



PRIME MINISTER'S DEPARTMENT  
DEPARTMENT OF STATISTICS MALAYSIA

STATISTICAL, ECONOMIC AND SOCIAL  
RESEARCH AND TRAINING CENTRE  
FOR ISLAMIC COUNTRIES (SESRIC)  
TRAINING COURSE ON BIG DATA  
APPLICATIONS ON PRICE STATISTICS



20 OCT



2016 - 2030

# DATA ACQUISITION (Webcrawling)



15<sup>th</sup> JUNE 2022 (WEDNESDAY)



1530 - 1730 (MYT)



ONLINE



  
StatsMalaysia  
[www.DOSM.gov.my](http://www.DOSM.gov.my)



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Department of Statistics Malaysia



# WEBCRAWLING & WEBSCRAPING



# WHAT IS WEBCRAWLING & WEBSCRAPING



Unstructured data from websites

WEBCRAWLING  
&  
WEBSCRAPING



Structured data

## What is web crawler?

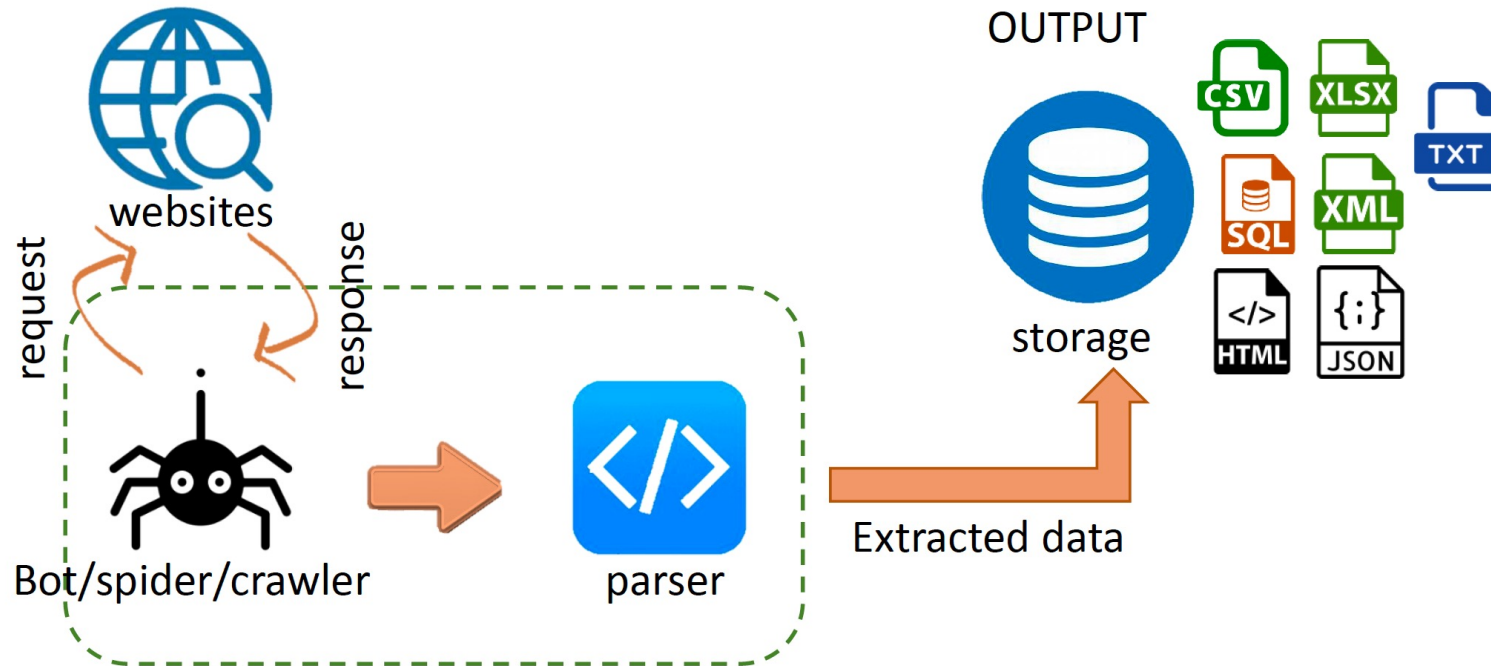
process of repetitively finding and fetching hyperlinks starting from a list of starting URLs.

## What is web scraping?

Web-scraping is automatically retrieving and processing information from websites



## INPUT



## CRAWLER ENGINE



In-house production/  
Customized webcrawler

## Webcrawling Tools



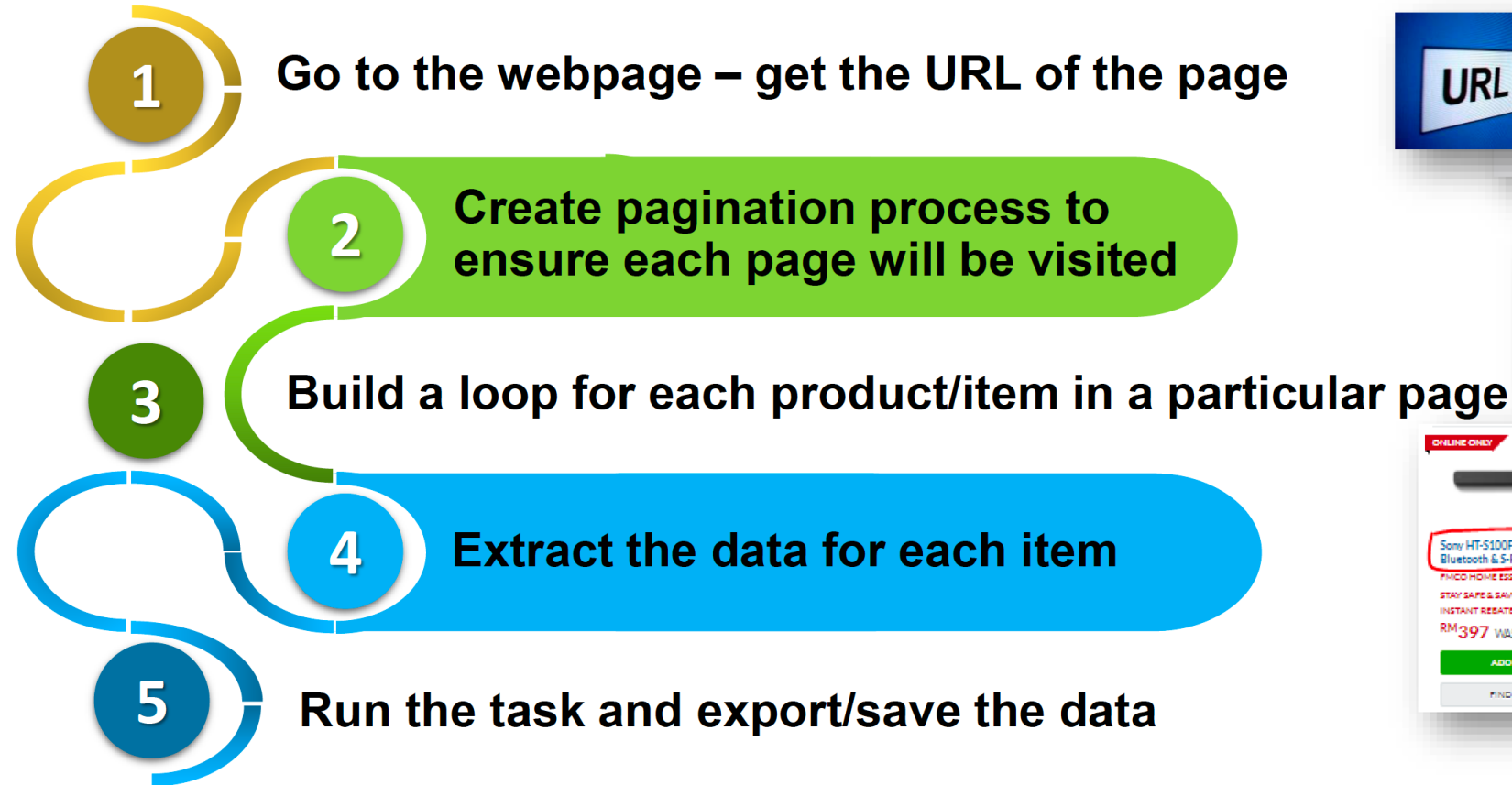
### Pros

- Simple and easy to use (coding free)
- Point and click system

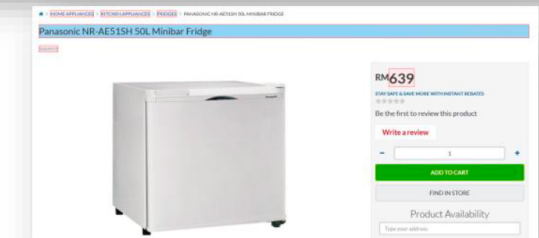
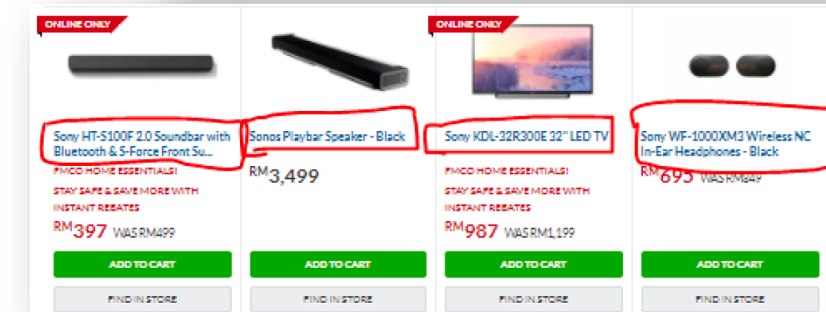
### Cons

- Paid subscription for full version (free version – function limited)
- Dependencies on built in scraper

# BASIC STEPS IN CRAWLING & SCRAPING



<https://www.harveynorman.com.my/home-appliances/>  
<https://www.harveynorman.com.my/computing/computers-en/>  
<https://www.harveynorman.com.my/smart-tech-and-phones/>  
<https://www.harveynorman.com.my/tv-and-audio/>





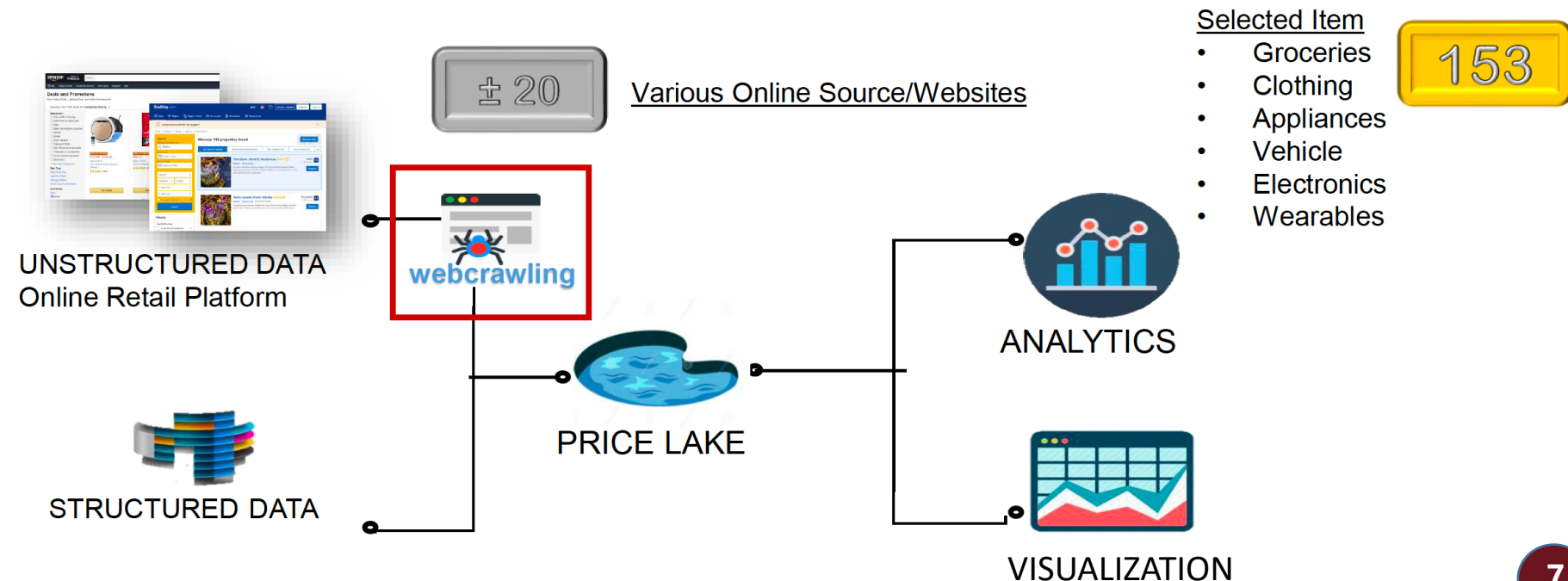
# WEBCRAWLING DOSM - STATSBDATA



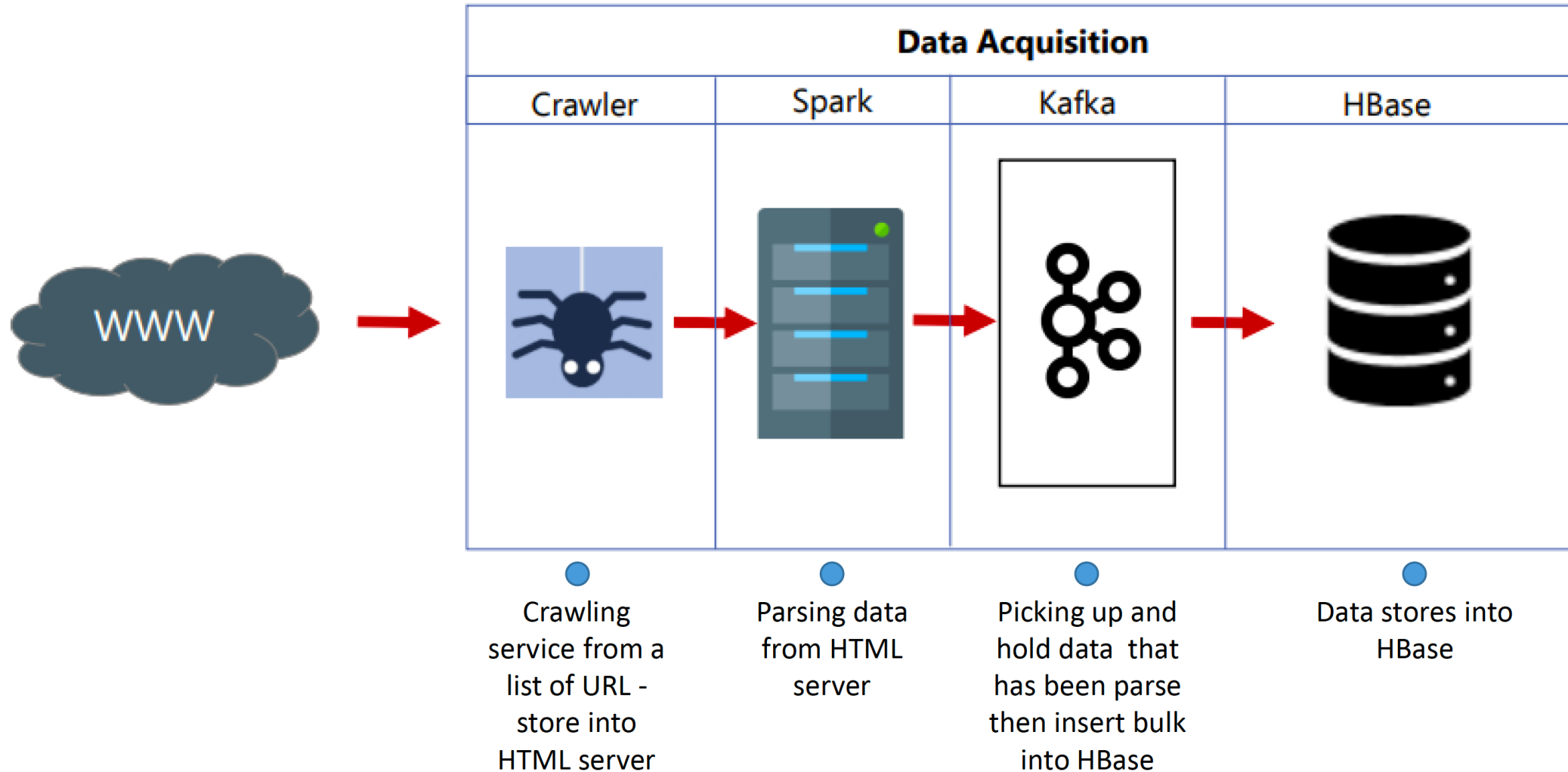
- leveraging the capability of Big Data in collecting large data from various sources and transform them into better structure
- different prices of the same good can be obtained through various websites, providing a modernized price collection
- Transform from unstructured data into structured data to perform analysis

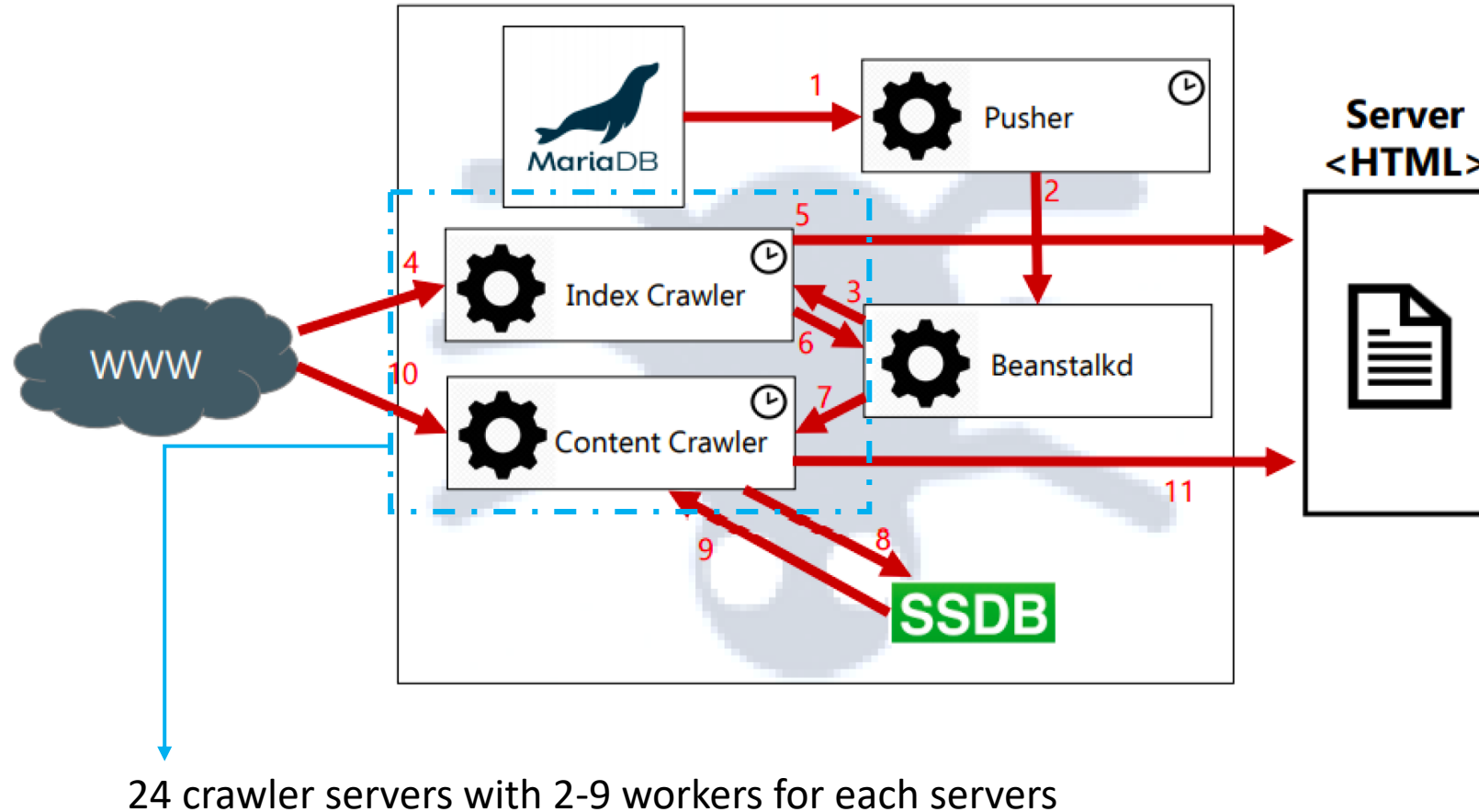
Managing massive data →  
data management →  
repository

- ✓ Extracting from relevant websites
- ✓ Automated web crawler
- ✓ Data consolidation on central local database
- ✓ Price Analysis
- ✓ Visualization



# DATA ACQUISITION FLOW - WEBCRAWLING





## MariaDB

- To store all category URL listed to crawl

## Pusher

- Act as an engine to send category URL to crawler workers

## Beanstalkd

- A simple, fast work queue agent which act to distribute the URL equally to all available workers

## Index and Content Crawler

- The main process for data crawling
- Contain workers

## SSDB

- Storing big list of billions elements
- Use as a hash storage to prevent multiple crawl of the same page for content/detail page



SAVE MORE ON APP    SELL ON LAZADA    CUSTOMER CARE    TRACK MY ORDER    LOGIN    SIGNUP    TUKAR BAHASA

**Lazada**    Search in Lazada         

Categories ▾  
related Categories  
Smart Televisions

8119 items found in Smart Televisions    Sort By: Best Match    View:

**Brand**

- ☐ Samsung
- ☐ LG
- ☐ Sony
- ☐ Sharp
- ☐ Panasonic
- ☐ Philips
- ☐ Samsung MY
- ☐ Hisense
- [VIEW MORE](#)

**Service**

- ☐ LazMall
- ☐ LazGlobal
- ☐ Installment
- ☐ Fulfilled By Lazada
- ☐ Free Shipping

**Location**

- ☐ Local
- ☐ Overseas

**Price**

Min - Max

**Rating**

- ★★★★★ And Up
- ★★★★☆ And Up
- ★★★☆☆ And Up
- ★★☆☆☆ And Up
- ★☆☆☆☆ And Up

**Smart Televisions**

6-6 DEALER OFFICIAL STORE

realme Smart TV 32"

FREE SHIPPING    2 Years Warranty

SHOPMANIA

RM899

PHILIPS

43"

Pixel Plus HD

DVBT2    FULL HD

AQUOS

Sharp 45-Inch Full HD Smart LED TV Model 2TC45AD1X

RM1,299.00

RM1,499.00 -23%

RM1,699.00 -24%

LazMall SONY 55 Inch 4K Smart Android LED TV KD55X7500H / KD...  
RM2,599.00  
RM2,999.00 -13%

LazMall realme Smart TV 32" [1 to 1 Exchange in 1 year Warranty] ...  
RM899.00

LazMall Philips 43PFT5505 Full HD LED TV | Pixel Plus HD  
RM1,149.00  
RM1,499.00 -23%

LazMall Sharp 45-Inch Full HD Smart LED TV Model 2TC45AD1X  
RM1,299.00  
RM1,699.00 -24%

Pre-installed Movies & Channels

2GB | 8GB

43"

English UI Android TV

1 YEARS WARRANTY

GELL

SMART TV 50"

PHILIPS

50"

2020 NEW MODEL

FREE BRACKET

NETFLIX

YouTube

5-5

MEGRA

D50

50"

4K UHD SMART LED TV

Powered By ANDROID O.S 9.0...

FREE Wireless Mini Keyboard

[English UI] 4S Global Version Original Xiaomi MI Smart TV 32" / 43 / 55 / ...  
RM1,449.00  
RM1,459.00 -1%

GELL Smart TV 50 inch LED TV With Android TV / WIFI / YouTube / MyTV  
RM1,299.00  
RM2,999.00 -46%

Philips 50 Inch 4K Ultra HD UHD HDR SMART TV 50PUT6604S DVB-T2...  
RM1,949.00  
RM2,999.00 -7%

MEGRA 50" 4K UHD SMART LED TV Powered By ANDROID O.S 9.0...  
RM1,489.90  
RM1,699.00 -1%

## Index Page

- Crawler will scrap basic information on the index page
  - Title
  - Price
  - URL (this URL will lead to the content/detail page)
  - Other information available
- The URL will be send back to the Beanstalk to go through content crawler

INDEX PAGE will be captured on a daily/weekly/monthly basis depends on the crawling frequency that has been determined





AQUOS

SHARP AUTHORIZED DEALER

**LazMall**

Sharp 45-Inch Full HD Basic LED TV Model 2TC45AD1X

★★★★★ No Ratings

Brand: Sharp | More Smart Televisions from Sharp

Free Shipping

**6-6 SHOPMANIA**  
25 MAY - 6 JUN

**SHOP NOW**

**RM1,299.00**  
RM1,699.00 -24%

Promotions **Min. spend RM500.00**

Installment Up to 12 months, as low as RM108.25 per month.

Quantity

**Buy Now** **Add to Cart**

Delivery Options

Wp Kuala Lumpur, Kuala Lumpur, 50450 [CHANGE](#)

Delivered by Seller

Enjoy free shipping promotion with minimum spend RM100.00 in certain area from [senQ](#).

Return & Warranty

☒ Authentic

☒ 15 Days Return  
"Don't want item or it doesn't suit me" return reason is applicable

☒ 1 Year Local Manufacturer Warranty

   
Download app to enjoy RM8 voucher + Free Shipping!

☐ Scan with mobile

Sold by **senQ** **LazMall** **Flagship Store** [Chat](#)

|                         |                 |                    |
|-------------------------|-----------------|--------------------|
| Positive Seller Ratings | Ship on Time    | Chat Response Rate |
| <b>91%</b>              | not enough data | <b>98%</b>         |

[GO TO STORE](#)

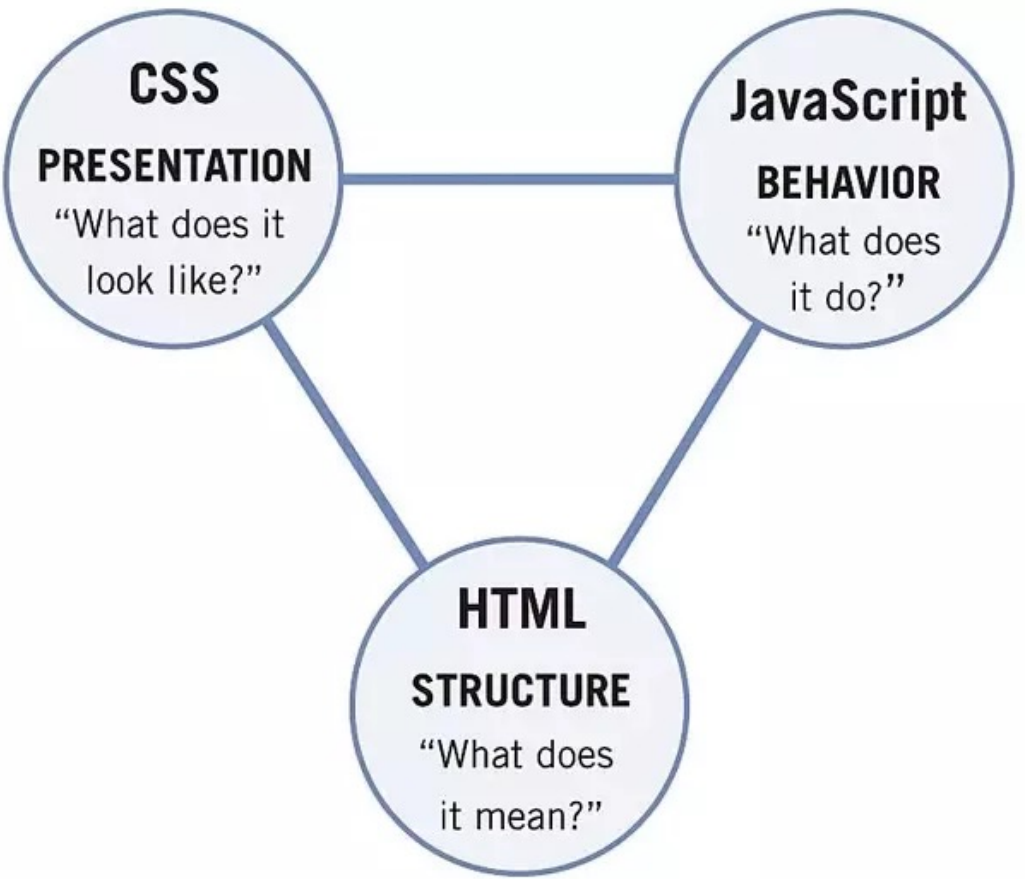
## Content /Detail Page

- Content crawler will scrap other information needed for this particular product (which was not available in index page)
- CONTENT/DETAIL PAGE will be captured when the page details are crawled.



# UNDERSTANDING HTML





HTML

```
<html>
<head>...
<body>
<h1>
<h2>
<p>...</p>
<ol><li><li>
```

Content & Structure

CSS

```
<style>
Body {
  Color:...
ul#mylist {
  font-family
}</style>
```

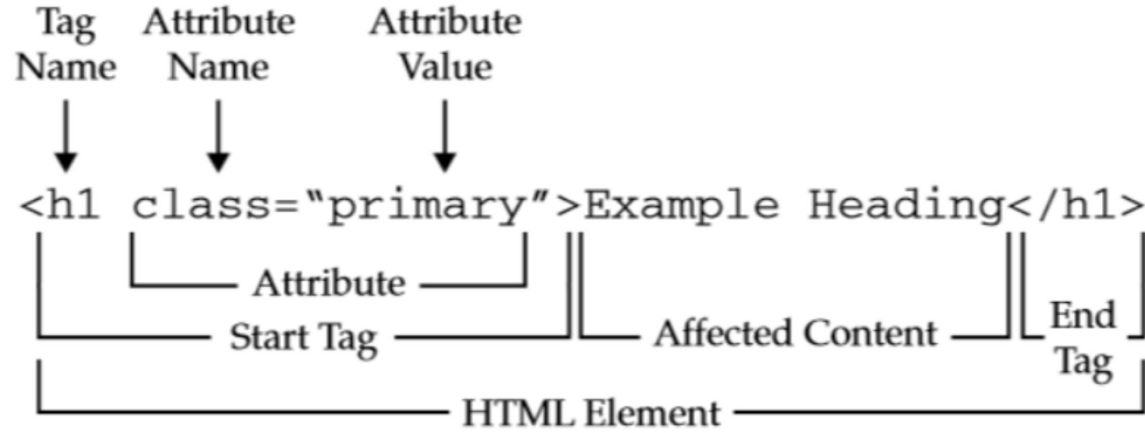
Presentation

JavaScript

```
<script type=
"text/javascript"
```

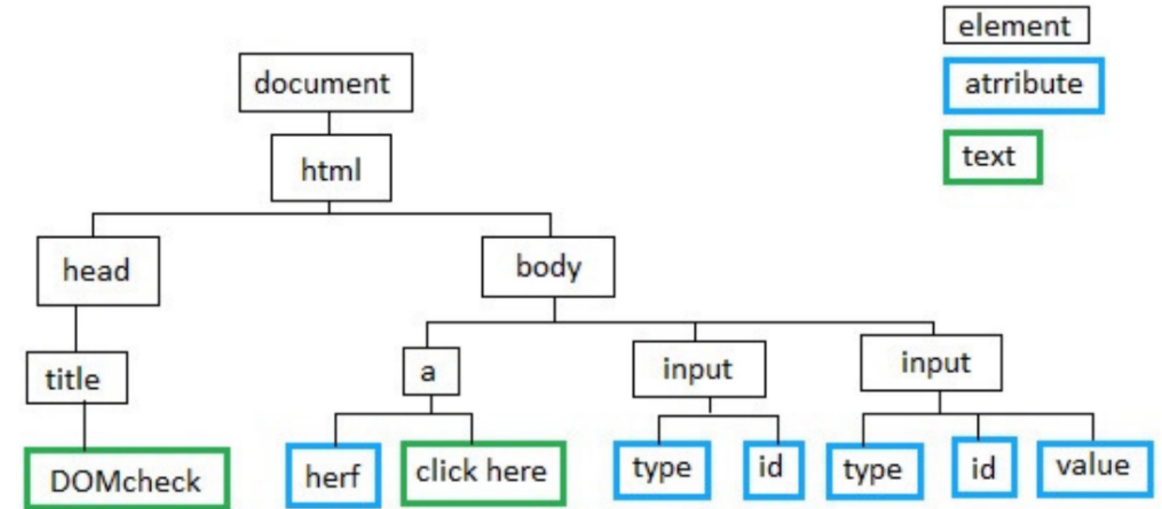
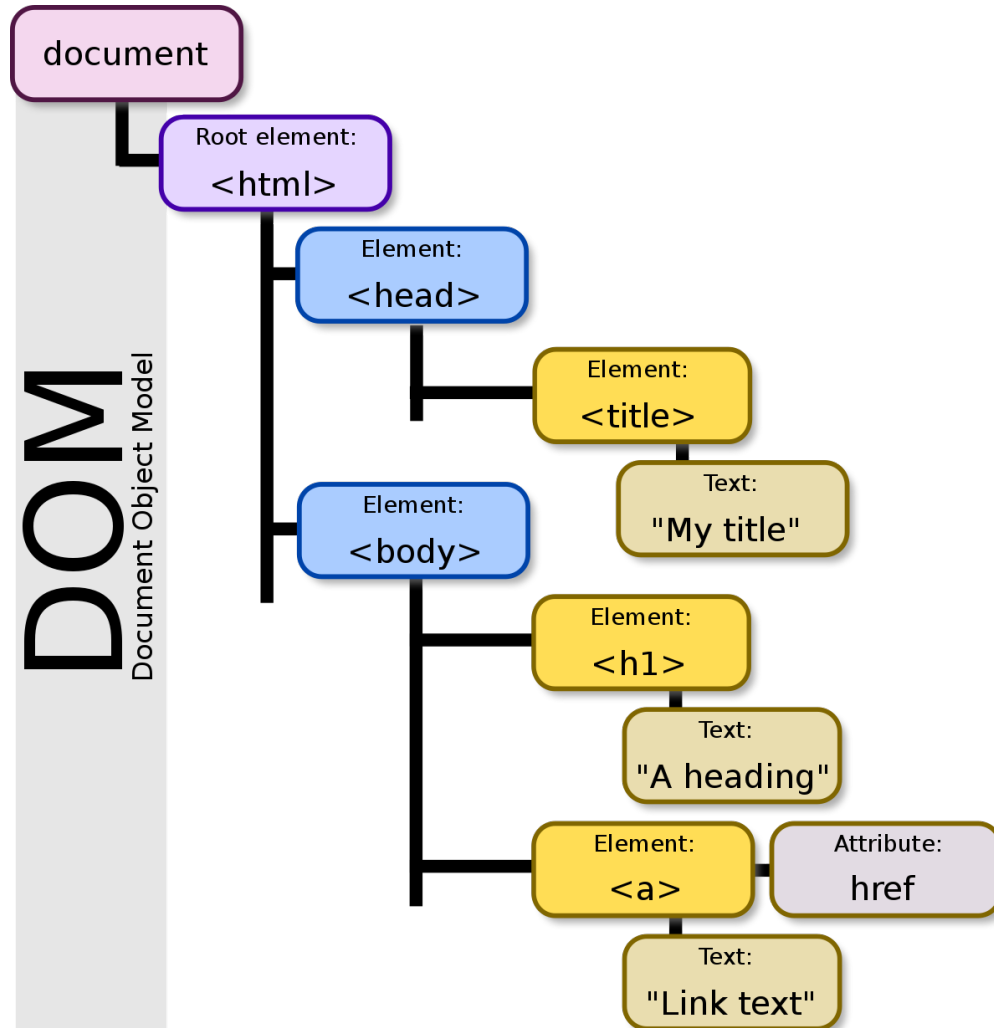
Behavior

|          |  |  |  |
|----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Language | HTML                                                                                | CSS                                                                                 | Javascript                                                                          |
| Purpose  | Structure, Objects, Things                                                          | Looks, Style                                                                        | Actions                                                                             |
| Syntax   | <p> <h1> <br>                                                                       | P {color: red;}                                                                     | var x = 5;                                                                          |
| Grammar  | nouns                                                                               | adjectives                                                                          | verbs                                                                               |
| Building | Walls, structure                                                                    | Paint, curtains                                                                     | Electrical, Plumbing, AC                                                            |



| Tag                                              | Description                                     |
|--------------------------------------------------|-------------------------------------------------|
| <code>&lt;html&gt; ... &lt;/html&gt;</code>      | Declares the Web page to be written in HTML     |
| <code>&lt;head&gt; ... &lt;/head&gt;</code>      | Delimits the page's head                        |
| <code>&lt;title&gt; ... &lt;/title&gt;</code>    | Defines the title (not displayed on the page)   |
| <code>&lt;body&gt; ... &lt;/body&gt;</code>      | Delimits the page's body                        |
| <code>&lt;h n&gt; ... &lt;/h n&gt;</code>        | Delimits a level <i>n</i> heading               |
| <code>&lt;b&gt; ... &lt;/b&gt;</code>            | Set ... in boldface                             |
| <code>&lt;i&gt; ... &lt;/i&gt;</code>            | Set ... in italics                              |
| <code>&lt;center&gt; ... &lt;/center&gt;</code>  | Center ... on the page horizontally             |
| <code>&lt;ul&gt; ... &lt;/ul&gt;</code>          | Brackets an unordered (bulleted) list           |
| <code>&lt;ol&gt; ... &lt;/ol&gt;</code>          | Brackets a numbered list                        |
| <code>&lt;li&gt; ... &lt;/li&gt;</code>          | Brackets an item in an ordered or numbered list |
| <code>&lt;br&gt;</code>                          | Forces a line break here                        |
| <code>&lt;p&gt;</code>                           | Starts a paragraph                              |
| <code>&lt;hr&gt;</code>                          | Inserts a horizontal rule                       |
| <code>&lt;img src="..."&gt;</code>               | Displays an image here                          |
| <code>&lt;a href="..."&gt; ... &lt;/a&gt;</code> | Defines a hyperlink                             |

# DOCUMENT OBJECT MODEL (DOM)



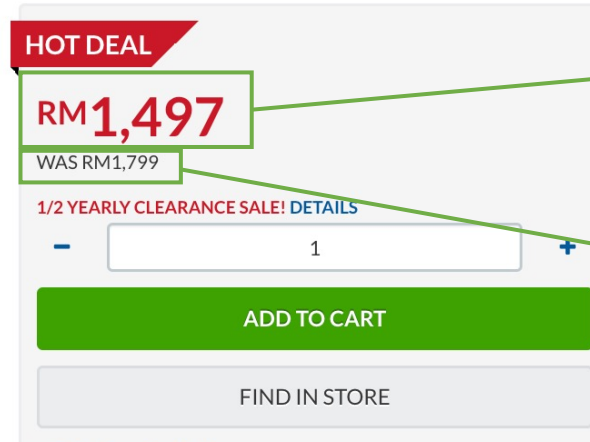
| Attribute | Value                                  | Description                 |
|-----------|----------------------------------------|-----------------------------|
| class     | <i>class_rule</i> or <i>style_rule</i> | The class of the element    |
| id        | <i>id_name</i>                         | A unique id for the element |
| style     | <i>style_definition</i>                | An inline style definition  |



LG 31.5-inch UHD 4K HDR Monitor (32UN500)

`<h1 class="fn product-title">LG 31.5-inch UHD 4K HDR Monitor (32UN500)</h1>`

6031499



`<span id="sec_discounted_price_75299" class="price-num">1,497</span>`

`<span id="sec_list_price_75299" class="list-price nowrap">1,799</span>`

Description Specifications Ask Us Reviews

## Specifications

### General

|              |           |
|--------------|-----------|
| Brand        | LG        |
| Model        | 32UN500-W |
| Product Type | Monitors  |
| Colour       | Black     |

```

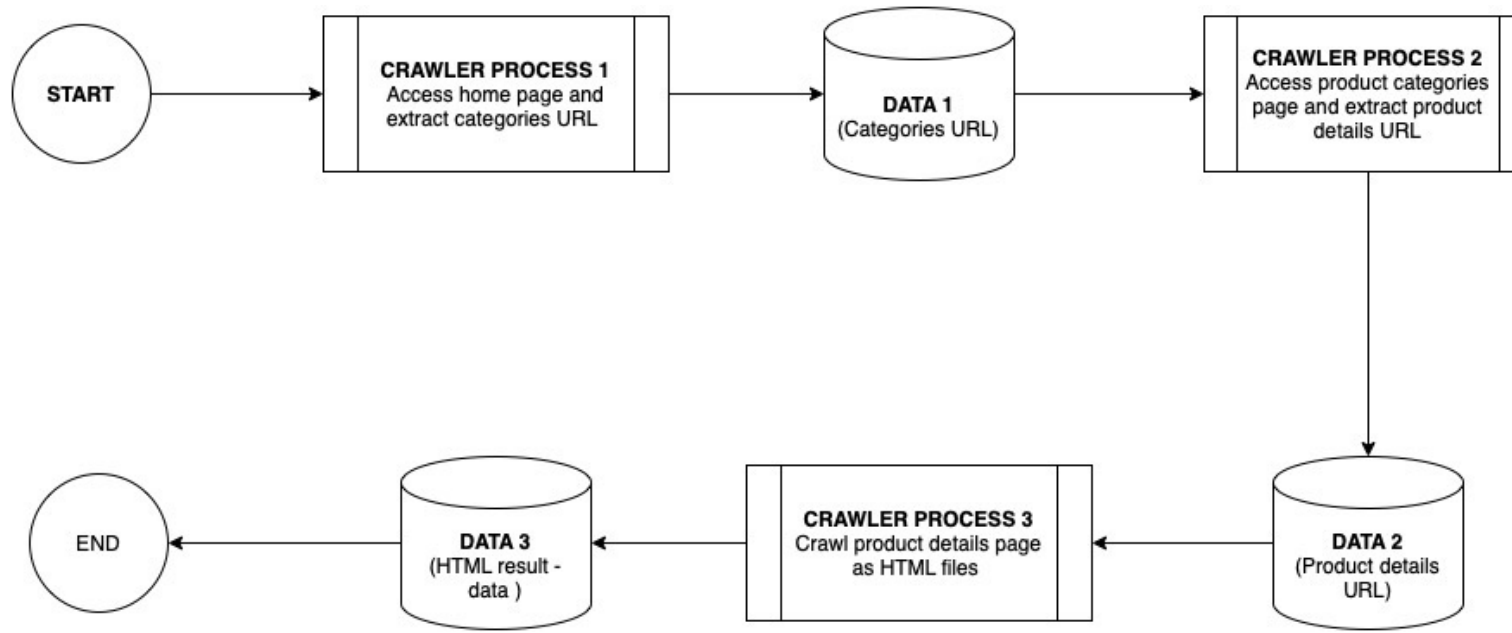
<div id="content_features" class="tab-content wysiwyg-content" style="display: block;">
  <h3 class="hidden-xs visible-md tab-heading">Specifications</h3>
  <div class="product-tab-wrapper">
    <h6 class="subheader"> General </h6>
    <table class="table table-striped table-product-features">...</table>
    <table class="table table-striped table-product-features">
      <tbody>
        <tr>
          <th>
            <strong>Brand</strong>
          </th>
          <td>LG</td>
        </tr>
        <tr>
          <th>
            <strong>Model</strong>
          </th>
          <td>32UN500-W</td>
        </tr>
      </tbody>
    </table>
  </div>
</div>

```



# WEBCRAWLING PROCESS





| Process           |                                                                                                                               |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Crawler Process 1 | Access Home Page and extract the Categories URL, then store the categories URL for next process                               |
| Data 1            | All Categories Page URL (link) stored to be used to access Product Index Page                                                 |
| Crawler Process 2 | Access Product Categories Page to access product index and extract Product Details URL, then stored the link for next process |
| Data 2            | All Product Details Page Link stored to be used to access Product Detail Page                                                 |
| Crawler Process 3 | Access Product Detail Page then crawl the product detail page as HTML files                                                   |
| Data 3            | All product details HTML result from crawling process                                                                         |



## 1. Select main categories section

## 2. List all any needed category label for requirement in the next process

The main category label will be used as reference for the web crawler to take all sub-category that will be extracted in the next process

```
<a id="category-level1-menu-link-0" href="/en/category/grocery" class="sc-fXeWAj evNFPy jss3463">
  <h2 class="jss3462">Grocery</h2>
</a>
<a id="category-level1-menu-chevron-0" class="sc-fXeWAj evNFPy jss3460">...</a> flex
</div>
</li>
<li id="category-level1-menu-item-1" class="sc-cbTzjv btpFvP jss3459">...</li>
<li id="category-level1-menu-item-2" class="sc-cbTzjv btpFvP">...</li>
<li id="category-level1-menu-item-3" class="sc-cbTzjv btpFvP">...</li>
<li id="category-level1-menu-item-4" class="sc-cbTzjv btpFvP">...</li>
<li id="category-level1-menu-item-5" class="sc-cbTzjv btpFvP">...</li>
<li id="category-level1-menu-item-6" class="sc-cbTzjv btpFvP">...</li>
<li id="category-level1-menu-item-7" class="sc-cbTzjv btpFvP">...</li>
<li id="category-level1-menu-item-8" class="sc-cbTzjv btpFvP">...</li>
<li id="category-level1-menu-item-9" class="sc-cbTzjv btpFvP">...</li>
<li id="category-level1-menu-item-10" class="sc-cbTzjv btpFvP">...</li>
<li id="category-level1-menu-item-11" class="sc-cbTzjv btpFvP">
  <div class="MuiBox-root jss3477"> flex
    <a id="category-level1-menu-link-11" href="/en/category/baby" class="sc-fXeWAj evNFPy jss3463">
      <h2 class="jss3462">Baby</h2>
    </a>
    <a id="category-level1-menu-chevron-11" class="sc-fXeWAj evNFPy jss3460">...</a> flex
  </div>
  ...
```

| CATEGORIES ▾              |   | Order History           |
|---------------------------|---|-------------------------|
| Grocery                   | > | Shop All Meat & Poultry |
| Health & Beauty           | > | Meat >                  |
| Fresh Produce             | > | Offals >                |
| Meat & Poultry            | > | Poultry >               |
| Home & Gardening          | > | Pre-Packed >            |
| Office, Bags & Stationery | > |                         |
| Pets                      | > |                         |
| Sports & Leisure          | > |                         |
| Toys & Gifting            | > | Shop All Bakery         |
| Appliances                | > | Bread >                 |
| Automotive                | > | Bun >                   |
| Baby                      | > | Cakes & Donuts >        |
| Bakery                    | > | Jams & Spreads          |
| Beverages                 | > |                         |
| Chilled & Frozen          | > |                         |

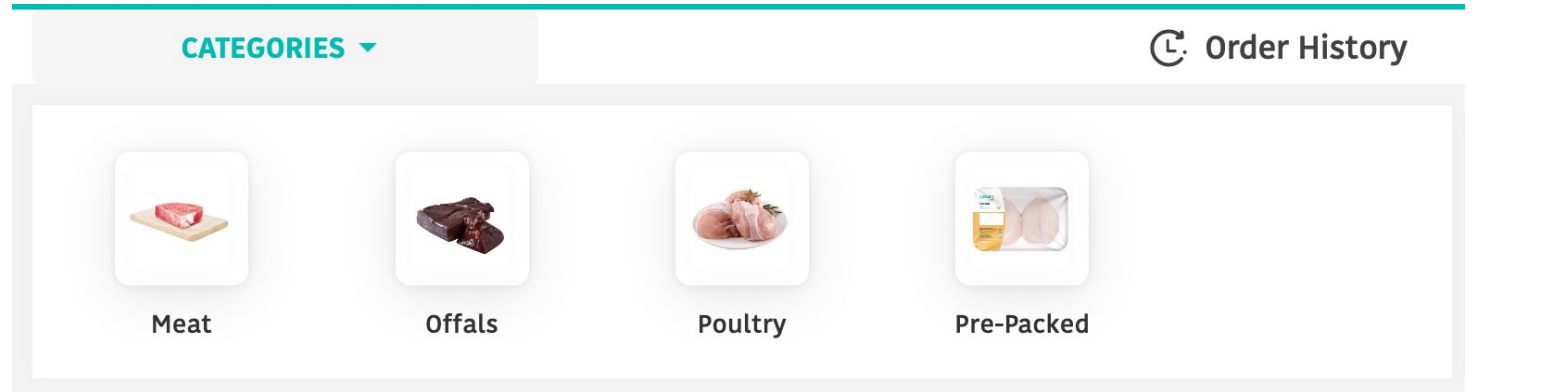


1. Crawl all sub category URL that related to all Main Categories from the first process

After we get the main category label, we should find the sub category link. This list of links will lead to each product by its sub category

## List of subcategories

en/category/meat-poultry/meat  
en/category/meat-poultry/offals  
en/category/meat-poultry/poultry  
en/category/meat-poultry/pre-packed



```
▼<div tabindex="0" aria-selected="true" aria-label="slide" role="option" class="slide
Nqo slideHorizontal__1NzNV carousel__slide carousel__slide--visible sc-hUplSX" style
dth: 25%; padding-bottom: unset; height: unset;">
▼<div class="slideInner__2mfX9 carousel__inner-slide" style="position: unset;">
▼<a class="MuiButtonBase-root MuiButton-root MuiButton-text sc-lgarkF eDAYJJ"
tabindex="0" aria-disabled="false" id="navigation-widget-image-2" data-cta-name-e
avigation Widget Image" data-cta-name-th="รูปภาพวิดีโอการนำทาง" data-cta-type="Link
href="/en/category/meat-poultry/poultry"> == $0
▼<span class="MuiButton-label">
▼<div style="flex: 1 1 0%;">
▶<div class="sc-BHvUt iY0bkn">...</div>
<h2 class="sc-fivaXQ dmITzN">Poultry</h2>
```





1. Crawler then will go to each of the list of product detail page URL and load it.
2. HTML page for each product will be saved in html format
3. For this example, html saved files will contain information needed such:
  - Title
  - Brand
  - Category
  - Price
  - Product information (if any)

CATEGORIES ▾

Order History

Homepage > Meat & Poultry > Poultry > Parts & Weighted



**CHICKEN DRUMSTICK KG**

Brand: TESCO Category: Poultry

**RM17.80/kg** (final price by weight)

0.10Kg/RM1.78 **Add to Cart**

**my** Receive 1 Point/Kg  
My Lotus's members only. Login or register to start earning points.

**Login / Register**

**Product Information** Nutrition Additional Information



# WEBSCRAPPER TOOLS





<http://www.botsol.com/>

## Webscraping service with readily available template

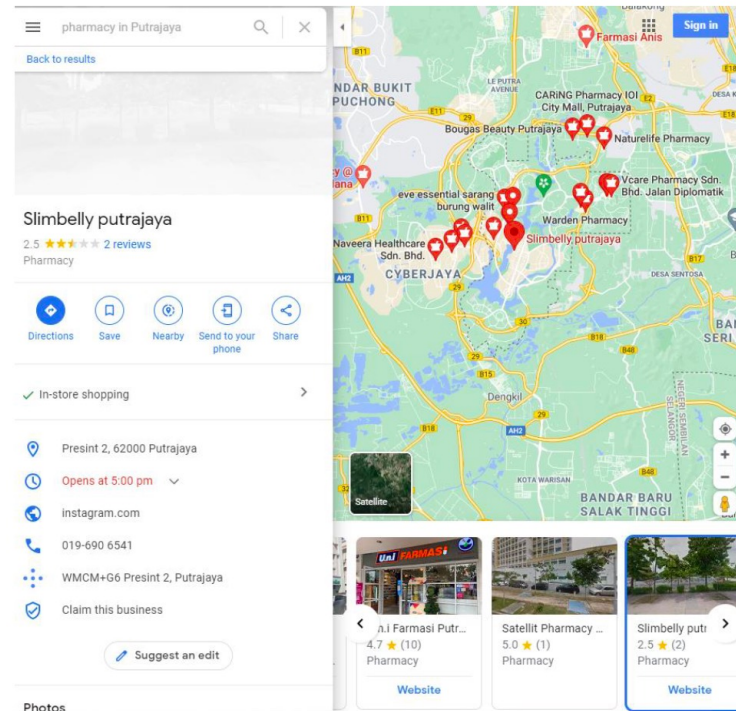
- Amazon Product Data Crawler
- Google Maps Crawler
- Google Maps Review Crawler

### Botsol Crawler | Select Bot

Please select the bot you want to run.

Google Maps Crawler Free  
GMaps Reviews Crawler Free  
Yellowpages Crawler Free  
Amazon Product Data Crawler Free  
Yelp Crawler Free

Select



### Google Maps Crawler Free: Botsol Crawler App 8.7

#### Instructions

The bot will open a chrome window, use that window to search for businesses and when search results are shown click on the "Start Bot" button to start the crawler.  
Make sure language for google maps is set to English (United States).  
Do not click on the close or minimize buttons of chrome window.  
'Export To Excel' button will be enabled when the crawler is complete or stopped.  
Contact Botsol.com if you want to purchase the full version.

#### Progress:

Chrome Version : 91.0.4472.77

We hope that this tool is working well for you. We'd love to hear how satisfied you are with it. Could you take a moment to [leave a review?](#)

You are using free version.  
[Click here to buy full version.](#)

Start Bot

Stop Bot

Delete Existing Data

Export To Excel

| Name                | Full_Address         | Website           | Plus_Code         | Rating | Reviews    | URL                                               |
|---------------------|----------------------|-------------------|-------------------|--------|------------|---------------------------------------------------|
| Eureka Pharmac...   | 9, Jalan Seluang...  | facebook.com      | WMJJ+XC Putraj... | 3.4    | 11 reviews | <a href="https://www.go...">https://www.go...</a> |
| U.n.i Farmasi Pu... | Ayer@8, Lot A2-...   | shopee.com.my     | WMGJ+S4 Presi...  | 4.7    | 10 reviews | <a href="https://www.go...">https://www.go...</a> |
| Slimbelly putraj... | Presint 2, 62000 ... | instagram.com     | WMCM+G6 Pre...    | 2.5    | 2 reviews  | <a href="https://www.go...">https://www.go...</a> |
| Satelit Pharmac...  | Wilayah Persek...    |                   | WMGF+HM Put...    | 5.0    | 1 review   | <a href="https://www.go...">https://www.go...</a> |
| Guardian Healt...   | 1, Jalan P8d, Pre... | guardian.com.my   | WMQJ+JX Putra...  | 4.1    | 48 reviews | <a href="https://www.go...">https://www.go...</a> |
| Health Lane Fa...   | LG100/G100, Ala...   |                   | WPR6+9G Putra...  | 1.0    | 1 review   | <a href="https://www.go...">https://www.go...</a> |
| Vcare Pharmacy ...  | 2A, Tingkat, 1, J... | vcarepharmacy2... | WVPF+VQ Putra...  |        |            | <a href="https://www.go...">https://www.go...</a> |
| Warden Pharmacy     | LG-03-A, Shaft...    |                   | WPQ7+78 Presi...  | 5.0    | 5 reviews  | <a href="https://www.go...">https://www.go...</a> |
| Naturelife Phar...  | A-G-03 Conezio...    |                   | XP7C+WH Putra...  | 5.0    | 2 reviews  | <a href="https://www.go...">https://www.go...</a> |
| Be Pharmacy Put...  | 36, Jalan Diplo...   | facebook.com      | WVPF+22 Putr...   | 3.0    | 2 reviews  | <a href="https://www.go...">https://www.go...</a> |
| Farmasi Pharma...   | P1-18 Shaftsbu...    |                   | WMF6+9R Cybe...   | 4.6    | 5 reviews  | <a href="https://www.go...">https://www.go...</a> |
| Watsons Alama...    | Lot Lower Grou...    | watsons.com.my    | WPR6+3G Presi...  | 4.0    | 16 reviews | <a href="https://www.go...">https://www.go...</a> |
| CARING Pharma...    | Lot LG 18, IOI Ci... | caring2u.com      | XPC7+3J Serdan... | 4.2    | 18 reviews | <a href="https://www.go...">https://www.go...</a> |
| Siti                | IOI city mall, Put   |                   | XP95+62 Putra...  | 3.0    | 1 review   | <a href="https://www.go...">https://www.go...</a> |



Web scraping tool with a simple point-and-click interface, the ability to extract thousands of records from a website takes only a few minutes of scraper setup with many advanced features such as

- Data scraping from multiple pages
- Multiple data extraction types



<https://www.webscraper.io/>

Create a new  
sitemap

Add data  
extraction  
selectors

launch the scraper  
and export  
scraped data

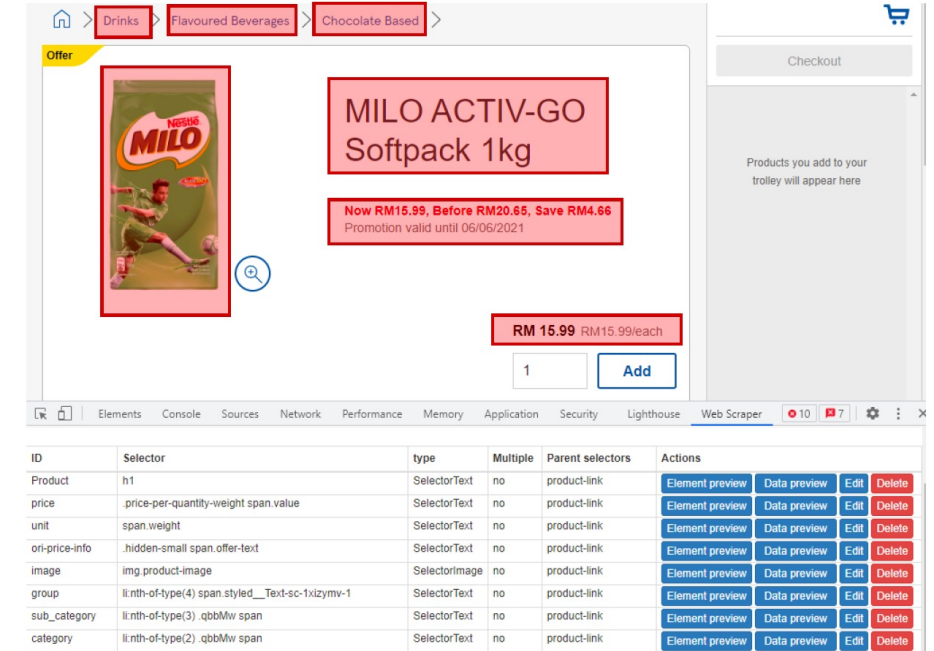
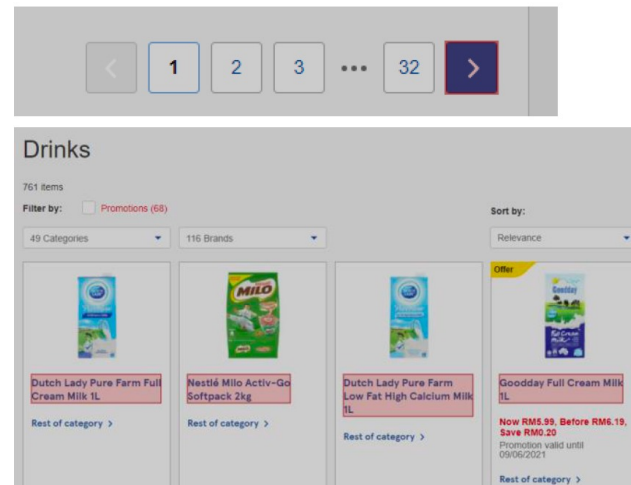
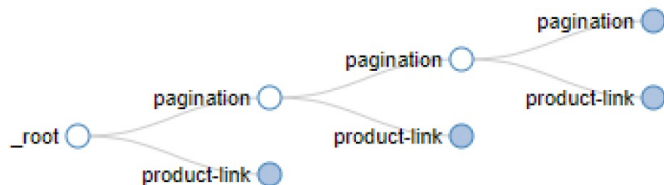
Sitemaps Sitemap tesco Create new sitemap

Sitemap name tesco

Start URL <https://eshop.tesco.com.my/groceries/en-GB/shop/drinks/all>

Start URL <https://eshop.tesco.com.my/groceries/en-GB/shop/chilled-and-frozen/all>

Save Sitemap

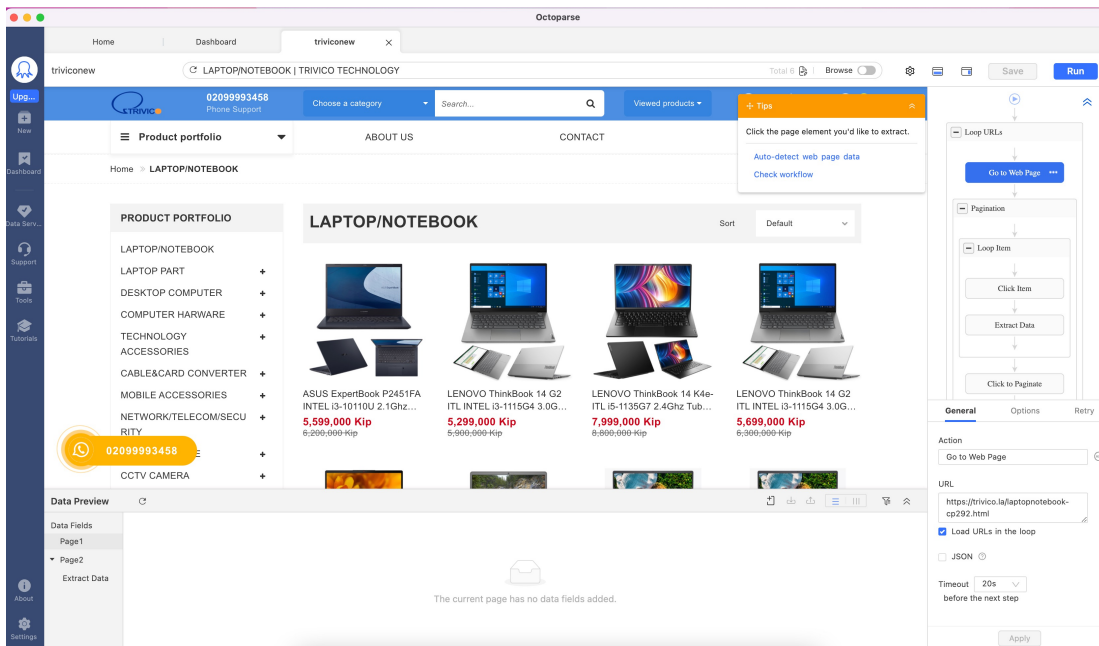




## Octoparse

<https://www.octoparse.com/>

- Quickly scrape web data without coding
- Turn web pages into structured spreadsheets within clicks
- Free version consist of 10 crawlers with 2 concurrent local run (up to maximum of 10,000 records per export)



Home > **LAPTOP/NOTEBOOK**



**ASUS ExpertBook P2451FA INTEL i3-10110U 2.1Ghz Tubor 4.1Ghz RAM DDR4 8Gb M.2 NVME 256Gb Monitor 14 FHD Win10**

SKU: **LAP043**

Stocking

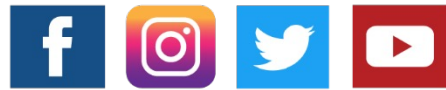
**INTRODUCED**

The Laptop is suitable for study and work.

**5,599,000 Kip** ~~6,200,000 Kip~~

| # | Category        | Title                                                                                                     | SKU    | Price          | Original_Price |
|---|-----------------|-----------------------------------------------------------------------------------------------------------|--------|----------------|----------------|
| 1 | LAPTOP/NOTEBOOK | ASUS ExpertBook P2451FA INTEL i3-10110U 2.1Ghz Tub ... z RAM DDR4 8Gb M.2 NVME 256Gb Monitor 14 FHD Win10 | LAP043 | 5,499,000 Kip  | 6,100,000 Kip  |
| 2 | LAPTOP/NOTEBOOK | LENOVO ThinkBook 14 G2 ITL INTEL i3-1115G4 3.0Ghz ... RAM DDR4 4Gb M.2 NVME 256Gb Monitor 14.0 FHD Win10  | LAP049 | 5,199,000 Kip  | 5,800,000 Kip  |
| 3 | LAPTOP/NOTEBOOK | LENOVO ThinkBook 14 G2 ITL INTEL i3-1115G4 3.0Ghz ... AM DDR4 12Gb M.2 NVME 256Gb Monitor 14.0 FHD Win10  | LAP048 | 5,599,000 Kip  | 6,200,000 Kip  |
| 4 | LAPTOP/NOTEBOOK | LENOVO IdeaPad 3 14ITL6 INTEL i3-1115G4 3.0Ghz Tub ... RAM DDR4 8Gb M.2 NVME 256Gb Monitor 14.0 FHD Win11 | LAP050 | 5,399,000 Kip  | 6,000,000 Kip  |
| 5 | LAPTOP/NOTEBOOK | DELL Vostro 3400-1305D INTEL i3-1115G4 3.0Ghz Tubo ... RAM DDR4 8Gb M.2 NVME 256Gb Monitor 14.0 FHD Win10 | LAP051 | 6,599,000 Kip  | 7,300,000 Kip  |
| 6 | LAPTOP/NOTEBOOK | DELL Inspiron 15 3511-1305S INTEL i3-1115G4 3.0Ghz ... AM DDR4 8Gb M.2 NVME 256Gb Monitor 15.6 FHD Win11  | LAP052 | 6,899,000 Kip  | 7,600,000 Kip  |
| 7 | LAPTOP/NOTEBOOK | DELL Inspiron 15 3511-1605S INTEL i5-1135G7 2.4Ghz ... AM DDR4 16Gb M.2 NVME 512Gb Monitor 15.6 FHD Win11 | LAP053 | 8,999,000 Kip  | 9,900,000 Kip  |
| 8 | LAPTOP/NOTEBOOK | DELL Inspiron 15 3511-1805S INTEL i7-1165G7 2.8Ghz ... AM DDR4 16Gb M.2 NVME 512Gb Monitor 15.6 FHD Win11 | LAP054 | 11,199,000 Kip | 12,400,000 Kip |
| 9 | LAPTOP/NOTEBOOK | LENOVO Ideapad Flex 5 14ALC05 AMD Ryzen 3 5300U 2. ... M.2 NVME 256Gb Monitor 14 FHD(Touch Screen) Win10  | LAP044 | 8,599,000 Kip  | 9,500,000 Kip  |

# THANK YOU



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