

Checklist for Web Site Programming Vulnerabilities

Asked 16 years, 3 months ago Modified 9 years, 5 months ago

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17



Watching SO come online has been quite an education for me. I'd like to make a checklist of various vulnerabilities and exploits used against web sites, and what programming techniques can be used to defend against them.



- What categories of vulnerabilities?
 - crashing site
 - breaking into server
 - breaking into other people's logins
 - spam
 - [sockpuppeting](#), [meatpuppeting](#)
 - etc...
- What kind of defensive programming techniques?
- etc...

security

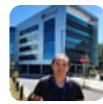
defensive-programming

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edited Jul 14, 2015 at 7:49

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Yeldar Kurmangaliyev

34.2k ● 13 ● 63 ● 103

asked Aug 26, 2008 at 19:51



Mark Harrison

304k ● 131 ● 350 ● 489

Can someone fix the spelling mistake in the title? – [mattruma](#)

Sep 18, 2008 at 14:09

9 Answers

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12

From the [Open Web Application Security Project](#):

1. The [OWASP Top Ten](#) vulnerabilities (pdf)

2. For a more painfully exhaustive list:

[Category:Vulnerability](#)



The top ten are:



1. Cross-site scripting (XSS)



2. Injection flaws (SQL injection, script injection)

3. Malicious file execution

4. Insecure direct object reference

5. Cross-site request forgery (XSRF)

6. Information leakage and improper error handling

7. Broken authentication and session management

8. Insecure cryptographic storage

9. Insecure communications

10. Failure to restrict URL access

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Charles Miller

2,897 ● 1 ● 21 ● 14



6

I second the OWASP info as being a valuable resource. The following may be of interest as well, notably the attack patterns:



- [CERT Top 10 Secure Coding Practices](#)
- [Common Attack Pattern Enumeration and Classification](#)
- [Attack Patterns](#)
- [Secure Programming for Linux and Unix](#)
- [A Taxonomy of Coding Errors that Affect Security](#)
- [Secure Programming with Static Analysis Presentation](#)

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edited Aug 27, 2008 at 0:23

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David Schlosnagle

4,323 ● 2 ● 24 ● 16



2



Obviously test every field for vulnerabilities:

- SQL - escape strings (e.g. `mysql_real_escape_string`)
- XSS
- HTML being printed from input fields (a good sign of XSS usually)
- Anything else that is not the specific purpose that field was created for

Search for infinite loops (the only indirect thing (if a lot of people found it accidentally) that could kill a server really).

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Ross

47k ● 39 ● 123 ● 173



2



Some prevention techniques:

XSS

- If you take any parameters/input from the user and ever plan on outputting it, whether in a log or a web page, sanitize it (strip/escape anything resembling HTML, quotes, javascript...) If you print the current URI of a page within itself, sanitize! Even printing `PHP_SELF`, for example, is unsafe. Sanitize!

Reflective XSS comes mostly from unsanitized page parameters.

- If you take any input from the user and save it or print it, warn them if anything dangerous/invalid is detected and have them re-input. an IDS is good for detection (such as PHPIDS.) Then sanitize before storage/printing. Then when you print something from storage/database, sanitize again! Input -> IDS/sanitize -> store -> sanitize -> output
- use a code scanner during development to help spot potentially vulnerable code.

XSRF

- Never use GET request for destructive functionality, i.e. deleting a post. Instead, only accept POST requests. GET makes it extra easy for hackery.
- Checking the referrer to make sure the request came from your site **does not work**. It's not hard to spoof the referrer.
- Use a random hash as a token that must be present and valid in every request, and that will expire after a while. Print the token in a hidden form field and check it on the server side when the form is posted. Bad guys would have to supply the correct token in order to forge a request, and if they managed to get the real token, it would need to be before it expired.

SQL injection

- your ORM or db abstraction class should have sanitizing methods - use them, always. If you're not using an ORM or db abstraction class... you should be.

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answered Sep 16, 2008 at 8:35



[Zach](#)

24.8k ● 9 ● 45 ● 50



SQL injection

1

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answered Aug 26, 2008 at 19:52



[coder1](#)

3,515 ● 5 ● 31 ● 46



[XSS](#) (Cross Site Scripting) Attacks

1

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answered Aug 26, 2008 at 19:54



[Bernie Perez](#)

12.6k ● 13 ● 49 ● 55





1

Easy to oversee and easy to fix: the sanitizing of data received from the client side. Checking for things such as ';' can help in preventing malicious code being injected into your application.



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answered Aug 26, 2008 at 22:29



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[jwarzech](#)

6,665 ● 11 ● 53 ● 74



1

G'day,

A good static analysis tool for security is [FlawFinder](#) written by David Wheeler. It does a good job looking for various security exploits,



However, it doesn't replace having a knowledgeable someone read through your code. As David says on his web page, "A fool with a tool is still a fool!"



HTH.

cheers, Rob

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answered Aug 27, 2008 at 14:07

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[Rob Wells](#)

37k ● 13 ● 84 ● 147



You can get good firefox addons to test multiple flaws and vulnerabilities like xss and sql injections from [Security](#).

1

[Compass](#). Too bad they doesn't work on firefox 3.0. I hope that those will be updated soon.



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answered Sep 16, 2008 at 8:43



[Vertigo](#)

2,746 ● 1 ● 22 ● 24
