

作业一 JSONP

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一、作业内容

1. 实现三个主机

`web.cybersecurity.seu.edu(10.0.0.2,host1)`
`time.cybersecurity.seu.edu(10.0.0.3,host2)`
`jsonp.cybersecurity.seu.edu(10.0.0.4,host3)`

2. 在 `time.cybersecurity.seu.edu` 上实现三个

- `/api/date` 接口, 返回形式为 `{date: 124566334}` 这样的 json 数据。
- `/api/datecors` 接口, 返回形式为 `{date: 124566334}` 这样的 json 数据, 并设置 CORS 头部字段。
- `/api/jsonpdate` 接口, 返回形式为 jsonp 格式的数据。

3. 在 `web.cybersecurity.seu.edu` 下实现一个页面, 在页面中通过 js 代码读取 `time.cybersecurity.seu.edu` 的接口数据, 分别测试在 `time.cybersecurity.seu.edu` 中设置和未设置 CORS 头的情况下, `web.cybersecurity.seu.edu` 读取接口数据的情况, 提供读取成功和未读取成功模式下的截图。

4. 在 `jsonp.cybersecurity.seu.edu` 下实现一个页面, 测试在 `time.cybersecurity.seu.edu` 中未设置 CORS 头的情况下, 在页面中通过回调 js 代码读取 `time.cybersecurity.seu.edu` 的接口数据的方法, 提供读取成功模式下的截图。

二、实验步骤

1. 修改 `/etc/hosts`

添加如下条目:

```
33# For Websec Assignment1
34 10.0.0.2      web.cybersecurity.seu.edu
35 10.0.0.3      time.cybersecurity.seu.edu
36 10.0.0.4      jsonp.cybersecurity.seu.edu
```

2. 在 `time.cybersecurity.seu.edu` 主机上实现接口

```

1 const express = require('express')
2 const { createReadStream } = require('fs')
3 const bodyParser = require('body-parser')
4 const app = express()
5
6 app.use(bodyParser.urlencoded({ extended: false }))
7 app.listen(80)
8 app.get('/', (req, res) => {
9     createReadStream('index.html').pipe(res)
10 })
11 app.get('/api/date', (req, res) => {
12     res.send({ date: Date.now() })
13 })
14 app.get('/api/datecors', (req, res) => {
15     res.set('Access-Control-Allow-Origin', '*')
16     res.send({ date: Date.now() })
17 })
18 app.get('/api/jsonpdate', (req, res) => {
19     res.send(req.query.callback + '({ "date": ' + Date.now() + ' })')
20 })

```

3. 在 web.cybersecurity.seu.edu 上实现页面读取 time.cybersecurity.seu.edu 接口数据

未设置 CORS 头时:

```

✖ Access to fetch at 'http://time.cybersecurity.seu.edu/api/date' from origin 'http://web.cybersecurity.seu.edu' has been blocked by CORS policy: No 'Access-Control-Allow-Origin' header is present on the requested resource. If an opaque response serves your needs, set the request's mode to 'no-cors' to fetch the resource with CORS disabled.
✖ Failed to load resource: time.cybersecurity.seu.edu/api/date:1 net::ERR_FAILED

```

设置 CORS 头时:

```

Inspector Console Debugger Network Style Editor Performance Memory Storage Ac
Filter Output
Object { date: 1637588763805 }
Cross-Origin Request Blocked: The Same Origin Policy disallows reading the remote resource at http://time.cybersecurity.seu.edu/api/date.
Uncaught (in promise) TypeError: NetworkError when attempting to fetch resource.
>>

```

4. 在 jsonp.cybersecurity.seu.edu 上实现页面通过 js 回调读取 time.cybersecurity.seu.edu 接口数据

```

Inspector Console Debugger Network Style Editor Performance Memory Storage Ac
Filter Output
got the date 1637388826425
The character encoding of the HTML document was not declared. The document will render with garbled text in some browsers unless it is declared in the document or in the transfer protocol.
>>

```