

```
In [1]: from selenium import webdriver
driver = webdriver.Chrome()
```

```
In [2]: driver.get('https://www.naver.com')
```

```
In [6]: from selenium.webdriver.common.by import By

q = driver.find_element(By.CSS_SELECTOR, '[name=query]')
```

```
In [7]: q.send_keys('한소희')
```

```
In [10]: driver.find_element(By.CSS_SELECTOR, '#search_btn').click()
```

```
In [15]: for el in driver.find_elements(By.CSS_SELECTOR,
                                         '.api_txt_lines.total_tit'):
    print(el.text)
    print(el.get_attribute('href'))
```

자백의대가 송혜교 한소희 나이 학력 키 몸무게 MBTI등장인물 소개
<https://blog.naver.com/ryuri666/223048985344>
 한소희 타투 디자인 종류! 문신 제거 (피팅모델 시절)
<https://blog.naver.com/borareview/222930653320>
 예뻐서 난리난 한소희 처음처럼 소주CF 패션 파헤치기 (원피스, 가방, 신발 정보 포함)
<https://blog.naver.com/jayuyu/223052266939>
 한소희 실물 봤는데요
<https://cafe.naver.com/parisienlook/4141313?art=ZXh0ZXJuYWwtc2Vydm1jZS1uYXZlci1zZWYy2gtY2FmZS1wcy.eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJjYmZlVHlwZSI6IkpBRkVfVWJM>
 IiwiY2FmZVVybCI6InBhcm1zaWVubG9vayIsImFydG1jbGVJZCI6NDE0MTMxMywiaXNzdWVhbnQxOjE2Nz
 k2MTY0NjE0MDN9.ZERCKhznroBY7R1NeGIE6XYGTSeIFaG0bMDJ83tVm50
 "취소합니다"...한소희, 한 달 만에 '금주 선언' 번복한 사연
<https://blog.naver.com/donnatweety/223049160504>
 샷팅버리 음영 발렌타인데이 한소희 메이크업룩 새도우팔레트 추천
<https://blog.naver.com/bbekimha/222992899748>
 한소희, 송혜교에게 폭탄선언 하다?
<https://post.naver.com/viewer/postView.naver?volumeNo=35651591&memberNo=11800362&vType=VERTICAL>

```
In [20]: a = driver.find_elements(By.CSS_SELECTOR,
                                   '.api_txt_lines.total_tit')[0]
```

```
In [22]: a.click()
```

```
In [23]: driver.window_handles
```

```
Out[23]: ['F4838F35307CE48C1BFED9C9DC23783E', 'C1FD93B4A9FECCE221F44EA520B72DDF']
```

```
In [24]: driver.current_window_handle
```

```
Out[24]: 'F4838F35307CE48C1BFED9C9DC23783E'
```

```
In [25]: driver.switch_to.window(driver.window_handles[-1])
```

```
In [27]: iframe = driver.find_element(By.CSS_SELECTOR, '#mainFrame')
```

```
In [28]: driver.current_url
```

```
Out[28]: 'https://blog.naver.com/ryuri666/223048985344'
```

```
In [29]: driver.switch_to.frame(iframe)
```

```
In [30]: driver.current_url
```

```
Out[30]: 'https://blog.naver.com/ryuri666/223048985344'
```

```
In [32]: driver.switch_to.default_content()
```

```
In [ ]: switch_to => DOM 변경해주는 일  
        .window => 창(), current_url 바뀜  
        .frame => 같은 창 또 다른 DOM 변경, current_url 안바뀜  
DOM - DOM(iframe)
```

```
In [35]: dom1_body = driver.find_element(By.CSS_SELECTOR, 'body')
```

```
In [36]: driver.switch_to.frame(iframe)
```

```
In [37]: dom2_body = driver.find_element(By.CSS_SELECTOR, 'body')
```

```
In [38]: dom1_body, dom2_body
```

```
Out[38]: (<selenium.webdriver.remote.webelement.WebElement (session="6d46350f27b93bd3bd7b19  
356020d189", element="bd0595b5-fe4e-4bf0-ad05-2cab5869cc4f")>,  
         <selenium.webdriver.remote.webelement.WebElement (session="6d46350f27b93bd3bd7b19  
356020d189", element="b1a56e00-e239-4645-85d3-ccb0f3fd5926")>)
```

```
In [42]: dom1_body.tag_name
```

```
Out[42]: 'body'
```

```
In [40]: driver.switch_to.default_content()
```

```
In [41]: dom2_body.tag_name
```

```

-----
StaleElementReferenceException      Traceback (most recent call last)
Cell In [41], line 1
----> 1 dom2_body.tag_name

File /opt/homebrew/anaconda3/lib/python3.9/site-packages/selenium/webdriver/remot
e/webelement.py:79, in WebElement.tag_name(self)
    76 @property
    77 def tag_name(self) -> str:
    78     """This element's ``tagName`` property."""
--> 79     return self._execute(Command.GET_ELEMENT_TAG_NAME)['value']

File /opt/homebrew/anaconda3/lib/python3.9/site-packages/selenium/webdriver/remot
e/webelement.py:396, in WebElement._execute(self, command, params)
    394     params = {}
    395     params['id'] = self._id
--> 396     return self._parent.execute(command, params)

File /opt/homebrew/anaconda3/lib/python3.9/site-packages/selenium/webdriver/remot
e/webdriver.py:429, in WebDriver.execute(self, driver_command, params)
    427 response = self.command_executor.execute(driver_command, params)
    428 if response:
--> 429     self.error_handler.check_response(response)
    430     response['value'] = self._unwrap_value(
    431         response.get('value', None))
    432     return response

File /opt/homebrew/anaconda3/lib/python3.9/site-packages/selenium/webdriver/remot
e/errorhandler.py:243, in ErrorHandler.check_response(self, response)
    241     alert_text = value['alert'].get('text')
    242     raise exception_class(message, screen, stacktrace, alert_text) # typ
e: ignore[call-arg] # mypy is not smart enough here
--> 243 raise exception_class(message, screen, stacktrace)

StaleElementReferenceException: Message: stale element reference: element is not a
ttached to the page document
(Session info: chrome=111.0.5563.64)
Stacktrace:
0   chromedriver                    0x00000001050cad3c chromedriver + 4222268
1   chromedriver                    0x00000001050518e8 chromedriver + 3725544
2   chromedriver                    0x0000000104d07da4 chromedriver + 277924
3   chromedriver                    0x0000000104d0b710 chromedriver + 292624
4   chromedriver                    0x0000000104d0b3bc chromedriver + 291772
5   chromedriver                    0x0000000104d0b7b8 chromedriver + 292792
6   chromedriver                    0x0000000104d3cd64 chromedriver + 494948
7   chromedriver                    0x0000000104d371b0 chromedriver + 471472
8   chromedriver                    0x0000000104d7b618 chromedriver + 751128
9   chromedriver                    0x0000000104d358f0 chromedriver + 465136
10  chromedriver                    0x0000000104d36974 chromedriver + 469364
11  chromedriver                    0x000000010509b788 chromedriver + 4028296
12  chromedriver                    0x000000010509fc1c chromedriver + 4045852
13  chromedriver                    0x00000001050a5c98 chromedriver + 4070552
14  chromedriver                    0x00000001050a08d8 chromedriver + 4049112
15  chromedriver                    0x0000000105077d84 chromedriver + 3882372
16  chromedriver                    0x00000001050be720 chromedriver + 4171552
17  chromedriver                    0x00000001050be878 chromedriver + 4171896
18  chromedriver                    0x00000001050d2014 chromedriver + 4251668
19  libsystem_pthread.dylib          0x00000001a433606c _pthread_start + 148
20  libsystem_pthread.dylib          0x00000001a4330e2c thread_start + 8

```