OWASP

The Open Web Application Security Project

OWASP Application Security Verification Standard 2013

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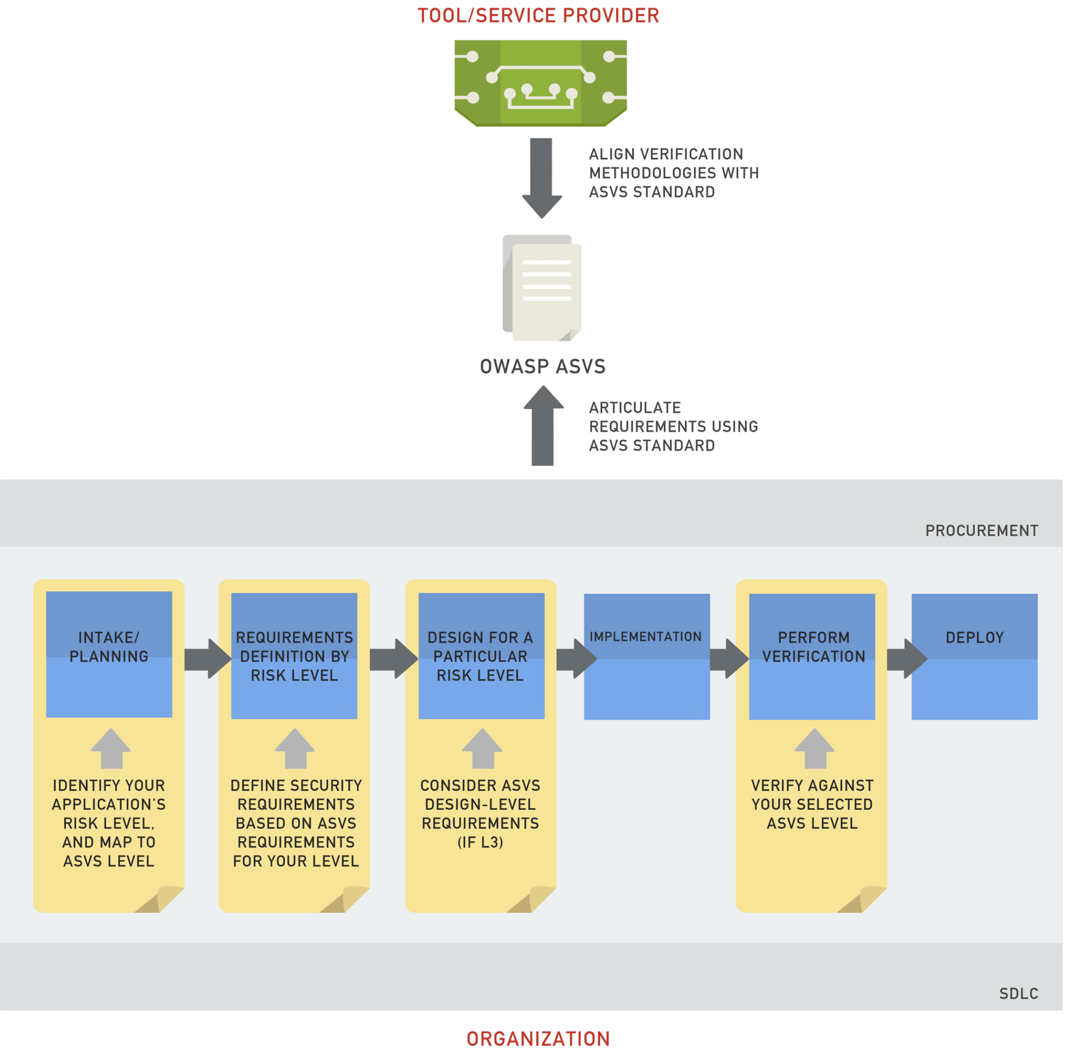
BACKGROUND

What is ASVS?

“The primary aim of the OWASP Application Security Verification Standard (ASVS) is to normalize the range in the coverage and level of rigor available in the market when it comes to performing web application security verification.”

Why you should care


TOOL/SERVICE PROVIDER
ALIGN VERIFICATION METHODOLOGIES WITH ASVS STANDARD
OWASP ASVS
ARTICULATE REQUIREMENTS USING ASVS STANDARD
PROCUREMENT
INTAKE/ PLANNING
REQUIREMENTS DEFINITION BY RISK LEVEL
DESIGN FOR A PARTICULAR RISK LEVEL
IMPLEMENTATION
PERFORM VERIFICATION
DEPLOY
IDENTIFY YOUR APPLICATION'S RISK LEVEL, AND MAP TO ASVS LEVEL
DEFINE SECURITY REQUIREMENTS BASED ON ASVS REQUIREMENTS FOR YOUR LEVEL
CONSIDER ASVS DESIGN-LEVEL REQUIREMENTS (IF L3)
VERIFY AGAINST YOUR SELECTED ASVS LEVEL
SDLC
ORGANIZATION

ASVS 2009 Challenges

- Document had not been updated since 2009 (some content was out of date)
- Uproar against automated level 1
- Many requirements were unclear/duplicates
- Document was not easy to read/interpret
- No clear-cut definition of levels

Initial Roadmap (Jan 2013)

- New Content
- Document segregation
- Case studies
- Mapping to other standards
- General quality control / cleanup of document
- (NTH) ASVS certification of automated scanners
- (NTH) Document design upgrade

Completed (Aug 2013)

- New Content
- ~~Document segregation~~
- Case studies
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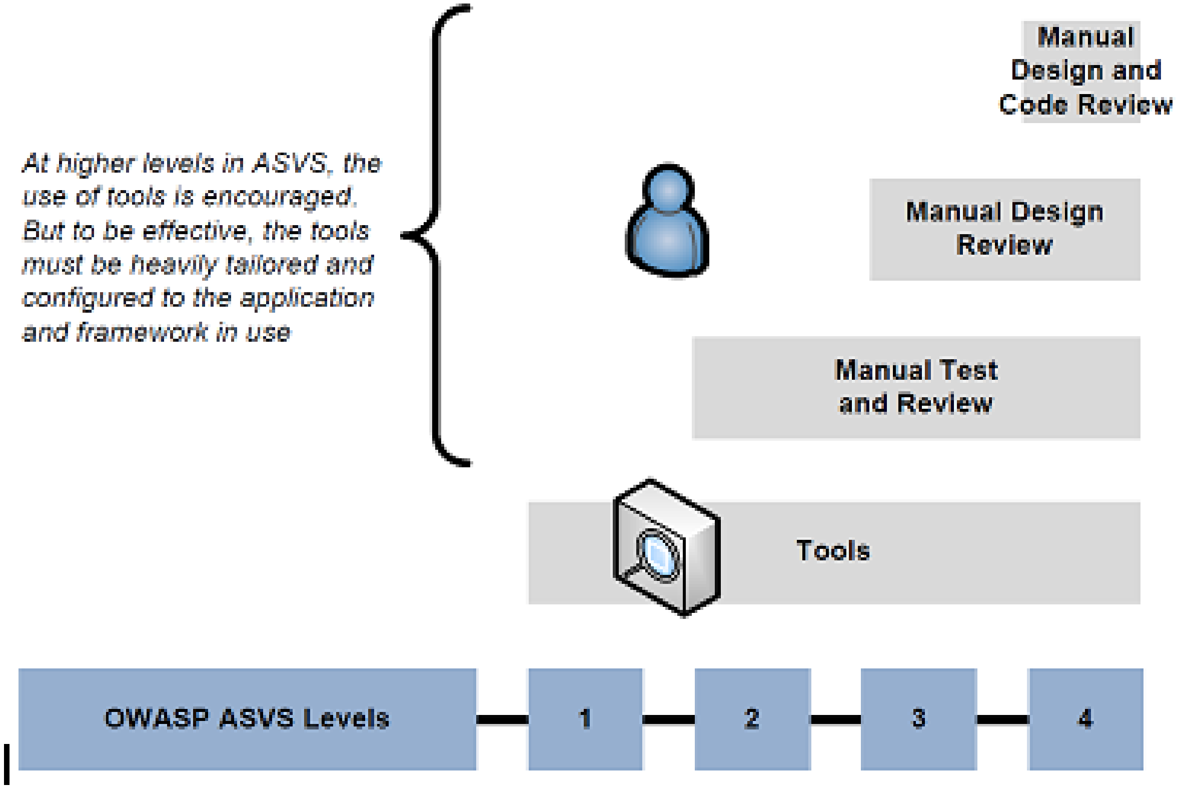
- (NTH) ASVS certification of automated scanners
- (NTH) Document design upgrade

ASVS 2009

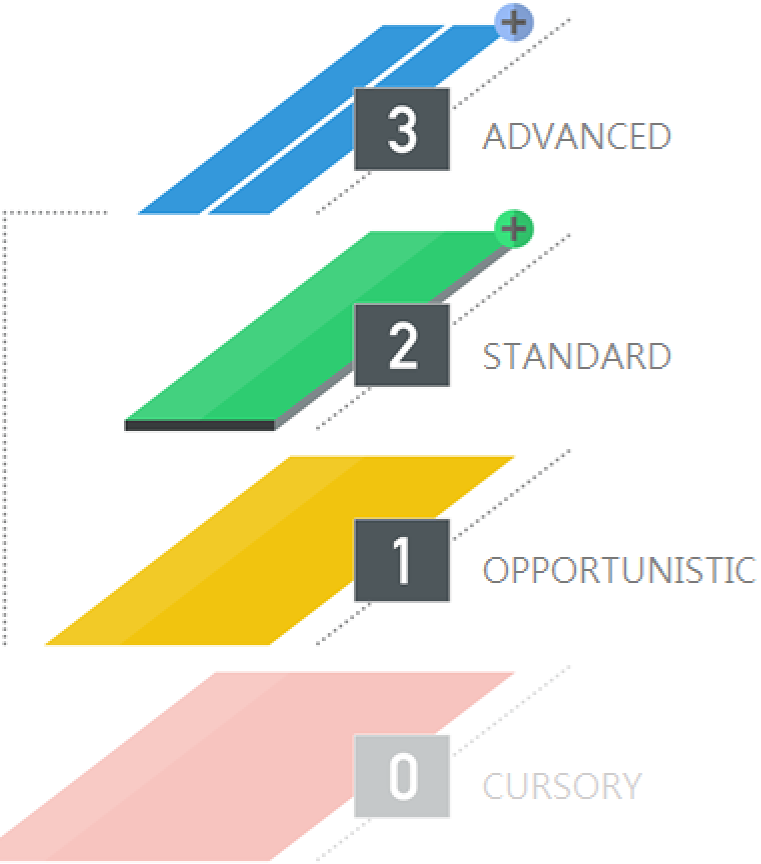


At higher levels in ASVS, the use of tools is encouraged. But to be effective, the tools must be heavily tailored and configured to the application and framework in use

INTRODUCING ASVS 2013 BETA

At a glance

ASVS DEFINES DETAILED VERIFICATION REQUIREMENTS FOR LEVELS 1 AND ABOVE; WHEREAS LEVEL 0 IS MEANT TO BE FLEXIBLE AND IS CUSTOMIZED BY EACH ORGANIZATION.



OWASP ASVS LEVELS

Level 0: Cursory

Level 0 (or Cursory) is an optional certification, indicating that the application has passed some type of verification.

0
1
2
3
OWASP ASVS LEVELS

Includes

- No specific verification requirements
- Designed to be a flexible point-of-entry
- Organizations can define their own min. criteria, for example:
  - Automated scan of all externally-facing apps;
  - Established authentication policies;

Level 1: Opportunistic

An application achieves Level 1 (or Opportunistic) certification if it adequately defends against application security vulnerabilities that are easy to discover.

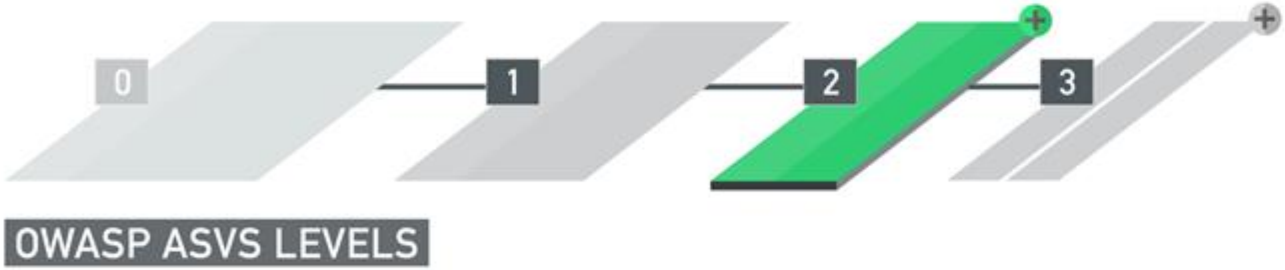
0
1
2
3
+
+
OWASP ASVS LEVELS

Includes

- Login over HTTPS
- Session timeout implemented
- XSS, SQLi

Level 2: Standard

An application achieves Level 2 (or Standard) verification if it also adequately defends against prevalent application security vulnerabilities whose existence poses moderate-to-serious risk.



Includes

- OWASP Top 10
- Business Logic
- Basic crypto

Level 3: Advanced

An application achieves Level 3 (or Advanced) certification if it also adequately defends against all advanced application security vulnerabilities, and also demonstrates principles of good security design.

0
1
2
3
OWASP ASVS LEVELS

Includes

- Advanced cryptography
- Malicious code
- Advanced mobile device tests

Level 3 Design Elements

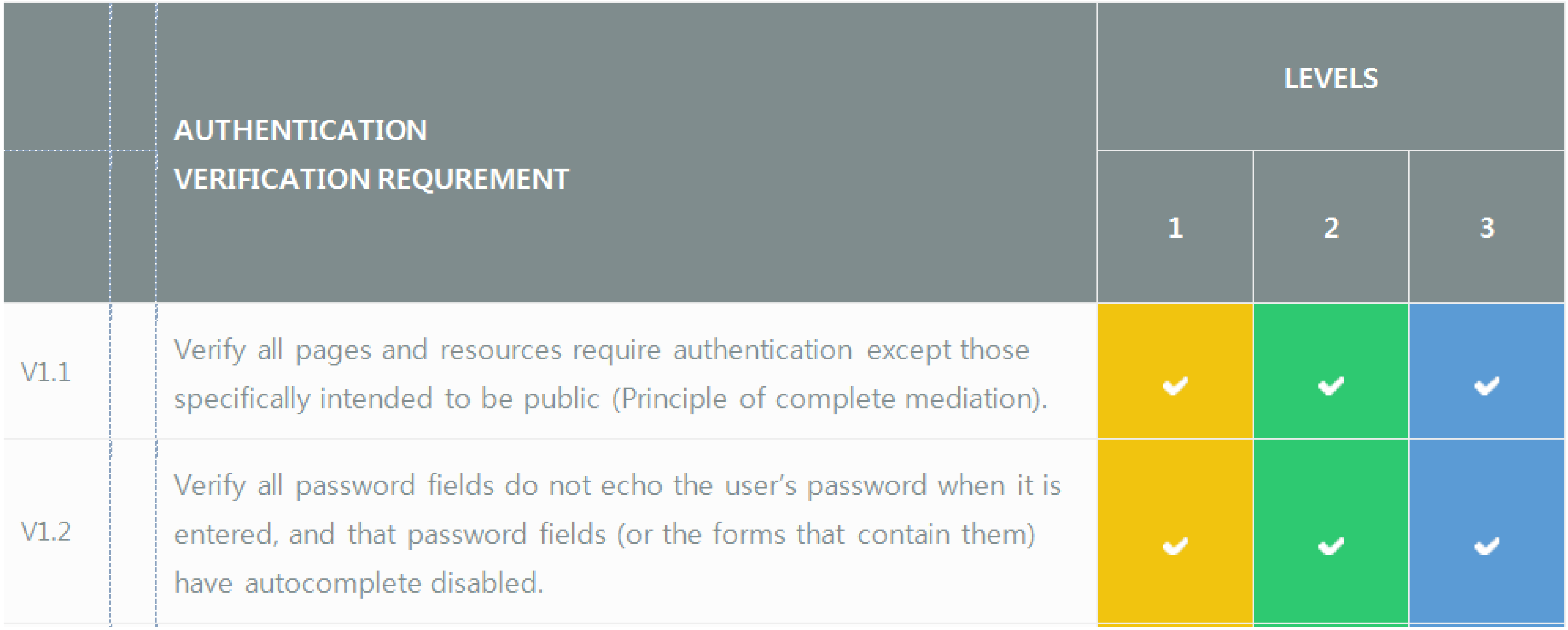
- Security controls are **centralized** within the application.
- Security controls that perform validation make decisions using a **whitelist** (“positive”) approach.
- Data validation controls are complemented by output **encoding** routines.
- All untrusted data that is output to SQL interpreters use **parameterized** interfaces, prepared statements, or are escaped properly.

Scope of verification

The scope of the verification is separate from the requirements for achieving a level.

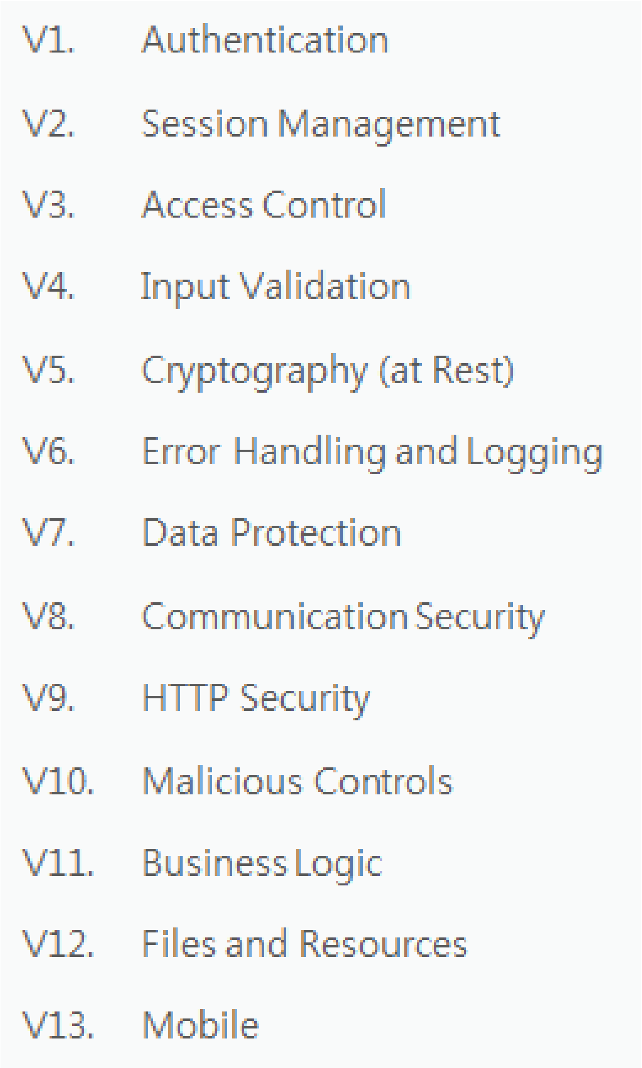
e.g. ASVS L3+ certified

Detailed verification requirements



		AUTHENTICATION VERIFICATION REQUREMENT	LEVELS		
			1	2	3
V1.1		Verify all pages and resources require authentication except those specifically intended to be public (Principle of complete mediation).	✓	✓	✓
V1.2		Verify all password fields do not echo the user's password when it is entered, and that password fields (or the forms that contain them) have autocomplete disabled.	✓	✓	✓

Detailed verification requirements



V1. Authentication

V2. Session Management

V3. Access Control

V4. Input Validation

V5. Cryptography (at Rest)

V6. Error Handling and Logging

V7. Data Protection

V8. Communication Security

V9. HTTP Security

V10. Malicious Controls

V11. Business Logic

V12. Files and Resources

V13. Mobile

WHAT’S NEXT

Get it first!

OWASP ASVS 2013
(Beta)

http://sourceforge.net/projects/owasp/files/ASVS/OWASP ASVS 2013 Beta _v1.0.pdf/download

Future direction

- **Roadmap to update compliance from ASVS 2009 to ASVS 2013**
- Map to other standards
  - Remove detailed requirements?
  - Makes ASVS more lightweight
- Possibly two views: consumer and provider

Shoutout to…

- Daniel Cuthbert, Andrew van der Stock, Krishna Raja, Evan Gaustad, Archangel Cuison, Etienne Stalmans
- Authors and contributors of ASVS 2009

Thank you!

- Any questions?

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- Join the conversation:

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