CloudSec Fundamentals: Getting shit done

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➜ ~ whoami

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Cloud Security @ Zenefits

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Pablo with a fresh haircut

Agenda

- What is Cloud Security?
- Planning
- Getting shit done
- Reporting
- Low hanging fruit examples

What is Cloud Security?

Cloud Security focuses on protecting the data and applications running on cloud infrastructure.

As a cloud security engineer, you need to know how to best use the services offered by your cloud provider.

Cloud Security Challenges

- You can’t make high impact changes on your own.
- Not enough planning leads to focus on low risk items.

Planning

Planning: First steps

- Engage with other teams.
- Get their input. They’ll have security concerns.

Planning: Scenarios

With the knowledge you currently have, how would you hack your company?

Each scenario should have two metrics:

- Facepalm rating 🤦🤦🤦🤦
- Company ending scenario 💀💀💀💀💀

Share this scenarios with your peers. They’ll have valuable input on these scenarios.

Planning: Create projects based on scenarios

Create projects to mitigate the scenarios.

Two new metrics on these projects:

- Level of Effort: 🏋🏋🏋
- Risk Mitigated: 🔥🔥🔥🔥🔥

Planning: Add projects to the roadmap

How to prioritize?

Sort by: Risk mitigated - Level of effort

Examples:

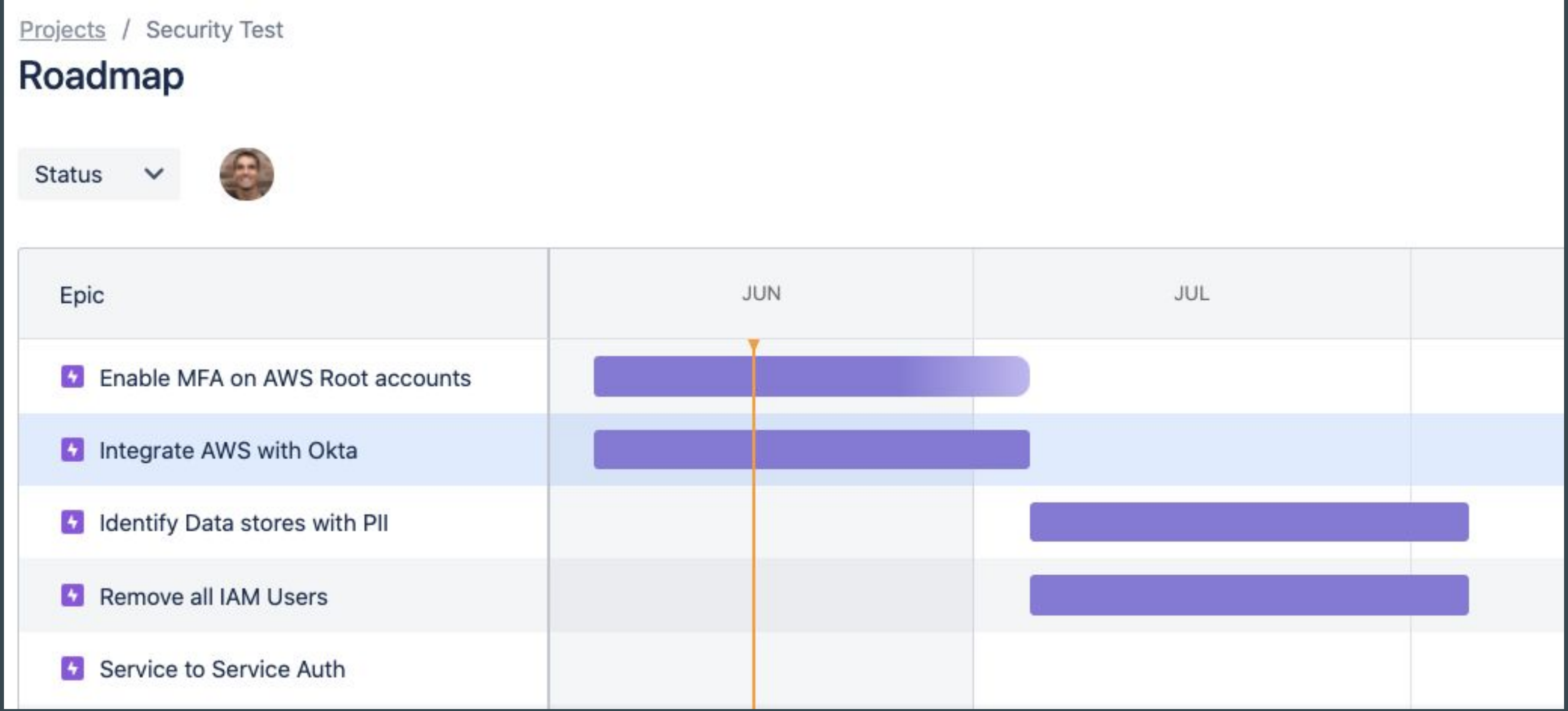
Enable MFA on AWS Root accounts:

- Level of Effort: 🏋
- Risk Mitigated: 🔥🔥🔥🔥

Service to Service Authentication:

- Level of Effort: 🏋🏋🏋🏋
- Risk Mitigated: 🔥🔥🔥

Planning: Roadmap example



Projects / Security Test

Roadmap

Enable MFA on AWS Root accounts

Integrate AWS with Okta

Identify Data stores with PII

Remove all IAM Users

Service to Service Auth

Getting shit done

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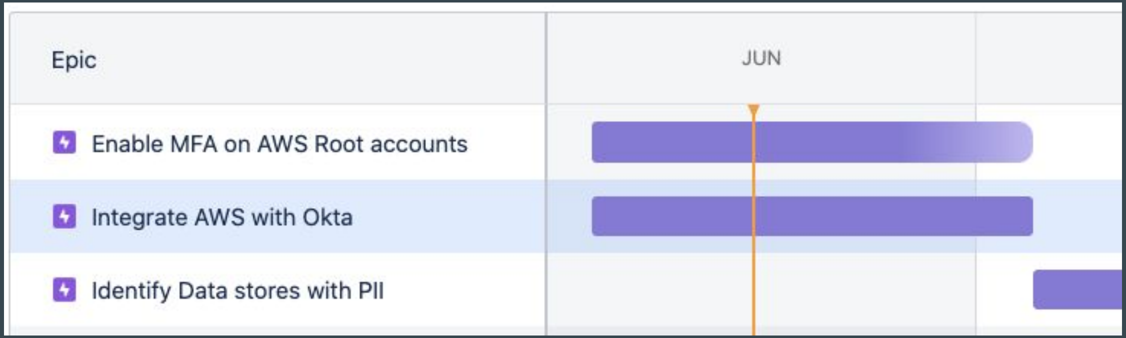
Getting shit done: Start taking on projects

Iterate fast and try to stay away from going down rabbit holes.

Keep solutions as simple as possible and don’t reinvent the wheel.



Epic	JUN
Enable MFA on AWS Root accounts	
Integrate AWS with Okta	
Identify Data stores with PII	

Getting shit done: Finding new fires

As you know more, you’ll also identify new issues on your system.

How to deal with a new issue?

- Timebox exploration to learn about the issue or the possible solutions.
- Add it to your scenarios and create a new project.

Getting shit done: Don’t go deep, go broad

When working on a solution for a problem:

- Know what good enough is.

Reporting

Reporting:

How to measure the changes you’ve made on the first year?

- Your scenarios document + roadmap is your metric.

Side effects

Cloud security is great because of the freedom you have.

- Not only focus on security problems, but use that flexibility to focus on other areas.
- Think of the contributions you can make:
  - Save $$$ with S3 lifecycle policies.
  - Turn off legacy systems/unused resources.

Low hanging fruit examples

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Low hanging fruit examples (AWS)

S3 (Simple storage service):

- S3 Bucket Policies.
- S3 Lifecycles.
- S3 Access logs.

Low hanging fruit examples (AWS)

IAM (Identity and Access Management):

- How are engineers interacting AWS?
- How are services interacting AWS?
- Bonus points on multi-accounts: IAM Analyzer.

Low hanging fruit examples (AWS)

EC2 (Elastic Compute Cloud)

- Have a dynamic inventory of which resources have internet exposure. EC2/RDS/ALB/Redshift etc.

Low hanging fruit examples (AWS)

AWS GuardDuty

- Generates alerts based on Flow Logs + DNS queries + AWS Cloudtrail logs
- Cheap compared to other third party solutions.
- Regardless of the size of your security team, enable it.

Conclusion

- Spend enough time planning.
- Go above and beyond your duties. Leverage your freedom.
- Go broad, don’t get too deep in the weeds.

Links:

- acloud.guru
- segment.com/careers/

Q/A

I would like to thank Segment’s Security team. They’ve helped me a lot putting this together.
Connect with us on Linkedin: https://www.linkedin.com/company/segment-io/