requests

实例引入

```
In [ ]: import requests

response = requests.get('https://www.baidu.com/')
print(type(response))
print(response.status_code)
print(type(response.text))
print(response.text)
print(response.cookies)
```

各种请求方式

```
In [ ]: import requests
requests.post('http://httpbin.org/post')
requests.put('http://httpbin.org/put')
requests.delete('http://httpbin.org/delete')
requests.head('http://httpbin.org/get')
requests.options('http://httpbin.org/get')
```

请求

基本GET请求

基本写法

```
In [ ]: import requests

response = requests.get('http://httpbin.org/get')
print(response.text)
```

带参数GET请求

```
In [ ]: import requests
response = requests.get("http://httpbin.org/get?name=germey&age=22")
print(response.text)
```

```
In [ ]: import requests

data = {
    'name': 'germey',
    'age': 22
```

```
}
response = requests.get("http://httpbin.org/get", params=data)
print(response.text)
```

解析json

```
In [ ]:  import requests
         import json

         response = requests.get("http://httpbin.org/get")
         print(type(response.text))
         print(response.json())
         print(json.loads(response.text))
         print(type(response.json()))
```

获取二进制数据

```
In [ ]:  import requests

         response = requests.get("https://github.com/favicon.ico")
         print(type(response.text), type(response.content))
         print(response.text)
         print(response.content)
```

```
In [ ]:  import requests

         response = requests.get("https://github.com/favicon.ico")
         with open('favicon.ico', 'wb') as f:
             f.write(response.content)
             f.close()
```

添加headers

```
In [ ]:  import requests

         response = requests.get("https://www.zhihu.com/explore")
         print(response.text)
```

```
In [ ]:  import requests

         headers = {
             'User-Agent': 'Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/52.0.2743.116 Safari/537.36'
         }
         response = requests.get("https://www.zhihu.com/explore", headers=headers)
         print(response.text)
```

基本POST请求

```
In [ ]:  import requests

         data = {'name': 'germey', 'age': '22'}
```

```
response = requests.post("http://httpbin.org/post", data=data)
print(response.text)
```

In [ ]:
```
import requests

data = {'name': 'germey', 'age': '22'}
headers = {
    'User-Agent': 'Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/52.0.2743.116 Safari/537.36'
}
response = requests.post("http://httpbin.org/post", data=data, headers=headers)
print(response.json())
```

响应

reponse属性

In [ ]:
```
import requests

response = requests.get('http://www.jianshu.com')
print(type(response.status_code), response.status_code)
print(type(response.headers), response.headers)
print(type(response.cookies), response.cookies)
print(type(response.url), response.url)
print(type(response.history), response.history)
```

状态码判断

In [ ]:
```
import requests

response = requests.get('http://www.jianshu.com/hello.html')
exit() if not response.status_code == requests.codes.not_found else print('404 Not Found')
```

In [ ]:
```
import requests

response = requests.get('http://www.jianshu.com')
exit() if not response.status_code == 200 else print('Request Successfully')
```

In [ ]:
```
100: ('continue',),
101: ('switching_protocols',),
102: ('processing',),
103: ('checkpoint',),
122: ('uri_too_long', 'request_uri_too_long'),
200: ('ok', 'okay', 'all_ok', 'all_okay', 'all_good', '\\o/', '✓'),
201: ('created',),
202: ('accepted',),
203: ('non_authoritative_info', 'non_authoritative_information'),
204: ('no_content',),
205: ('reset_content', 'reset'),
206: ('partial_content', 'partial'),
207: ('multi_status', 'multiple_status', 'multi_stati', 'multiple_stati'),
208: ('already_reported',),
226: ('im_used',),
```

```python
    # Redirection.
    300: ('multiple_choices',),
    301: ('moved_permanently', 'moved', '\\o-'),
    302: ('found',),
    303: ('see_other', 'other'),
    304: ('not_modified',),
    305: ('use_proxy',),
    306: ('switch_proxy',),
    307: ('temporary_redirect', 'temporary_moved', 'temporary'),
    308: ('permanent_redirect',
          'resume_incomplete', 'resume',), # These 2 to be removed in 3.0

    # Client Error.
    400: ('bad_request', 'bad'),
    401: ('unauthorized',),
    402: ('payment_required', 'payment'),
    403: ('forbidden',),
    404: ('not_found', '-o-'),
    405: ('method_not_allowed', 'not_allowed'),
    406: ('not_acceptable',),
    407: ('proxy_authentication_required', 'proxy_auth', 'proxy_authentication'),
    408: ('request_timeout', 'timeout'),
    409: ('conflict',),
    410: ('gone',),
    411: ('length_required',),
    412: ('precondition_failed', 'precondition'),
    413: ('request_entity_too_large',),
    414: ('request_uri_too_large',),
    415: ('unsupported_media_type', 'unsupported_media', 'media_type'),
    416: ('requested_range_not_satisfiable', 'requested_range', 'range_not_satisfiable'),
    417: ('expectation_failed',),
    418: ('im_a_teapot', 'teapot', 'i_am_a_teapot'),
    421: ('misdirected_request',),
    422: ('unprocessable_entity', 'unprocessable'),
    423: ('locked',),
    424: ('failed_dependency', 'dependency'),
    425: ('unordered_collection', 'unordered'),
    426: ('upgrade_required', 'upgrade'),
    428: ('precondition_required', 'precondition'),
    429: ('too_many_requests', 'too_many'),
    431: ('header_fields_too_large', 'fields_too_large'),
    444: ('no_response', 'none'),
    449: ('retry_with', 'retry'),
    450: ('blocked_by_windows_parental_controls', 'parental_controls'),
    451: ('unavailable_for_legal_reasons', 'legal_reasons'),
    499: ('client_closed_request',),

    # Server Error.
    500: ('internal_server_error', 'server_error', '/o\\', '    '),
    501: ('not_implemented',),
    502: ('bad_gateway',),
    503: ('service_unavailable', 'unavailable'),
    504: ('gateway_timeout',),
    505: ('http_version_not_supported', 'http_version'),
    506: ('variant_also_negotiates',),
    507: ('insufficient_storage',),
    509: ('bandwidth_limit_exceeded', 'bandwidth'),
    510: ('not_extended',),
    511: ('network_authentication_required', 'network_auth', 'network_authentication'),
```

高级操作

文件上传

```
In [ ]: import requests

        files = {'file': open('favicon.ico', 'rb')}
        response = requests.post("http://httpbin.org/post", files=files)
        print(response.text)
```

获取cookie

```
In [ ]: import requests

        response = requests.get("https://www.baidu.com")
        print(response.cookies)
        for key, value in response.cookies.items():
            print(key + '=' + value)
```

会话维持

模拟登录

```
In [ ]: import requests

        requests.get('http://httpbin.org/cookies/set/number/123456789')
        response = requests.get('http://httpbin.org/cookies')
        print(response.text)
```

```
In [ ]: import requests

        s = requests.Session()
        s.get('http://httpbin.org/cookies/set/number/123456789')
        response = s.get('http://httpbin.org/cookies')
        print(response.text)
```

证书验证

```
In [ ]: import requests

        response = requests.get('https://www.12306.cn')
        print(response.status_code)
```

```
In [ ]: import requests
        from requests.packages import urllib3
        urllib3.disable_warnings()
        response = requests.get('https://www.12306.cn', verify=False)
        print(response.status_code)
```

```
In [ ]:  import requests

         response = requests.get('https://www.12306.cn', cert=('/path/server.crt', '/path/key'))
         print(response.status_code)
```

代理设置

```
In [ ]:  import requests

         proxies = {
           "http": "http://127.0.0.1:9743",
           "https": "https://127.0.0.1:9743",
         }

         response = requests.get("https://www.taobao.com", proxies=proxies)
         print(response.status_code)
```

```
In [ ]:  import requests

         proxies = {
             "http": "http://user:password@127.0.0.1:9743/",
         }
         response = requests.get("https://www.taobao.com", proxies=proxies)
         print(response.status_code)
```

```
In [ ]:  pip3 install 'requests[socks]'
```

```
In [ ]:  import requests

         proxies = {
             'http': 'socks5://127.0.0.1:9742',
             'https': 'socks5://127.0.0.1:9742'
         }
         response = requests.get("https://www.taobao.com", proxies=proxies)
         print(response.status_code)
```

超时设置

```
In [ ]:  import requests
         from requests.exceptions import ReadTimeout
         try:
             response = requests.get("http://httpbin.org/get", timeout = 0.5)
             print(response.status_code)
         except ReadTimeout:
             print('Timeout')
```

认证设置

```
In [ ]:  import requests
         from requests.auth import HTTPBasicAuth

         r = requests.get('http://120.27.34.24:9001', auth=HTTPBasicAuth('user', '123'))
         print(r.status_code)
```

In [ ]:
```python
import requests

r = requests.get('http://120.27.34.24:9001', auth=('user', '123'))
print(r.status_code)
```

异常处理

In [ ]:
```python
import requests
from requests.exceptions import ReadTimeout, ConnectionError, RequestException
try:
    response = requests.get("http://httpbin.org/get", timeout = 0.5)
    print(response.status_code)
except ReadTimeout:
    print('Timeout')
except ConnectionError:
    print('Connection error')
except RequestException:
    print('Error')
```