div_item_sub_title.split(' - ')
38                 year = parts[0]
39                 kilometers_range = parts[1].split(' ')[0]
40
41                 # take text for merk and car title
42                 div_item_title = itemTitle.text
43                 merk = div_item_title.split(' ')[0]
44                 title_car = div_item_title.split(' ')[-1]
45
46                 writer.writerow([complete_link, merk, title_car, year, kilometers_range, price ])
47
48             scroll_count += 1
49
50     except Exception as e:
51         print(f"An error occurred: {e}")
52
53     finally:
54         driver.quit()
55
```

Part 1 → membuka url + membuat file csv



```
try:
    driver.get(url)
    scroll_count = 0

    with open('crawl_langsung.csv', mode='w', newline='', encoding='utf-8') as file:
        writer = csv.writer(file)
        # Add the header
        writer.writerow(['complete_link', 'merk', 'title_car', 'year', 'kilometers_range', 'price'])
```



Part 2

```
while True:
    try:
        wait = WebDriverWait(driver, 10) # Adjust the timeout value as needed
        time.sleep(15)
    except Exception as e:
        print(f"An error occurred: {e}")
        break

    soup = BeautifulSoup(driver.page_source, 'html.parser')
    target_li_elements = soup.find_all('li', {'data-aut-category-id': '198'})

    for target_li in target_li_elements:
        target_a_tag = target_li.find('a')
        itemPrice = target_li.find('span', {'data-aut-id': 'itemPrice'})
        itemSubTitle = target_li.find('div', {'data-aut-id': 'itemSubTitle'})
        itemTitle = target_li.find('div', {'data-aut-id': 'itemTitle'})

        if target_a_tag:
            link = target_a_tag['href']
            complete_link = 'https://www.olx.co.id' + link

            # take text for item
            span_item_price = itemPrice.text
            price = span_item_price.split()[-1]

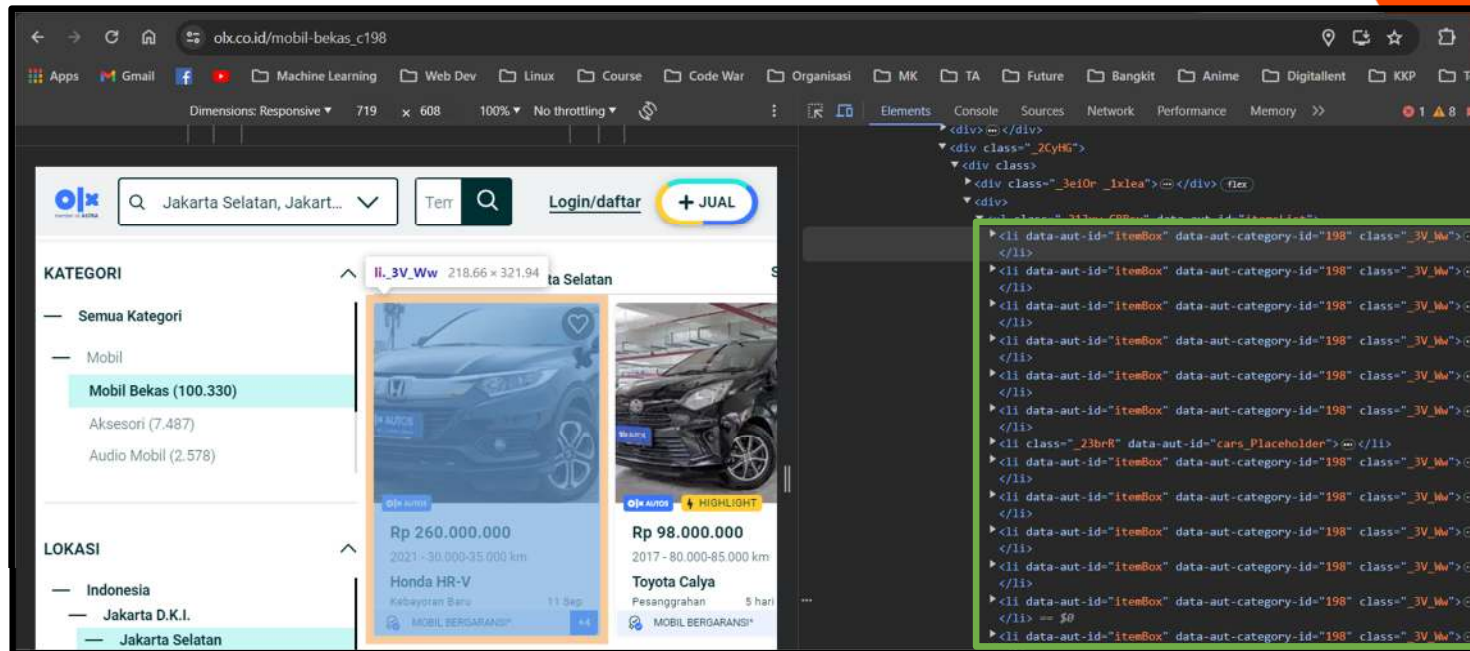
            # take text for year and kilometers range
            div_item_sub_title = itemSubTitle.text
            parts = div_item_sub_title.split(' - ')
            year = parts[0]
            kilometers_range = parts[1].split(' ')[0]

            # taek text for merk and car title
            div_item_title = itemTitle.text
            merk = div_item_title.split(' ')[0]
            title_car = div_item_title.split(' ')[-1]

            writer.writerow([complete_link, merk, title_car, year, kilometers_range, price ])

            scroll_count += 1
```


Part 2 -> Inspek elemen li



The screenshot shows a web browser displaying the OLX Indonesia website for used cars. The browser's developer tools are open, showing the 'Elements' panel on the right. The page content includes a search bar, a sidebar with filters for 'KATEGORI' (All Categories, Cars, Used Cars, Accessories, Audio) and 'LOKASI' (Indonesia, Jakarta D.K.I., Jakarta Selatan), and a main grid of car listings. The first listing is a Honda HR-V with a price of Rp 260,000,000. The second listing is a Toyota Calya with a price of Rp 98,000,000. The developer tools show the HTML structure of the page, with the 'li' elements highlighted in green. The 'li' elements are part of a list of car listings, each containing a car image, price, and details.



```
soup = BeautifulSoup(driver.page_source, 'html.parser')
target_li_elements = soup.find_all('li', {'data-aut-category-id': '198'})
```

Part 2

```
while True:
    try:
        wait = WebDriverWait(driver, 10) # Adjust the timeout value as needed
        time.sleep(15)
    except Exception as e:
        print(f"An error occurred: {e}")
        break

    soup = BeautifulSoup(driver.page_source, 'html.parser')
    target_li_elements = soup.find_all('li', {'data-aut-category-id': '198'})

    for target_li in target_li_elements:
        target_a_tag = target_li.find('a')
        itemPrice = target_li.find('span', {'data-aut-id': 'itemPrice'})
        itemSubTitle = target_li.find('div', {'data-aut-id': 'itemSubTitle'})
        itemTitle = target_li.find('div', {'data-aut-id': 'itemTitle'})

        if target_a_tag:
            link = target_a_tag['href']
            complete_link = 'https://www.olx.co.id' + link

            # take text for item
            span_item_price = itemPrice.text
            price = span_item_price.split()[-1]

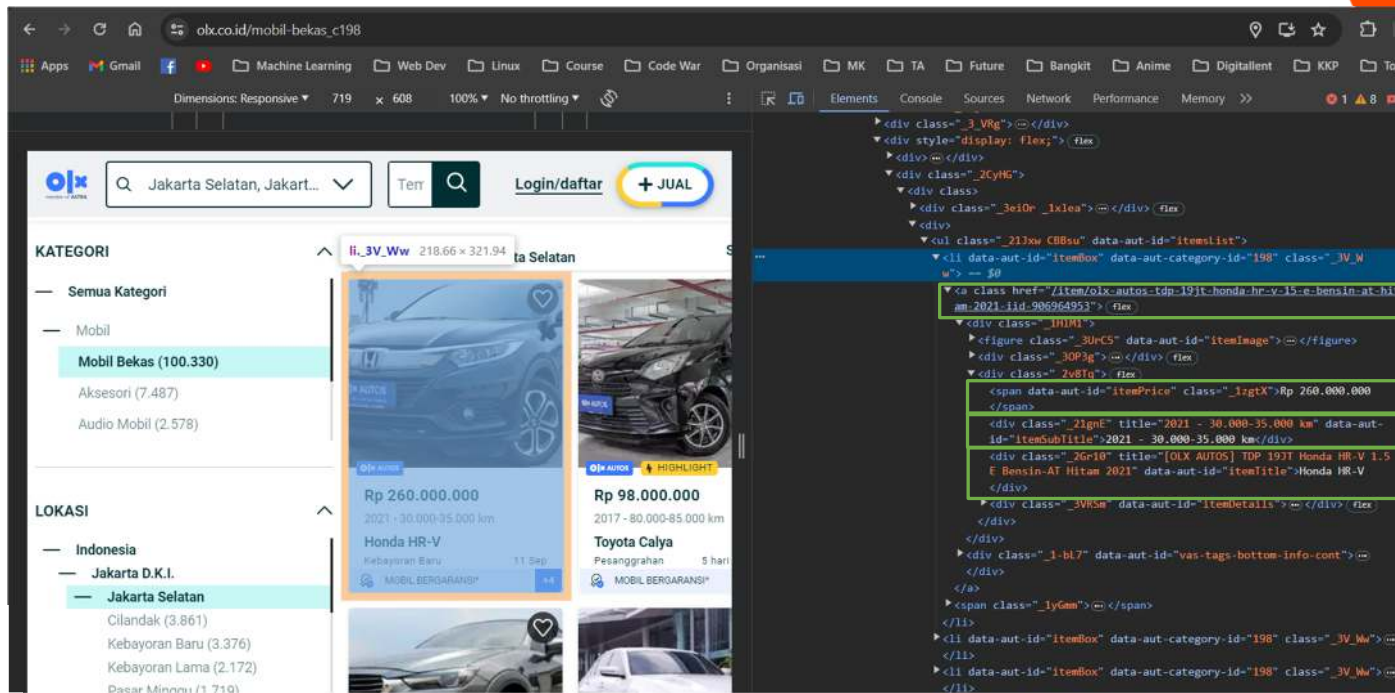
            # take text for year and kilometers range
            div_item_sub_title = itemSubTitle.text
            parts = div_item_sub_title.split(' - ')
            year = parts[0]
            kilometers_range = parts[1].split(' ')[0]

            # taek text for merk and car title
            div_item_title = itemTitle.text
            merk = div_item_title.split(' ')[0]
            title_car = div_item_title.split(' ')[-1]

            writer.writerow([complete_link, merk, title_car, year, kilometers_range, price ])

            scroll_count += 1
```

Part 2 -> Mencari element yang ingin diambil



The screenshot shows the OLX Indonesia website with the developer tools open. The browser window displays the OLX homepage with search filters for 'Jakarta Selatan, Jakarta...' and a list of car listings. The developer tools on the right show the DOM tree with several elements highlighted in green, including a link to a car listing, an image, a price span, a subtitle div, and a title div. The price is 'Rp 260.000.000' and the title is '2021 - 30.000-35.000 km'.

```
target_a_tag = target_li.find('a')
itemPrice = target_li.find('span', {'data-aut-id': 'itemPrice'})
itemSubTitle = target_li.find('div', {'data-aut-id': 'itemSubTitle'})
itemTitle = target_li.find('div', {'data-aut-id': 'itemTitle'})
```

Part 2

```
while True:
    try:
        wait = WebDriverWait(driver, 10) # Adjust the timeout value as needed
        time.sleep(15)
    except Exception as e:
        print(f"An error occurred: {e}")
        break

    soup = BeautifulSoup(driver.page_source, 'html.parser')
    target_li_elements = soup.find_all('li', {'data-aut-category-id': '198'})

    for target_li in target_li_elements:
        target_a_tag = target_li.find('a')
        itemPrice = target_li.find('span', {'data-aut-id': 'itemPrice'})
        itemSubTitle = target_li.find('div', {'data-aut-id': 'itemSubTitle'})
        itemTitle = target_li.find('div', {'data-aut-id': 'itemTitle'})

        if target_a_tag:
            link = target_a_tag['href']
            complete_link = 'https://www.olx.co.id' + link

            # take text for item
            span_item_price = itemPrice.text
            price = span_item_price.split()[-1]

            # take text for year and kilometers range
            div_item_sub_title = itemSubTitle.text
            parts = div_item_sub_title.split(' - ')
            year = parts[0]
            kilometers_range = parts[1].split(' ')[0]

            # taek text for merk and car title
            div_item_title = itemTitle.text
            merk = div_item_title.split(' ')[0]
            title_car = div_item_title.split(' ')[-1]

            writer.writerow([complete_link, merk, title_car, year, kilometers_range, price ])

            scroll_count += 1
```

Part 2 -> Mengekstrak teks dari element tag

```
if target_a_tag:
    link = target_a_tag['href']
    complete_link = 'https://www.olx.co.id' + link
```

take text for item

```
span_item_price = itemPrice.text
price = span_item_price.split()[-1]
```

take text for year and kilometers range

```
div_item_sub_title = itemSubTitle.text
parts = div_item_sub_title.split(' - ')
year = parts[0]
kilometers_range = parts[1].split(' ')[0]
```

taek text for merk and car title

```
div_item_title = itemTitle.text
merk = div_item_title.split(' ')[0]
title_car = div_item_title.split(' ')[-1]
```

The screenshot shows a web browser displaying a car listing page. The developer tools are open, showing the HTML structure of the page. The highlighted element is a car listing for a Honda HR-V. The HTML structure includes a link, a price, a year and kilometers range, and a car title. The price is Rp 260.000.000, the year is 2021, and the kilometers range is 30.000-35.000 km. The car title is Honda HR-V.

The HTML structure of the car listing is as follows:

```
<div class="3 VRg"></div>
<div style="display: flex;"> flex
  <div></div>
  <div class="2CyHG">
    <div class="3e10r 1xlea"></div> flex
    <div>
      <ul class="213xw C8Bsu" data-aut-id="itemsList">
        <li data-aut-id="itemBox" data-aut-category-id="198" class="3V_W w"> == $0
          <a class href="/item/olx-autos-tdp-19jt-honda-hr-v-15-e-bensin-at-hit am-2021-ld-906964951"> flex
            <div class="1H1M1">
              <figure class="3UrC5" data-aut-id="ItemImage"></figure>
              <div class="30P3g"></div> flex
              <div class="2v8Ia"> flex
                <span data-aut-id="itemPrice" class="1zgtX">Rp 260.000.000
              </span>
              <div class="21gnE" title="2021 - 30.000-35.000 km" data-aut-id="itemSubTitle">2021 - 30.000-35.000 km</div>
              <div class="2Gr10" title="[OLX AUTOS] TDP 19JT Honda HR-V 1.5 E Bensin-AT Hitam 2021" data-aut-id="itemTitle">Honda HR-V
            </div>
            <div class="3VRSm" data-aut-id="itemDetails"></div> flex
          </div>
          <div class="1-bl7" data-aut-id="vas-tags-bottom-info-cont"></div>
        </a>
        <span class="1yGm"></span>
      </li>
    </ul>
  </div>
  <li data-aut-id="itemBox" data-aut-category-id="198" class="3V_Ww"></li>
  <li data-aut-id="itemBox" data-aut-category-id="198" class="3V_Ww"></li>
```


Part 2->
Menyimpan semua
isi variable untuk
dimasukkan ke file
csv

```
while True:
    try:
        wait = WebDriverWait(driver, 10) # Adjust the timeout value as needed
        time.sleep(15)
    except Exception as e:
        print(f"An error occurred: {e}")
        break

    soup = BeautifulSoup(driver.page_source, 'html.parser')
    target_li_elements = soup.find_all('li', {'data-aut-category-id': '198'})

    for target_li in target_li_elements:
        target_a_tag = target_li.find('a')
        itemPrice = target_li.find('span', {'data-aut-id': 'itemPrice'})
        itemSubTitle = target_li.find('div', {'data-aut-id': 'itemSubTitle'})
        itemTitle = target_li.find('div', {'data-aut-id': 'itemTitle'})

        if target_a_tag:
            link = target_a_tag['href']
            complete_link = 'https://www.olx.co.id' + link

            # take text for item
            span_item_price = itemPrice.text
            price = span_item_price.split()[-1]

            # take text for year and kilometers range
            div_item_sub_title = itemSubTitle.text
            parts = div_item_sub_title.split(' - ')
            year = parts[0]
            kilometers_range = parts[1].split(' ')[0]

            # taek text for merk and car title
            div_item_title = itemTitle.text
            merk = div_item_title.split(' ')[0]
            title_car = div_item_title.split(' ')[-1]

            writer.writerow([complete_link, merk, title_car, year, kilometers_range, price ])

            scroll_count += 1
```

Main Code


Part 1

Part 2

Part 3

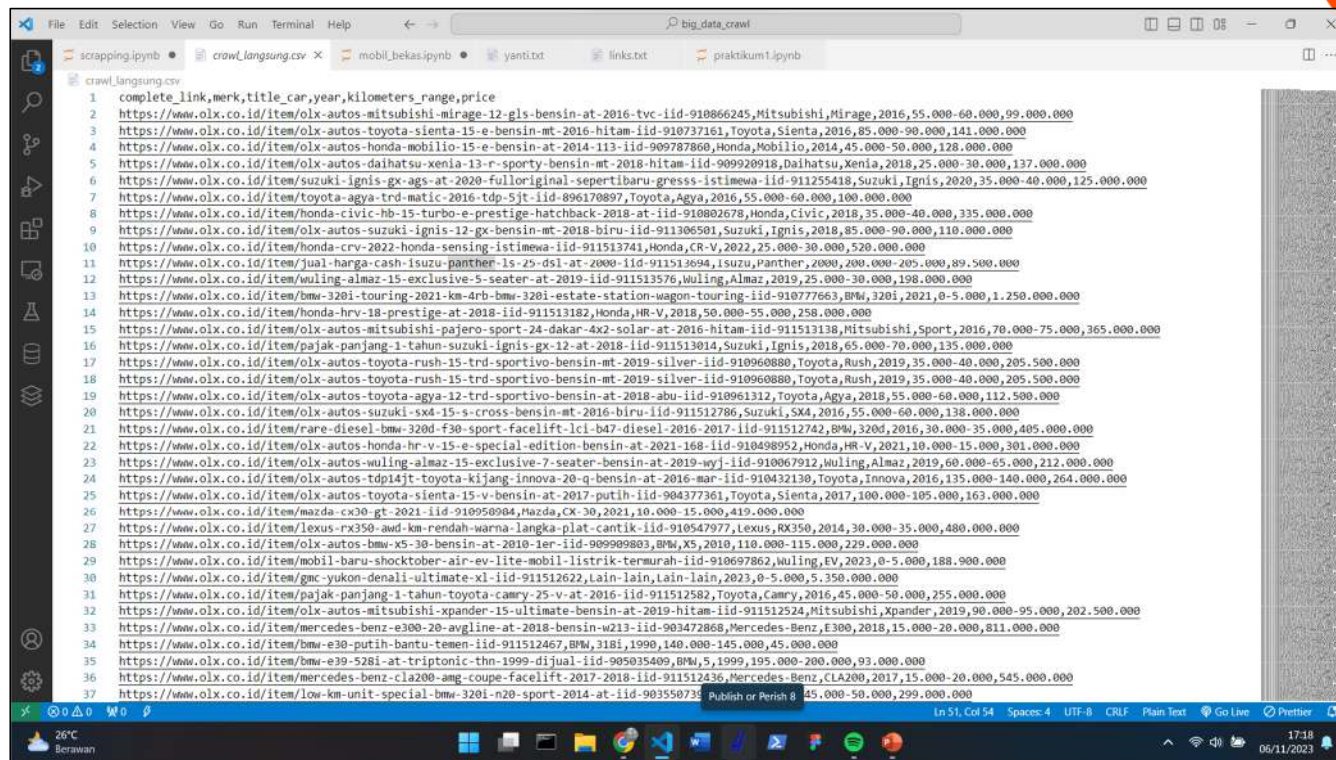
```
1 try:
2     driver.get(url)
3     scroll_count = 0
4
5     with open('crawl_langsung.csv', mode='w', newline='', encoding='utf-8') as file:
6         writer = csv.writer(file)
7         writer.writerow(['complete_link', 'merk', 'title_car', 'year', 'kilometers_range', 'price']) # Add the header
8
9     while True:
10         try:
11             wait = WebDriverWait(driver, 10) # Adjust the timeout value as needed
12             time.sleep(15)
13         except Exception as e:
14             print(f"An error occurred: {e}")
15             break
16
17         soup = BeautifulSoup(driver.page_source, 'html.parser')
18
19         target_li_elements = soup.find_all('li', {'data-aut-category-id': '198'})
20
21         for target_li in target_li_elements:
22             target_a_tag = target_li.find('a')
23             itemPrice = target_li.find('span', {'data-aut-id': 'itemPrice'})
24             itemSubTitle = target_li.find('div', {'data-aut-id': 'itemSubTitle'})
25             itemTitle = target_li.find('div', {'data-aut-id': 'itemTitle'})
26
27             if target_a_tag:
28                 link = target_a_tag['href']
29                 complete_link = 'https://www.olx.co.id' + link
30
31                 # take text for item
32                 span_item_price = itemPrice.text
33                 price = span_item_price.split()[-1]
34
35                 # take text for year and kilometers range
36                 div_item_sub_title = itemSubTitle.text
37                 parts = div_item_sub_title.split(' - ')
38                 year = parts[0]
39                 kilometers_range = parts[1].split(' ')[0]
40
41                 # take text for merk and car title
42                 div_item_title = itemTitle.text
43                 merk = div_item_title.split(' ')[0]
44                 title_car = div_item_title.split(' ')[-1]
45
46                 writer.writerow([complete_link, merk, title_car, year, kilometers_range, price ])
47
48             scroll_count += 1
49
50     except Exception as e:
51         print(f"An error occurred: {e}")
52
53     finally:
54         driver.quit()
55
```

Part 3 → exception dan menutup chromedriver



```
except Exception as e:  
    print(f"An error occurred: {e}")  
  
finally:  
    # Quit the driver to close the browser session  
    if 'driver' in locals():  
        driver.quit()
```


File csv hasil crawling



```
1 complete_link,merk,title_car,year,kilometers_range,price
2 https://www.ox.co.id/item/ox-autos-mitsubishi-mirage-12-gls-bensin-at-2016-tvc-iid-910866245,Mitsubishi,Mirage,2016,55.000-60.000,99.000.000
3 https://www.ox.co.id/item/ox-autos-toyota-sienta-15-e-bensin-mt-2016-hitam-iid-910737161,Toyota,Sienta,2016,85.000-90.000,141.000.000
4 https://www.ox.co.id/item/ox-autos-honda-mobilio-15-e-bensin-at-2014-113-iid-909787860,Honda,Mobilio,2014,45.000-50.000,128.000.000
5 https://www.ox.co.id/item/ox-autos-daihatsu-xenia-13-r-sporty-bensin-mt-2018-hitam-iid-909920918,Daihatsu,Xenia,2018,25.000-30.000,137.000.000
6 https://www.ox.co.id/item/suzuki-ignis-gx-ags-at-2020-fulloriginal-sepertibaru-gresss-istimewa-iid-911255418,Suzuki,Ignis,2020,35.000-40.000,125.000.000
7 https://www.ox.co.id/item/toyota-ayia-trd-matic-2016-tdp-5jt-iid-896178897,Toyota,Ayia,2016,55.000-60.000,100.000.000
8 https://www.ox.co.id/item/honda-civic-hb-15-turbo-e-prestige-hatchback-2018-at-iid-910802678,Honda,Civic,2018,35.000-40.000,335.000.000
9 https://www.ox.co.id/item/ox-autos-suzuki-ignis-12-gx-bensin-mt-2018-biru-iid-911306501,Suzuki,Ignis,2018,85.000-90.000,110.000.000
10 https://www.ox.co.id/item/honda-crv-2022-honda-sensing-istimewa-iid-911513741,Honda,CR-V,2022,25.000-30.000,520.000.000
11 https://www.ox.co.id/item/jual-harga-cash-isuzu-panther-15-25-dsl-at-2000-iid-911513694,Isuzu,Panther,2000,200.000-205.000,89.500.000
12 https://www.ox.co.id/item/wuling-almaz-15-exclusive-5-seater-at-2019-iid-911513576,Wuling,Almaz,2019,25.000-30.000,198.000.000
13 https://www.ox.co.id/item/bmw-320i-touring-2021-km-4rb-bmw-320i-estate-station-wagon-touring-iid-910777663,BMW,320i,2021,0-5.000,1.250.000.000
14 https://www.ox.co.id/item/honda-hrv-18-prestige-at-2018-iid-911513182,Honda,HR-V,2018,50.000-55.000,258.000.000
15 https://www.ox.co.id/item/ox-autos-mitsubishi-pajero-sport-24-dakar-4x2-solar-at-2016-hitam-iid-911513138,Mitsubishi,Sport,2016,70.000-75.000,365.000.000
16 https://www.ox.co.id/item/pajak-panjang-1-tahun-suzuki-ignis-gx-12-at-2018-iid-911513014,Suzuki,Ignis,2018,65.000-70.000,135.000.000
17 https://www.ox.co.id/item/ox-autos-toyota-rush-15-trd-sportivo-bensin-mt-2019-silver-iid-910960880,Toyota,Rush,2019,35.000-40.000,205.500.000
18 https://www.ox.co.id/item/ox-autos-toyota-rush-15-trd-sportivo-bensin-mt-2019-silver-iid-910960880,Toyota,Rush,2019,35.000-40.000,205.500.000
19 https://www.ox.co.id/item/ox-autos-toyota-ayia-12-trd-sportivo-bensin-at-2018-abu-iid-910961312,Toyota,Ayia,2018,55.000-60.000,112.500.000
20 https://www.ox.co.id/item/ox-autos-suzuki-sx4-15-s-cross-bensin-mt-2016-biru-iid-911512786,Suzuki,SX4,2016,55.000-60.000,138.000.000
21 https://www.ox.co.id/item/rare-diesel-bmw-320d-f30-sport-facelift-lcl-b47-diesel-2016-2017-iid-911512742,BMW,320d,2016,30.000-35.000,405.000.000
22 https://www.ox.co.id/item/ox-autos-honda-hr-v-15-e-special-edition-bensin-at-2021-168-iid-910498952,Honda,HR-V,2021,10.000-15.000,301.000.000
23 https://www.ox.co.id/item/ox-autos-wuling-almaz-15-exclusive-7-seater-bensin-at-2019-wyj-iid-910667912,Wuling,Almaz,2019,60.000-65.000,212.000.000
24 https://www.ox.co.id/item/ox-autos-tdp14jt-toyota-kijang-innova-20-q-bensin-at-2016-mar-iid-910432130,Toyota,Innova,2016,135.000-140.000,264.000.000
25 https://www.ox.co.id/item/ox-autos-toyota-sienta-15-v-bensin-at-2017-putih-iid-904377361,Toyota,Sienta,2017,100.000-105.000,163.000.000
26 https://www.ox.co.id/item/mazda-cx30-gt-2021-iid-910950964,Mazda,CX-30,2021,10.000-15.000,419.000.000
27 https://www.ox.co.id/item/lexus-rx350-aud-km-rendah-warna-langka-plat-cantik-iid-910547977,Lexus,RX350,2014,30.000-35.000,480.000.000
28 https://www.ox.co.id/item/ox-autos-bmw-x5-30-bensin-at-2010-1er-iid-909909803,BMW,X5,2010,110.000-115.000,229.000.000
29 https://www.ox.co.id/item/mobil-baru-shocktober-air-ev-lite-mobil-listrik-termurah-iid-910697862,Wuling,EV,2023,0-5.000,188.900.000
30 https://www.ox.co.id/item/gmc-yukon-denali-ultimate-xl-iid-911512622,Lain-lain,Lain-lain,2023,0-5.000,5.350.000.000
31 https://www.ox.co.id/item/pajak-panjang-1-tahun-toyota-camry-25-v-at-2016-iid-911512582,Toyota,Camry,2016,45.000-50.000,255.000.000
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```

Hasil file csv yang dibaca dengan pandas

```
import pandas as pd

df = pd.read_csv('crawl_langsung.csv', delimiter=',')

df.head(10)
```

✓ 0.0s

Python

	complete_link	merk	title_car	year	kilometers_range	price
0	https://www.olx.co.id/item/olx-autos-mitsubish...	Mitsubishi	Mirage	2016	55.000-60.000	99.000.000
1	https://www.olx.co.id/item/olx-autos-toyota-si...	Toyota	Sienta	2016	85.000-90.000	141.000.000
2	https://www.olx.co.id/item/olx-autos-honda-mob...	Honda	Mobilio	2014	45.000-50.000	128.000.000
3	https://www.olx.co.id/item/olx-autos-daihatsu-...	Daihatsu	Xenia	2018	25.000-30.000	137.000.000
4	https://www.olx.co.id/item/suzuki-ignis-gx-ags...	Suzuki	Ignis	2020	35.000-40.000	125.000.000
5	https://www.olx.co.id/item/toyota-agya-trd-mat...	Toyota	Agya	2016	55.000-60.000	100.000.000
6	https://www.olx.co.id/item/honda-civic-hb-15-t...	Honda	Civic	2018	35.000-40.000	335.000.000
7	https://www.olx.co.id/item/olx-autos-suzuki-ig...	Suzuki	Ignis	2018	85.000-90.000	110.000.000
8	https://www.olx.co.id/item/honda-crv-2022-hond...	Honda	CR-V	2022	25.000-30.000	520.000.000
9	https://www.olx.co.id/item/jual-harga-cash-isu...	Isuzu	Panther	2000	200.000-205.000	89.500.000

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Thank You

