

Django中使用Json返回数据

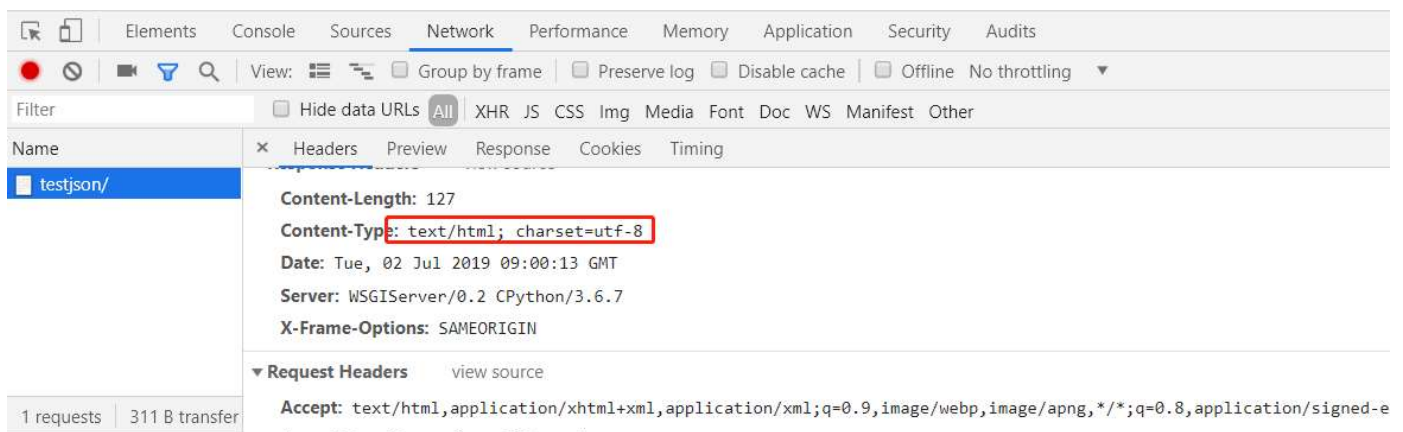
在一个网站在，大量数据与前端交互，JSON是最好的传递数据方式了。

在Django中，使用JSON传输数据，有两种方式，一种是使用Python的JSON包，一种是使用Django的JsonResponse

方法一：使用Python的JSON包

```
1 from django.shortcuts import HttpResponseRedirect
2
3 import json
4
5
6 def testjson(request):
7     data={
8         'patient_name': '张三',
9         'age': '25',
10        'patient_id': '19000347',
11        '诊断': '上呼吸道感染',
12    }
13    return HttpResponseRedirect(json.dumps(data))
```

我们暂且把data看成是从数据库取出来的数据，使用浏览器访问一下testjson



咦，怎么是乱码了？有中文的都是乱码了？

不着急，这不是乱码，这是中文在内存中的二进制表现形式而已，使用JSON的转换工具可以看到中文的。

我们看一下Response Headers响应头，其中的Content-Type是text/html，我明明传的是JSON啊，怎么会变成字符串类型了？这是因为我们没有告诉浏览器，我们要传一个JSON数据，那么，怎么告诉浏览器呢？

HttpResponse是继承HttpResponseBase的，我们可以告诉浏览器，我要传application/json数据。我们稍微改一下content的值，看看会变成什么？

```
1 def testjson(request):
2     data={
3         'patient_name': '张三',
4         'age': '25',
5         'patient_id': '19000347',
6         '诊断': '上呼吸道感染',
7     }
8     return HttpResponse(json.dumps(data), content_type='application/json')
```

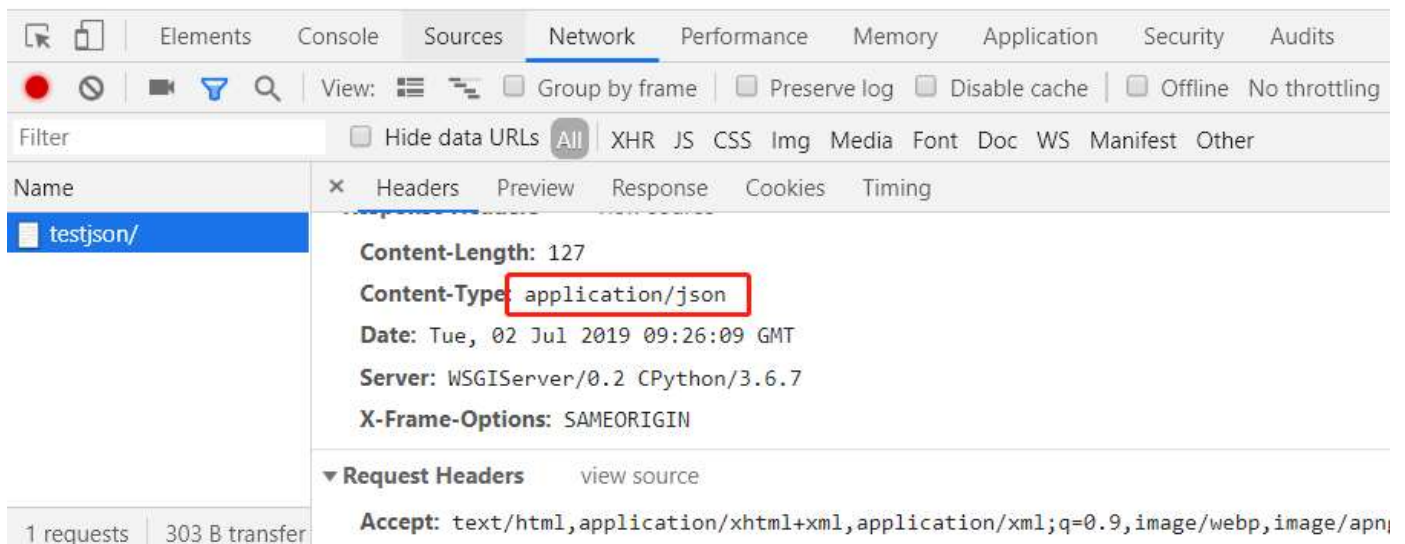
再访问网页：



127.0.0.1:8000/testjson/

应用 数据可视化微专业... 首页--广东软考培训 API列表 - itchat 站点地图 | 爱分享 EmulatedLab - 国... SPOTO - EVE-1

["patient_name": "\\u5f20\\u4e09", "age": "25", "patient_id": "19000347", "\\u8bca\\u65ad": "\\u4e0a\\u547c\\u5438\\u9053\\u611f\\u67d3"]



Elements Console Sources Network Performance Memory Application Security Audits

View: [List Icon] [Grid Icon] [Group by frame] [Preserve log] [Disable cache] [Offline] No throttling

Filter [x] Hide data URLs All XHR JS CSS Img Media Font Doc WS Manifest Other

Name testjson/ Headers Preview Response Cookies Timing

Content-Length: 127

Content-Type: application/json

Date: Tue, 02 Jul 2019 09:26:09 GMT

Server: WSGIServer/0.2 CPython/3.6.7

X-Frame-Options: SAMEORIGIN

Request Headers view source

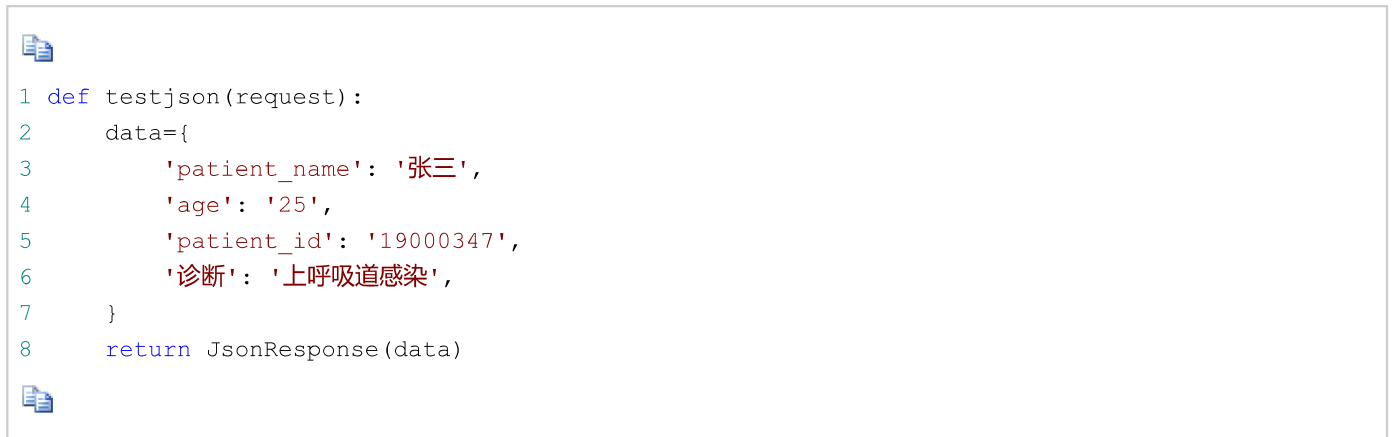
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng

1 requests 303 B transfer



这下好了，是传输JSON了，在Preview中可以正常显示出来了。

方法二：使用JsonResponse进行传输。



访问网页：

127.0.0.1:8000/testjson/

应用 数据可视化微专业... 首页--广东软考培训 API列表 - itchat 站点地图 | 爱分享 EmulatedLab - 国... SPO

```
{"patient_name": "\u5f20\u4e09", "age": "25", "patient_id": "19000347", "\u8bca\u65ad": "\u4e0a\u547c\u5438\u9053\u611f\u67d3"}
```

Elements Console Sources **Network** Performance Memory Application Security Aud

View: [Icons] Group by frame Preserve log Disable cache Offline No th

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Name testjson/

× Headers Preview Response Cookies Timing

Content-Length: 127
Content-Type: application/json
Date: Tue, 02 Jul 2019 09:31:06 GMT
Server: WSGIServer/0.2 CPython/3.6.7
X-Frame-Options: SAMEORIGIN

▼ Request Headers view source

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,im

1 requests 303 B transfer

[X] Hide data URLs All XHR JS CSS Img Media Font Doc WS Manifest Other

× Headers **Preview** Response Cookies Timing

▼ {patient_name: "张三", age: "25", patient_id: "19000347", 诊断: "上呼吸道感染"}
age: "25"
patient_id: "19000347"
patient_name: "张三"
诊断: "上呼吸道感染"

嗯，一切正常。

看一下JsonResponse的源码：



```
class JsonResponse(HttpResponse):
    """
    An HTTP response class that consumes data to be serialized to JSON.

    :param data: Data to be dumped into json. By default only ``dict`` objects
        are allowed to be passed due to a security flaw before EcmaScript 5. See
        the ``safe`` parameter for more information.
    :param encoder: Should be a json encoder class. Defaults to
        ``django.core.serializers.json.DjangoJSONEncoder``.
    :param safe: Controls if only ``dict`` objects may be serialized. Defaults
        to ``True``.
    :param json_dumps_params: A dictionary of kwargs passed to json.dumps().

    def __init__(self, data, encoder=DjangoJSONEncoder, safe=True,
        json_dumps_params=None, **kwargs):
        if safe and not isinstance(data, dict):
            raise TypeError(
                'In order to allow non-dict objects to be serialized set the '
                'safe parameter to False.'
            )
        if json_dumps_params is None:
            json_dumps_params = {}
        kwargs.setdefault('content_type', 'application/json')
        data = json.dumps(data, cls=encoder, **json_dumps_params)
        super().__init__(content=data, **kwargs)
```



其内部也是通过json.dumps来把数据转换为JSON的，其还可以转换为list类型。我们再来改一下testjson

```
1 def testjson(request):
2     listdata = ["张三", "25", "19000347", "上呼吸道感染"]
3     return JsonResponse(listdata)
```

程序报错了

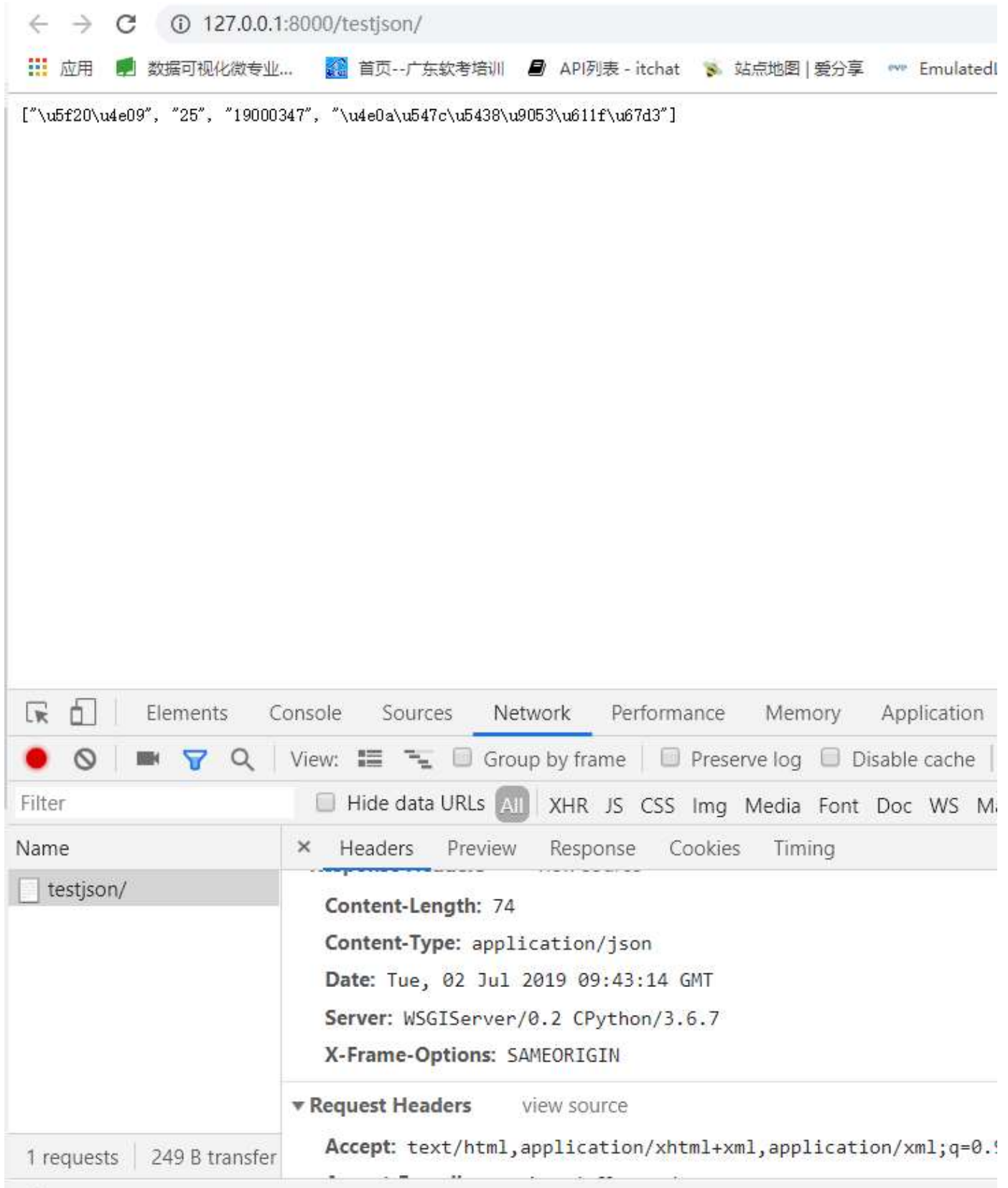
```
Quit the server with CTRL-BREAK.
Internal Server Error: /testjson/
Traceback (most recent call last):
  File "D:\study\Djangoenv\lib\site-packages\django\core\handlers\exception.py", line 34, in inner
    response = get_response(request)
  File "D:\study\Djangoenv\lib\site-packages\django\core\handlers\base.py", line 126, in _get_response
    response = self.process_exception_by_middleware(e, request)
  File "D:\study\Djangoenv\lib\site-packages\django\core\handlers\base.py", line 124, in _get_response
    response = wrapped_callback(request, *callback_args, **callback_kwargs)
  File "D:\study>Login_study\app\views.py", line 43, in testjson
    return JsonResponse(listdata)
  File "D:\study\Djangoenv\lib\site-packages\django\http\response.py", line 552, in __init__
    'In order to allow non-dict objects to be serialized set the '
TypeError: In order to allow non-dict objects to be serialized set the safe parameter to False.
[02/Jul/2019 17:39:07] "GET /testjson/ HTTP/1.1" 500 72271
```

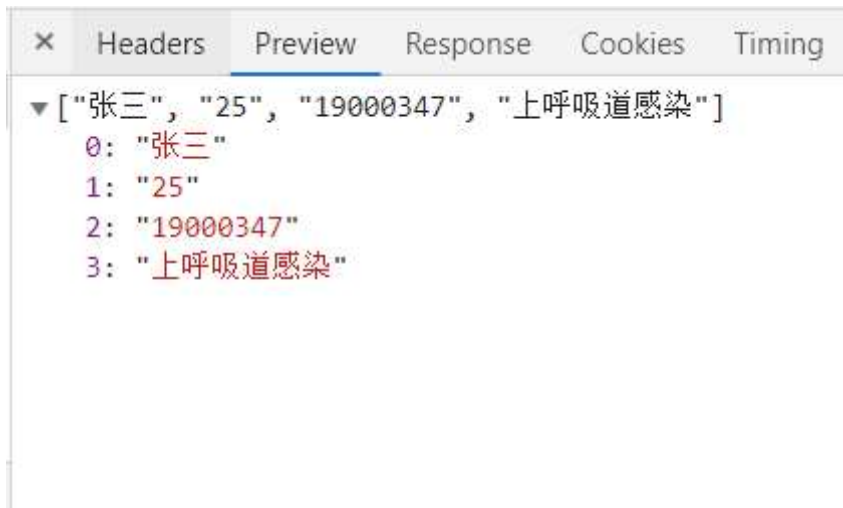
报错为：In order to allow non-dict objects to be serialized set the safe parameter to False，它的意思是转换为一个非字典的类型时，safe参数要设置为False，还记得上面JsonResponse的原码吗？其中就有


```
if safe and not isinstance(data, dict):
    raise TypeError(
        'In order to allow non-dict objects to be serialized set the '
        'safe parameter to False.'
    )
```

代码修改为：

```
def testjson(request):
    listdata = ["张三", "25", "19000347", "上呼吸道感染"]
    return JsonResponse(listdata, safe=False)
```





嗯，这下正常了。

这有什么用呢？有时我们从数据库取出来的数据，很多是列表类型的，特别是用cx_Oracle包在Oracle数据库取出来的数据，其不支持直接字典的输出，输出就是一个list，这时我们使用JsonResponse(data, safe=False)就可以直接输换为Json，发送到前端了。