

Web Scraping -

<https://specphone.com/Samsung-Galaxy-A04.html>

```
library(tidyverse)
library(rvest)
```

```
Warning message in system("timedatectl", intern = TRUE):
```

```
"running command 'timedatectl' had status 1"
```

```
Warning message:
```

```
"Failed to locate timezone database"
```

```
— Attaching packages — tidyverse 1.3.1
```

```
✓ ggplot2 3.3.5    ✓ purrr  0.3.4
```

```
✓ tibble  3.1.5    ✓ dplyr  1.0.7
```

```
✓ tidyr   1.1.4    ✓ stringr 1.4.0
```

```
✓ readr   2.0.2    ✓ forcats 0.5.1
```

```
— Conflicts — tidyverse_conflicts()
```

```
✗ dplyr::filter() masks stats::filter()
```

```
✗ purrr::flatten() masks jsonlite::flatten()
```

```
✗ dplyr::lag() masks stats::lag()
```

```
Attaching package: 'rvest'
```

```
url <- read_html("https://specphone.com/Samsung-Galaxy-A04.html")
```

```
att <- url %>%  
  html_nodes("div.topic") %>%  
  html_text2()  
  
detail <- url %>%  
  html_nodes("div.detail") %>%  
  html_text2()
```

```
data.frame(attributes = att, value = detail)
```

A data.frame: 31 × 2

| attributes | value |
|-------------------|---|
| <chr> | <chr> |
| วันเปิดตัว | ตุลาคม 2565 |
| วันวางจำหน่าย | ยังไม่วางจำหน่าย |
| ขนาด | 164.40 x 76.30 x 9.10 มม. |
| น้ำหนัก | 192 กรัม |
| วัสดุ | Glass front, plastic back, plastic frame |
| SIM | รองรับ 2 ซิมการ์ด (nano sim, nano sim) |
| Technology | HSPA 42.2/5.76 Mbps, LTE-A |
| 2G | 850/900/1800/1900 |
| 3G | 850/900/1900/2100 |
| 4G | 850/900/1900/2100/2600 |
| 5G | - |
| ความเร็ว | HSPA 42.2/5.76 Mbps, LTE-A |
| ประเภท | PLS LCD |
| ขนาดหน้าจอ | 6.50 นิ้ว |
| ความละเอียด | 720 x 1600 pixels |
| ระบบปฏิบัติการ | Android 12 |
| ชิปประมวลผล | Spreadtrum Unisoc SC9863A 1.6 GHz |
| ชิปกราฟิก | PowerVR GE8322 |
| หน่วยความจำ | 3 GB |
| ความจุ | 32 GB |
| Memory Card | microSD (1) |
| กล้องหลัก | ตัวที่ 1: 50 MP, f/1.8, (wide), AF ตัวที่ 2: 2 MP, f/2.4, (depth) |
| ความละเอียดวิดีโอ | 1080p@30fps |
| กล้องหน้า | ตัวที่ 1: 5 MP, f/2.2 |
| Bluetooth | 5.0, A2DP, LE |
| Wi-Fi | 802.11 a/b/g/n/ac, dual-b |
| USB | Type-C |
| GPS | GLONASS, GALILEO, BDS |
| NFC | ไม่รองรับ |
| ความจุ | 5,000 mAh |
| ประเภท | Non-removable Li-Po Batt |

```
#All Samsung Smart Phones
# uses https://specphone.com/brand/Samsung
samsung_url <- read_html("https://specphone.com/brand/Samsung")
```

```
links <- samsung_url %>%  
  html_nodes("li.mobile-brand-item a") %>% #find a in <li>  
  html_attr("href")
```

```
full_links <- paste0("https://specphone.com",links)  
full_links
```

'https://specphone.com/Samsung-Galaxy-M13.html' · 'https://specphone.com/Samsung-Galaxy-A23.html' ·
'https://specphone.com/Samsung-Galaxy-A13.html' · 'https://specphone.com/Samsung-Galaxy-M32-5G.html' ·
'https://specphone.com/Samsung-Galaxy-A12-Nacho.html' ·
'https://specphone.com/Samsung-Galaxy-Pocket-Neo.html' ·
'https://specphone.com/Samsung-Galaxy-Young.html' · 'https://specphone.com/Samsung-Galaxy-J1-Mini.html' ·
'https://specphone.com/Samsung-Galaxy-A01-Core-1-16GB.html' ·
'https://specphone.com/Samsung-Galaxy-V-PLUS.html' · 'https://specphone.com/Samsung-Galaxy-Young-2.html' ·
'https://specphone.com/Samsung-Galaxy-M02.html' · 'https://specphone.com/Samsung-Galaxy-A11.html' ·
'https://specphone.com/Samsung-Galaxy-J2-Pro-2018.html' ·
'https://specphone.com/Samsung-Galaxy-A12-2021.html' ·
'https://specphone.com/Samsung-Galaxy-A21s-3-32GB.html' · 'https://specphone.com/Samsung-Galaxy-J5.html' ·
'https://specphone.com/Samsung-Galaxy-J4.html' · 'https://specphone.com/Samsung-Galaxy-Core-2-Duos.html' ·
'https://specphone.com/Samsung-Galaxy-Ace-Plus.html' · 'https://specphone.com/Samsung-Galaxy-A20.html' ·
'https://specphone.com/Samsung-Galaxy-Chat.html' · 'https://specphone.com/Samsung-Galaxy-Gio.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-A7-Lite-LTE.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-A-10.5WIFI.html' ·
'https://specphone.com/Samsung-Galaxy-Alpha.html' · 'https://specphone.com/Samsung-Galaxy-S3-Slim.html' ·
'https://specphone.com/Samsung-Galaxy-S4-zoom.html' ·
'https://specphone.com/Samsung-Galaxy-Xcover-2.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-8.9-3G-16GB.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-A8-LTE-2021.html' ·
'https://specphone.com/Samsung-Galaxy-A8-2018.html' ·
'https://specphone.com/Samsung-Galaxy-Tab4-8.0-wifi.html' ·
'https://specphone.com/Samsung-Galaxy-M33-5G.html' · 'https://specphone.com/Samsung-Galaxy-A50.html' ·
'https://specphone.com/Samsung-Galaxy-E7.html' · 'https://specphone.com/Samsung-Galaxy-S6.html' ·
'https://specphone.com/Samsung-Galaxy-S20-FE.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-S4-WIFI.html' · 'https://specphone.com/Samsung-Galaxy-S7.html' ·
'https://specphone.com/Samsung-Galaxy-Note-5-Exynos.html' ·
'https://specphone.com/Samsung-Galaxy-TabPRO-12.2-LTE.html' ·
'https://specphone.com/Samsung-Galaxy-S4-Active.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-Active-3.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-S3-9.7.html' ·
'https://specphone.com/Samsung-Galaxy-S6-edge.html' ·
'https://specphone.com/Samsung-Galaxy-Note-4-Exynos.html' ·
'https://specphone.com/Samsung-Galaxy-Round.html' ·
'https://specphone.com/Samsung-Galaxy-Note-20-Ultra-5G.html' · 'https://specphone.com/Samsung-ATIV-Q.html' ·
'https://specphone.com/Samsung-ATIV-Smart-PC-PRO.html' ·
'https://specphone.com/Samsung-Galaxy-S23-Ultra-5G8-256GB.html' ·
'https://specphone.com/Samsung-Galaxy-S22-Ultra12-128GB.html' ·
'https://specphone.com/Samsung-Galaxy-Z-Flip-5G.html' · 'https://specphone.com/Samsung-Galaxy-Z-Flip.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-S8-Ultra-5G.html' ·
'https://specphone.com/Samsung-Galaxy-S21-Ultra-16-512GB.html' ·
'https://specphone.com/Samsung-Galaxy-S23-Ultra-5G.html' ·
'https://specphone.com/Samsung-Galaxy-S10-Plus-Ram-12GB.html' ·
'https://specphone.com/Samsung-Galaxy-Z-Fold-3.html'

```

result <- data.frame()

for (link in full_links[1:5]){
  ss_topic <- link %>%
    read_html() %>%
    html_nodes("div.topic") %>%
    html_text2()
  ss_detail <- link %>%
    read_html() %>%
    html_nodes("div.detail") %>%
    html_text2()

  tmp <- data.frame(attributes = ss_topic, value = ss_detail)

  result <- bind_rows(result, tmp)
  print("Progress ... ")
}

print(result)

```

```

[1] "Progress ... "
[1] "Progress ... "
[1] "Progress ... "
[1] "Progress ... "
[1] "Progress ... "
      attributes
1      วันเปิดตัว
2      วันวางจำหน่าย
3      ขนาด
4      น้ำหนัก
5      วัสดุ
6      SIM
7      Technology
8      2G
9      3G
10     4G
11     5G
12     ความเร็ว
13     ประเภท
14     ขนาดหน้าจอ

```

```
print(head(result), 3)
```

| | attributes | value |
|---|---------------|---------------------------|
| 1 | วันเปิดตัว | มิถุนายน 2565 |
| 2 | วันวางจำหน่าย | ยังไม่วางจำหน่าย |
| 3 | ขนาด | 165.40 x 76.90 x 8.40 มม. |
| 4 | น้ำหนัก | 192 กรัม |

| | | |
|---|-------|--|
| 5 | วัสดุ | Glass front, plastic back, plastic frame |
| 6 | SIM | รองรับ 2 ซิมการ์ด (nano sim, nano sim) |

```
write_csv(result, "result_ss_phone.csv")
```