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ICS 482

9/28/2019

InfoSec Lab: HTMLi Vulnerability and Mitigation

The screenshot displays a virtual machine environment with two main windows. The left window, titled "Final_Alice_DT_32bit", shows a terminal window with the following output:

```
support@Web: ~
Creating config file /etc/php5/cli/php.ini with new version
update-alternatives: using /usr/bin/php5 to provide /usr/bin/php (php) in auto mode.
Setting up php5-gd (5.3.10-1ubuntu3) ...
Setting up php5-mcrypt (5.3.5-0ubuntu1) ...
Setting up phpmyadmin (4:3.4.10.1-1) ...
dbconfig-common: writing config to /etc/dbconfig-common/phpmyadmin.conf
Creating config file /etc/dbconfig-common/phpmyadmin.conf with new version
Creating config file /etc/phpmyadmin/config-db.php with new version
granting access to database phpmyadmin for phpmyadmin@localhost: success.
verifying database phpmyadmin: success.
creating database phpmyadmin: success.
verifying database phpmyadmin exists: success.
populating database via sql... done.
dbconfig-common: flushing administrative password
* Reloading web server config apache2
apache2: Could not reliably determine the server's fully qualified domain name,
using 127.0.1.1 for ServerName
Processing triggers for libc-bin ...
ldconfig deferred processing now taking place
support@Web:~$
```

The right window, titled "Final_Kali_2.0", shows a terminal window with the following output:

```
support@Web: ~
File Edit View Search Terminal Help
Permission denied, please try again.
support@urbank.com's password:
Welcome to Ubuntu 12.04.5 LTS (GNU/Linux 3.2.0-94-generic-pae i686)

* Documentation: https://help.ubuntu.com/
Last login: Sat Sep 28 17:23:33 2019 from stal.urbank.com
support@Web:~$ sed -n '9,17 p' /var/www/WebServer/index.php
<?php
if (isset($_GET['myusername'])) {
    echo $_GET['myusername'];
}
else {
    echo 'Please login';
}
?>
support@Web:~$ sed -i '10,12s/REQUEST/GET/' /var/www/WebServer/index.php
support@Web:~$ sed -n '9,17 p' /var/www/WebServer/index.php
<?php
if (isset($_GET['myusername'])) {
    echo $_GET['myusername'];
}
else {
    echo 'Please login';
}
?>
support@Web:~$
```

The bottom window, titled "Final_Alice_DT_32bit", shows a terminal window with the following output:

```
support@Web: ~
Creating config file /etc/php5/cli/php.ini with new version
update-alternatives: using /usr/bin/php5 to provide /usr/bin/php (php) in auto mode.
Setting up php5-gd (5.3.10-1ubuntu3) ...
Setting up php5-mcrypt (5.3.5-0ubuntu1) ...
Setting up phpmyadmin (4:3.4.10.1-1) ...
dbconfig-common: writing config to /etc/dbconfig-common/phpmyadmin.conf
Creating config file /etc/dbconfig-common/phpmyadmin.conf with new version
Creating config file /etc/phpmyadmin/config-db.php with new version
granting access to database phpmyadmin for phpmyadmin@localhost: success.
verifying database phpmyadmin: success.
creating database phpmyadmin: success.
verifying database phpmyadmin exists: success.
populating database via sql... done.
dbconfig-common: flushing administrative password
* Reloading web server config apache2
apache2: Could not reliably determine the server's fully qualified domain name,
using 127.0.1.1 for ServerName
Processing triggers for libc-bin ...
ldconfig deferred processing now taking place
support@Web:~$
```

the query parameter being relayed from the client to the server.

HTTP	No.	Time	Source	Destination	Protocol	Length	Info
HTTP	1	833	10.10.1.112	192.168.1.5	HTTP	363	GET / HTTP/1.1
HTTP	2	834	10.10.1.112	192.168.1.5	HTTP	800	HTTP/1.1 200 OK (text/html)
HTTP	3	835	10.10.1.112	192.168.1.5	HTTP	374	GET /favicon.ico HTTP/1.1
HTTP	4	836	10.10.1.112	192.168.1.5	HTTP	566	HTTP/1.1 404 Not Found (text/html)
HTTP	5	1204	10.10.1.112	192.168.1.5	HTTP	400	GET /?myusername=%3Cinput%20%27ra
HTTP	6	1206	10.10.1.112	192.168.1.5	HTTP	803	HTTP/1.1 200 OK (text/html)

1 AND 2 RETRIEVED THE ORIGINAL WEBPAGE

3 AND 4 USED TO DEFINE THE MYUSERNAME VARIABLE

The Wireshark capture confirms what we were thinking, that the GET function provides the ability to set the myusername variable within the browser.

19 Click the minimize button.

20 Click the terminal icon and make sure it is the one that contains the remote session with the web server. You will know if you selected the right one by the prompt: support@Web:~\$

CHANGING THE FILE BACK TO ITS ORIGINAL STATE

21 Execute the following command again to confirm the change.

```
support@Web:~$ sed -n '9,17 p' /var/www/WebServer/index.php
```

22 Click the close button on the VM window.

```
support@Web:~$ sed -i '10,12s/REQUEST/GET/' /var/www/WebServer/index.php
support@Web:~$ sed -n '9,17 p' /var/www/WebServer/index.php
```

Final_Kali-2.0 - Internet Explorer

Final_Kali-2.0

Applications Places Wireshark Sat 17:35

*eth0

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

http

No. Time Source Destination Protocol Length Info

833 46.604694693 10.10.1.112 192.168.1.5 HTTP 363 GET / HTTP/1.1

834 46.604694693 10.10.1.112 192.168.1.5 HTTP 800 HTTP/1.1 200 OK (text/html)

835 46.710123962 10.10.1.112 192.168.1.5 HTTP 374 GET /favicon.ico HTTP/1.1

836 46.71762958 10.10.1.112 192.168.1.5 HTTP 566 HTTP/1.1 404 Not Found (text/html)

1204 81.946148993 10.10.1.112 192.168.1.5 HTTP 400 GET /?myusername=%3Cinput%20%27ra

1206 81.950659479 10.10.1.112 192.168.1.5 HTTP 803 HTTP/1.1 200 OK (text/html)

Frame 831: 363 bytes on wire (2904 bits), 363 bytes captured (2904 bits) on interface 0

Ethernet II, Src: Vmware_0a:42:e8 (00:50:56:9a:42:e8), Dst: Vmware_02:10:5b (00:50:56:02:10:5b)

Internet Protocol Version 4, Src: 192.168.1.5, Dst: 10.10.1.112

Transmission Control Protocol, Src Port: 49334 (49334), Dst Port: 80 (80), Seq: 1, Ack: 1, Len: 297

Hypertext Transfer Protocol

Packets: 1896 · Displayed: 6 (0.3%) Profile: Default

4:35 PM 9/28/2019

Final_Kali-2.0 - Internet Explorer

Final_Kali-2.0

Applications Places Terminal Sat 17:36

support@Web: ~

File Edit View Search Terminal Help

```
}
else {
    echo 'Please login';
}
?>
support@Web:~$ sed -i '10,12s/REQUEST/GET/' /var/www/WebServer/index.php
support@Web:~$ sed -n '9,17 p' /var/www/WebServer/index.php
<?php
if (isset($_GET['myusername'])) {
    echo $_GET['myusername'];
}
else {
    echo 'Please login';
}
?>
support@Web:~$ sed -i '10,12s/GET/REQUEST/' /var/www/WebServer/index.php
support@Web:~$ sed -n '9,17 p' /var/www/WebServer/index.php
<?php
if (isset($_REQUEST['myusername'])) {
    echo $_REQUEST['myusername'];
}
else {
    echo 'Please login';
}
?>
support@Web:~$
```

Final_Kali-2.0_0

View Fullscreen Send Ctrl+Alt+Delete

Applications Places Terminal Mon 14:22

support@Web: ~

File Edit View Search Terminal Help

```
support@Web:~$ sed -i '10,12s/REQUEST/GET/' /var/www/WebServer/index.php
support@Web:~$ sed -n '9,17 p' /var/www/WebServer/index.php
<?php
if (isset($_GET['myusername'])) {
    echo $_GET['myusername'];
}
else {
    echo 'Please login';
}
?>
support@Web:~$
```

