

# urlopen 함수 기초 사용법

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In [1]: import urllib.request as req
        from urllib.error import URLError, HTTPError
```

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In [2]: # 다운로드 경로 및 파일명
        path_list = ["c:\\MyExam\\test2.jpg", "c:\\MyExam\\index2.html"]
```

```
In [3]: # 다운로드 리소스 URL
        target_url = ["https://i.pinimg.com/736x/13/77/b6/1377b6c567a937484e1ce227337ba8bd.jpg",
                      "https://www.python.org/"]
```

```
In [4]: for i, url in enumerate(target_url):
        # 예외 처리
        try:
            # 웹 수신 정보 읽기
            response = req.urlopen(url)

            # 수신 내용
            contents = response.read()

            print('-----')

            # 상태 정보 중간 출력
            print('Header Info-{} : {}'.format(i, response.info()))
            print('HTTP Status Code : {}'.format(response.getcode()))
            print()
            print('-----')

            # 파일 쓰기
            with open(path_list[i], 'wb') as c:
                c.write(contents)

            # HTTP 에러 발생 시
        except HTTPError as e:
            print("Download failed.")
```

```
print('HTTPError Code : ', e.code)

# URL 에러 발생 시
except URLError as e:
    print("Download failed.")
    print('URL Error Reason : ', e.reason)

# 성공
else:
    print()
    print("Download Succeed.")
```

-----  
Header Info-0 : ETag: "d2d91ac04621da65aeda712d84d47935"  
Accept-Ranges: bytes  
Content-Type: image/jpeg  
Content-Length: 71867  
Connection: close  
X-Pinterest-Cache-Status-v2: Hit  
AKAMAI-GRN: 0.8c793217.1764058517.67a8ac29  
Vary: Origin  
Cache-Control: immutable, max-age=31536000  
X-CDN: akamai  
Alt-Svc: h3=":443"; ma=604800

HTTP Status Code : 200

-----  
Download Succeed.

-----  
Header Info-1 : Connection: close  
Content-Length: 51172  
x-frame-options: SAMEORIGIN  
via: 1.1 varnish, 1.1 varnish, 1.1 varnish  
content-type: text/html; charset=utf-8  
Accept-Ranges: bytes  
Date: Tue, 25 Nov 2025 08:15:17 GMT  
Age: 145  
X-Served-By: cache-iad-kiad7000081-IAD, cache-iad-kiad7000081-IAD, cache-icn1450039-ICN  
X-Cache: MISS, HIT, HIT  
X-Cache-Hits: 0, 12, 1  
X-Timer: S1764058517.224599,VS0,VE1  
Vary: Cookie  
Strict-Transport-Security: max-age=63072000; includeSubDomains; preload

HTTP Status Code : 200

-----  
Download Succeed.

