

TUTORIAL :

# Security Automation in DevOps

As enterprises continue to transform their IT methodology through the culture and practices known as DevOps, the need to address security concerns cannot be ignored. With data breaches continuing to make headline news, and much of the cause attributed to software vulnerabilities, the stakes are higher than ever. The market is demanding feature-rich applications, yet at the same time expecting increased security to be baked-in.

Addressing security in a fast-moving DevOps environments is essential, not just for the long-term success of your SDLC, but for the protection of your entire stack of tools and processes. Moreover, the continued expansion of cloud and the rapid release of new DevOps tools is allowing adversaries to take advantage in brand new ways.

Our unique full-day tutorial covers key tactics and techniques for achieving tangible security in your DevOps environment. We cover improved application security tricks, and also the growing need to secure your entire DevOps production system across the “full stack”.

## WHO CONDUCTS THE TRAINING?

Leading your tutorial will be a senior member of Sense of Security's Research and Technical Assurance Practice.

We have proven experience researching this topic, including delivering presentations on Security in DevOps at major Australian security conferences over the last two years, including ACSC Canberra and AusCERT.

## WHO SHOULD ATTEND THIS TUTORIAL

The Security Automation in DevOps tutorial contains technical concepts and assumes a general understanding of coding, but is not specific to any language. It has been designed for security managers, engineering managers, operations staff and developers alike.

We recommend also inviting operations team leads, or network and system administrators, as they'll see the bigger picture, and learn how to better secure your production systems.

## HOW IS THIS TUTORIAL DELIVERED?

This tutorial is delivered as instructor led content at your office, or at a pre-arranged venue. It is conducted over one full day. Other arrangements can be made by prior agreement.

## KEY BENEFITS

- **Address cultural challenges** - find ways to align security teams with the DevOps culture and communicate the benefits and advantages.
- **Increase visibility** - respond to security events effortlessly and have visibility across teams to help implement security in accordance with risk policy.
- **Build resilience into your SDLC** - achieve tangible cyber resilience by addressing security issues in the SDLC through robust automated processes.
- **Increase development efficiency** - learn how to prevent software engineering defects as early as possible, avoiding unnecessary re-work and endless bug tickets.
- **Empower Security Teams** - give your security staff the confidence they need to embrace the DevOps culture shift with practical tasks.
- **Improve infrastructure security** - invite your operations team who may also benefit from understanding how they can also help to automate security.
- **Quick Reference Guide** - each attendee receives their own laminated quick reference guide, outlining core areas of focus with checklists.
- **Ask the Experts** - our tutorials incorporate dedicated question & answer time so you can ask nagging questions that make the biggest difference.



## WHAT INFORMATION DOES THIS TUTORIAL INCLUDE?

This tutorial examines ways of integrating security into DevOps environments by looking at opportunities at each stage of the development pipeline. The core focus is on automating repeatable security tasks allowing “low-hanging-fruit” issues to be remediated without human intervention.

We also address the need to secure the entire stack of DevOps tools and technologies along with a practical demonstration that shows how an Amazon AWS account could be attacked.

Our continual research and development of security in DevOps includes best practice security including OWASP Top 10, and Amazon AWS Best Practice to name a few.

The tutorial covers (at a minimum) the following topic areas and preventative measures:

### Security Automation in DevOps Curriculum

- Understanding the motivations for providing security in high-velocity DevOps environments.
- Securing the entire DevOps system and ensuring risk is managed according to appetite.
- A defense-in-depth approach for improving code quality and detecting defects earlier.
- Identifying known-vulnerable third-party libraries and managing the supply chain risk.
- Using continuous monitoring tools to detect changes across the entire DevOps stack.
- Self-healing management and remediation of misconfiguration, and enforcing policies.
- Custom solutions versus existing platforms and tools to get immediate results.
- A methodology for crawl, walk and run; ways to ensure a path to DevSecOps maturity.
- A real-world attack simulation involving a DevOps stack hosted on Amazon AWS.

### Preventative Measures Covered

#### Application Security

- Best Practice Awareness
- Coding Helpers and IDE Tools
- Developer Sandboxing
- Static Analysis Security Testing (SAST)
- Dynamic Analysis Security Testing (DAST)

#### OS/Networking Protection

- Visualisation of Network Configuration
- Continuous Monitoring Techniques
- Alerting of non-compliant environments

#### Platform Resilience

- Auto-enforcement of Configuration Policy
- Self-healing & automated platform tools
- Server-less event driven security

## WHY CHOOSE SENSE OF SECURITY?

**Security is our core business** – it’s all we do. Sense of Security has over 15 years of extensive knowledge of the technical, commercial, and regulatory aspects of IT security.

**Experience and focus** – our consultants are experienced security specialists with a business focus, creating security solutions that mitigate risk and maximise results.

**Trusted advisors** – major names in the Banking & Finance, Insurance, Healthcare, Retail, Service Provider sectors as well as Resources, Utilities & Telecommunications rely on Sense of Security. We also conduct business with Local, State and Federal governments.



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CONSULTANTS



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