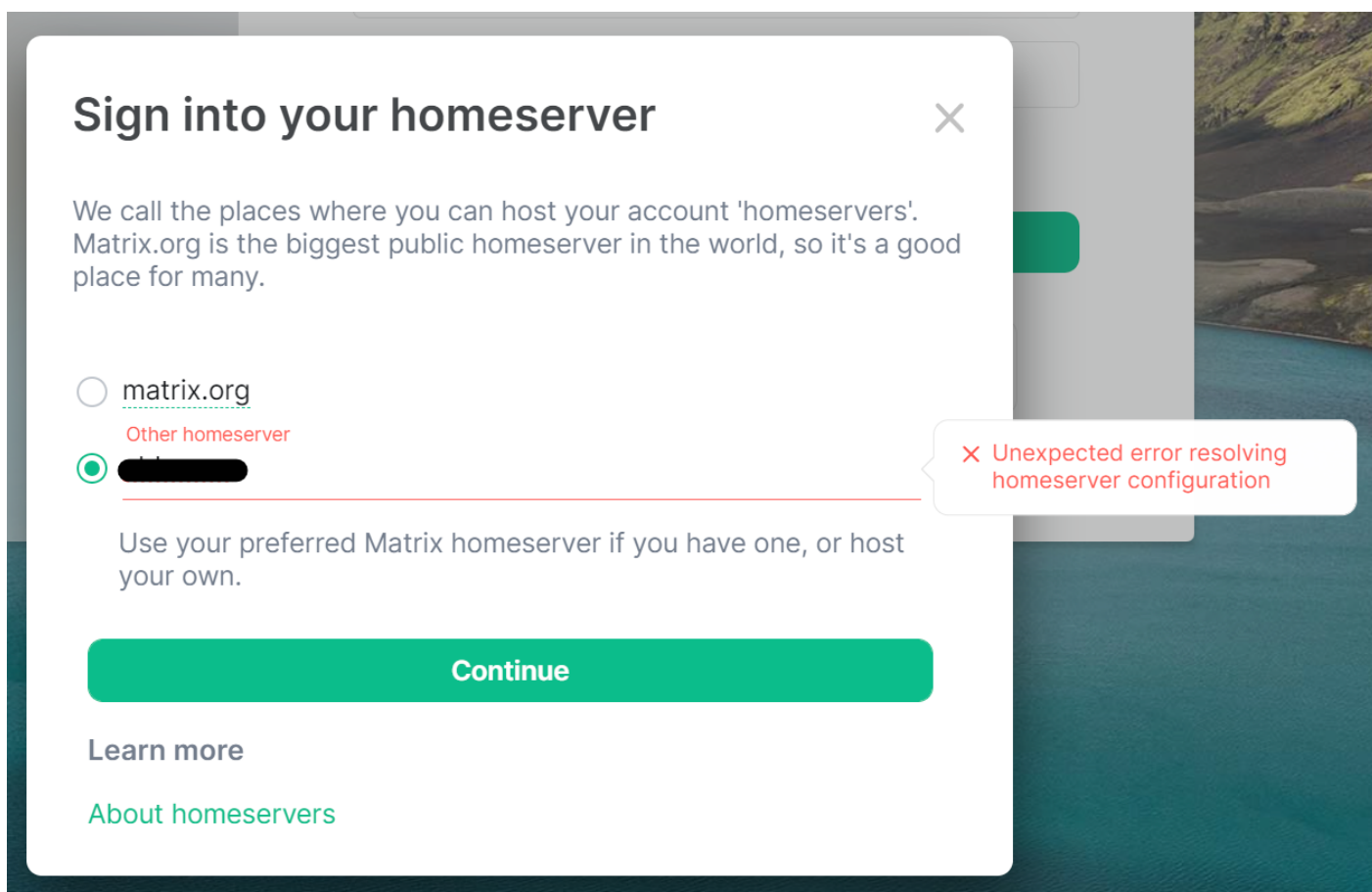


# Verifying Well Known CORS Headers

## Issue

- Specifying a homeserver using Well Known delegation but without CORS headers results in an error.



## Environment

- Element On-Premise
- Element Cloud Offerings

## Resolution

Enable CORS Headers, see [enable-cors.org](https://enable-cors.org) for instructions on how to do this. Then you can verify your `.well-known` files from the command line:

Note the lines `access-control-allow-origin: *` and `content-type: application/json`

1. On Mac or Linux, using the `terminal`

```
$ curl -i https://element.io/.well-known/matrix/client
HTTP/2 200
date: Fri, 31 Jul 2020 09:11:21 GMT
content-type: application/json
content-length: 129
set-cookie: __cfduid=x...; expires=Sun, 30-Aug-20 09:11:21 GMT; path=/; domain=.element.io;
HttpOnly; SameSite=Lax
access-control-allow-origin: *
cf-cache-status: DYNAMIC
cf-request-id: 0...
expect-ct: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"
server: cloudflare
cf-ray: 5...

{
  "m.homeserver": {
    "base_url": "https://element.ems.host"
  },
  "m.identity_server": {
    "base_url": "https://vector.im"
  }
}

$ curl -i https://element.io/.well-known/matrix/server
HTTP/2 200
date: Fri, 31 Jul 2020 09:11:25 GMT
content-type: application/json
content-length: 52
set-cookie: __cfduid=x...; expires=Sun, 30-Aug-20 09:11:25 GMT; path=/; domain=.element.io;
HttpOnly; SameSite=Lax
access-control-allow-origin: *
cf-cache-status: DYNAMIC
cf-request-id: 0...
expect-ct: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"
server: cloudflare
cf-ray: 5...

{
```

```
{
  "m.server": "element.ims.host:443"
}
```

## 2. On Windows, using PowerShell

```
PS C:\Users\twilight> Invoke-WebRequest -Uri https://element.io/.well-known/matrix/client
```

```

StatusCode      : 200
StatusDescription : OK
Content         : {
  "m.homeserver": {
    "base_url": "https://element.ims.host"
  },
  "m.identity_server": {
    "base_url": "https://vector.im"
  }
}
RawContent      : HTTP/1.1 200 OK
Connection      : keep-alive
Access-Control-Allow-Origin : *
CF-Cache-Status : DYNAMIC
cf-request-id   : 0...
Expect-CT       : max-age=604800, report-uri="https://repor...
Forms           : {}
Headers         : {[Connection, keep-alive], [Access-Control-Allow-Origin, *], [CF-Cache-Status, DYNAMIC], [cf-request-id, 0...]}
Images          : {}
InputFields     : {}
Links           : {}
ParsedHtml      : System.__ComObject
RawContentLength : 129
```

```
PS C:\Users\twilight> Invoke-WebRequest -Uri https://element.io/.well-known/matrix/server
```

```

StatusCode      : 200
StatusDescription : OK
Content         : {
```

```
["m.server": "element.ems.host:443"]
```

```
}]
```

```
RawContent      : HTTP/1.1 200 OK
```

```
Connection: keep-alive
```

```
Access-Control-Allow-Origin: *
```

```
CF-Cache-Status: DYNAMIC
```

```
cf-request-id: 0...
```

```
Expect-CT: max-age=604800, report-uri="https://repor...
```

```
Forms           : {}
```

```
Headers         : {[Connection, keep-alive], [Access-Control-Allow-Origin, *], [CF-Cache-Status, DYNAMIC], [cf-request-id, 0...]}...
```

```
Images          : {}
```

```
InputFields     : {}
```

```
Links           : {}
```

```
ParsedHtml      : System.__ComObject
```

```
RawContentLength : 52
```

# Root Cause

Without cross-origin resource sharing, access to fetch the well known files will be blocked by CORS policy as 'Access-Control-Allow-Origin' header is present on the requested resource .

Revision #2

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