SAP ICC
Security Code Scan Assessment

PUBLIC

Security Code Scan Assessment
Analysis & Importance

Analysis:

- Security vulnerability is a weakness which allows an attacker to reduce a system's information assurance.

59%

of organizations do not track continuous AppSec improvement metrics for each development team.

Source Link:https://www.veracode.com/analytics

40%

of organizations lack tools or processes to monitor AppSec progress over time.

Source Link: https://www.veracode.com/analytics

40%

Web and mobile applications account for data breaches

Source Link:https://en.wikipedia.org/wiki/Static_application_security_testin

4/5

apps written in web scripting languages fail the OWASP assessment

Source Link:https://en.wikipedia.org/wiki/Veracode

Importance:

- Help to identify, understand and remediate **critical vulnerabilities**.
- Strong security ensures having **powerful technology**.
- Ensures that your applications are **managed securely**.
- No hardware, software or infrastructure required.

Security Code Scan Assessment
Introduction

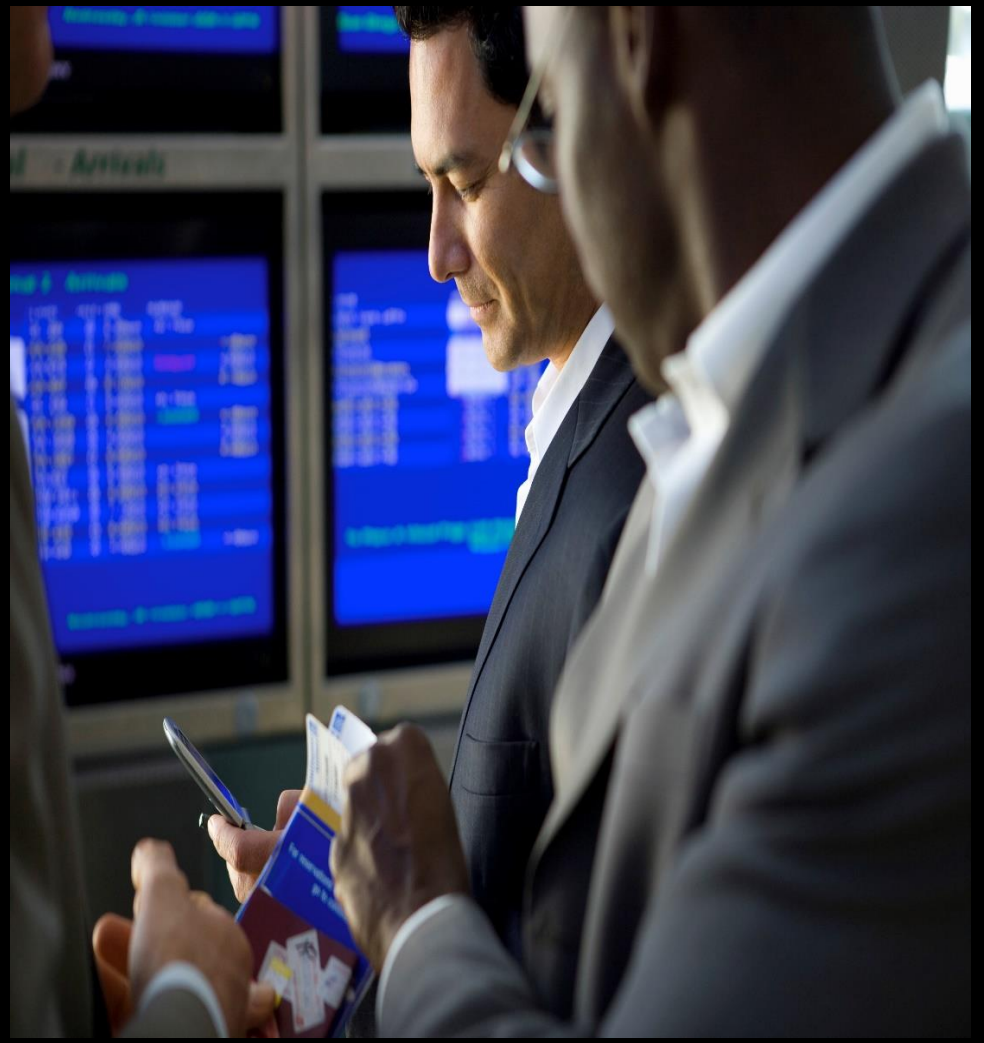
What are we doing?

- Help partners/ISV's to identify security threats, vulnerabilities in their products.
- Depending the underlying technology, partner can have either
  - One Year Subscription access to the online Security Code Scan tool for non ABAP OR
  - One Year Subscription license of SAP Code Venerability Analyzer (CVA) license for ABAP
- Static Code Scan of partners application for unlimited number of times in an year.

Why are we doing?

Based on a survey in 2014-15, 250+ out of almost 400 existing SAP partners do not perform Security Code Scan assessment on their own.

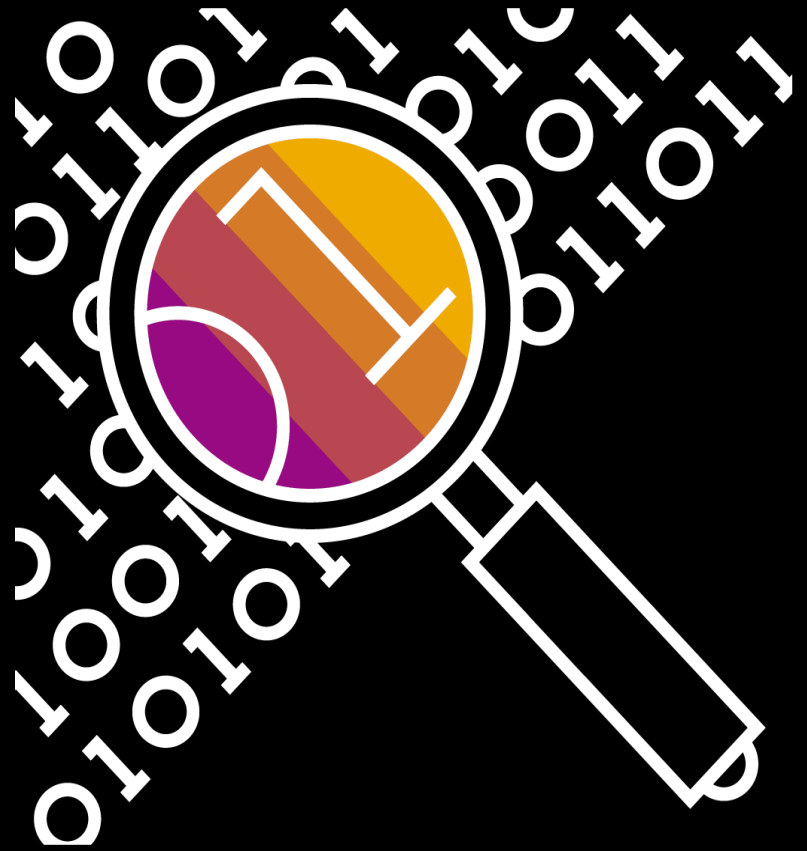
- Almost 100 partners have ABAP add-ons while others are on other platforms.
- SAP partners are introduced to secure development practices.



Security Code Scan Assessment
Static Security Code scan – non ABAP

What is Static Security Code scan?

- Performed without actually executing the programs.
- Technique used to scrutinize all code paths and data flows.
- They push the testing as early into the process as possible and as close to the component being built as possible.
- Can assess the security of microservices, web, mobile and desktop applications.



Why Static Security Code scan?

- It identifies detects in the program at early stages and decrease in cost to fix.
- It can detect flaws in the program's inputs and outputs that cannot be seen through dynamic testing.
- It automatically scans uncompiled codes and identifies vulnerabilities.

Security Code Scan Assessment
SAP ABAP Security Code Scan

What is SAP ABAP Security Code Scan

- SAP ABAP Security Code Scan is a service which use SAP CVA carries out a static analysis of ABAP source code and reports possible security risks.

- SAP CVA is a product in its own right and is subject to separate remuneration

Why use SAP CVA in ABAP Security Code Scan

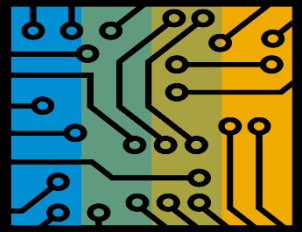
Scan efficiently
- Reduced false-positive rate by dataflow analysis
- Scanning directly from within the ABAP development environment with broad range of predefined checks

Developer guidance
- Detailed help and explanations to all errors and assistance to find the right location for the fix
- Prioritization of checks

Integrated into standard ABAP check frameworks, SAP transport system and ABAP Test Cockpit (ATC)

Security Code Scan Assessment
Benefits

Unlimited High-quality scanning results for the apps



Comply with SAP Corporate Security guidelines

Reduces application code vulnerabilities early in the lifecycle

Gain Insight into the Security of your Software.

Integrate application security into your SDLC

Deep and Lasting Relationships with Customers

Security Code Scan Assessment
Platforms Covered & Flaw Checks

SAP Cloud Platform	On-Premise Applications	Web Platforms	Mobile Platform	SAP NetWeaver Platform	SAP S/4 HANA Platform
					
(Excludes HANA XS engine)	**C/C++, Legacy Business Application** *(COBOL, Visual Basics)*, **Java***(Java SE, Java EE, JSP)*, **.Net** *(C#, ASP.NET, VB.NET)*	**JavaScript** *(including AngularJS, Node.js, and jQuery)***, Typescript, Python, Perl, PHP, Ruby on Rails, ColdFusion, and Classic ASP.**	**iOS (***Objective-C and Swift)*, **Android** *(Java)***, Phone Gap, Cordova, Titanium, Xamarin.**	SAP ERP 6.0	SAP S/4HANA 1809 or above

Top Security Flaw checks:
Cross-site scripting(XSS) attack check, buffer overflow check, SQL injection attack check, Directory traversal attack check, Confidentiality, Integrity

Other critical checks like:
Application business criticality check, CRLF Injection, Credential management, Information leakage, Code quality, error handling. Availability Impact Check and Understand Severity, Exploitability and Remediation effort.

ABAP related checks:
Security Analyses in Extended Program Check (SLIN), Dynamic and Client-Specific Accesses in SELECT, Invalid access to CDS Views etc.

Security Code Scan Assessment

Technical support for the static scan – ABAP & non ABAP

Language and Platform	Versions
Java (Java SE, Java EE)	JDK 1.4, 1.5, 1.6, 1.7, 1.8
C# (Windows/.NET 1.1, 2.0, 3.0, 3.5, 4.0, 4.5, 4.6, 4.7/ Core 1.0, 1.1, 2.0)	Visual Studio .NET 2003, 2005, 2008, 2010, 2012, 2013, 2015, 2017/ Mono 4.x
ASP.NET with C# or VB.NET (Windows/.NET 1.x, 2.0, 3.x, 4.x / Core 1.1, 2.0 for C# only)	Visual Studio .NET 2003, 2005, 2008, 2010, 2012, 2013, 2015, 2017
VB.NET (Windows/.NET 1.1, 2.0, 3.0, 3.5, 4.0, 4.5, 4.6, 4.7)	Visual Studio .NET 2003, 2005, 2008, 2010, 2012, 2013, 2015, 2017
C/C++ (Windows/.NET 2.0, 3.0, 3.5, 4.0, 4.5, 4.6)	Visual Studio .NET 2005, 2008, 2010, 2012, 2013, 2015/ Mono 4.x
JavaScript and TypeScript	
PHP	5.2-7
Scala	2.13 and earlier
Ruby on Rails	Ruby 1.9.3, 2.0.x, 2.1.x, 2.3 / Rails 3.x, 4.x
Classic ASP	Classic ASP 1.x, 2.x, 3.0
ColdFusion (compiled as Java)	ColdFusion 7, 8, 9, 10, 11
Perl	5.x (CGI Applications)
Python	2.x, 3.x
Android	Android SDK
iOS	Xcode 4.x-9.x (LLVM)
Xamarin	Visual Studio 2012 and later/ Xamarin Studio/ Mono 4.x
PhoneGap/Cordova	PhoneGap or Cordova
Titanium	Titanium SDK
C/C++ (Solaris 8, 9, 10 on SPARC)	gcc 3.3, 3.4, 4.0, 4.1
C/C++ (Red Hat Enterprise Linux 3, 4, 5, 6, CentOS 3, 4, 5, 6, Fedora Core 6, OpenSUSE Linux 10, 11)	3.2-3.4, 4.0-4.9
C/C++ (Windows)	Visual Studio .NET 2002-2015 (Visual C++ 7.0-14.0)
COBOL	Enterprise COBOL for z/OS, MicroFocus, ILE COBOL, and COBOL-85
RPG	RPG III, RPG IV, RPGLE
Visual Basic 6	Visual Basic 6
ABAP Language SAP NetWeaver Platform	**SAP S/4HANA 1809, SAP ERP 6.0 EHP7 and more**

Security Code Scan Assessment
Priorities categorized after the scan - non ABAP

Very High	The offending line or lines of code is a very serious weakness and is an easy target for an attacker. The code should be modified immediately to avoid potential attacks.
High	The offending line or lines of code have significant weakness, and the code should be modified immediately to avoid potential attacks

Medium	A weakness of average severity. These should be fixed in high assurance software. A fix for this weakness should be considered after fixing the very high and high for medium assurance software
Low	This is a low priority weakness that will have a small impact on the security of the software. Fixing should be consideration for high assurance software. Medium and low assurance software can ignore these flaws.

Very Low	Minor problems that some high assurance software may want to be aware of. These flaws can be safely ignored in medium and low assurance software.
Informational	Issues that have no impact on the security quality of the application but which may be of interest to the reviewer.

To successfully complete the assessment all the very high and high priority issues have to be resolved/mitigated by partners comments.

Security Code Scan Assessment
CVA for SAP NetWeaver & SAP S/4 HANA on Premise - ABAP

SAP NetWeaver releases 7.50 SP3

Security Analyses in Extended Program Check (SLIN)

Critical Statements

Find Specific Critical Statements

Dynamic and Client-Specific Accesses in SELECT

Dynamic and Client-Specific Assesses with INSERT, UPDATE, MODIFY, DELET

Use of ADBC Interface

Client-Specific Shared Objects methods

SAP S/4HANA on Premise 1809 or above

DDIC: DB Tables(Logging Check)

Security Checks for ABAP (CVA)

Security Checks for BSP (CVA)

Critical Statements

Find Specific Critical Statements

Dynamic and Client-Specific Accesses in SELECT

Dynamic and Client-Specific Assesses with INSERT, UPDATE, MODIFY, DELET

Use of ADBC Interface

Client-Specific Shared Objects methods

Invalid access to CDS Views

For detailed security check scope, please contact SAP ICC consultant

Security Code Scan Assessment
CVA priorities categorized after the scan - ABAP

Priority 1	The offending line or lines of code is a very serious weakness and is an easy target for an attacker. The code should be modified immediately to avoid potential attacks.
Priority 2	The offending line or lines of code have significant weakness, and the code should be modified immediately to avoid potential attacks
Priority 3	This is a low priority weakness that will have a small impact on the security of the software. Fixing should be consideration for high assurance software. Medium and low assurance software can ignore these flaws.

To successfully complete the assessment all the Priority 1 and Priority 2 issues have to be resolved/mitigated by partners comments.

Security Code Scan Assessment
ICC Marketing Benefits

SAP Security Code Scan Assessment Overview	A letter provided from SAP Integration and Certification Center (SAP ICC) after successfully completing the assessment. Partners can only share the SAP Security Code Scan Assessment overview on their websites.
SAP Security Code Scan Assessment Report	The information regarding the 3rd party review results and SAP Security Code Scan Assessment report should remain confidential.
Promoting the Assessment	Our solution XYZ version # has been successfully* completed the Security Code Scan Assessment by SAP on DATE.”. Here successfully means all the very high and high priority issues are resolved or mitigated by partners comments.
Listing in SAP Certified Solutions Directory (CSD)	The certification listing is enhanced with additional details regarding successful security code scan assessment. Once the certification expires the listing will be removed regardless of the security code scan assessment.

Security Code Scan Assessment:
Pricing

	Amount in Euros	Benefits
Applications on Any Platform	**Standalone**	Partners can avail unlimited scans for a particular product/solution within one year
	5,000 Euros for one product/solution per year	

Security Code Scan Assessment
Related Links

SAP ICC Application Form

Please fill in SAP ICC online application form with information about your company and about the software application that you want to integrate in order to apply for an integration certification.

Know More About Certification & Security Code Scan Assessment – non ABAP

- To learn more about certification please visit Software Certification page.
- https://blogs.sap.com/2017/11/02/security-code-scan-assessment-for-non-abap-software./
- https://en.wikipedia.org/wiki/Static_program_analysis
- https://en.wikipedia.org/wiki/List_of_tools_for_static_code_analysis

Know More About Certification & Security Code Scan Assessment – ABAP

- https://blogs.sap.com/2017/01/19/code-vulnerability-analyzer-checks/
- https://www.sap.com/documents/2018/11/ec5d12c6-287d-0010-87a3-c30de2ffd8ff.html
- https://wiki.scn.sap.com/wiki/display/ABAP/SAP+NetWeaver+Application+Server,+add-on+for+code+vulnerability+analysis

To know more about Security Code Scan Assessment please contact icc@sap.com

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