Content negotiation With CSRF

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In this blog post i would like to share some Content Negotiation behavior while Performing CSRF Request .

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While Performing Penetration Testing on Application API , I Came across ***Content Negotiation behavior .*** *Let's discuss this with live example which i encountered .*

Following is the Request which Server made with ClientID in order to generate AUTH Token.Since it has no protection against CSRF Attack .

Request

Raw | Params | Headers | Hex

```
POST /api/authentication HTTP/1.1
User-Agent: Mozilla
Accept: application/vnd.[redacted]-api+json;version=2
Content-Type: application/x-www-form-urlencoded
Content-Length: 96
Host: [redacted]
Connection: close
Accept-Encoding: gzip, deflate

data_type=authentication&provider=installations&credentials=bffd87b6-b5c4-4718-80ec-d146c92e0319
```

Response

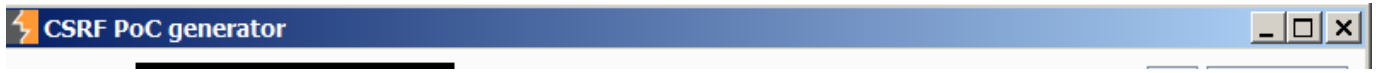
Raw | Headers | Hex

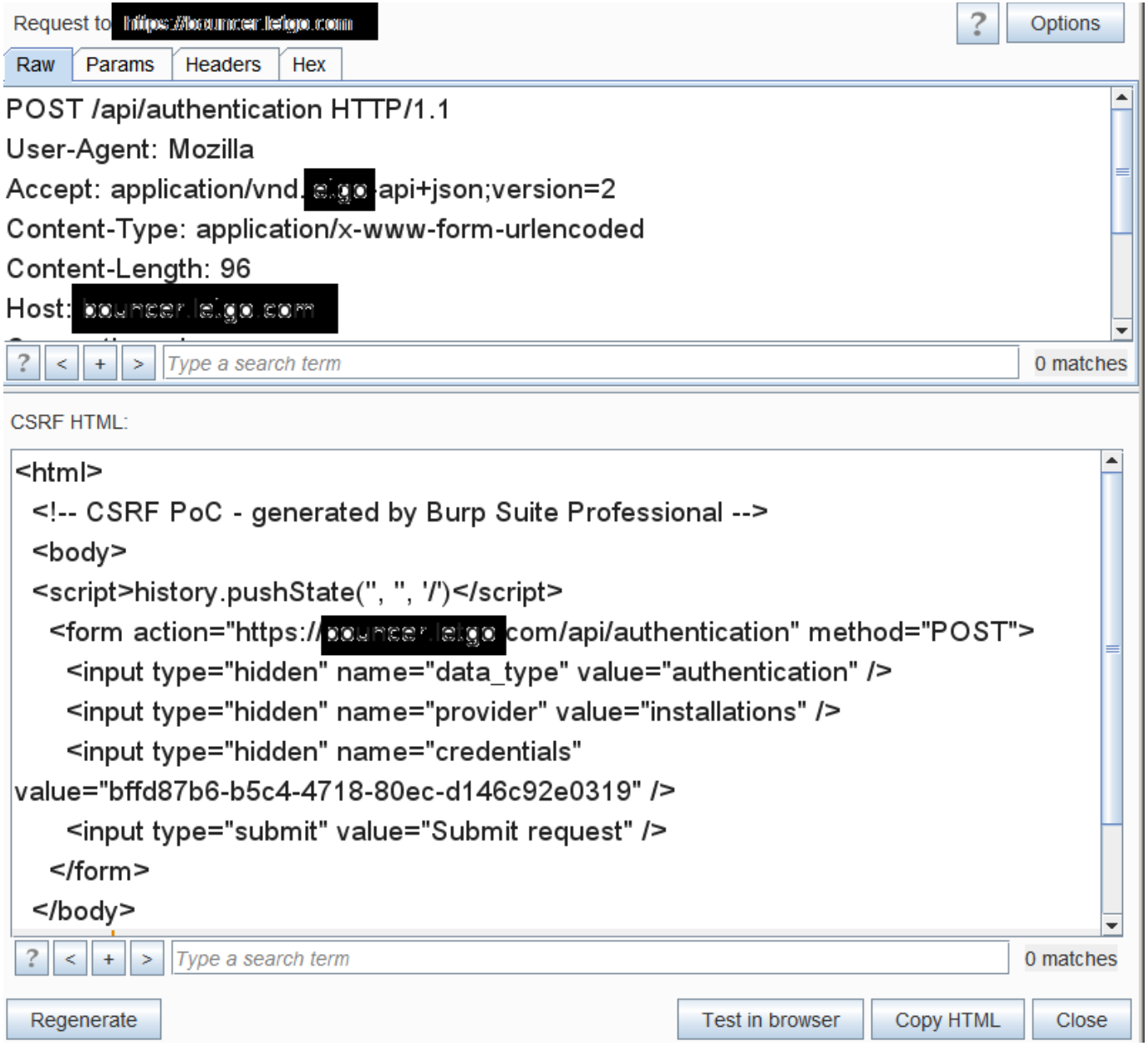
```
HTTP/1.1 201 Created
Access-Control-Allow-Headers: x-requested-with, Content-Type, origin, authorization, accept, client-security-token
Access-Control-Allow-Methods: POST, GET, OPTIONS, DELETE, PUT
Access-Control-Allow-Origin: *
Access-Control-Max-Age: 1000
Content-Type: application/vnd.[redacted]-api+json;version=2
Server: Apache
Status: 201 Created
Content-Length: 645
Expires: Sat, 18 Nov 2017 07:18:49 GMT
Cache-Control: max-age=0, no-cache, no-store
Pragma: no-cache
Date: Sat, 18 Nov 2017 07:18:49 GMT
Connection: close

{
   "id": "bffd87b6-b5c4-4718-80ec-d146c92e0319",
```

Origin Request

- *As soon as i saw the above Request , I Quickly tried CSRF .*





CSRF ON ORIGINAL REQUEST

- *~ And Here is the Response ~.OOPS*

CSRF ON ORIGINAL REQUEST DIDN'T WORKED

- ***Let's Check What's Wrong in Burp Proxy History!!!!***

- *Request looks good and it should get executed at server side , After trying changing parameters and few thing's i came to know that they are accepting* ***only Limited Type of Content .***
- *Let's look at first* ***Original Request Again*** *.By Looking at* ***Accept:application/vnd.domain-api+json;version=2 it is clear that*** *server expect the JSON data from the client in order to validate.*

. . .

~ Let's make CASE'S in order to check for Bypasses :

1. ***Trying By Removing Request Header :***

Accept: application/vnd.domain-api+json;version=2

- *On Forcing Server with **application/x-www-form-urlencoded** content ,we can see that Application is Strictly Validating the content to be JSON.*

Hence it is clear that we can't try any other content beside given by Request Header(Accept: JSON)

- *Also we can use **SWF-based JSON CSRF exploitation(aka. 307 Trick)** here to Spoof **Content Type : application/vnd.domain-api+json;version=2,** but would not work in this case . since our request data is not in JSON .*

2. *Convert REQUEST Data into JSON Data :*

- *Now we have optional to convert the request data into JSON in order to use it along with* ***SWF-based JSON CSRF exploitation.***

So i need to convert the following request data into JSON :

data_type=authentication&provider=installations&credentials=bffd87b6-b5c4–4718–80ec-d146c92e0319

TO

{“data”:{“type”:”authentication”,”attributes”:{“provider”:”installations”,”credentials”:”bffd87b6-b5c4–4718–80ec-d146c92e0319"}}}

Success!

~ Keep Trying

Bug Bounty | Pentesting | Bug Hunting | Hacking | Infosec

358 claps

WRITTEN BY

Arbaz Hussain

~Kiraak-Boy~

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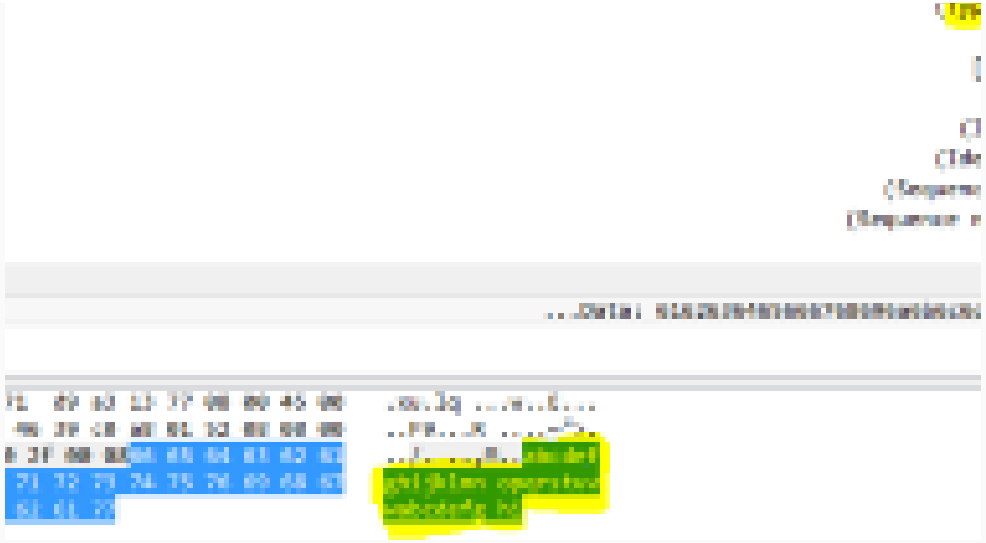

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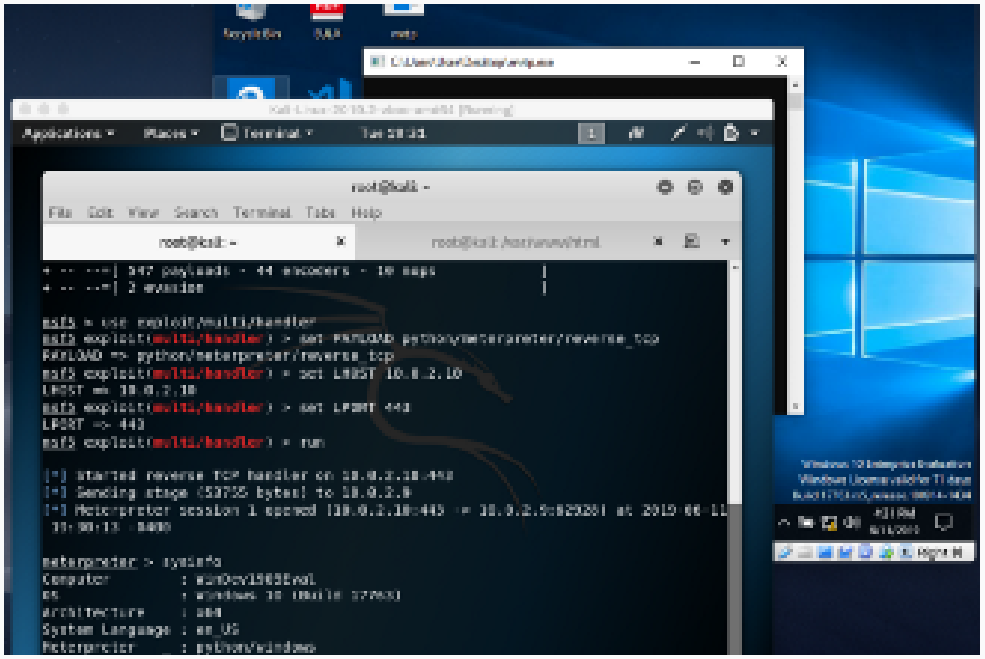

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