# 21.9. `urllib.error` — Exception classes raised by urllib.request

**Source code:** Lib/urllib/error.py

The `urllib.error` module defines the exception classes for exceptions raised by `urllib.request`. The base exception class is `URLError`.

The following exceptions are raised by `urllib.error` as appropriate:

*exception* `urllib.error.`**URLError**

> The handlers raise this exception (or derived exceptions) when they run into a problem. It is a subclass of `OSError`.
>
> **reason**
>
> > The reason for this error. It can be a message string or another exception instance.
>
> *Changed in version 3.3:* `URLError` has been made a subclass of `OSError` instead of `IOError`.

*exception* `urllib.error.`**HTTPError**

> Though being an exception (a subclass of `URLError`), an `HTTPError` can also function as a non-exceptional file-like return value (the same thing that `urlopen()` returns). This is useful when handling exotic HTTP errors, such as requests for authentication.
>
> **code**
>
> > An HTTP status code as defined in **RFC 2616**. This numeric value corresponds to a value found in the dictionary of codes as found in `http.server.BaseHTTPRequestHandler.responses`.
>
> **reason**
>
> > This is usually a string explaining the reason for this error.
>
> **headers**
>
> > The HTTP response headers for the HTTP request that caused the `HTTPError`.
> >
> > *New in version 3.4.*

*exception* `urllib.error.`**ContentTooShortError**(*msg*, *content*)

This exception is raised when the `urlretrieve()` function detects that the amount of the downloaded data is less than the expected amount (given by the *Content-Length* header). The `content` attribute stores the downloaded (and supposedly truncated) data.