

DevOps



The Path to Modern **DevSecOps**

DevSecOps

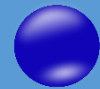
Your Presenter

Laszlo S. Gonc, CISSP

- Co-Founder and Managing Partner, *Next Era Transformation Group, LLC*
- Board Member & prior Executive Vice President, *AITP Chicago*
- Lead and Director of Programs, *Society for Information Management (SIM) National Cybersecurity SIG*
- Former Chair, *Project Management Institute (PMI) Executive Council Chicagoland*
- Board Member & Corporate Membership, *SIM Chicago*
- 25+ years as an IT practitioner, senior leader and consultant with experience in a variety of industries including healthcare, legal, banking, education, non-profits ...
- *On a journey to learn ...*



Agenda



What is DevSecOps?



Skills Required for a DevSecOps Engineer



Six (6) Best Practices



DevSecOps Online Resources



A Career in DevSecOps

What is **DevSecOps**?

- Next step in DevOps evolution.
- Integrates security practices within the Development and Operations process from the start and throughout.
- Creates a “Security as a Code” culture promoting ongoing flexible collaboration between release engineers and security teams.
- Automated testing is performed throughout the development cycle.
- Security is a high priority at every step of the continuous delivery pipeline.
- The goal is to ensure security is part of the entire software development workflow.



Safety Measures of DevSecOps

- Greater speed and agility for security teams
- An ability to respond to change and needs, rapidly
- Better collaboration and communication among teams
- More opportunities for automated builds and quality assurance testing
- Early identification of vulnerabilities in code
- Team member assets are freed to work on high-value work



Nearly 40% of organizations in the survey said the hardest employees to find are "all-purpose DevOps gurus with sufficient knowledge about security testing."

- *DevSecOps Global Skills Survey 2018*



Skills Required for DevSecOps Engineer

Broad set of skills including:

- Strong knowledge of the DevOps culture and principles
- Understanding of a variety of programming languages
 - e.g. Ruby, Perl, Java, Python and PHP
- Strong teamwork and communication skills
- Solid foundational knowledge of threat modelling and risk assessment techniques
- Current and up-to-date knowledge of cybersecurity threats, current best practices and latest software

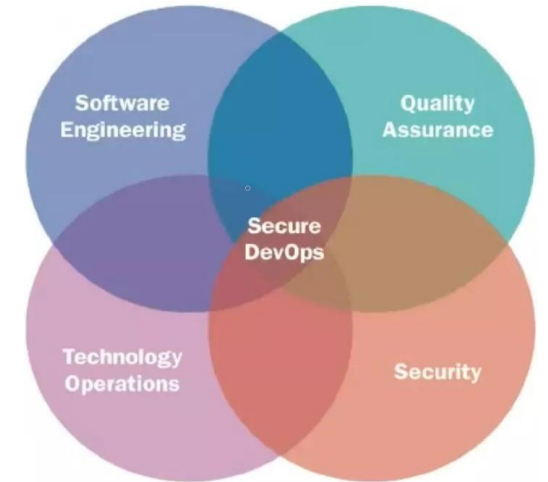
Skills Required for DevSecOps Engineer

Broad set of skills including:

- Good understanding of ion and automation programs such as Puppet, Chef, ThreatModeler, Checkmarx, Immunio and Aqua
 - Also need to know Kubernetes, Docker or AWS
- Critical soft skills
 - Such as empathy, humility, mentorship
 - Working with introverts and extroverts
- Moving to DevSecOps requires IT security training and skills, recommend starting in IT security or gain IT security skills in a related role.

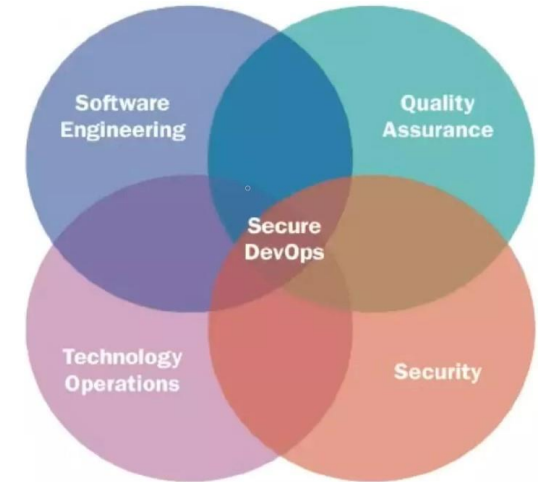
6 Best Practices for Successful DevSecOps

1. To integrate security, make **automation** your friend
 - *2018 survey showed nearly 40% ran automated security tests across throughout the development cycle*
2. Check **code dependencies**
 - *You need to understand if your open-source usage is causing contextual and other vulnerabilities in your code, and what impact those vulnerabilities might have on dependent code.*
3. Think **focused** and **manageable pieces**
 - *When running static testing tools introduce 1 or 2 security checks at a time, don't turn on the whole thing*



6 Best Practices for Successful DevSecOps

4. Certain **tools** are more useful than others
 - *Security products should allow developers to quickly initiate scans and get results without having to leave the existing toolset. Security tools should work fast.*
5. **Threat modeling** is difficult – do it any way
 - *Allows you to get a better idea of the potential threats to your assets, allowing you to identify gaps that should be remediated.*
6. **Train** developers and team members on secure coding practices
 - *Developers don't realize their code is insecure. Security training is crucial for each member of the team.*



DevSecOps Online Resources

- DevSecOps.org [\[link\]](#)
- DevOps.com [\[link\]](#)
- RuggedSoftware.org [\[link\]](#)
- SANS Institute *“The DevSecOps Approach to Securing Your Code and Your Cloud”* [\[link\]](#)
- Devops Sub-Reddit [\[link\]](#)
- Podcasts: [The Ship Show](#), [Arrested Devops](#), [Devops Cafe](#)
- [Udemy](#) and [Pluralsight](#) DevOps Courses



CompTIA Courses

DevSecOps requires understanding and discipline of many areas. The CompTIA *Infrastructure Career Pathway* includes certifications that align with DevSecOps:

1. First understand the device to which you are coding – the endpoint – a car, a crane, a PC, a fridge, a phone, or a watch. [CompTIA A+](#) teaches the fingerprints of what a device does.
2. Next understand how they communicate. Once your device sends a transmission – to purchase something or contact someone – [CompTIA Network+](#) helps you gain the skills needed to implement functional networks.

CompTIA Courses

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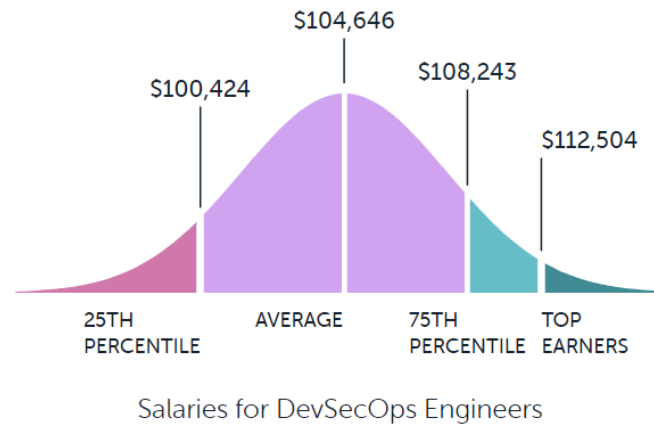
3. With so much being done in cloud, [CompTIA Cloud+](#) is also important for network professionals.
4. Lastly for DevSecOps, [CompTIA Security+](#) helps IT pros learn how hackers get in. The skills taught are fundamental for any security professional.

The skills covered by CompTIA A+, CompTIA Network+ and CompTIA Cloud+ apply to both DevOps and DevSecOps.

A Career in DevSecOps

How much can a DevSecOps Engineer make?

A DevSecOps Engineer can earn on average of \$104,646, ranging from \$100,424 at the 25th percentile to \$108,243 at the 75th percentile, with top earners (the top 10%) earning more than \$112,504. *The top two skills hardest to find in IT Ops talent are vulnerability management and containerization skills, respondents reported.*



TOTAL COMPENSATION	
25TH PERCENTILE	\$100,424
AVERAGE	\$104,646
75TH PERCENTILE	\$108,243
TOP EARNERS	\$112,504

BREAK DOWN: AVERAGE	
BASE	\$86,352
EQUITY	\$8,035
BONUS	\$10,258
SIGNING BONUS	\$8,650

Last updated: May 2nd, 2018.

Reading References

- What is DevSecOps? [\[link\]](#)
- Six (6) DevSecOps Best Practices [\[link\]](#)

- The DevSecOps Skills Gap [\[link\]](#)
- DevSecOps Global Skills Survey [\[link\]](#)
- The 2016 DevOps Salary Report [\[link\]](#)

- DevOps Institute Announces the '2019 Upskilling: Enterprise DevOps Skills Report' [\[link\]](#)

- Book: [Epic Failures in DevSecOps: Volume 1](#)
- Amazon: [DevSecOps](#) Titles



*Thank
you*



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