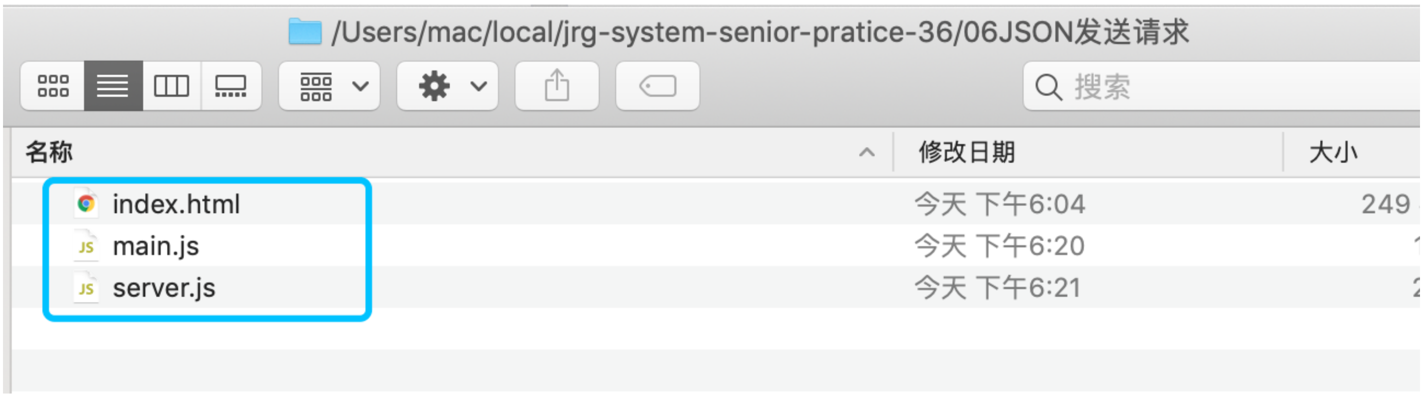
笔记:
https://xiedaimala.com/tasks/62169911-890d-4048-8d32-a393fdf16d2e/text_tutorials/c6dc435a-843a-4a31-be20-d73565233c54

一个简单的ajax的demo:



/Users/mac/local/jrg-system-senior-pratice-36/06JSON发送请求

名称	修改日期	大小
index.html	今天 下午6:04	249
main.js	今天 下午6:20	1
server.js	今天 下午6:21	2

三个文件:

index.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title>首页</title>
<!--06-JSON发送请求-->
</head>


<body>
<button id="myButton">点我</button>
<script src="main.js"></script>
</body>
```

```
</html>


```

main.js:

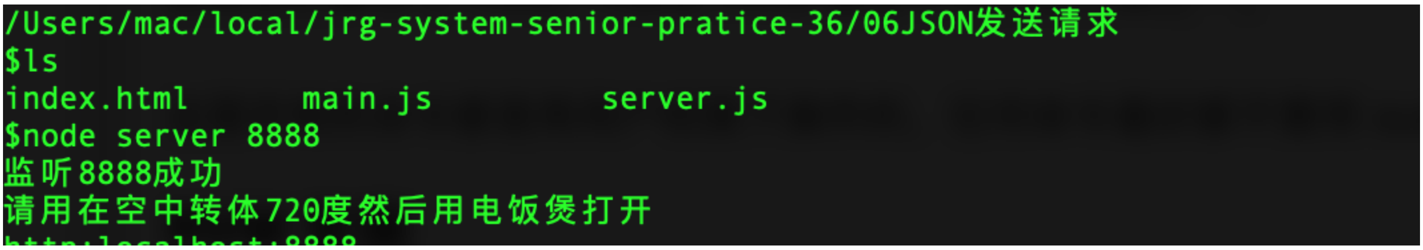
```

/**
* Created by Administrator on 2018/1/15 0015.
*/
myButton.addEventListener('click',(e)=>{
debugger
console.log("-------------")
console.log(e)
let request = new XMLHttpRequest()
request.onreadystatechange = ()=>{
debugger
if(request.readyState === 4){
console.log('请求响应都完毕了')

if(request.status >= 200 && request.status <300){
debugger
console.log('说明请求成功')
console.log(typeof request.responseText)
console.log(request.responseText)

let string = request.responseText
//把符合JSON语法的字符串转换成JS对应的值
let object = window.JSON.parse(string)
console.log(typeof object)
console.log(object)
console.log('object.note')
console.log(object.note)
console.log('object.from')
console.log(object.from)
}else if(request.status >= 400){
console.log('说明请求失败')
}
}
}
request.open('GET','/xxx') //配置request
request.send()
})

```

server.js:

```
var http = require('http')
var fs = require('fs')
var url = require('url')

var port = process.env.PORT || 8888;

var server = http.createServer(function(request,response){
var temp = url.parse(request.url,true)
var path = temp.pathname
var query = temp.query
var method = request.method

//从这里开始看，上面不要看

if(path === '/'){ //如果用户请求的是/路径
let string = fs.readFileSync('./index.html')
response.statusCode = 200
response.setHeader('Content-Type','text/html;charset=utf-8')
response.write(string)
response.end()
}else if(path ==='/main.js'){
let string = fs.readFileSync('./main.js','utf-8')
response.statusCode = 200
response.setHeader('Content-Type','text/javascript;charset=utf-8')
response.write(string)
response.end()
//主要是这里
}else if(path='xxx'){
debugger
response.statusCode = 200
response.setHeader('Content-Type','text/xml')
//符合JSON语法的字符串
response.write(`
{
"note":{
"to":"小谷",
"from":"方方",
"heading":"打招呼",
"content":"hi"
}
}
`)
response.end()
}else{
response.statusCode = 404
response.setHeader('Content-Type','text/html;charset=utf-8')
response.write('呜呜呜')
response.end()
}

//代码结束，下面不要看
console.log(method+''+request.url)
})

server.listen(port)
console.log('监听' + port + '成功\n请用在空中转体720度然后用电饭煲打开\nhttp:localhost:'+por

```

开启服务器

进入到当前目录下:

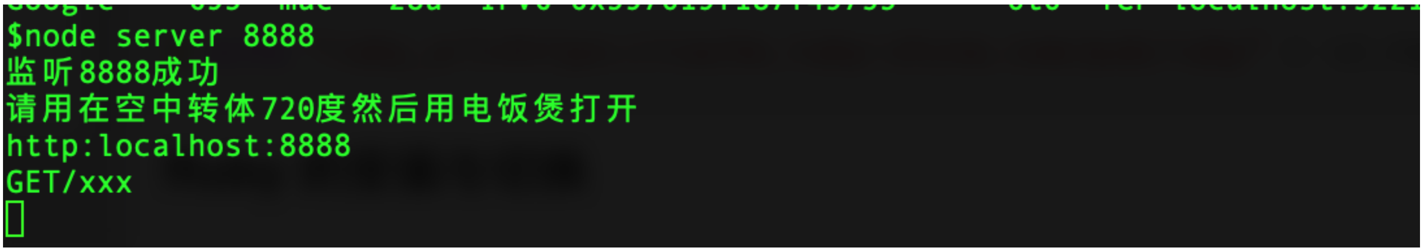


```
/Users/mac/local/jrg-system-senior-pratice-36/06JSON发送请求
$ls
index.html        main.js           server.js
$node server 8888
监听8888成功
请用在空中转体720度然后用电饭煲打开
http:localhost:8888
```

如果遇到端口占用问题,看隔壁一篇文章;

如下图:

```
开启服务命令:
node server 8888(端口可以自己定)
```

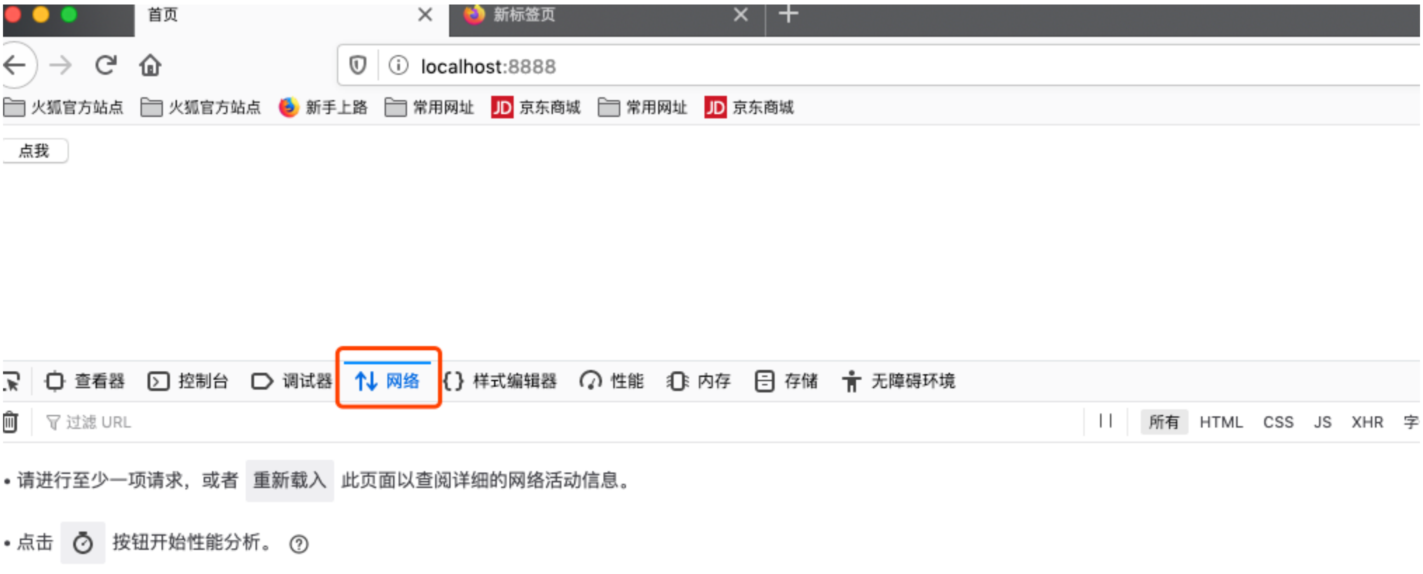


```
$node server 8888
监听8888成功
请用在空中转体720度然后用电饭煲打开
http:localhost:8888
GET/xxx
```

如上图所示,现在服务端处于此时状态(之前已经调试过一次了,故有 `GET/xxx`);

下面以firefox(我自己电脑上面chrome有问题)为例开启调试:

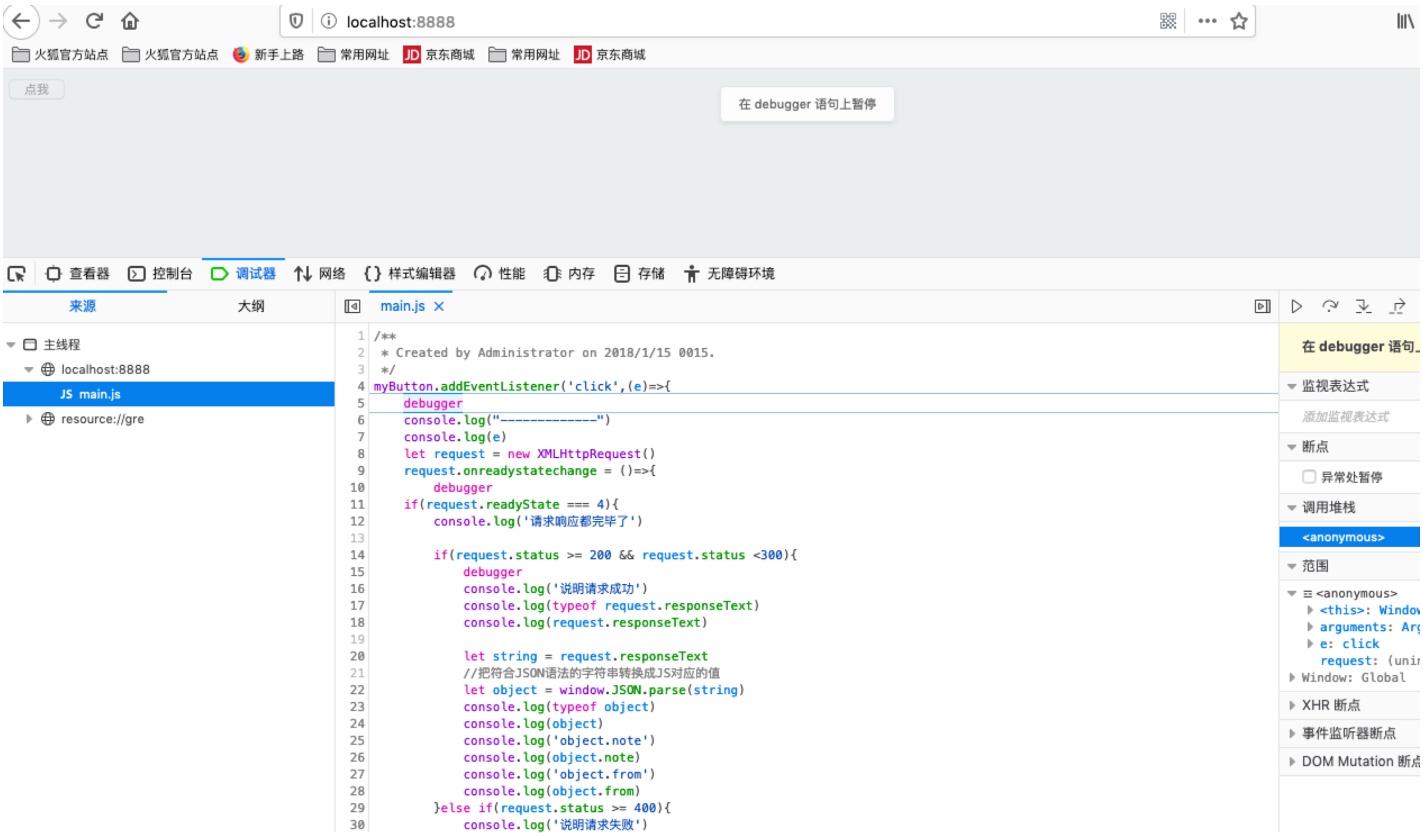
首先确保网络这里没有任何之前的历史记录;



- 请进行至少一项请求，或者 重新载入 此页面以查阅详细的网络活动信息。
- 点击 按钮开始性能分析。

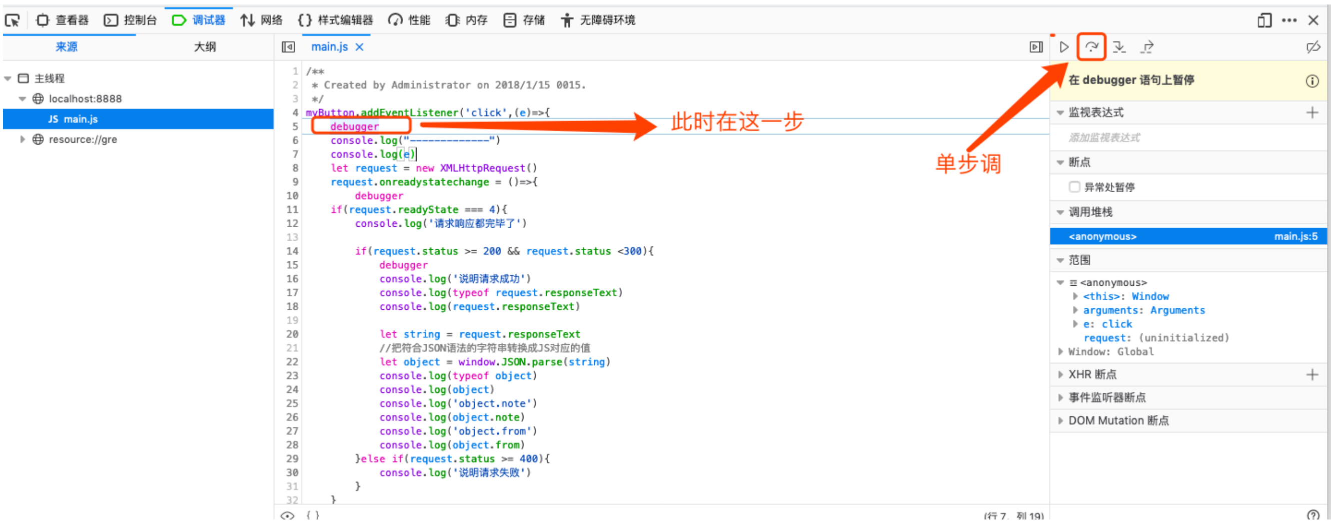
然后,点击 点我 那个按钮;

自动跳至调试器那边;



```
/**
 * Created by Administrator on 2018/1/15 0015.
 */
myButton.addEventListener('click',(e)=>{
    debugger
    console.log("-------------")
    console.log(e)
    let request = new XMLHttpRequest()
    request.onreadystatechange = ()=>{
        debugger
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
            console.log(request.responseText)

            let string = request.responseText
            //把符合JSON语法的字符串转换成JS对应的值
            let object = window.JSON.parse(string)
            console.log(typeof object)
            console.log(object)
            console.log('object.note')
            console.log(object.note)
            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
```

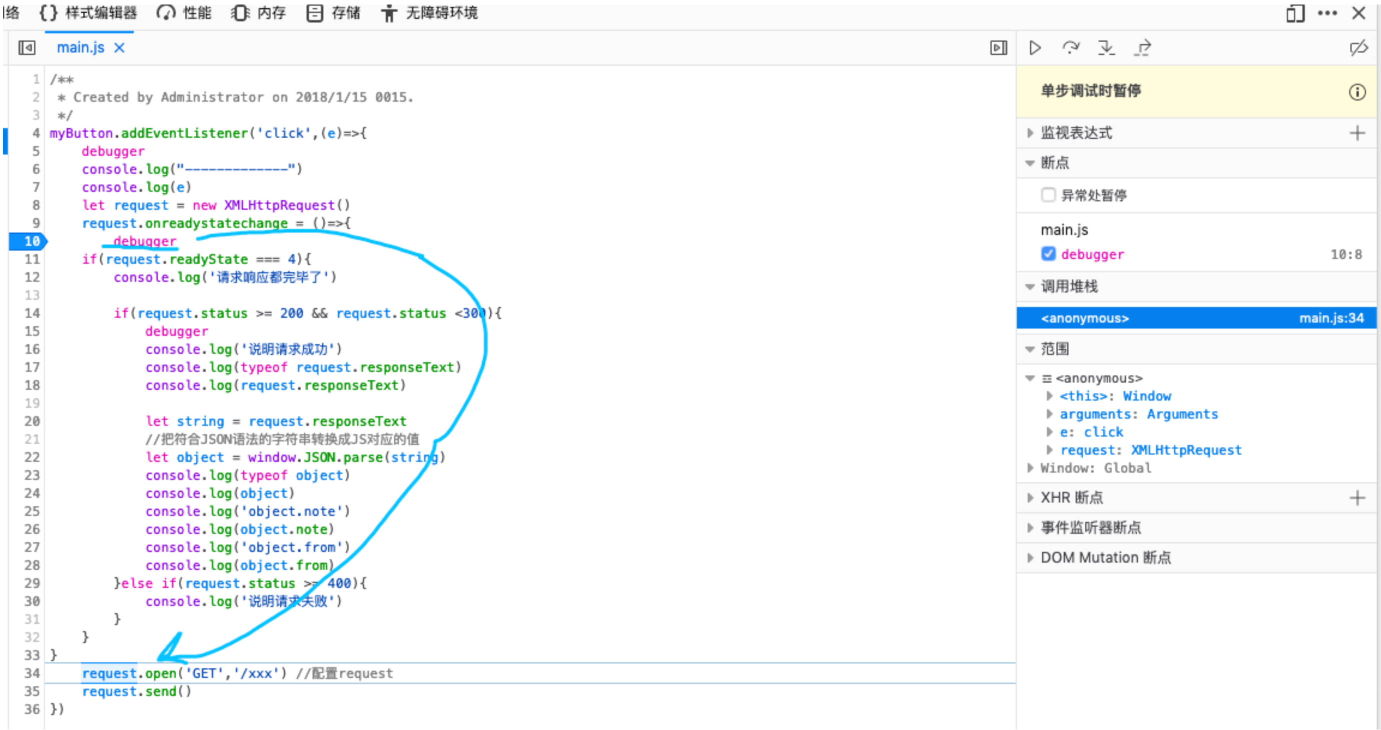
```
<anonymous>
<this>: Window
arguments: Arg
e: click
request: (uni
Window: Global
```



```
1  /**
2   * Created by Administrator on 2018/1/15 0015.
3   */
4  myButton.addEventListener('click',(e)=>{
5      debugger
6      console.log("-------------")
7      console.log(e)
8      let request = new XMLHttpRequest()
9      request.onreadystatechange = ()=>{
10         debugger
11     if(request.readyState === 4){
12         console.log('请求响应都完毕了')
13
14         if(request.status >= 200 && request.status <300){
15             debugger
16             console.log('说明请求成功')
17             console.log(typeof request.responseText)
18             console.log(request.responseText)
19
20             let string = request.responseText
21             //把符合JSON语法的字符串转换成JS对应的值
22             let object = window.JSON.parse(string)
23             console.log(typeof object)
24             console.log(object)
25             console.log('object.note')
26             console.log(object.note)
27             console.log('object.from')
28             console.log(object.from)
29         }else if(request.status >= 400){
30             console.log('说明请求失败')
31         }
32     }
```

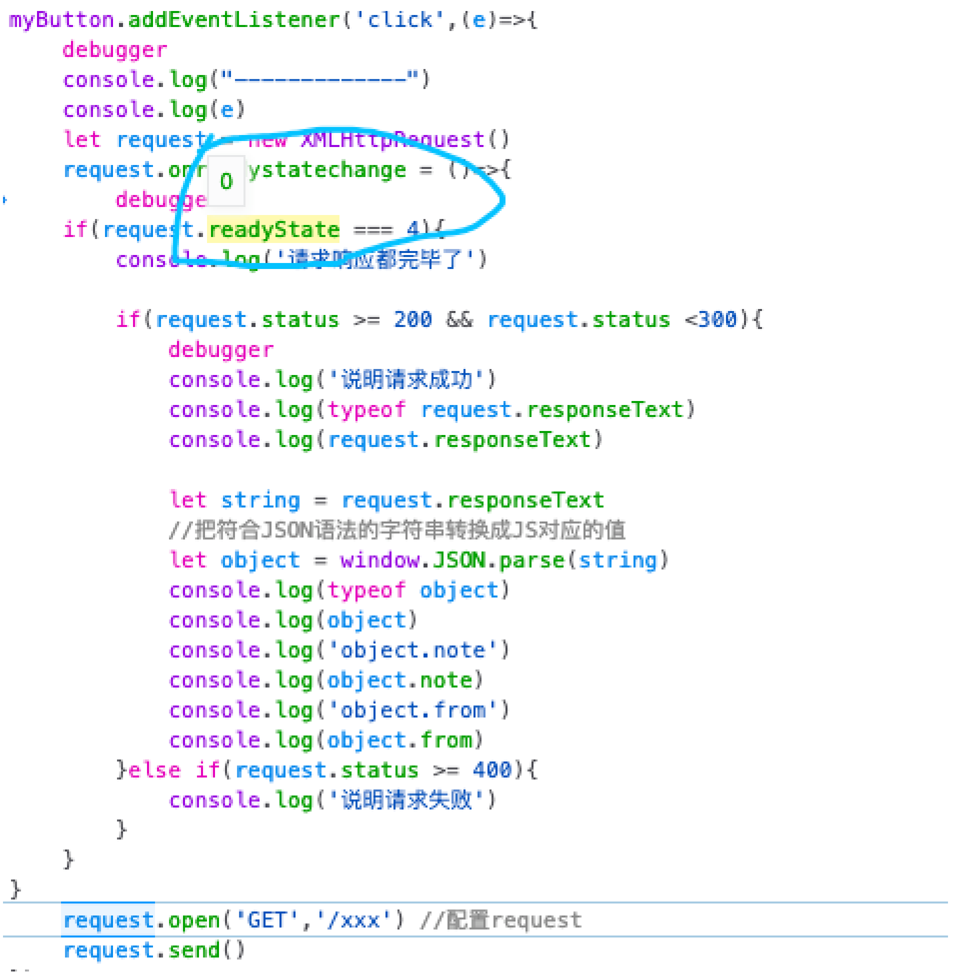
单步调试:

走至第9行时,还未走第10行就直接跳至34行:(下图标错了)



```
1  /**
2   * Created by Administrator on 2018/1/15 0015.
3   */
4  myButton.addEventListener('click',(e)=>{
5      debugger
6      console.log("-------------")
7      console.log(e)
8      let request = new XMLHttpRequest()
9      request.onreadystatechange = ()=>{
10         debugger
11     if(request.readyState === 4){
12         console.log('请求响应都完毕了')
13
14         if(request.status >= 200 && request.status <300){
15             debugger
16             console.log('说明请求成功')
17             console.log(typeof request.responseText)
18             console.log(request.responseText)
19
20             let string = request.responseText
21             //把符合JSON语法的字符串转换成JS对应的值
22             let object = window.JSON.parse(string)
23             console.log(typeof object)
24             console.log(object)
25             console.log('object.note')
26             console.log(object.note)
27             console.log('object.from')
28             console.log(object.from)
29         }else if(request.status >= 400){
30             console.log('说明请求失败')
31         }
32     }
33 }
34     request.open('GET','/xxx') //配置request
35     request.send()
36 })
```

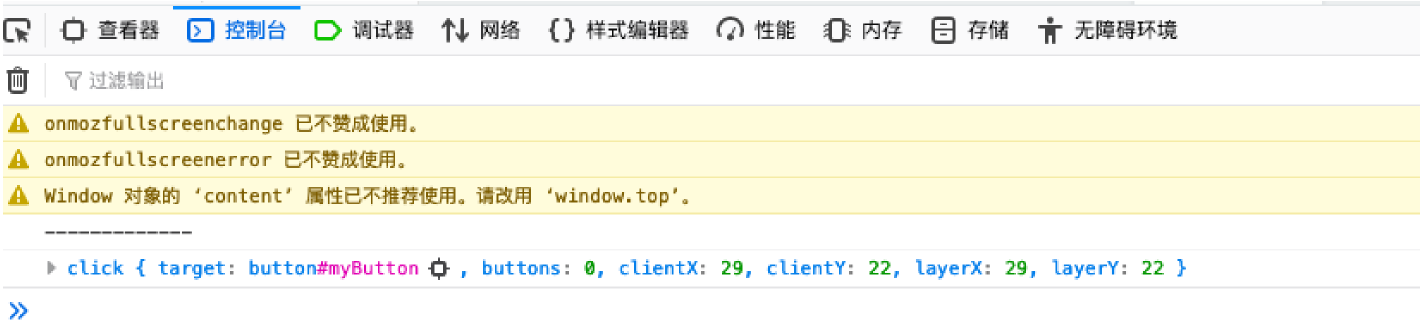
状态码为0



```
myButton.addEventListener('click',(e)=>{
    debugger
    console.log("-------------")
    console.log(e)
    let request = new XMLHttpRequest()
    request.onreadystatechange = ()=>{
        debugger
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
            console.log(request.responseText)

            let string = request.responseText
            //把符合JSON语法的字符串转换成JS对应的值
            let object = window.JSON.parse(string)
            console.log(typeof object)
            console.log(object)
            console.log('object.note')
            console.log(object.note)
            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
        }
    }
}
    request.open('GET','/xxx') //配置request
    request.send()
```

其实此时可以看得出来此时的状态码为0:

此时控制台打印出来的与上面对应:

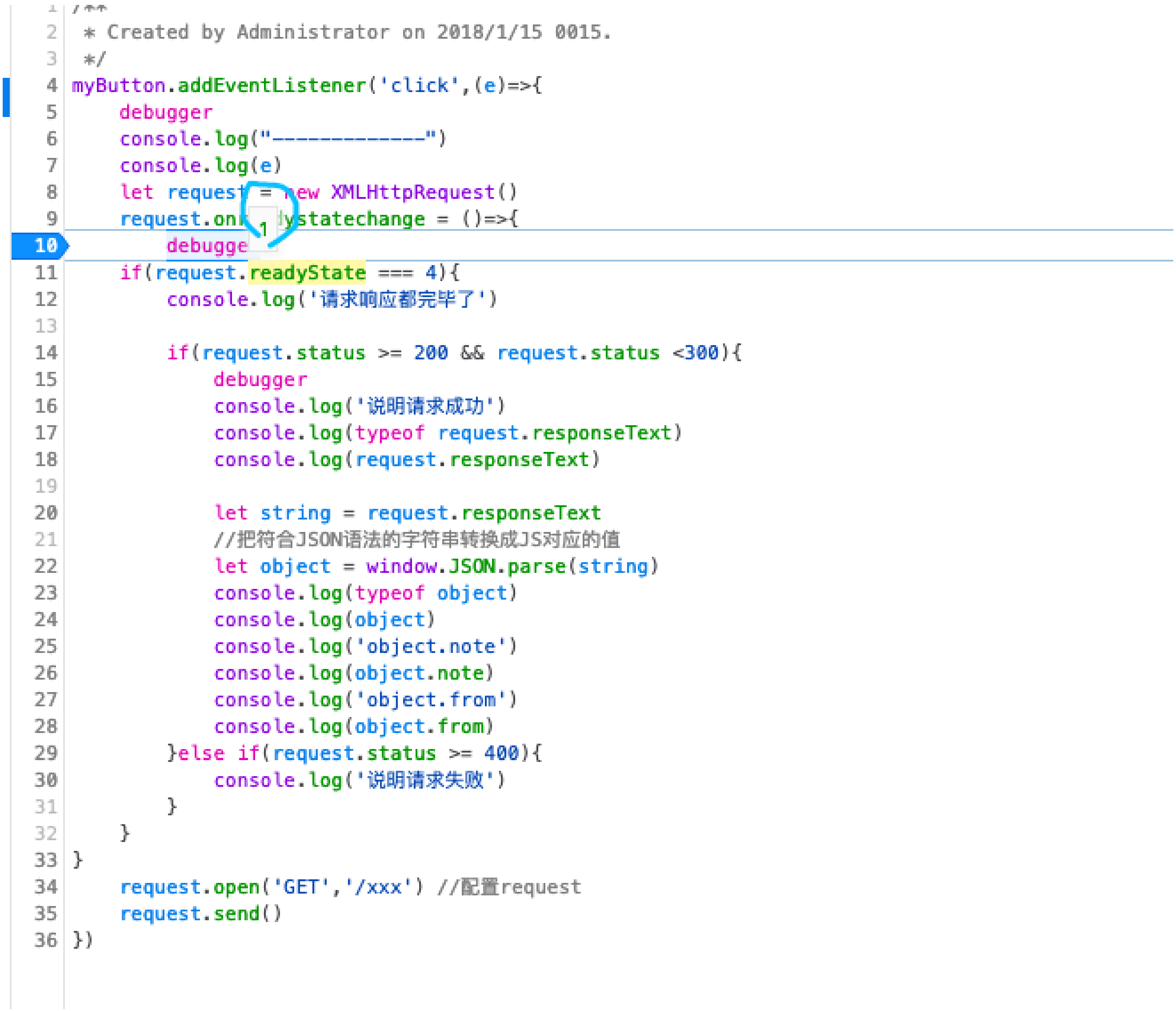


```
⚠ onmozfullscreenchange 已不赞成使用。
⚠ onmozfullscreenerror 已不赞成使用。
⚠ Window 对象的 ‘content’ 属性已不推荐使用。请改用 ‘window.top’。
  -------------
  ▶ click { target: button#myButton , buttons: 0, clientX: 29, clientY: 22, layerX: 29, layerY: 22 }
»
```

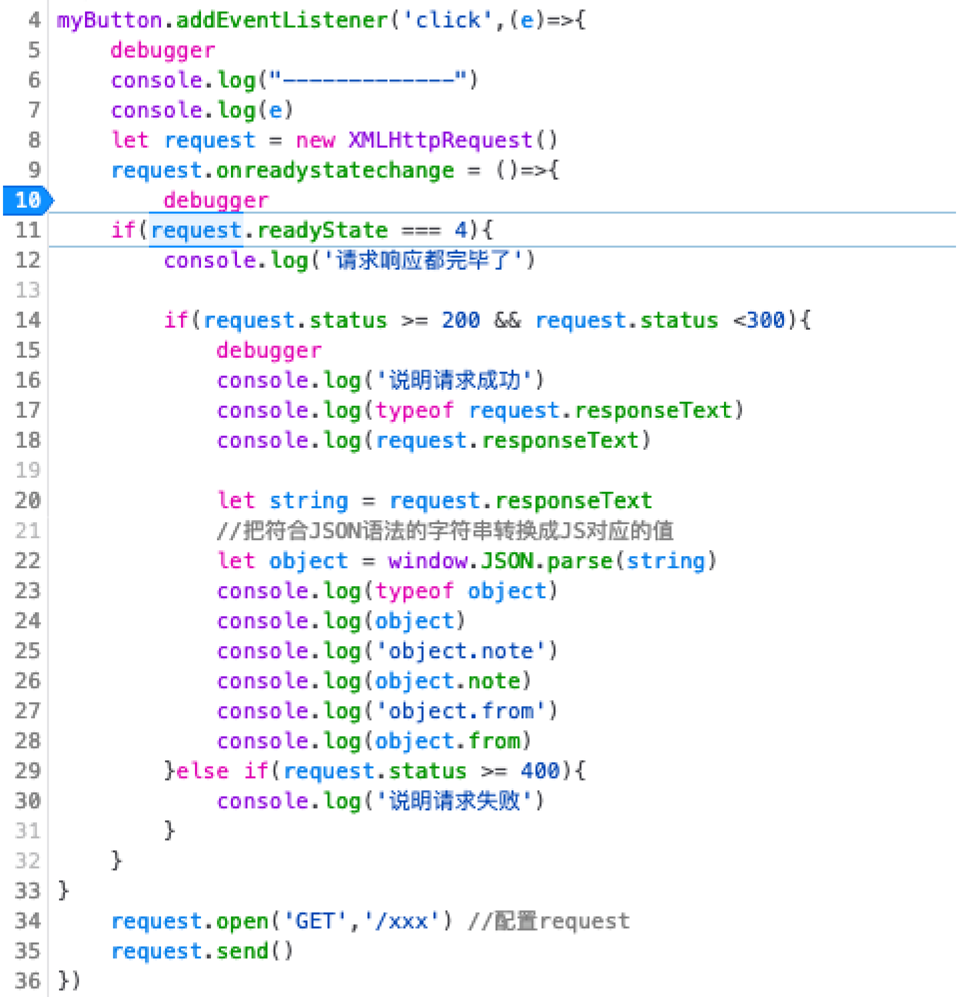
状态码为1

继续单步调:

从34行回到第10行,同时发现状态码变为1了!



```
/**
 * Created by Administrator on 2018/1/15 0015.
 */
myButton.addEventListener('click',(e)=>{
    debugger
    console.log("------------")
    console.log(e)
    let request = new XMLHttpRequest()
    request.onreadystatechange = ()=>{
        debugger
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
            console.log(request.responseText)

            let string = request.responseText
            //把符合JSON语法的字符串转换成JS对应的值
            let object = window.JSON.parse(string)
            console.log(typeof object)
            console.log(object)
            console.log('object.note')
            console.log(object.note)
            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
        }
    }
}
    request.open('GET','/xxx') //配置request
    request.send()
})
```



```
myButton.addEventListener('click',(e)=>{
    debugger
    console.log("-------------")
    console.log(e)
    let request = new XMLHttpRequest()
    request.onreadystatechange = ()=>{
        debugger
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
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            let string = request.responseText
            //把符合JSON语法的字符串转换成JS对应的值
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            console.log('object.note')
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            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
        }
    }
}
    request.open('GET','/xxx') //配置request
    request.send()
})
```

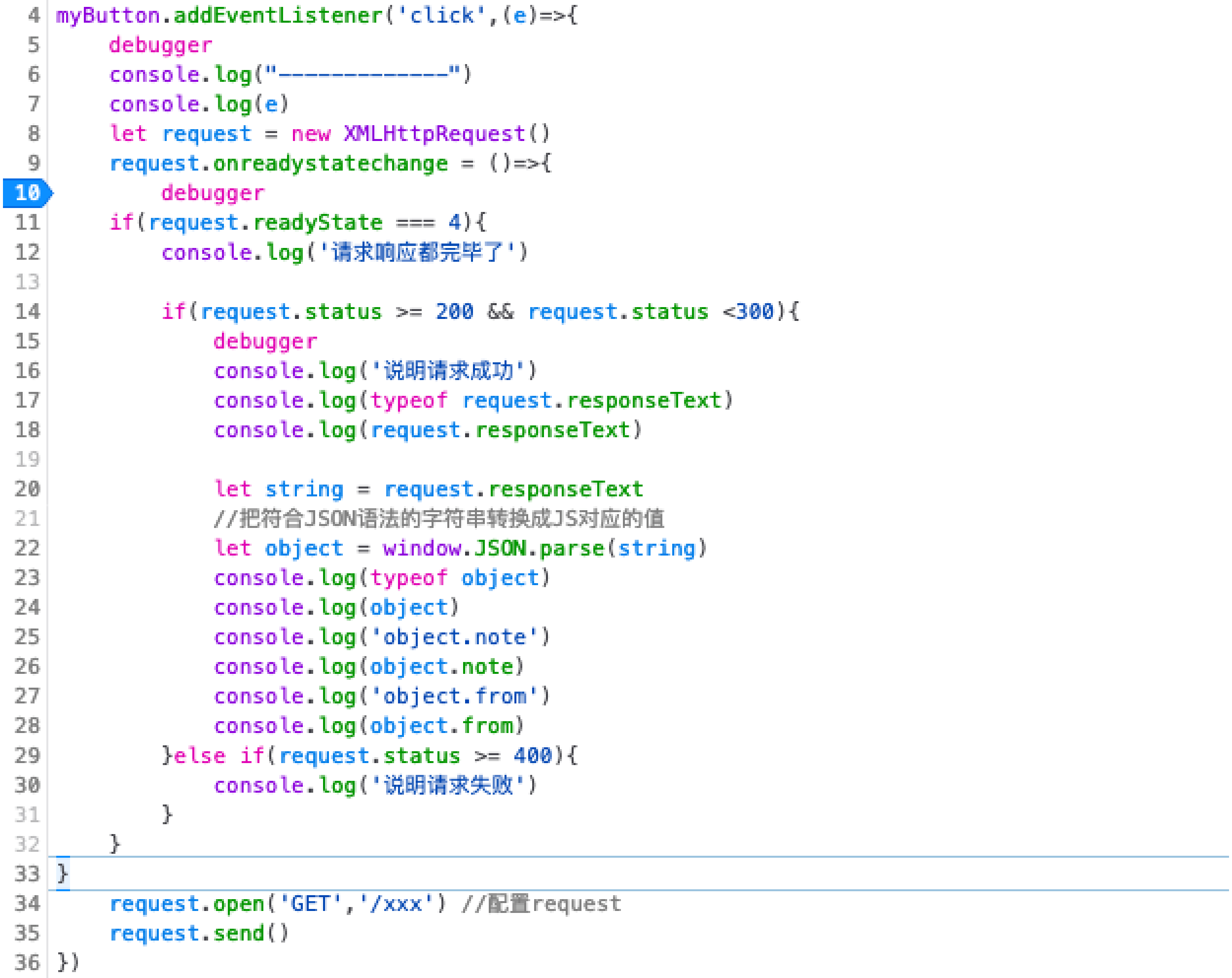

```
myButton.addEventListener('click',(e)=>{
    debugger
    console.log("-------------")
    console.log(e)
    let request = new XMLHttpRequest()
    request.onreadystatechange = ()=>{
        debugger
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
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            let string = request.responseText
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            console.log(typeof object)
            console.log(object)
            console.log('object.note')
            console.log(object.note)
            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
        }
    }
}
    request.open('GET','/xxx') //配置request
    request.send()
})
```
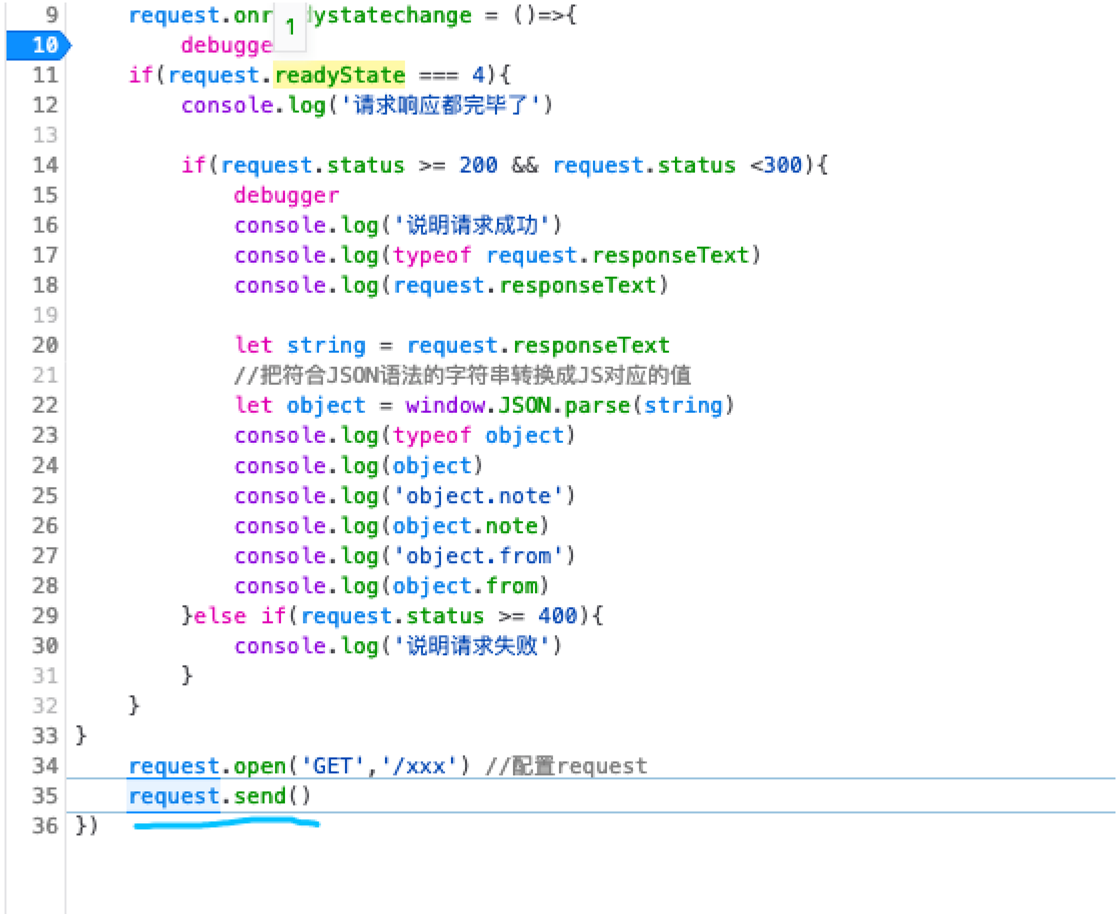

注意,到了这一步了:



```
    request.onr 1 ystatechange = ()=>{
        debugge
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
            console.log(request.responseText)

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            console.log(typeof object)
            console.log(object)
            console.log('object.note')
            console.log(object.note)
            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
        }
    }
}
    request.open('GET','/xxx') //配置request
    request.send()
})
```
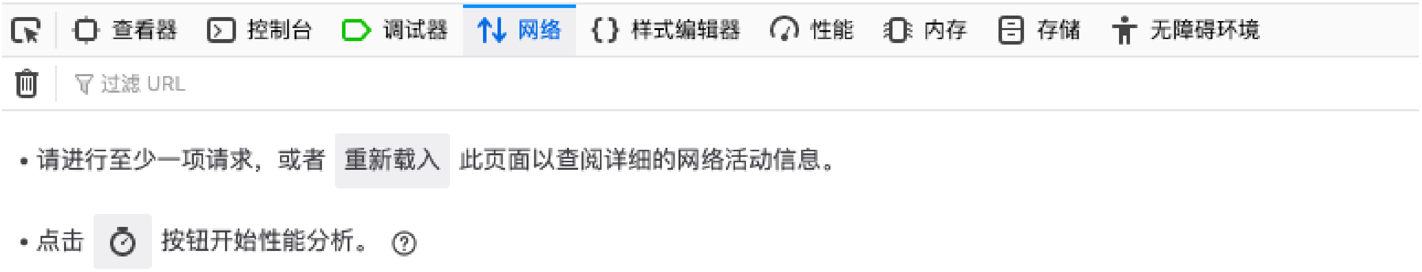
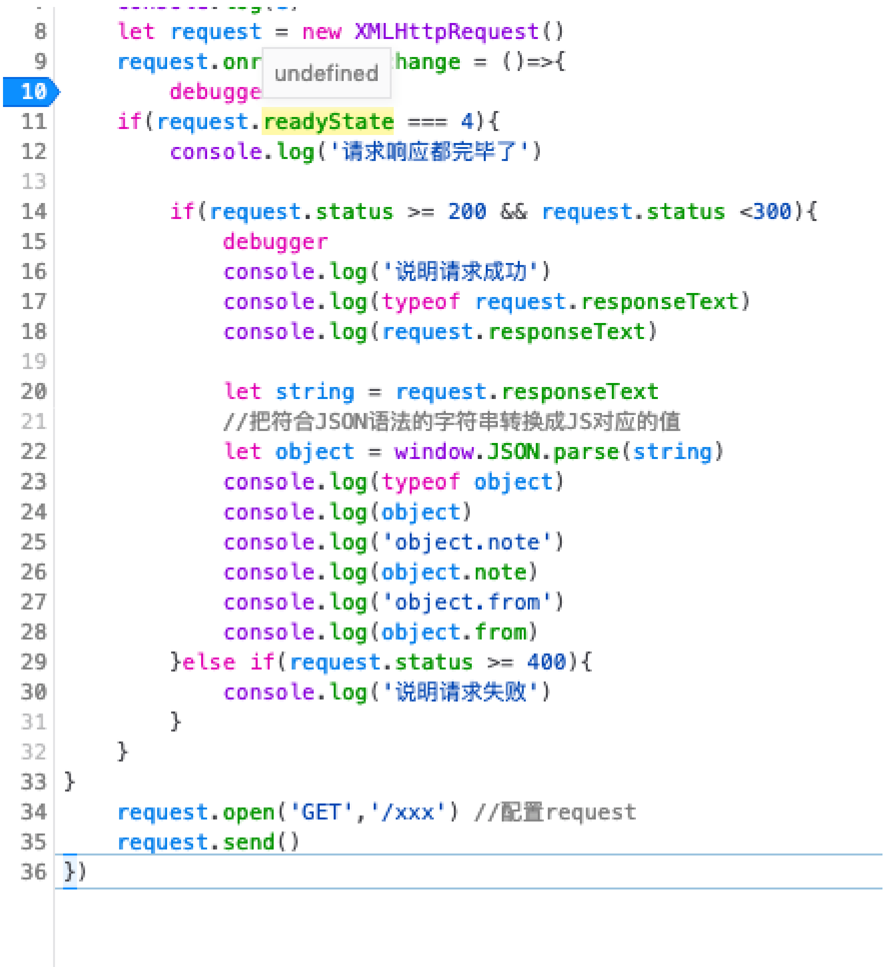

到这一步的时候注意网络:

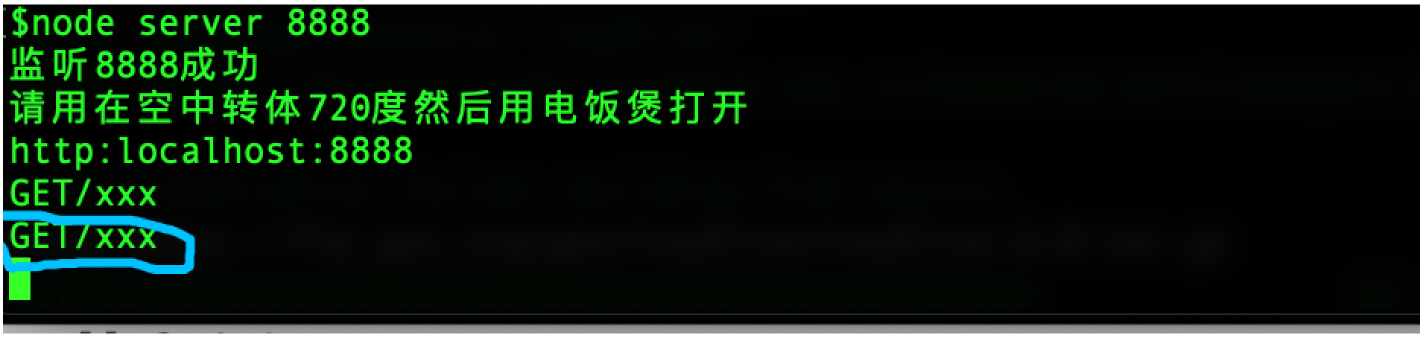


- 请进行至少一项请求，或者 重新载入 此页面以查阅详细的网络活动信息。
- 点击 按钮开始性能分析。

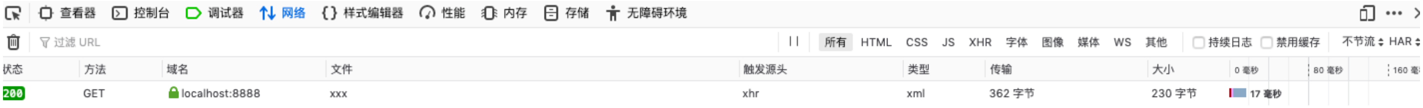


```
    let request = new XMLHttpRequest()
    request.onr         hange = ()=>{
        debugge
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
            console.log(request.responseText)

            let string = request.responseText
            //把符合JSON语法的字符串转换成JS对应的值
            let object = window.JSON.parse(string)
            console.log(typeof object)
            console.log(object)
            console.log('object.note')
            console.log(object.note)
            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
        }
    }
}
    request.open('GET','/xxx') //配置request
    request.send()
})
```

此时观察服务端和网络:



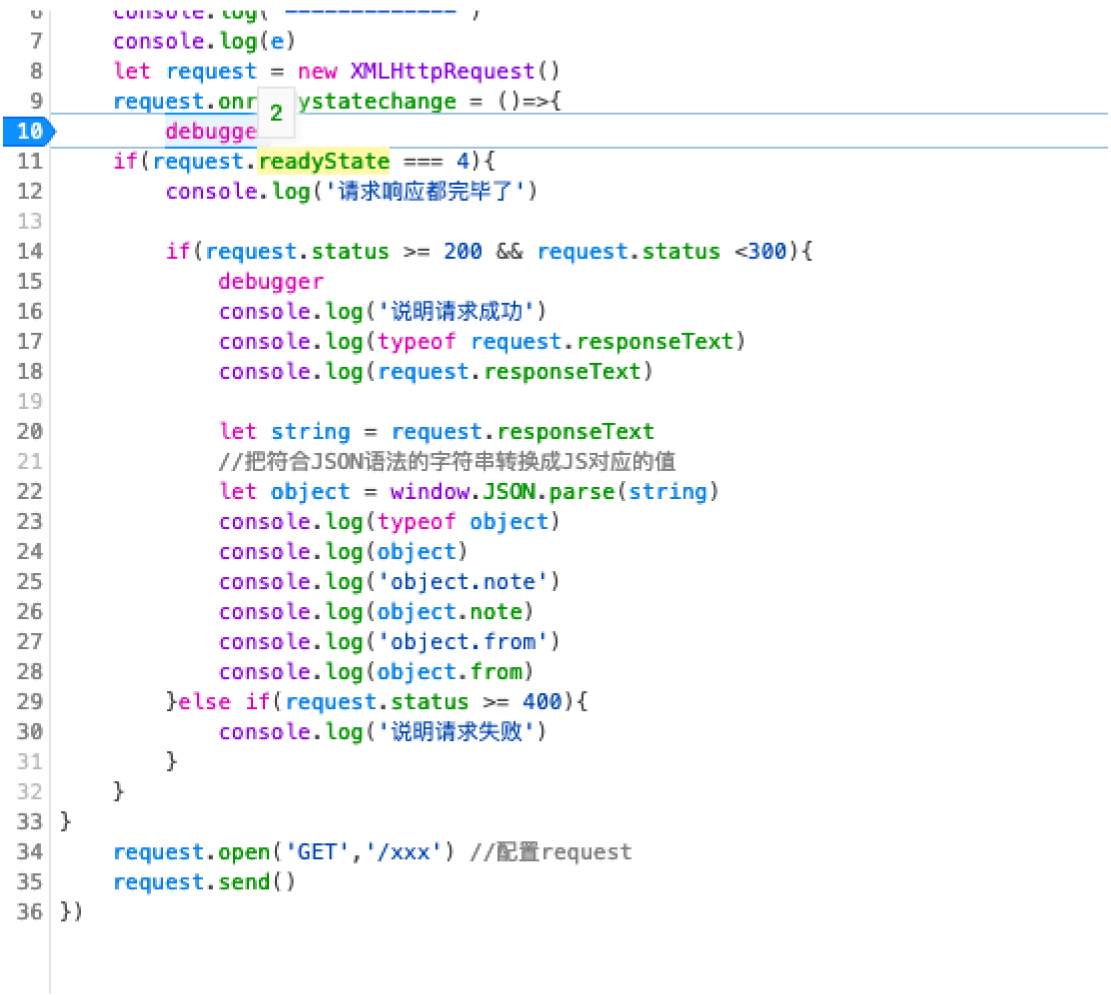
```
$node server 8888
监听8888成功
请用在空中转体720度然后用电饭煲打开
http:localhost:8888
GET/xxx
GET/xxx
```



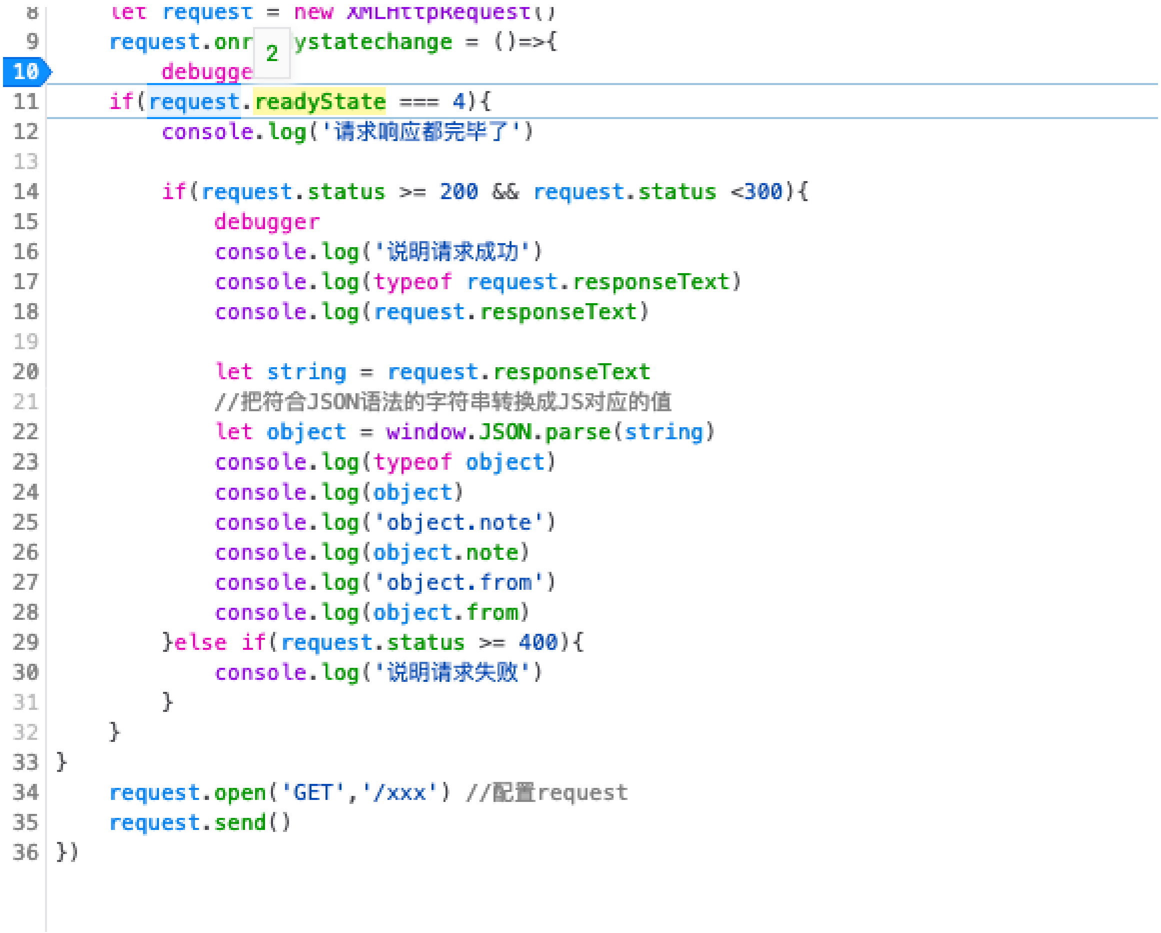
状态	方法	域名	文件	触发源头	类型	传输	大小	0 毫秒	80 毫秒	160 毫秒
200	GET	localhost:8888	xxx	xhr	xml	362 字节	230 字节	17 毫秒		

状态码为2

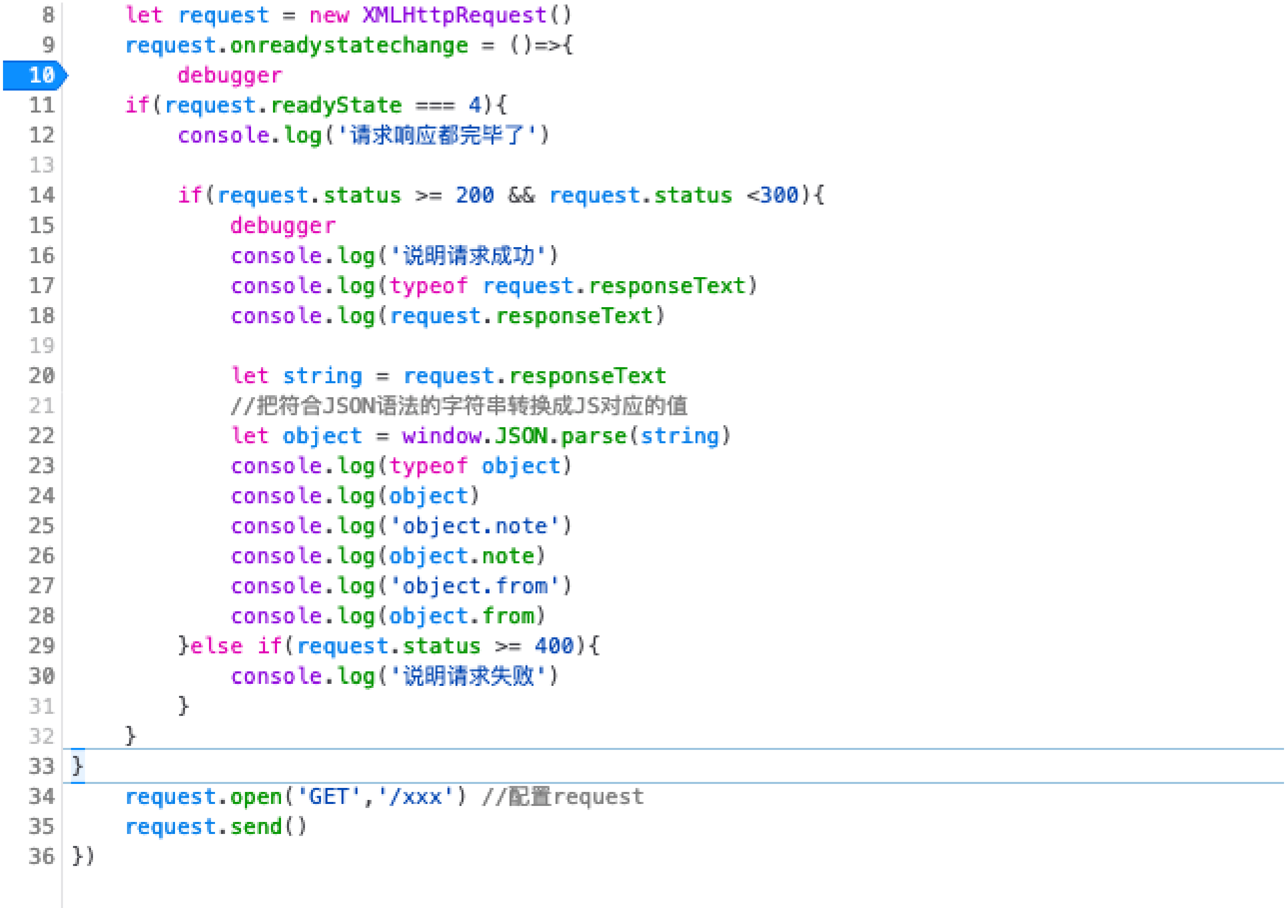
再次回到第10行:(状态码变为2)



```
 6    console.log('-------------')
 7    console.log(e)
 8    let request = new XMLHttpRequest()
 9    request.onr 2 ystatechange = ()=>{
10      debugge
11    if(request.readyState === 4){
12      console.log('请求响应都完毕了')
13
14      if(request.status >= 200 && request.status <300){
15        debugger
16        console.log('说明请求成功')
17        console.log(typeof request.responseText)
18        console.log(request.responseText)
19
20        let string = request.responseText
21        //把符合JSON语法的字符串转换成JS对应的值
22        let object = window.JSON.parse(string)
23        console.log(typeof object)
24        console.log(object)
25        console.log('object.note')
26        console.log(object.note)
27        console.log('object.from')
28        console.log(object.from)
29      }else if(request.status >= 400){
30        console.log('说明请求失败')
31      }
32    }
33  }
34    request.open('GET','/xxx') //配置request
35    request.send()
36  })
```



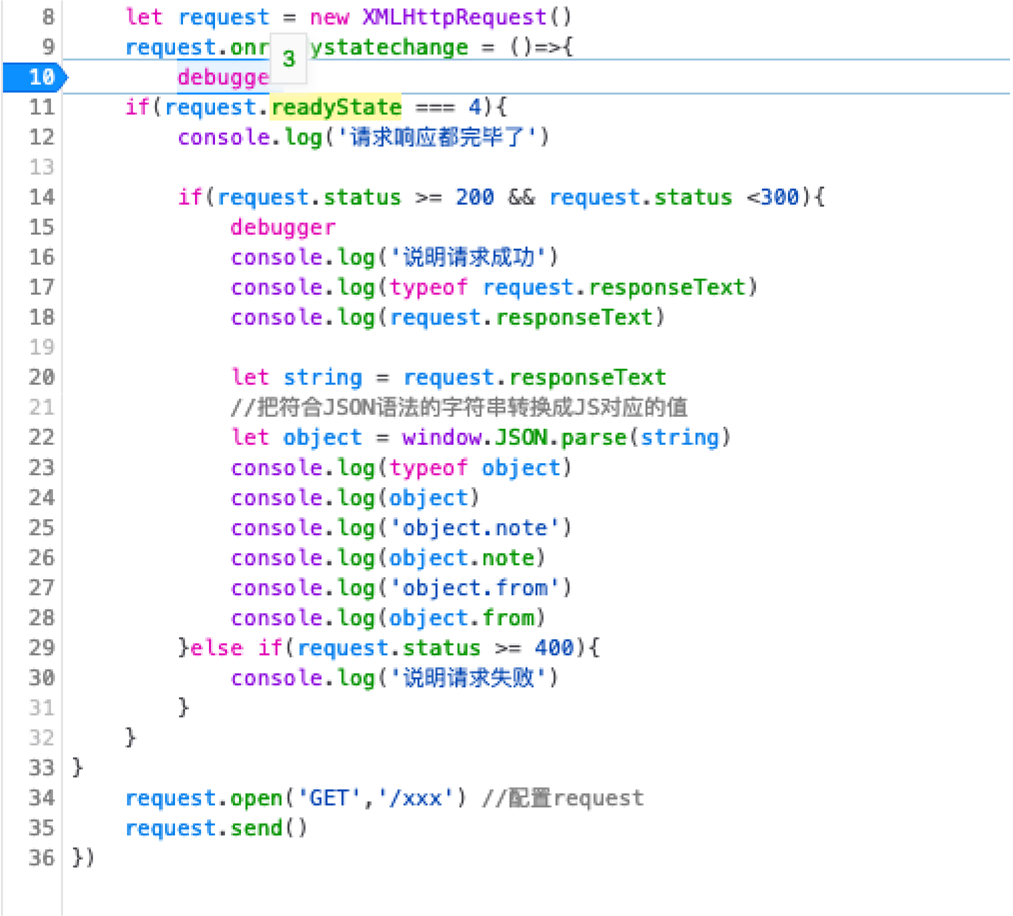
```
    let request = new XMLHttpRequest()
    request.onr   ystatechange = ()=>{
        debugge
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
            console.log(request.responseText)

            let string = request.responseText
            //把符合JSON语法的字符串转换成JS对应的值
            let object = window.JSON.parse(string)
            console.log(typeof object)
            console.log(object)
            console.log('object.note')
            console.log(object.note)
            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
        }
    }
}
    request.open('GET','/xxx') //配置request
    request.send()
})
```



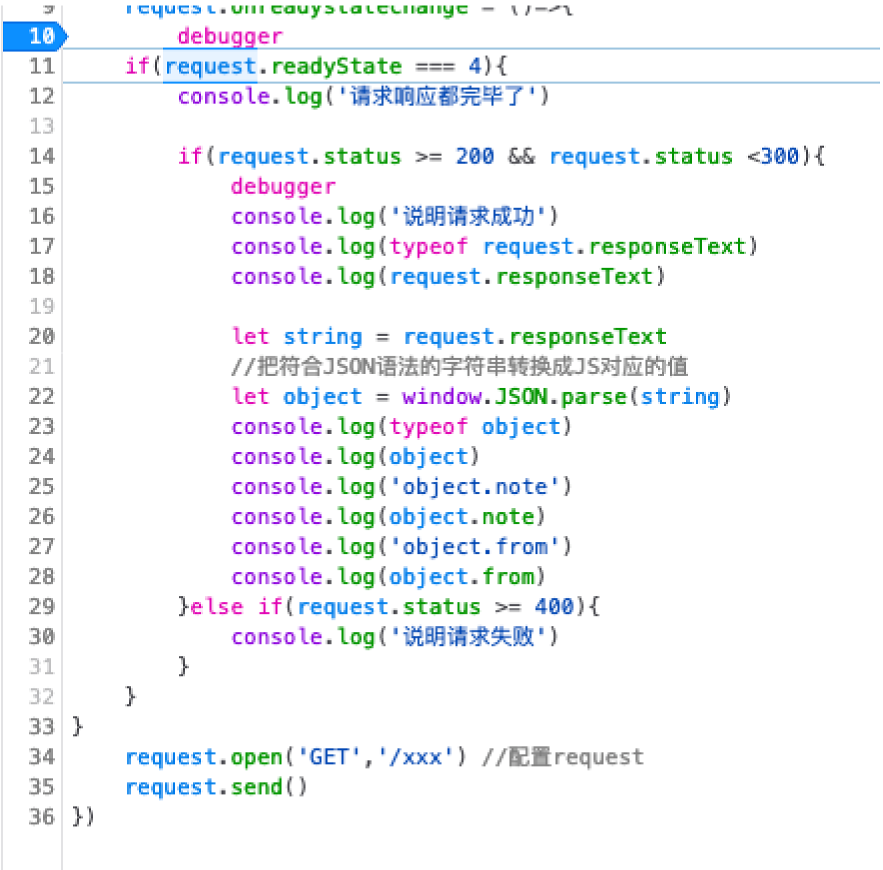
```
    let request = new XMLHttpRequest()
    request.onreadystatechange = ()=>{
        debugger
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
            console.log(request.responseText)

            let string = request.responseText
            //把符合JSON语法的字符串转换成JS对应的值
            let object = window.JSON.parse(string)
            console.log(typeof object)
            console.log(object)
            console.log('object.note')
            console.log(object.note)
            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
        }
    }
}
    request.open('GET','/xxx') //配置request
    request.send()
})
```

状态码变为3

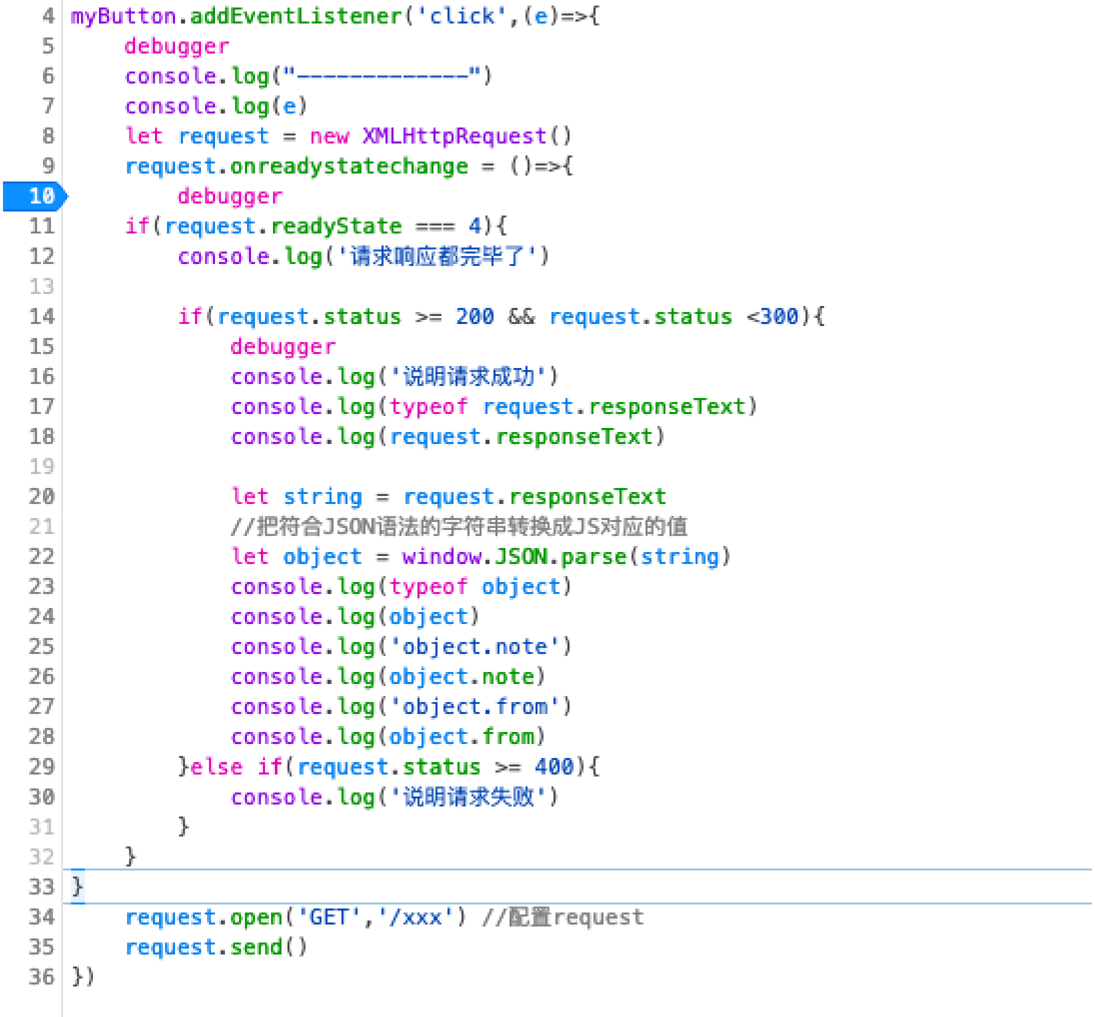
再次回到10th行;



```
 8      let request = new XMLHttpRequest()
 9      request.onr 3 ystatechange = ()=>{
10          debugge
11      if(request.readyState === 4){
12          console.log('请求响应都完毕了')
13  
14          if(request.status >= 200 && request.status <300){
15              debugger
16              console.log('说明请求成功')
17              console.log(typeof request.responseText)
18              console.log(request.responseText)
19  
20              let string = request.responseText
21              //把符合JSON语法的字符串转换成JS对应的值
22              let object = window.JSON.parse(string)
23              console.log(typeof object)
24              console.log(object)
25              console.log('object.note')
26              console.log(object.note)
27              console.log('object.from')
28              console.log(object.from)
29          }else if(request.status >= 400){
30              console.log('说明请求失败')
31          }
32      }
33  }
34      request.open('GET','/xxx') //配置request
35      request.send()
36  })
```

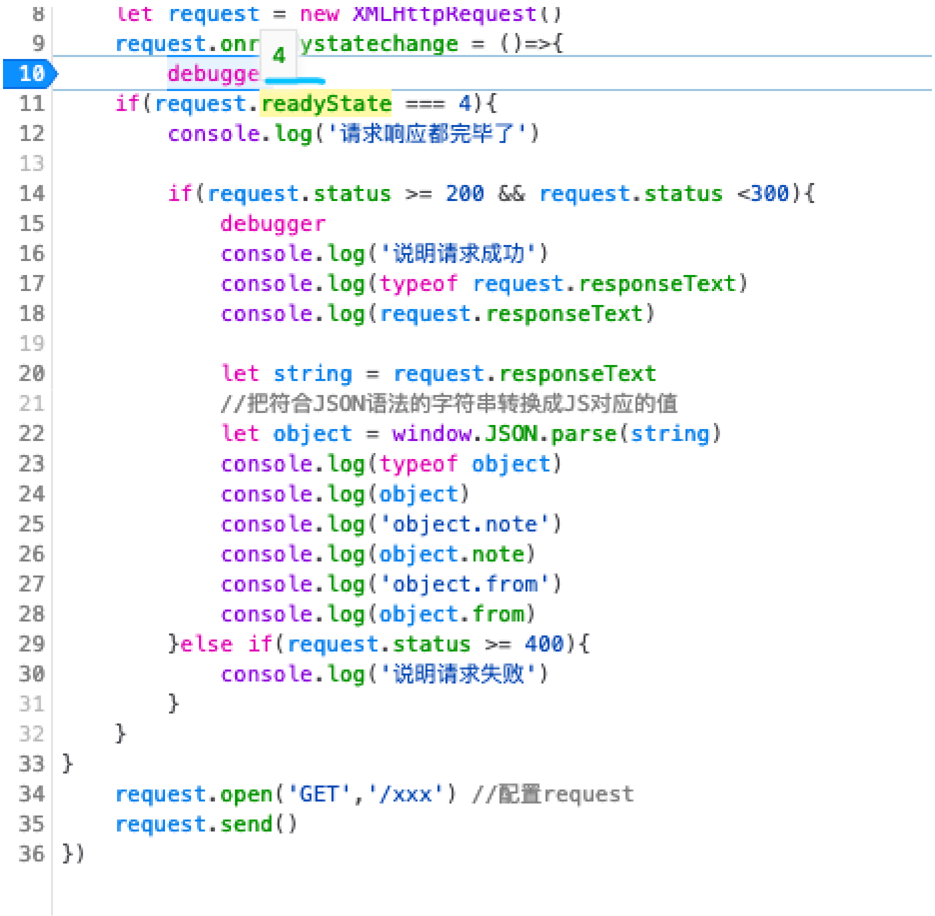


```
    request.onreadystatechange = ()=>{
        debugger
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
            console.log(request.responseText)

            let string = request.responseText
            //把符合JSON语法的字符串转换成JS对应的值
            let object = window.JSON.parse(string)
            console.log(typeof object)
            console.log(object)
            console.log('object.note')
            console.log(object.note)
            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
        }
    }
}
    request.open('GET','/xxx') //配置request
    request.send()
})
```



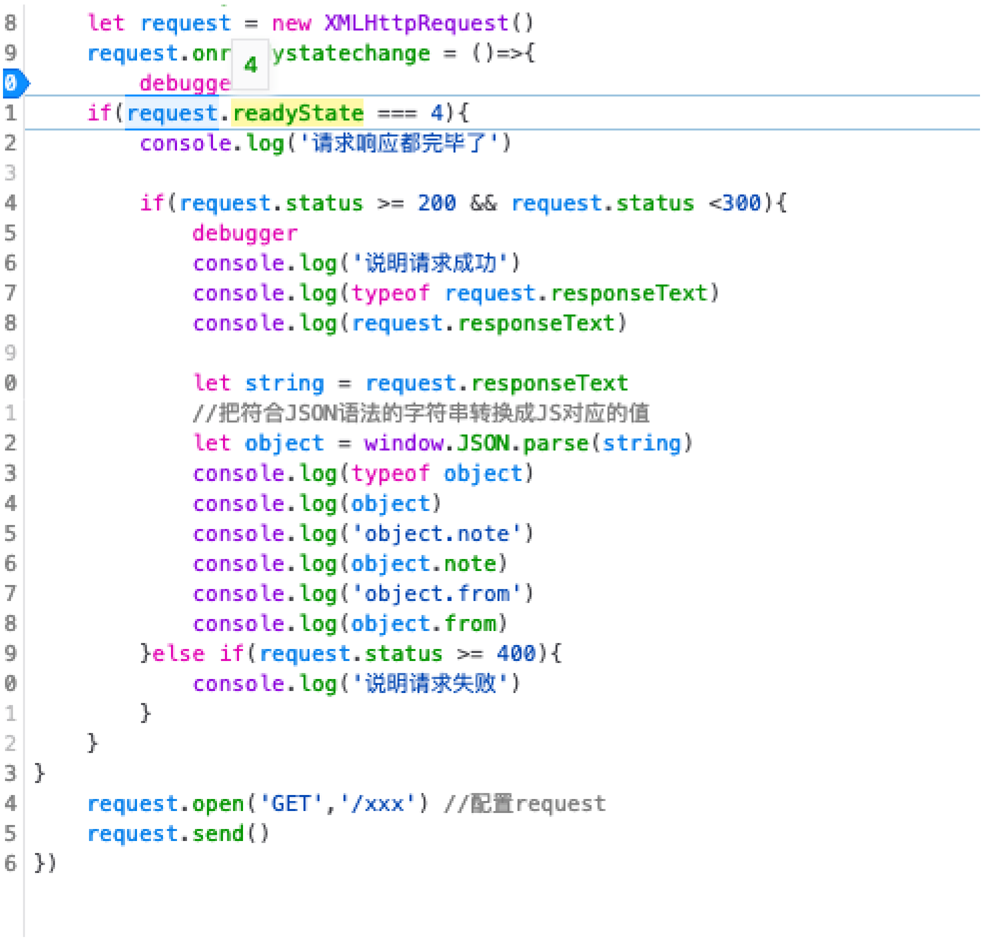
```
myButton.addEventListener('click',(e)=>{
    debugger
    console.log("-------------")
    console.log(e)
    let request = new XMLHttpRequest()
    request.onreadystatechange = ()=>{
        debugger
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
            console.log(request.responseText)

            let string = request.responseText
            //把符合JSON语法的字符串转换成JS对应的值
            let object = window.JSON.parse(string)
            console.log(typeof object)
            console.log(object)
            console.log('object.note')
            console.log(object.note)
            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
        }
    }
}
    request.open('GET','/xxx') //配置request
    request.send()
})
```

状态码变为4了

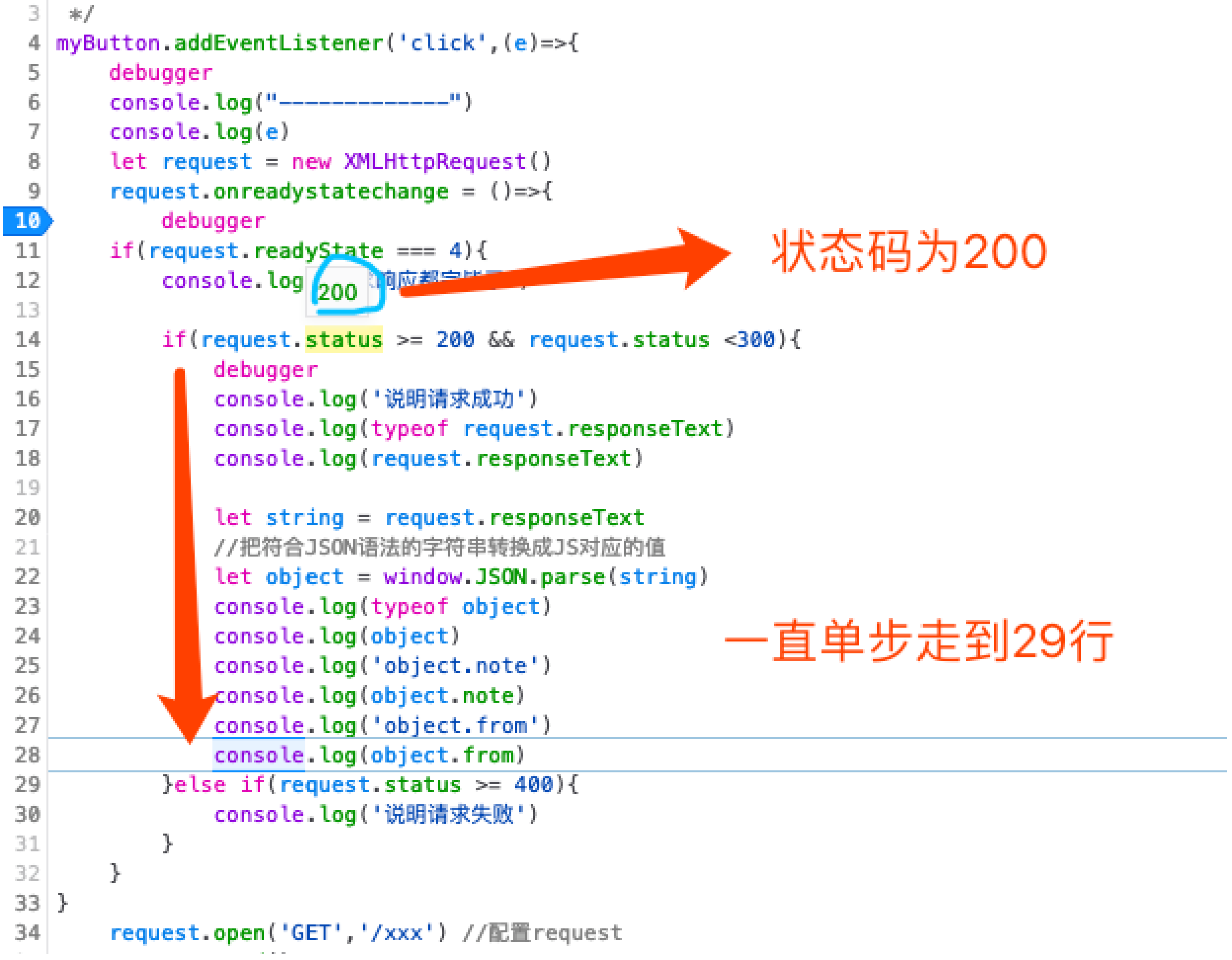


```
    let request = new XMLHttpRequest()
    request.onreadystatechange = ()=>{
        debugger
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
            console.log(request.responseText)

            let string = request.responseText
            //把符合JSON语法的字符串转换成JS对应的值
            let object = window.JSON.parse(string)
            console.log(typeof object)
            console.log(object)
            console.log('object.note')
            console.log(object.note)
            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
        }
    }
}
    request.open('GET','/xxx') //配置request
    request.send()
})
```

状态码为4



```
8       let request = new XMLHttpRequest()
9       request.onr   ystatechange = ()=>{
0           debugge
1       if(request.readyState === 4){
2           console.log('请求响应都完毕了')
3
4           if(request.status >= 200 && request.status <300){
5               debugger
6               console.log('说明请求成功')
7               console.log(typeof request.responseText)
8               console.log(request.responseText)
9
0               let string = request.responseText
1               //把符合JSON语法的字符串转换成JS对应的值
2               let object = window.JSON.parse(string)
3               console.log(typeof object)
4               console.log(object)
5               console.log('object.note')
6               console.log(object.note)
7               console.log('object.from')
8               console.log(object.from)
9           }else if(request.status >= 400){
0               console.log('说明请求失败')
1           }
2       }
3 }
4       request.open('GET','/xxx') //配置request
5       request.send()
6 })
```

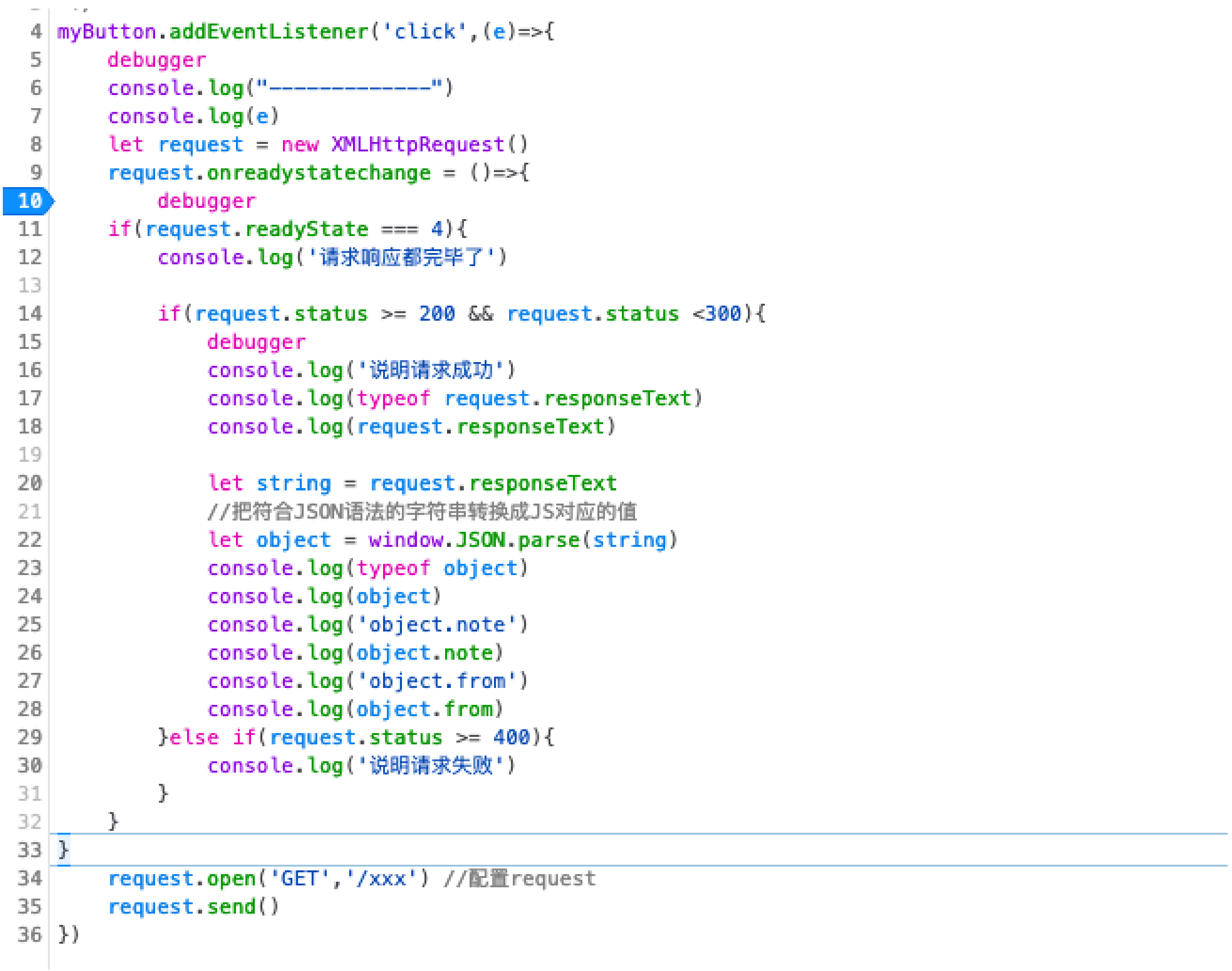


```
3   */
4 myButton.addEventListener('click',(e)=>{
5       debugger
6       console.log("-------------")
7       console.log(e)
8       let request = new XMLHttpRequest()
9       request.onreadystatechange = ()=>{
10          debugger
11      if(request.readyState === 4){
12          console.log   响应都完毕了')
13
14          if(request.status >= 200 && request.status <300){
15              debugger
16              console.log('说明请求成功')
17              console.log(typeof request.responseText)
18              console.log(request.responseText)
19
20              let string = request.responseText
21              //把符合JSON语法的字符串转换成JS对应的值
22              let object = window.JSON.parse(string)
23              console.log(typeof object)
24              console.log(object)
25              console.log('object.note')
26              console.log(object.note)
27              console.log('object.from')
28              console.log(object.from)
29          }else if(request.status >= 400){
30              console.log('说明请求失败')
31          }
32      }
33 }
34      request.open('GET','/xxx') //配置request
```

状态码为200

一直单步走到29行

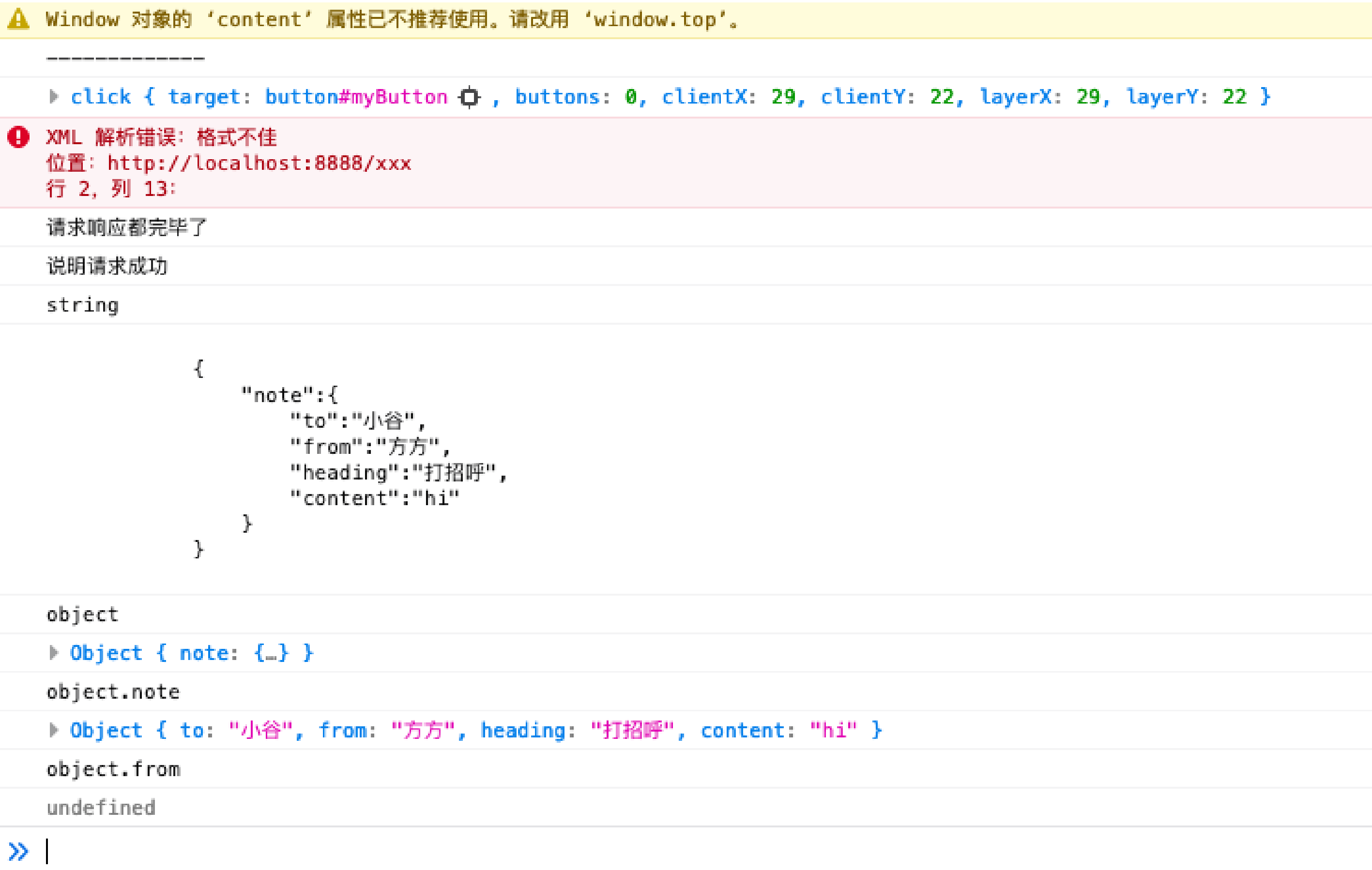
上面口误,应该是已知走到28行;



```
myButton.addEventListener('click',(e)=>{
    debugger
    console.log("-------------")
    console.log(e)
    let request = new XMLHttpRequest()
    request.onreadystatechange = ()=>{
        debugger
    if(request.readyState === 4){
        console.log('请求响应都完毕了')

        if(request.status >= 200 && request.status <300){
            debugger
            console.log('说明请求成功')
            console.log(typeof request.responseText)
            console.log(request.responseText)

            let string = request.responseText
            //把符合JSON语法的字符串转换成JS对应的值
            let object = window.JSON.parse(string)
            console.log(typeof object)
            console.log(object)
            console.log('object.note')
            console.log(object.note)
            console.log('object.from')
            console.log(object.from)
        }else if(request.status >= 400){
            console.log('说明请求失败')
        }
    }
}
    request.open('GET','/xxx') //配置request
    request.send()
})
```

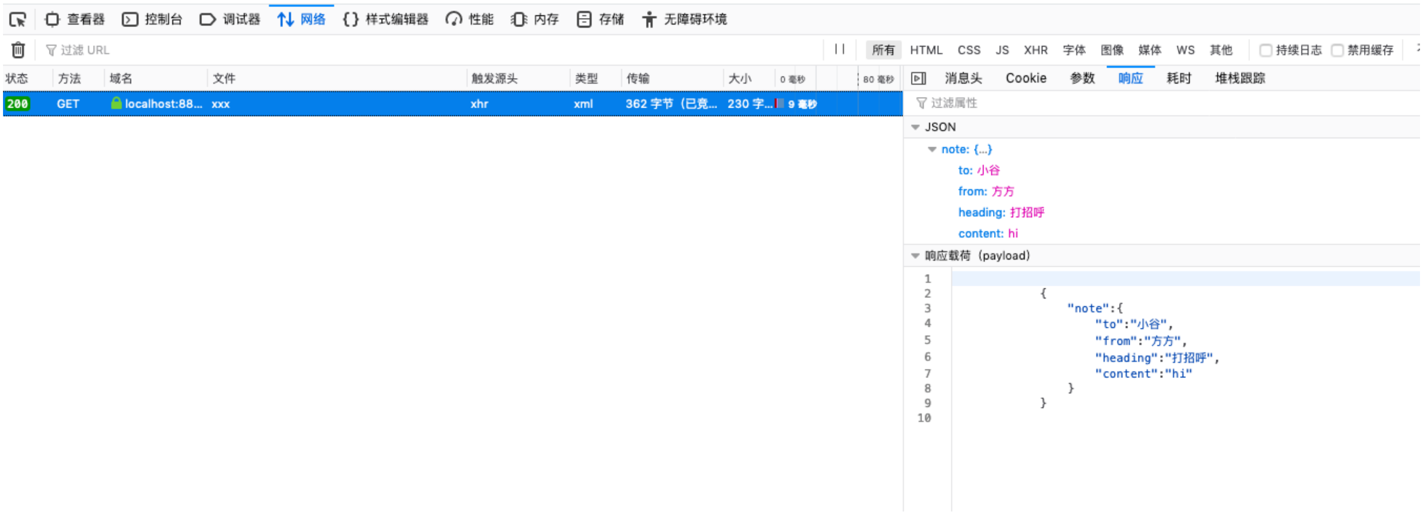
然后程序就结束了!!!

可以看看控制台都打印了什么:



```
⚠ Window 对象的 ‘content’ 属性已不推荐使用。请改用 ‘window.top’。
  -------------
  ▶ click { target: button#myButton , buttons: 0, clientX: 29, clientY: 22, layerX: 29, layerY: 22 }
❗ XML 解析错误：格式不佳
  位置：http://localhost:8888/xxx
  行 2，列 13：
  请求响应都完毕了
  说明请求成功
  string

              {
                  "note":{
                      "to":"小谷",
                      "from":"方方",
                      "heading":"打招呼",
                      "content":"hi"
                  }
              }

  object
  ▶ Object { note: {…} }
  object.note
  ▶ Object { to: "小谷", from: "方方", heading: "打招呼", content: "hi" }
  object.from
  undefined
»
```

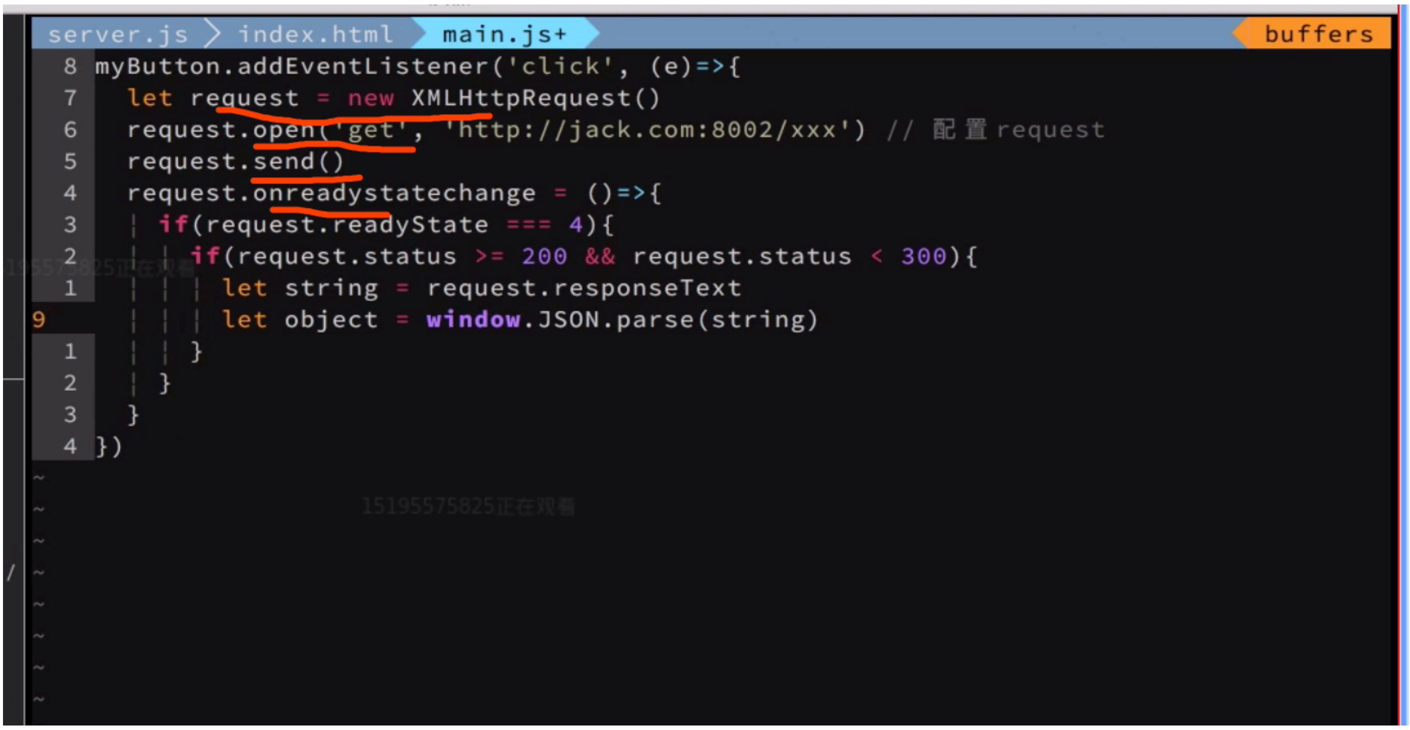
看看此时的网络:



状态	方法	域名	文件	触发源头	类型	传输	大小	0 毫秒	80 毫秒
200	GET	localhost:88…	xxx	xhr	xml	362 字节（已竞…	230 字…	9 毫秒	

```
▼ JSON
  ▼ note: {…}
      to: 小谷
      from: 方方
      heading: 打招呼
      content: hi
▼ 响应载荷（payload）

              {
                  "note":{
                      "to":"小谷",
                      "from":"方方",
                      "heading":"打招呼",
                      "content":"hi"
                  }
              }

```

手写ajax



```
myButton.addEventListener('click', (e)=>{
  let request = new XMLHttpRequest()
  request.open('get', 'http://jack.com:8002/xxx') // 配置 request
  request.send()
  request.onreadystatechange = ()=>{
    if(request.readyState === 4){
      if(request.status >= 200 && request.status < 300){
        let string = request.responseText
        let object = window.JSON.parse(string)
      }
    }
  }
})
```

```
myButton.addEventlistener('click',(e)=>{
let request = new XMLHttpRequest()
request.open('get','http://jack.com:8002/xxx')
request.send()
request.onreadystatechange=()=>{
if (request.readyState===4){
if (request.status >= 200&& request.status<300){
let string = request.request.responseText
let object = windows.JSON.parse(string)
}
}
}

})




优化版:
 let request = new XMLHttpRequest()
  request.open('get', '/xxx') // 配置request
  request.send()
  request.onreadystatechange = ()=>{
    if(request.readyState === 4){
      if(request.status >= 200 && request.status < 300){
        console.log('说明请求成功')
      }else if(request.status >= 400){
        console.log('说明请求失败')
      }
    }
  }

```