

The SAP Enterprise Support Security Value Maps Interpretation and Use of SAP's Secure Operations Map

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01

Introductions

Kathryn Rennard

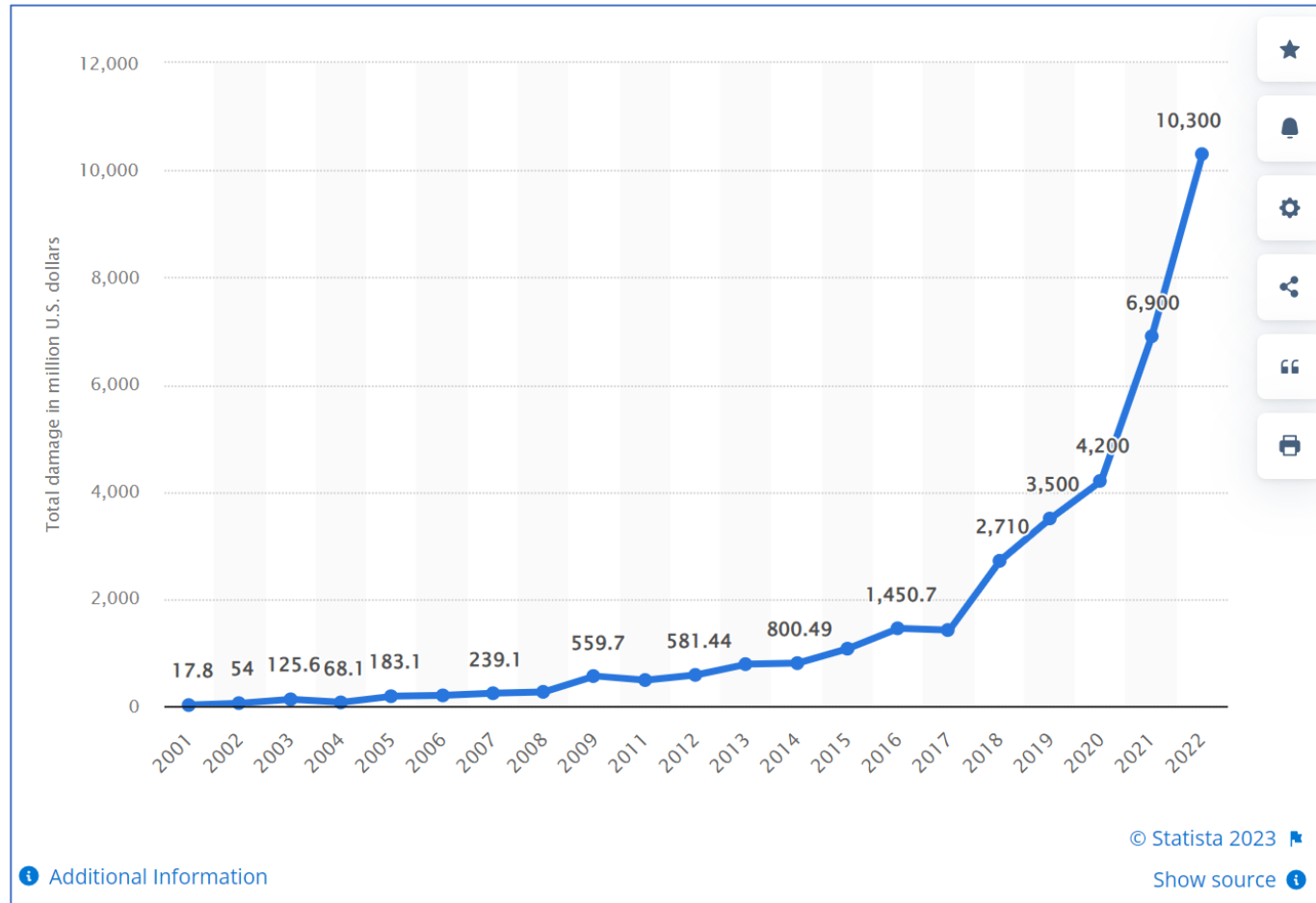
SAP Global Topic Owner, Enterprise Support Security Value Map

Victoria Carroll

SAP Senior Support Engineer and Service Developer for Security



Amount of monetary damage caused by reported cyber crime to the IC3 from 2001 to 2022 (in million U.S. dollars)



Source: <https://www.statista.com/statistics/267132/total-damage-caused-by-by-cyber-crime-in-the-us/>

Watch Out! Mission Critical SAP Applications Are Under Active Attack

📅 April 06, 2021 👤 Ravie Lakshmanan



Cyber attackers are actively setting their sights on unsecured SAP applications in an attempt to steal information and sabotage critical processes, according to new research.

Some of the key findings in this threat intelligence report include:

- **Threat actors are active, capable and widespread**
Evidence of 300+ automated exploitations leveraging seven SAP-specific attack vectors and 100+ hands-on-keyboard sessions from a wide range of threat actors. Clear evidence of sophisticated domain knowledge, including the implementation of SAP patches post-compromise.
- **The window for defenders is small**
Critical SAP vulnerabilities being weaponized in less than 72 hours of a patch release and new unprotected SAP applications provisioned in cloud (IaaS) environments being discovered and compromised in less than three hours.
- **Threats have both security and compliance impact**
Exploitation would lead to full control of unsecured SAP applications, bypassing common security and compliance controls, enabling attackers to steal sensitive information, perform financial fraud or disrupt business-critical business processes by deploying ransomware or stopping operations. Threats may also have significant regulatory compliance implications, including SOX, GDPR, CCPA and others.

Catalin Cimpanu
April 6, 2021

SAP systems usually come under attack 72 hours after a patch

News Technology

SAP issues advisory on the exploit of old vulnerabilities to target enterprise applications

New research also reveals that SAP vulnerabilities, on average, are weaponized in less than 72 hours.

Sobering Statistics

- Businesses that had not deployed security automation saw an average total cost of **\$6.03 million**, more than double the average cost of a data breach of **\$2.45 million** for businesses that had fully deployed security automation.
- **\$5.52 million average total cost of a breach** at enterprises of more than 25,000 employees.
- **Mega Breaches**: In breaches of more than 50 million records, the average cost was **\$392 million**, more than 100 times the average.
- The time to contain a security breach on average is **280 days**.
- Lost business costs **\$1.52 million** accounted for nearly **40%** of the average total cost of a data breach.
- It's not a question of experiencing a data breach. It's only a question **WHEN!**
(The percentage chance of experiencing a data breach within two years was 29.6 percent in 2019.)

...and your SAP systems hold mission critical data which can be a blind spot for IT security teams.

Security for Cloud Customers

In cloud solutions, many administrative tasks are taken over by the cloud provider. This includes taking care of security protection and secure operation of the cloud solution.

Nevertheless, certain security-relevant topics remain in the responsibility of the customer as they relate to customer-specific decisions and tasks. Without the customer's contribution, the overall solution will not be secure.

Examples for such security tasks in responsibility of the customer are:

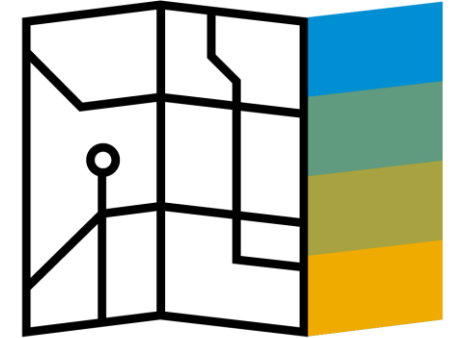
- **User lifecycle** including processes for creation of users, adaption to changed needs during lifetime and decommissioning.
- Assignment of proper **authorizations** to internal users, external partners, power user and administrators.
- Proper **authentication** of users.
 - Control of those components which verify the true identity of users (“Identity Providers”).
 - Control of authentication methods (passwords, chipcards, authentication via mobile devices, two-factor authentication).
- **Connectivity** between systems and components in the landscape.
 - Definition and enforcement of who may communicate with whom.
 - Verification / Authentication of communication partners to prohibit malicious impersonation by attackers.
- **Audit readiness**
 - Definition, evaluation and archiving of security-relevant logs.
 - Definition, enforcement and control of a security policy to not only “get secure” but also “stay secure” over time.
- **Security of the software**
 - Security of custom-developed code – e.g. custom-developed extensions.
 - Security maintenance of standard code. At least the responsibility for triggering such updates may reside with the customer.

02

SAP Secure Operations Map Overview



Secure Operations Map – Fundamentals



The Secure Operations Map

- is a **Reference Model**
to structure the broad area of security for content, discussions and as a basis for a 360° view on security i.e. you can't "order" a block, but you can allocate discussions, needs and solutions to specific security areas.
- focuses on the **Operational Aspects** of security
i.e. on the tasks and considerations which a customer or service provider has to take into account to maintain and operate their systems and landscapes in a secure manner.
- is further interpreted in the concrete **context of SAP Systems, Solutions and Cloud Offerings**,
(although the model also could be applied to non-SAP realms).

Secure Operations Map

Five layers

Organization

- environment for SAP systems and SAP cloud solutions.
- sets the stage and gives needs and requirements as input to be considered.

Process

- security view with compliance aspects.
- robust SAP applications preventing intentional and unintentional malfunctioning.
- no compromise of confidentiality, regulatory compliance deals.

Application

- controls that are available in SAP standard applications and non-standard applications built by customers.
- protective measures are discussed on users and privileges level as well as proper application design.

System

- addresses the SAP platform layer → provides the foundation for all applications operated upon it
- integrity and robustness of this platform is key to ensure that application layer controls (e.g. the authorization systems).

Environment

- looks at the non-SAP technical environment of SAP cloud offerings, solutions and systems.

Secure Operations Map

Sixteen tracks

Organization

Awareness

Security Governance

Risk Management

Process

Regulatory Process
Compliance

Data Privacy &
Protection

Audit &
Fraud Management

Application

User & Identity
Management

Authentication
& Single Sign-On

Roles &
Authorizations

Custom Code
Security

System

Security Hardening

Secure SAP Code

Security Monitoring
& Forensics

Environment

Network Security

Operating System
& Database Security

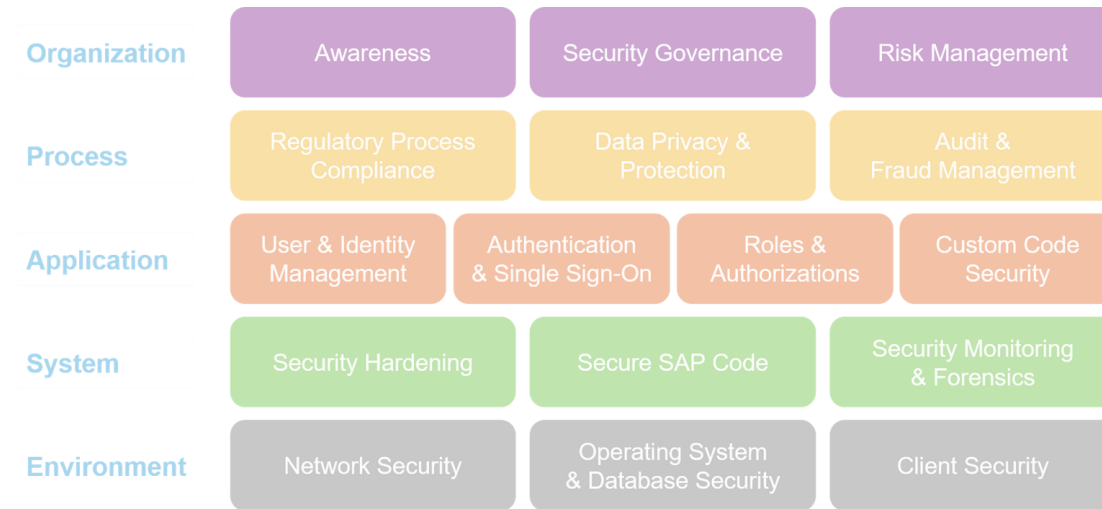
Client Security

SAP
focus

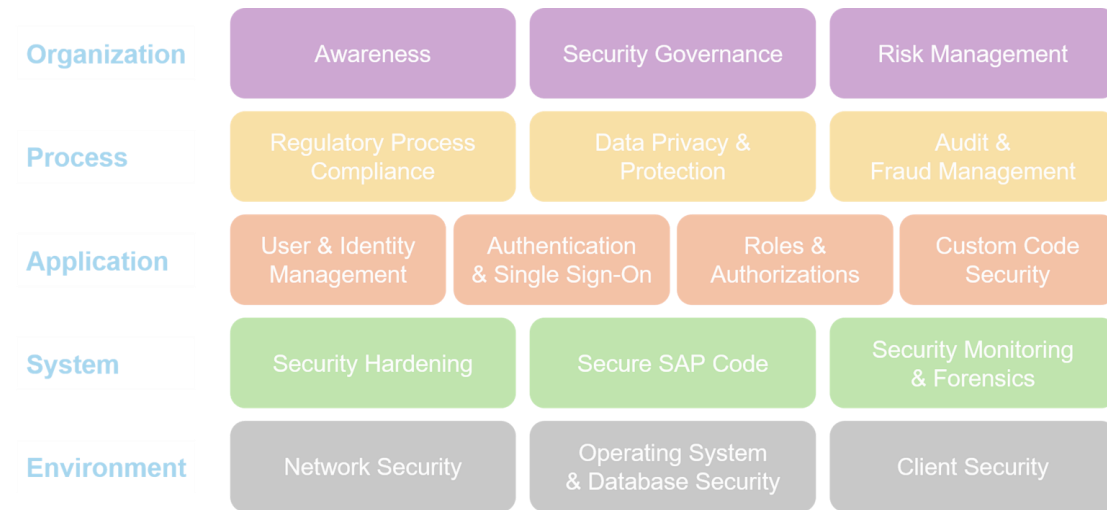
How to use the Secure Operations Map (1/2)

Be aware!

- **Security** is not a property which you have or don't have. It is a **risk measure**, where you can have a higher or lower level of Security.
- Maximum Security is often not what you want, since this requires high effort and may limit functionality. You require **adequate security**:
 - **Baseline** measures / Security best practices should always be applied.
 - For systems with security needs beyond such baseline measures, a **risk analysis** is required to derive corresponding suitable additional security measures.
 - Tip: SAP uses the SAP Security Operations Map to structure the SAP Security Baseline **template** which is prepopulated with concrete best practice values to give customers an accelerated start. Note [2253549](#).
- **Security** often is **invisible**. The fact that you don't notice security weaknesses or successful attacks, does not mean that there are not any.
- **Security** does not only **protect against malicious attacks** but also **against unintended failures**.



How to use the Secure Operations Map (2/2)



- Therefore, use the Secure Operations Map as a structure to informally identify areas and topics which are most important to address.
- Do not try to cover at once every area in all details. That can be overwhelming!
- Revisit security on a regular (e.g. yearly) basis.
 - New functionality and new technologies require new security measures.
 - New attack patterns arise and need to be countered.

Next steps in Cybersecurity and Compliance

▪ Get an understanding of your current situation

- Collect improvement needs which you already may know
 - Do security-related audit findings exist from internal or external audits?
 - Are you aware of certain weaknesses, e.g. based on internal warnings or incidents?
 - Leverage the Secure Operations Map! Have a look at each of the blocks! Does any of it raise concerns?
- Make use of Enterprise Support Services available to you from SAP.
 - Look at the Security Card in the EWA Workspace.
 - Run or order the SAP Security Optimization Service (SOS) for key SAP systems or SAP services in your landscape.
 - Leverage the resources in the SAP Enterprise Support Value Map for Security.
 - Consider going for a Security Workshop with SAP to start a Security Improvement Cycle.

▪ Take action – “Get Secure”

- Identify up to 5 issues or areas which you want to address and improve.
- Set a date for review of the achieved improvements to ensure impact.

▪ “Stay Secure”

- Establish controls to ensure staying at the achieved security measures and level.

▪ Repeat

- Security is constantly changing: new threats, new software & services, new components in your landscape. Thus, repeat the above on a regular (e.g. yearly) schedule.



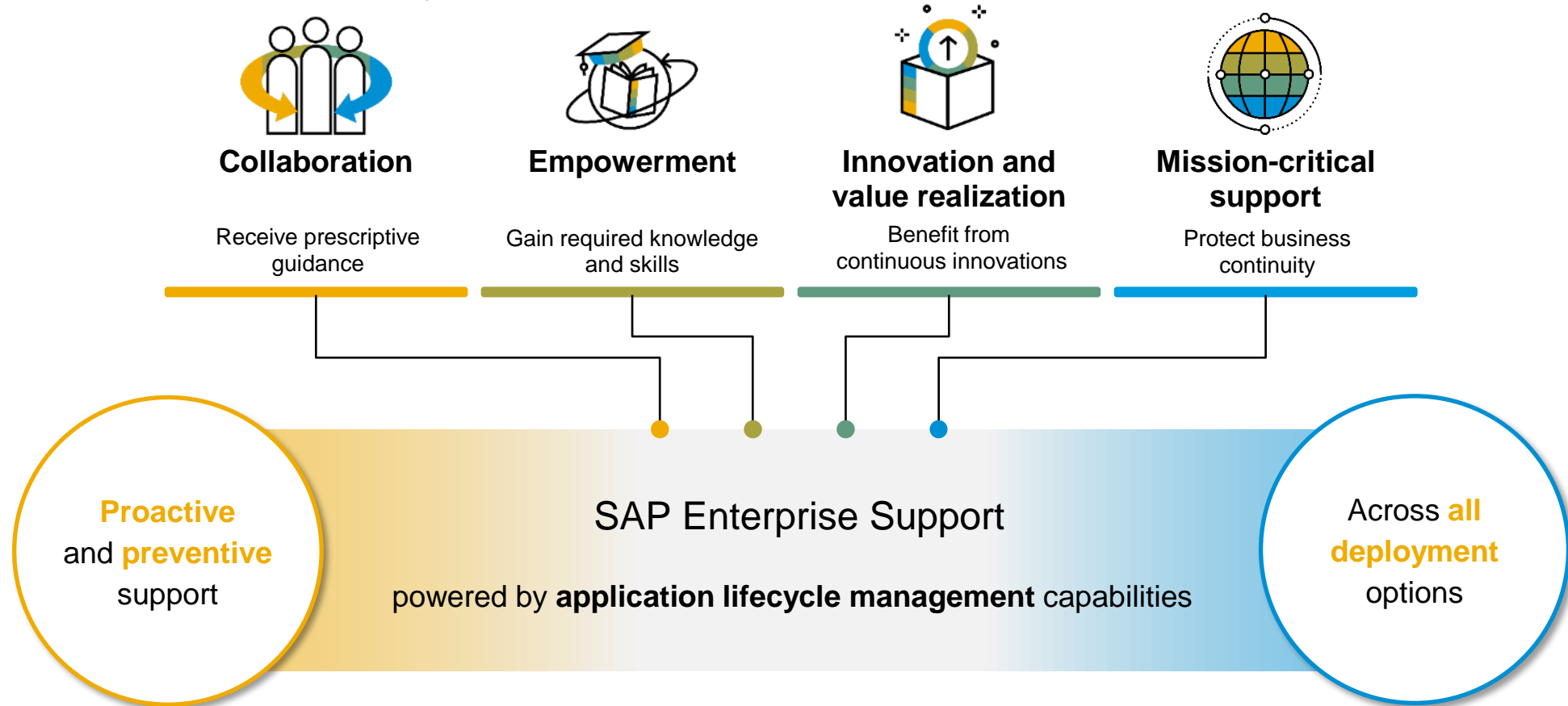
03

SAP Enterprise Support Academy



SAP Enterprise Support

Establish the foundation for your success



SAP Enterprise Support helps you address the digital skills gap and build the know-how you need to thrive in the digital economy by providing high-impact empowerment and collaboration programs such as [SAP Enterprise Support Academy](#) and [SAP Enterprise Support value maps](#). Utilizing [SAP Learning Hub](#) as the delivery platform, both programs leverage a learning environment that is scalable, intuitive, social, and collaborative, bringing SAP much closer to understanding and fulfilling your needs.

SAP Enterprise Support Academy

Establish the foundation for your success

1. [SAP Support Portal Home](#)
2. [Offerings & Programs](#)
3. [SAP Enterprise Support](#)
4. [SAP Enterprise Support Academy](#)

The screenshot shows the SAP Support Portal interface. The browser address bar (1) displays 'support.sap.com'. The navigation menu (2) includes 'My Support', 'Products', 'Tools', 'Maintenance', 'Offerings & Programs', 'ALM', and 'Explore SAP'. The main content area is divided into several columns:

- SAP Enterprise Support >** (3)
 - Collaboration
 - Empowerment - SAP Enterprise Support Academy** (4)
 - Innovation & Value Realization
 - Mission Critical Support
 - Cloud Editions
 - SAP Enterprise Support Advisory Council
- SAP Preferred Success >**
 - SAP Preferred Care, on-premise edition
- More Offerings >**
 - Advanced Secure Support
 - SAP Standard Support
 - SAP Product Support for Large Enterprises
 - SAP MaxAttention & SAP ActiveAttention
 - SAP Business One
- Support Services >**
 - Single Sign-on With SAP Passports
 - Tools for Service Sessions
 - SAP EarlyWatch Alert
 - SAP OS/DB Migration Check
 - SAP Security Optimization Services
 - See All Services...
- Support Programs >**
 - Beta Programs
 - Early Adopter Care Services
 - SAP Procurement Benchmarking
 - Support Usability Program
- Strategy >**
 - Real-Time Support
 - Maintenance 2040
 - Extension Programs
- Customer Center of Expertise >**
 - Roadmap & Certifications
 - Knowledge Transfer
 - Customer COE and CIO Guides
 - SAP & Hyperscalers
 - Sustainability for Customer COE
 - Media Library
- Methodologies >**
 - Business Transformation Management

At the bottom, there are five utility icons: 'Manage Users', 'Request Keys', 'Manage Remote Connections', 'Visit the SAP Community', and 'View Product Documentation'.

SAP Enterprise Support Academy

Establish the foundation for your success

The screenshot shows the SAP Enterprise Support Academy landing page. At the top, there is a navigation bar with 'SAP Support' and various menu items like 'My Support', 'Products', 'Tools', 'Maintenance', 'Offerings & Programs', 'ALM', and 'Explore SAP'. Below the navigation, the page title is 'SAP Enterprise Support Academy'. A main banner features a video player with a 'Watch the Video' button, which is highlighted by an orange arrow. Below the banner, there are two buttons: 'Learn More and Sign Up' (highlighted by an orange arrow) and 'Access SAP Learning Hub'. Underneath these are three featured content cards: 'Your Benefits', 'Explore Learning Assets', and 'SAP Enterprise Support Value Maps'. A yellow arrow points to the 'Contact Us' button on the right. At the bottom, there is a 'Quick Access' section with a search box for 'Search a Topic' (highlighted by an orange arrow) and a list of links: 'New and Popular Learning Courses', 'Search Recommendations', 'Regional Upcoming Live Sessions', and 'SAP Enterprise Support Academy Newsletter' (highlighted by an orange arrow).

Learn More and Sign Up

1

Check Your Eligibility!

Access to the edition is included in SAP Enterprise Support and SAP Enterprise Support, Cloud Edition as well as in SAP Product Support for Large Enterprises.

Program Entitlement

2

S-User ID is Required

Have your s-user ID ready.

S-User ID

3

Sign Up

Watch the video on [how to sign up](#) to our edition.

*Please note that the assignment process to our edition takes up to **2 hours** after you have received the welcome email.*

Sign Up

SAP Enterprise Support Value Maps

How to register and access value maps in 2 steps

Step 1

Request access to SAP Learning Hub, edition for SAP Enterprise Support. Watch [the video](#) and refer to our [tutorial](#) to learn how to sign up and use the hub. If you are already registered you should use 'Access Value Maps' button.

Sign Up



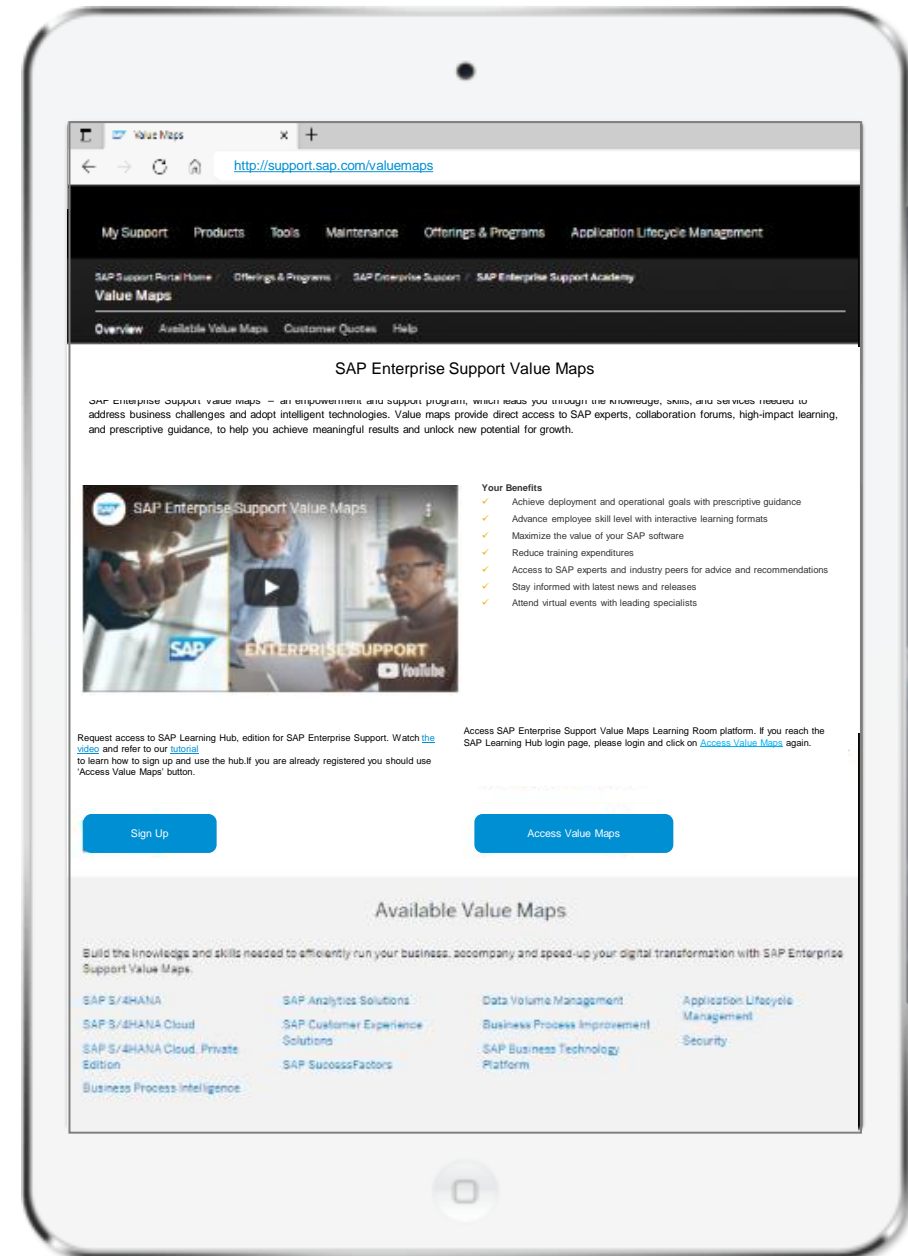
Step 2

Access SAP Enterprise Support Value Maps Learning Room platform. If you reach the SAP Learning Hub login page, please login and click on [Access Value Maps](#) again.

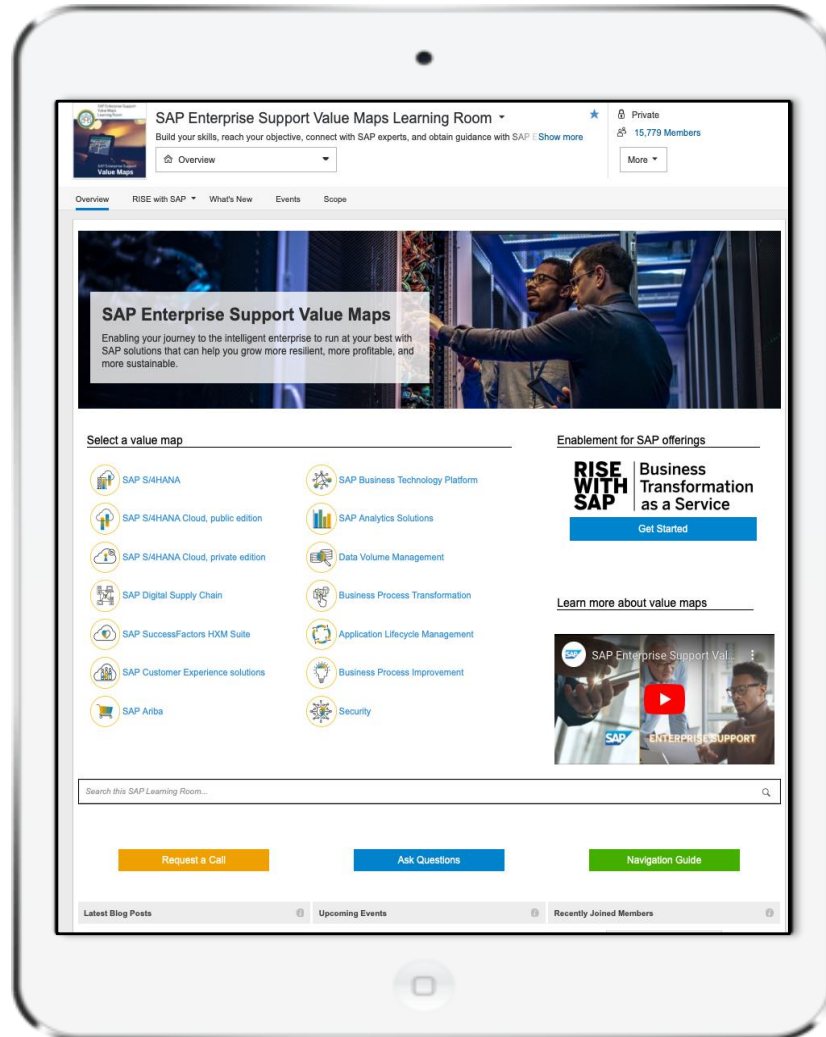
Access Value Maps



Learn more: <https://support.sap.com/valuemaps>



SAP Enterprise Support Value Maps Learning Room



Be sure to 'Join' the Security Value Map

SAP Enterprise Support Value Maps will provide you with foundational knowledge, prescriptive guidance, and access to SAP Experts to help you along your cloud transformation journey.

Take advantage of our Available Experts

Request a Call

Ask Questions

04

SAP Enterprise Support Value Maps



SAP Enterprise Support Value Maps

SAP Enterprise Support value maps – an empowerment and support program, which leads you through the knowledge, skills, experts and services needed to address business challenges and adopt intelligent technologies. Learn more [here](#).



Program Offerings

- **Prescriptive guidance** - Structured content enables guided journey, simplification, and accelerated consumption of content
- **Expert access** - SAP experts provide prescriptive guidance, best practices and technology insight
- **Social Collaboration** - Forums allow you to exchange ideas and best practices with SAP experts and peers
- **Empowerment** - Interactive learning formats to empower you with the knowledge and skills for realizing your deployment strategy



User Benefits

- **Advance** digital skill level with interactive learning formats
- **Achieve** deployment and operational goals
- **Maximize** the value of your SAP solutions
- **Reduce** training expenditures
- **Get quick** advice from SAP experts and peers
- **Easy** access to latest news and releases
- **Access** to virtual events with leading experts
- **Record** of learning accomplishments

SAP Enterprise Support Academy

Learning Delivery Formats

Utilizing SAP Learning Hub as delivery platform, we offer a wide range of educational content tailored to your needs. From expert guidance, self-paced learning offerings, live sessions as well as guided programs, each customer can find the right format to consume the desired learning content. With analytical insights on consumption, and direct feedback from you, we continually improve our portfolio and services to provide you the right expertise and experience.

Visit us on [SAP Support Portal](#)
[SAP Enterprise Support Academy](#)



SAP Enterprise Support Academy

Learning Assets

SAP Enterprise Support Learning Assets – SAP Enterprise Support Academy offers a wide range of educational training offerings augmented with an ever-evolving database of learning assets, supporting different learning styles and needs, from ad hoc problem solving to structured, long-term knowledge acquisition



Collection

SAP solution-related information bundled together to support you, acting as first step of knowledge transfer in to SAP solutions.

[Browse our collections](#)



Best Practice

Library of how-to guides for your typical implementational and operational tasks for products, databases, and operating systems (used cases e.g. troubleshooting, implementation/ upgrade instructions, system/ technical administration).

[Browse our best practice how-to guides](#)



E-learning

Interactive self-paced online courses covering a variety of popular SAP solution topics. Each includes highly effective learning components such as recorded expert modules, demo, slides.

[Browse our E-learnings](#)

Access our previous tutorials and videos from the below links:

[Browse our tutorials](#)

[Browse our videos](#)

Expert-Led Learning



Meet-the-Expert

Scheduled live webcasts which typically lasts for 1 hr, providing overviews and first insights on concepts, theoretical introduction on strategy, processes & solutions and the support aspects of the latest SAP technologies. Recorded sessions will be available as E-learning in the future for self-paced consumption.

[Browse all scheduled live sessions](#)

[Browse all MTE recordings](#)

Live Must-Know is a webcast under Meet-the-Expert which is a series of interactive, live sessions hosted in multiple languages and time zones with full of "must-know" facts.

[Available sessions](#)



Expert-guided Implementation

Multi-day, remote, workshop-style session where participants learn to customize and execute complex activities in their own system landscape (for example, commissioning the service desk, or setting up test management in SAP Solution Manager) with experienced SAP service engineers.

[Get more details](#)

[Browse all scheduled live sessions](#)

[Browse all EGI offerings](#)



Accelerated Innovation Enablement

1:1 live sessions with SAP subject matter experts to understand the innovation capabilities and functionalities of the latest SAP enhancement packages for SAP Business Suite software's and how they may be integrated or deployed for your business process requirements.

[Get more details](#)

[Request AIE](#)

Self-Paced Learning

SAP Enterprise Support Value Maps

Learning Assets (continued)

SAP Enterprise Support Learning Assets – SAP Enterprise Support Academy offers a wide range of educational training offerings augmented with an ever-evolving database of learning assets, supporting different learning styles and needs, from ad hoc problem solving to structured, long-term knowledge acquisition

Guided Learning



Program

Modular learning approach bundling different learning formats and content to ensure users receive a powerful and deep-dive knowledge about a topic.

[Browse our programs](#)



Learning Journey

Learning Journeys are structured visual guides designed to help you navigate the recommended route to gain full competence, or expand your skills, for specific roles and SAP solutions.

[Browse all Learning Journeys](#)



Digital Badge

Digital knowledge badges are issued in the context of the SAP Enterprise Support Academy value maps offerings and provide a digital proof of successful program completion.

Available digital badge learning programs:

[Data Volume Management for SAP S/4HANA Operation](#)

[SAP Integration Suite: Become an Integration Black-belt](#)

[SAP SuccessFactors Employee Central Integration](#)

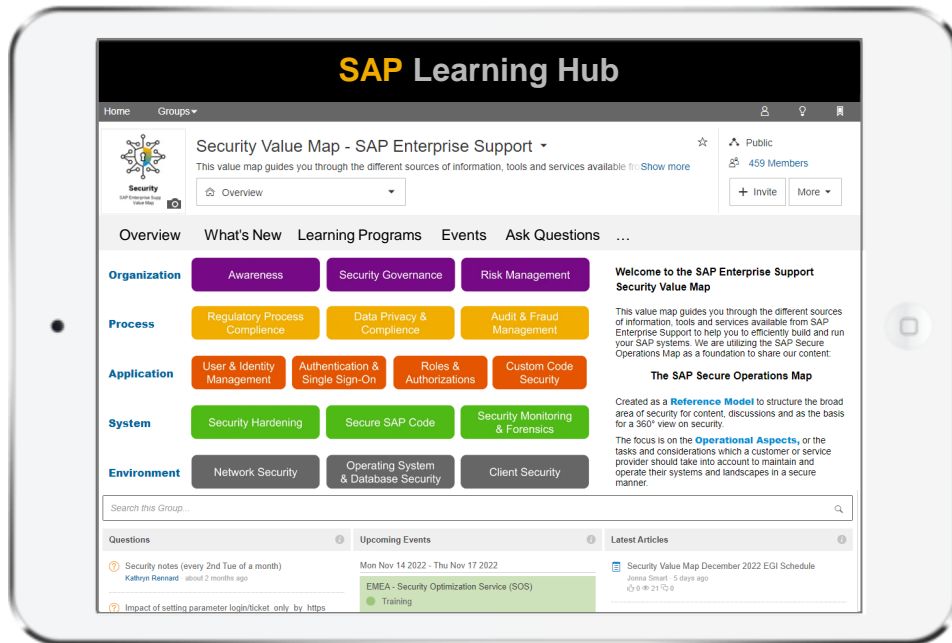
*Note: All above formats available as guided learning are part of the SAP Enterprise Support Academy value maps program.

Access the [value maps program](#)

SAP Enterprise Support Value Maps

Explore the Security Value Map

This value map guides you through the different sources of information, tools, and services available from SAP Enterprise Support to help you efficiently build and run your SAP systems and landscapes in a secure manner.



- Eliminate basic risks and improve your overall security
- Create your own security baseline and thresholds for alerts
- Keep track of your security notes
- Learn about SAP's security and privacy standards and Web-based SSO
- Secure the user access across your landscape
- Keep your SAP S/4HANA environment protected
- Get deep knowledge of SAP SuccessFactors and SAP Cloud Platform security
- Learn how SAP helps customers to be EU-GDPR-compliant



Complete your learning and empowerment path for various security topics by accessing set of enablement content



Ask questions to get quick advice from SAP experts and industry peers



Request a call to get personalized guidance



Sign up for upcoming events and stay in the know with our topic-specific articles written by leading product and support specialists

SAP Enterprise Support Value Map for Security

Secure Operations Map Learning Journeys

A **learning journey** is an interactive visual guide designed to help you complete your learning and empowerment path for a particular SAP topic by exploring, filtering, and accessing a curated set of SAP Enterprise Support offerings and learning assets.

SAP Secure Operations Map - Organization Layer

The Organization layer is the foundation required to set the stage for a secure organization, providing the awareness, governance, and solutions to support overall security policies.

[Access learning journey](#)

SAP Secure Operations Map - Process Layer

The Process layer extends the pure security view with compliance aspects, like regulatory compliance and legal demands coming from the various jurisdictions SAP systems are operated in, enhanced with additional audit requirements.

[Access learning journey](#)

SAP Secure Operations Map - System Layer

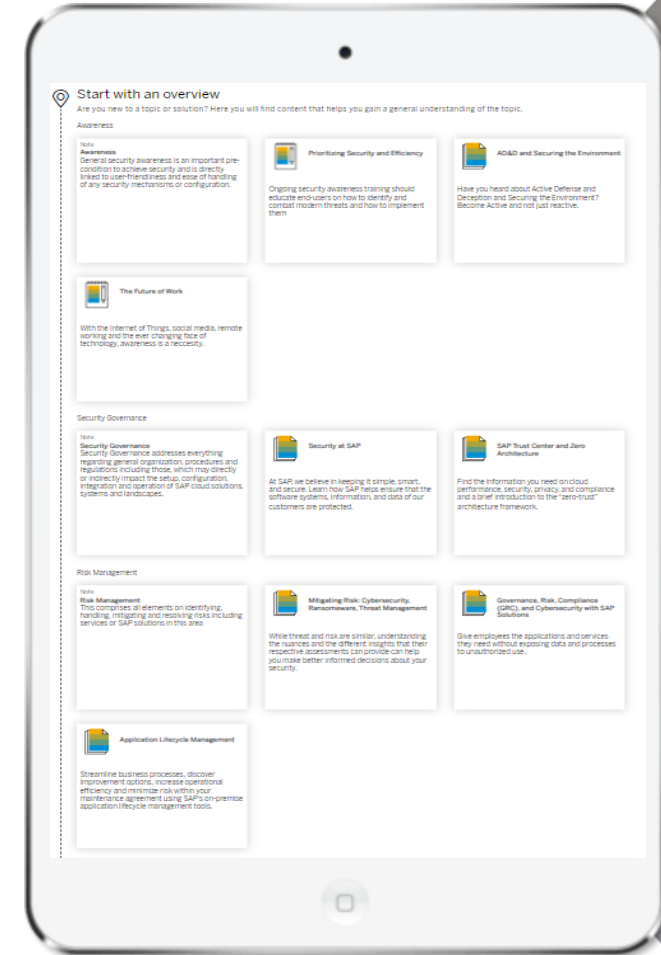
System hardening, secure code and monitoring and forensics help ensure that application controls are not circumvented by lower level vulnerabilities. We will touch upon these topics in this journey.

[Access learning journey](#)

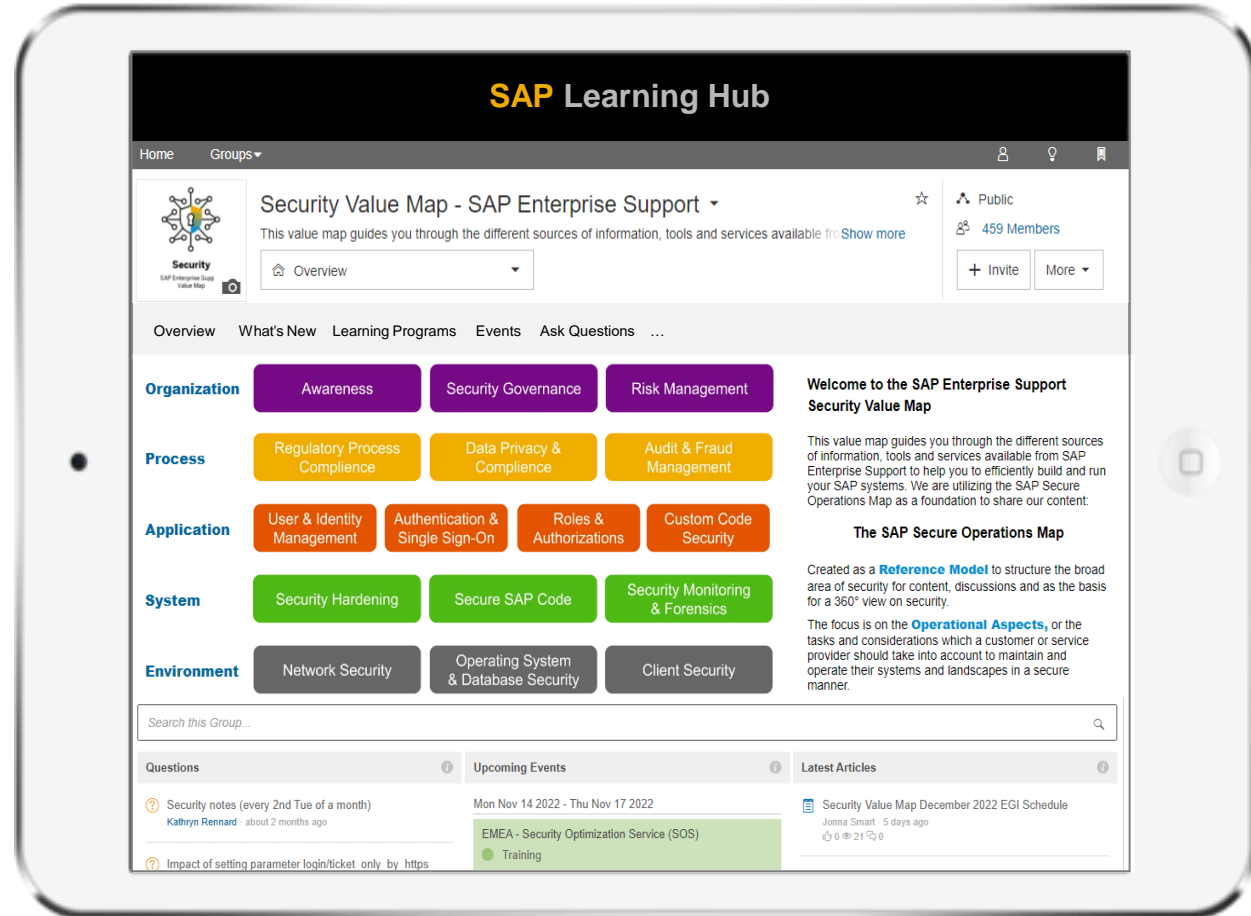
Security for SAP Solutions – Application Layer

Learn to build and run your SAP systems and landscapes in a secure manner and efficiently.

[Access learning journey](#)



Demo



SAP Enterprise Support Value Map for Security

New Learning Journeys Coming Soon

A **learning journey** is an interactive visual guide designed to help you complete your learning and empowerment path for a particular SAP topic by exploring, filtering, and accessing a curated set of SAP Enterprise Support offerings and learning assets.

SAP Secure Operations Map – Environment Layer

The Environment layer is the foundation required to set the stage for a secure organization, providing the awareness, governance, and solutions to support overall security policies.

SAP Secure Operations Map – Application Layer (UPDATED)

Learn to build and run your SAP systems and landscapes in a secure manner and efficiently.

SAP Secure Operations Map – SAP Analytics Cloud

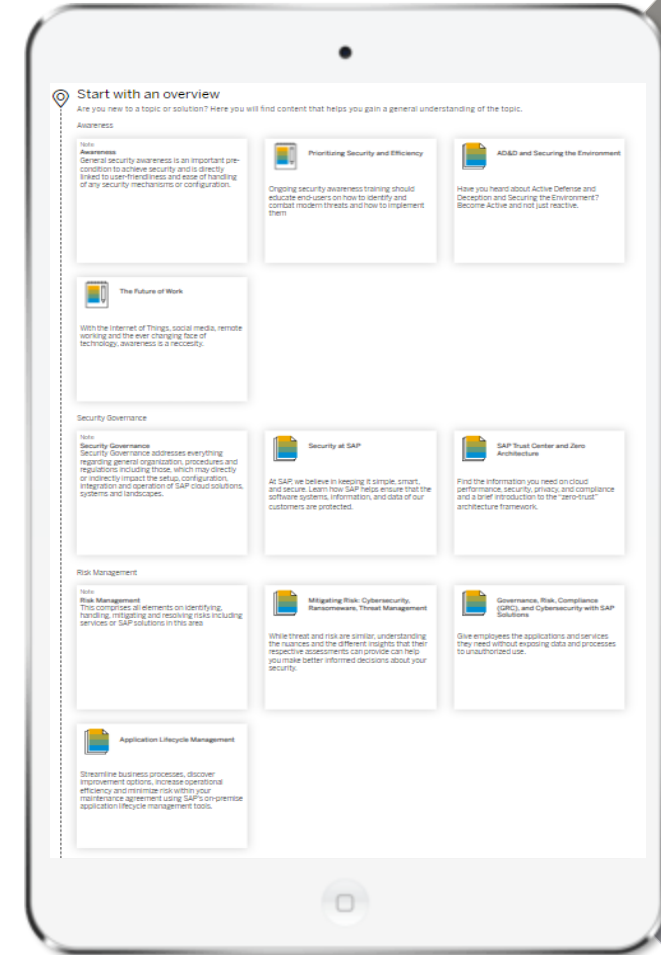
UPDATE TEXT.

Security for SAP Solutions – SAP Cloud ALM

UPDATE Learn to build and run your SAP systems and landscapes in a secure manner and efficiently.

Security for SAP Solutions – SAP Ariba

UPDATE Learn to build and run your SAP systems and landscapes in a secure manner and efficiently.



05

Questions

Victoria Carroll, SAP Senior Support Engineer and Service Developer for Security

Kathryn Rennard, SAP Global Topic Owner, Enterprise Support Security Value Map



06

Useful Links

SAP Enterprise Support.

- One-time registration for SAP Learning Hub, edition for SAP Enterprise Support, is required.
<https://support.sap.com/en/offerings-programs/enterprise-support/enterprise-support-academy/learn.html>.
- The SAP Enterprise Support Value Maps Learning Room platform
<https://support.sap.com/en/offerings-programs/enterprise-support/enterprise-support-academy/value-maps.html>

SAP Security

- SAP Security landing page on SAP Support portal (no login required, public page)
<https://support.sap.com/sos> -> Media Library.
- Whitepaper: 'The Secure Operations Map: Highlights and Best Practices for Securing SAP Solutions'
<https://www.sap.com/documents/2017/03/14cf06b2-af7c-0010-82c7-eda71af511fa.html>
- SAP Security Whitepapers
<https://support.sap.com/en/security-whitepapers.html>
- Background information and the current download link to the SAP Security Baseline Template can be found in SAP Note [2253549](#) – The SAP Security Baseline Template.
Or using following path: <https://support.sap.com/sos> → Media Library → SAP Security Baseline Template.
- General SAP Security queries (e.g. SAP Security Baseline template) SecurityCheck@sap.com and component XX-SER-SECCHK.



Thank you.

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