COMS 319

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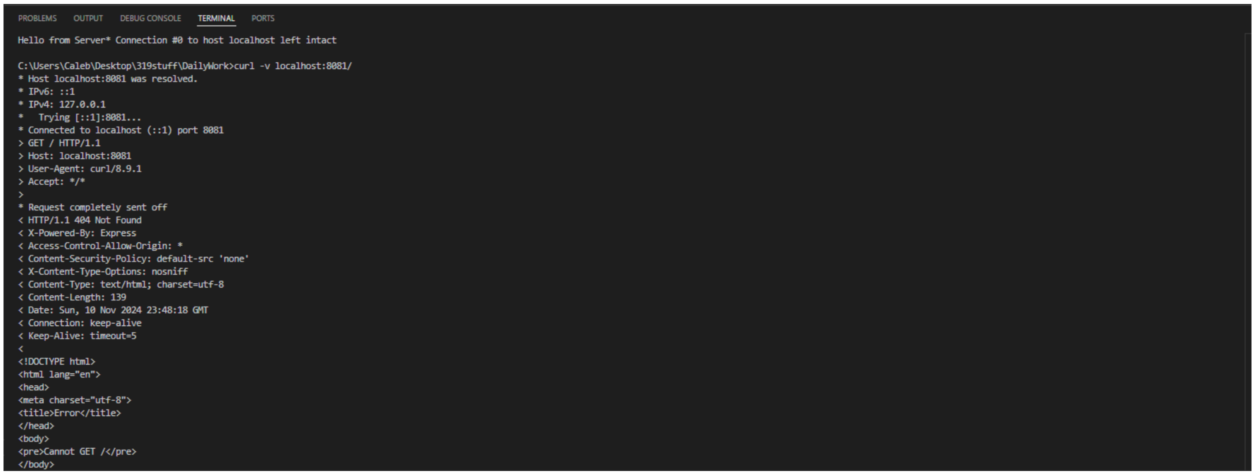
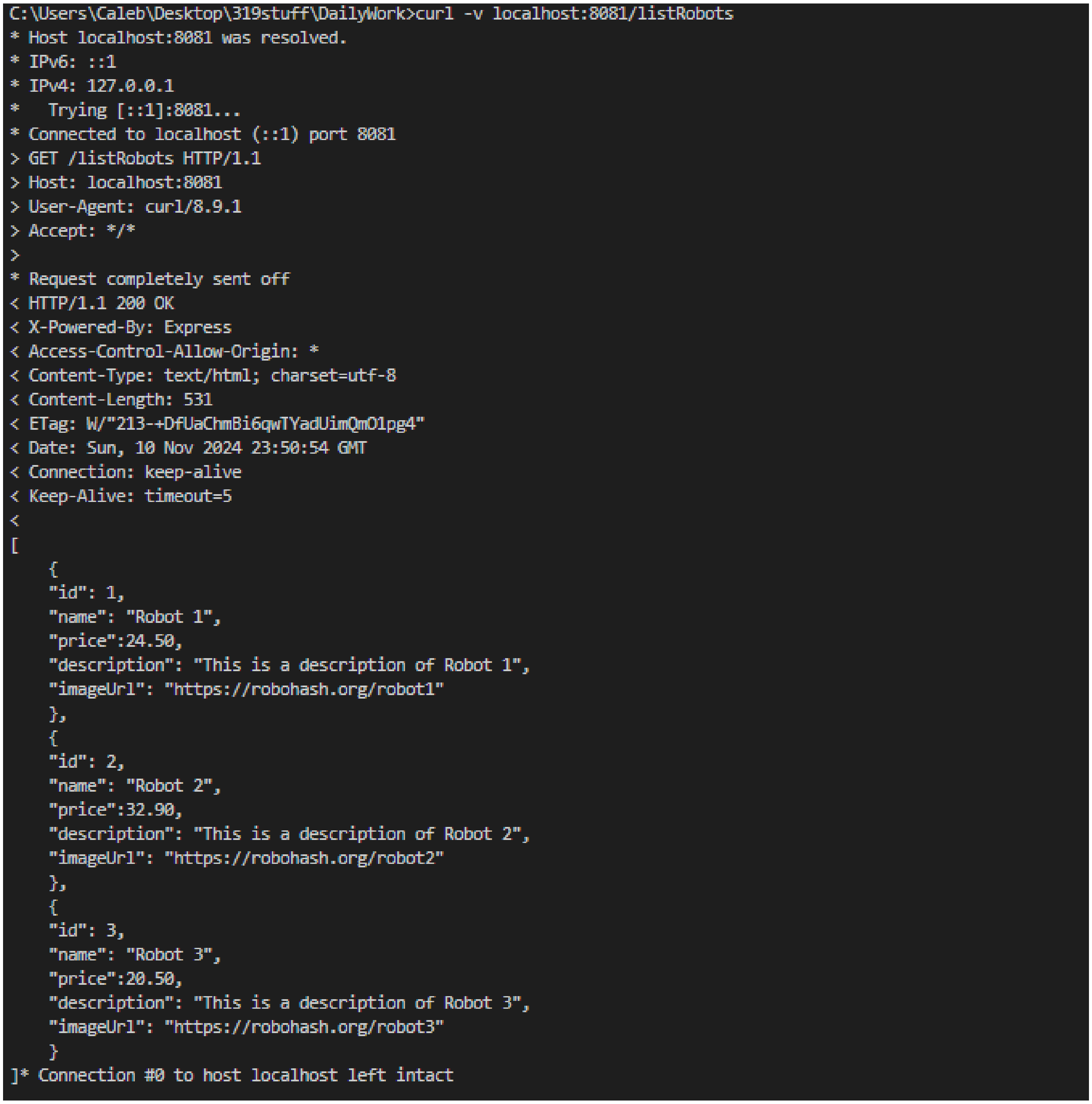
An API is simply some way for two programs or computers to communicate with each other. So, you can request information from an API and hopefully get what information you wanted.

A REST application is a subset of APIs. Basically, REST applications just exchange data about the state of some resource. In this way a API and a REST are connected, both APIs and Rest applications are focused on the transfer of data. REST is just a specific way to organize the transfer of data.



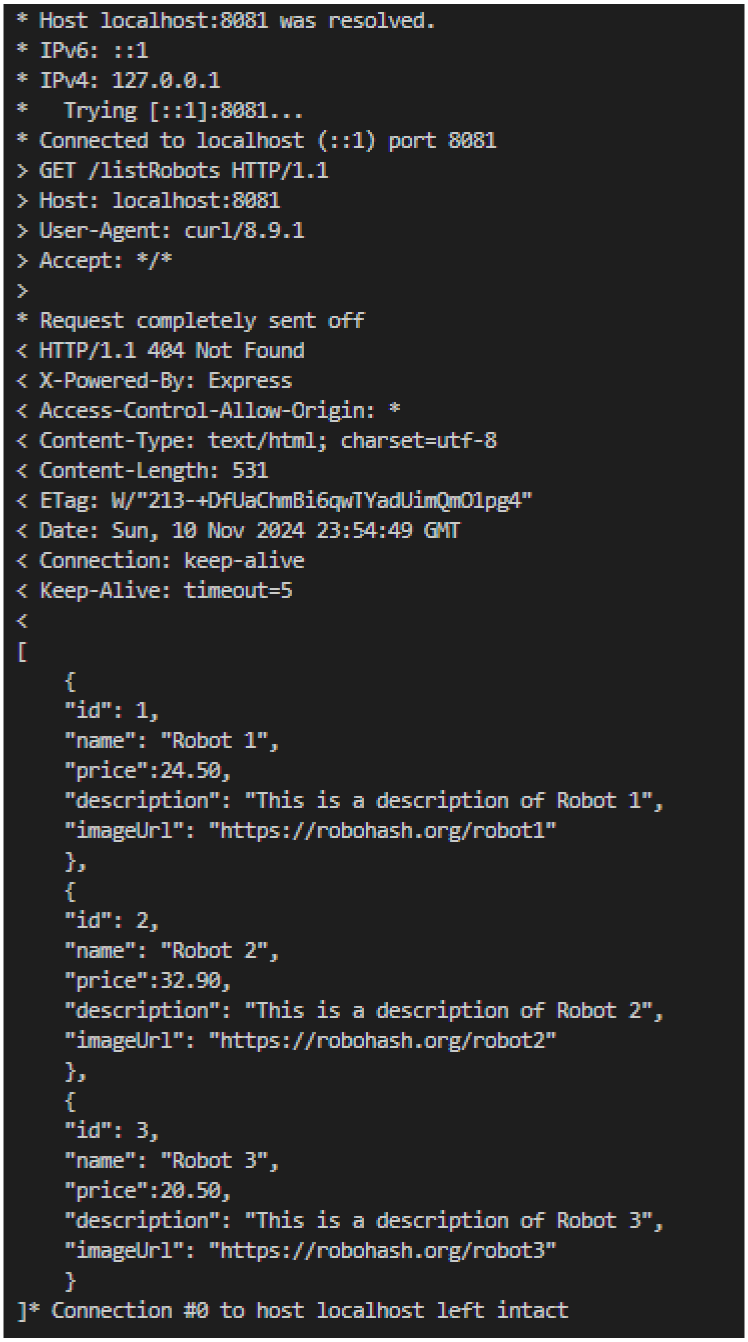
```
Hello from Server* Connection #0 to host localhost left intact

C:\Users\Caleb\Desktop\319stuff\DailyWork>curl -v localhost:8081/
* Host localhost:8081 was resolved.
* IPv6: ::1
* IPv4: 127.0.0.1
*   Trying [::1]:8081...
* Connected to localhost (::1) port 8081
> GET / HTTP/1.1
> Host: localhost:8081
> User-Agent: curl/8.9.1
> Accept: */*
>
* Request completely sent off
< HTTP/1.1 404 Not Found
< X-Powered-By: Express
< Access-Control-Allow-Origin: *
< Content-Security-Policy: default-src 'none'
< X-Content-Type-Options: nosniff
< Content-Type: text/html; charset=utf-8
< Content-Length: 139
< Date: Sun, 10 Nov 2024 23:48:18 GMT
< Connection: keep-alive
< Keep-Alive: timeout=5
<
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<title>Error</title>
</head>
<body>
<pre>Cannot GET /</pre>
</body>
```

There is a 404 because we are requesting an endpoint which does not exist. This means that the resource couldn’t be found resulting in a 404 error.



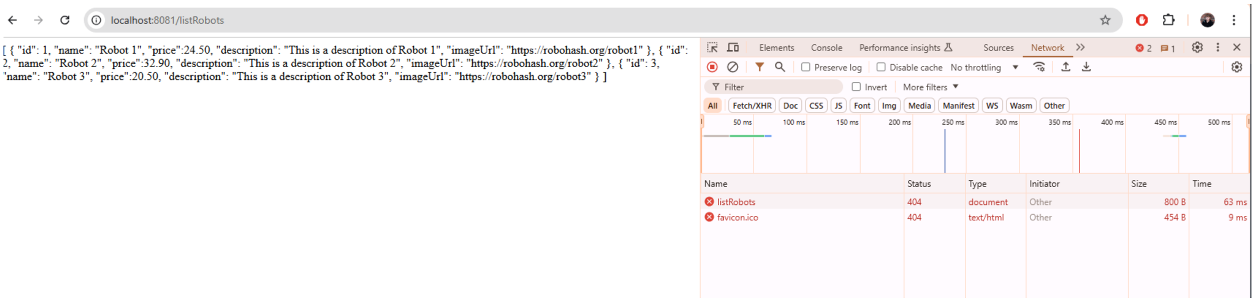
```
C:\Users\Caleb\Desktop\319stuff\DailyWork>curl -v localhost:8081/listRobots
* Host localhost:8081 was resolved.
* IPv6: ::1
* IPv4: 127.0.0.1
*   Trying [::1]:8081...
* Connected to localhost (::1) port 8081
> GET /listRobots HTTP/1.1
> Host: localhost:8081
> User-Agent: curl/8.9.1
> Accept: */*
>
* Request completely sent off
< HTTP/1.1 200 OK
< X-Powered-By: Express
< Access-Control-Allow-Origin: *
< Content-Type: text/html; charset=utf-8
< Content-Length: 531
< ETag: W/"213-+DfUaChmBi6qwTYadUimQmO1pg4"
< Date: Sun, 10 Nov 2024 23:50:54 GMT
< Connection: keep-alive
< Keep-Alive: timeout=5
<
[
    {
    "id": 1,
    "name": "Robot 1",
    "price":24.50,
    "description": "This is a description of Robot 1",
    "imageUrl": "https://robohash.org/robot1"
    },
    {
    "id": 2,
    "name": "Robot 2",
    "price":32.90,
    "description": "This is a description of Robot 2",
    "imageUrl": "https://robohash.org/robot2"
    },
    {
    "id": 3,
    "name": "Robot 3",
    "price":20.50,
    "description": "This is a description of Robot 3",
    "imageUrl": "https://robohash.org/robot3"
    }
]* Connection #0 to host localhost left intact
```

Now when we request an endpoint which does exist we get a 200 OK response indicating the request was successful. The content-type is html/text which means the response body sent is text/html.



```
* Host localhost:8081 was resolved.
* IPv6: ::1
* IPv4: 127.0.0.1
*   Trying [::1]:8081...
* Connected to localhost (::1) port 8081
> GET /listRobots HTTP/1.1
> Host: localhost:8081
> User-Agent: curl/8.9.1
> Accept: */*
>
* Request completely sent off
< HTTP/1.1 404 Not Found
< X-Powered-By: Express
< Access-Control-Allow-Origin: *
< Content-Type: text/html; charset=utf-8
< Content-Length: 531
< ETag: W/"213-+DfUaChmBi6qwTYadUimQmO1pg4"
< Date: Sun, 10 Nov 2024 23:54:49 GMT
< Connection: keep-alive
< Keep-Alive: timeout=5
<
[
    {
    "id": 1,
    "name": "Robot 1",
    "price":24.50,
    "description": "This is a description of Robot 1",
    "imageUrl": "https://robohash.org/robot1"
    },
    {
    "id": 2,
    "name": "Robot 2",
    "price":32.90,
    "description": "This is a description of Robot 2",
    "imageUrl": "https://robohash.org/robot2"
    },
    {
    "id": 3,
    "name": "Robot 3",
    "price":20.50,
    "description": "This is a description of Robot 3",
    "imageUrl": "https://robohash.org/robot3"
    }
]* Connection #0 to host localhost left intact
```

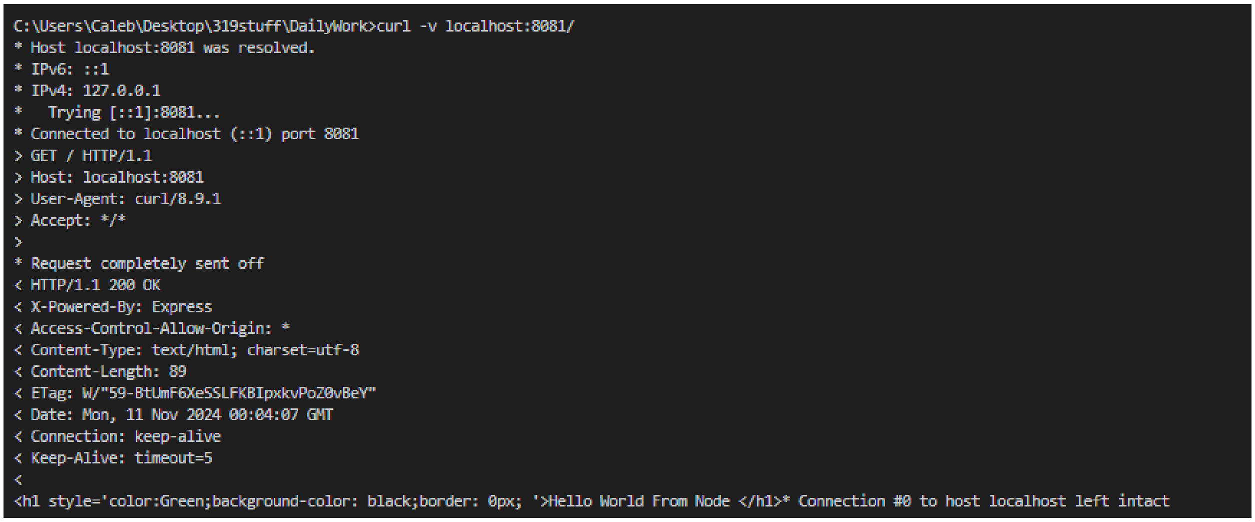
Now after we set the response to be 404 it returns a 404 status code but, since the request actually still worked, it is returning the response body still with the JSON.



[{ "id": 1, "name": "Robot 1", "price":24.50, "description": "This is a description of Robot 1", "imageUrl": "https://robohash.org/robot1" }, { "id": 2, "name": "Robot 2", "price":32.90, "description": "This is a description of Robot 2", "imageUrl": "https://robohash.org/robot2" }, { "id": 3, "name": "Robot 3", "price":20.50, "description": "This is a description of Robot 3", "imageUrl": "https://robohash.org/robot3" }]

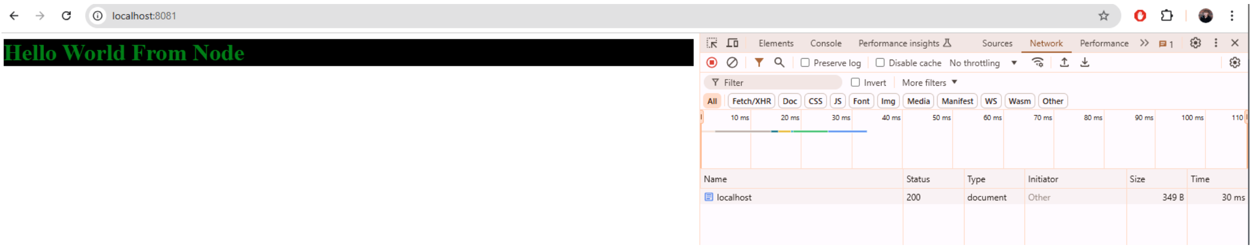
Name	Status	Type	Initiator	Size	Time
listRobots	404	document	Other	800 B	63 ms
favicon.ico	404	text/html	Other	454 B	9 ms

Just the same exact thing but displayed by my browser instead of the terminal.



```
C:\Users\Caleb\Desktop\319stuff\DailyWork>curl -v localhost:8081/
* Host localhost:8081 was resolved.
* IPv6: ::1
* IPv4: 127.0.0.1
*   Trying [::1]:8081...
* Connected to localhost (::1) port 8081
> GET / HTTP/1.1
> Host: localhost:8081
> User-Agent: curl/8.9.1
> Accept: */*
>
* Request completely sent off
< HTTP/1.1 200 OK
< X-Powered-By: Express
< Access-Control-Allow-Origin: *
< Content-Type: text/html; charset=utf-8
< Content-Length: 89
< ETag: W/"59-BtUmF6XeSSLFKBIpxkvPoZ0vBeY"
< Date: Mon, 11 Nov 2024 00:04:07 GMT
< Connection: keep-alive
< Keep-Alive: timeout=5
<
<h1 style='color:Green;background-color: black;border: 0px; '>Hello World From Node </h1>* Connection #0 to host localhost left intact
```

Terminal

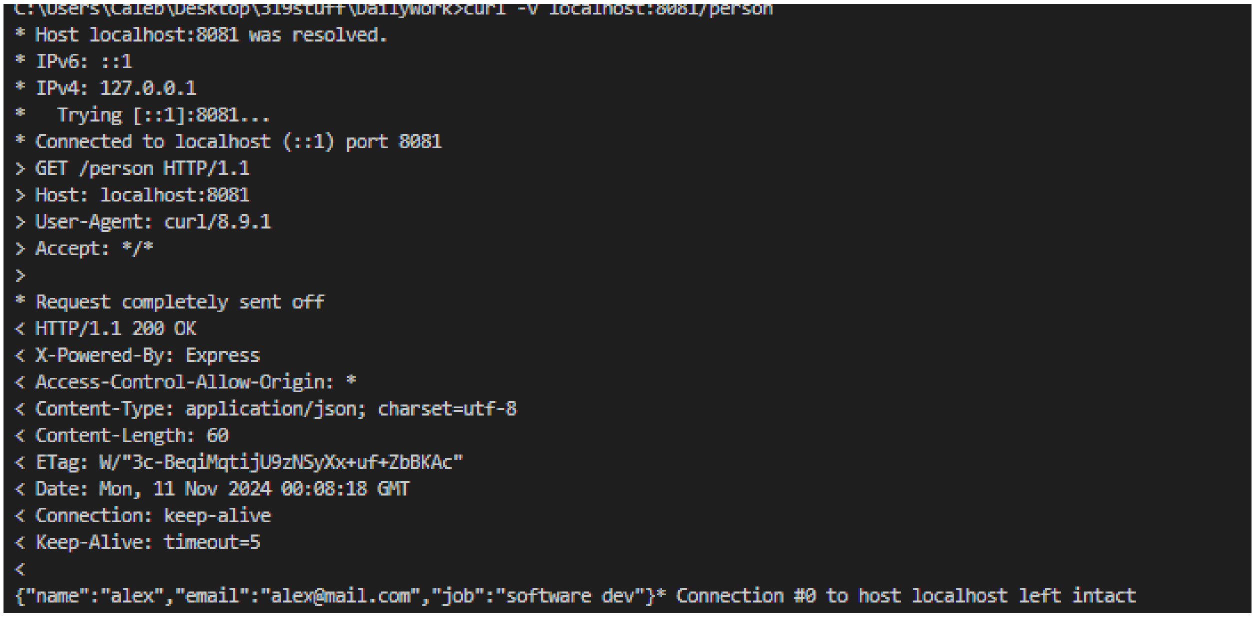


Hello World From Node

Name	Status	Type	Initiator	Size	Time
localhost	200	document	Other	349 B	30 ms

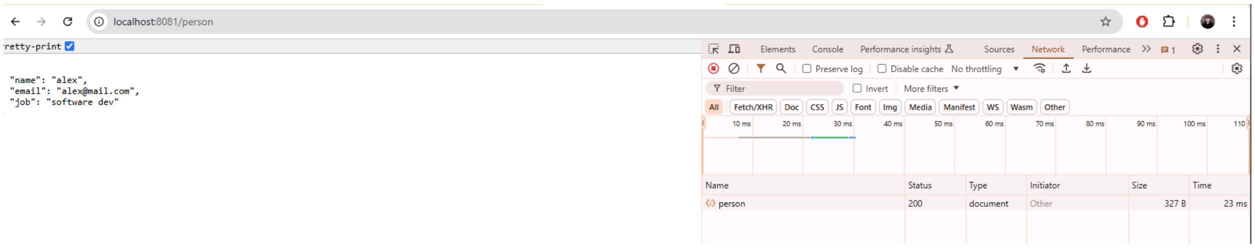
Browser

The browser is able to take in the html/text response type and parse it into actual html display.



```
C:\Users\Caleb\Desktop\319stuff\DailyWork>curl -v localhost:8081/person
* Host localhost:8081 was resolved.
* IPv6: ::1
* IPv4: 127.0.0.1
*   Trying [::1]:8081...
* Connected to localhost (::1) port 8081
> GET /person HTTP/1.1
> Host: localhost:8081
> User-Agent: curl/8.9.1
> Accept: */*
>
* Request completely sent off
< HTTP/1.1 200 OK
< X-Powered-By: Express
< Access-Control-Allow-Origin: *
< Content-Type: application/json; charset=utf-8
< Content-Length: 60
< ETag: W/"3c-BeqiMqtijU9zNSyXx+uf+ZbBKAc"
< Date: Mon, 11 Nov 2024 00:08:18 GMT
< Connection: keep-alive
< Keep-Alive: timeout=5
<
{"name":"alex","email":"alex@mail.com","job":"software dev"}* Connection #0 to host localhost left intact
```

Terminal



retty-print ☑

```
 "name": "alex",
 "email": "alex@mail.com",
 "job": "software dev"
```

☐ Preserve log ☐ Disable cache No throttling ☐ Invert

Name	Status	Type	Initiator	Size	Time
person	200	document	Other	327 B	23 ms

Browser