



# PUBLIC SECTOR SYMPOSIUM

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BTT202

# Implement DevSecOps at scale using AWS Cloud Native Services

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# Agenda

- What does the AWS Container landscape look like?
- What is DevSecOps and what are its practices?
- Building a DevSecOps pipeline with AWS Services
- Key Takeaways - DevSecOps Pipeline Designing Strategy
- Additional resources

# AWS Container Services Landscape

## MANAGEMENT

Deployment, Scheduling, Scaling  
& Management of containerized  
applications



Amazon EKS



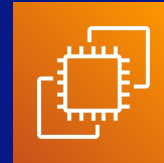
Amazon ECS



Red Hat OpenShift  
Service on AWS  
(ROSA)

## HOSTING

Where the containers run



Amazon EC2



AWS Fargate

## IMAGE REGISTRY

Container Image Repository

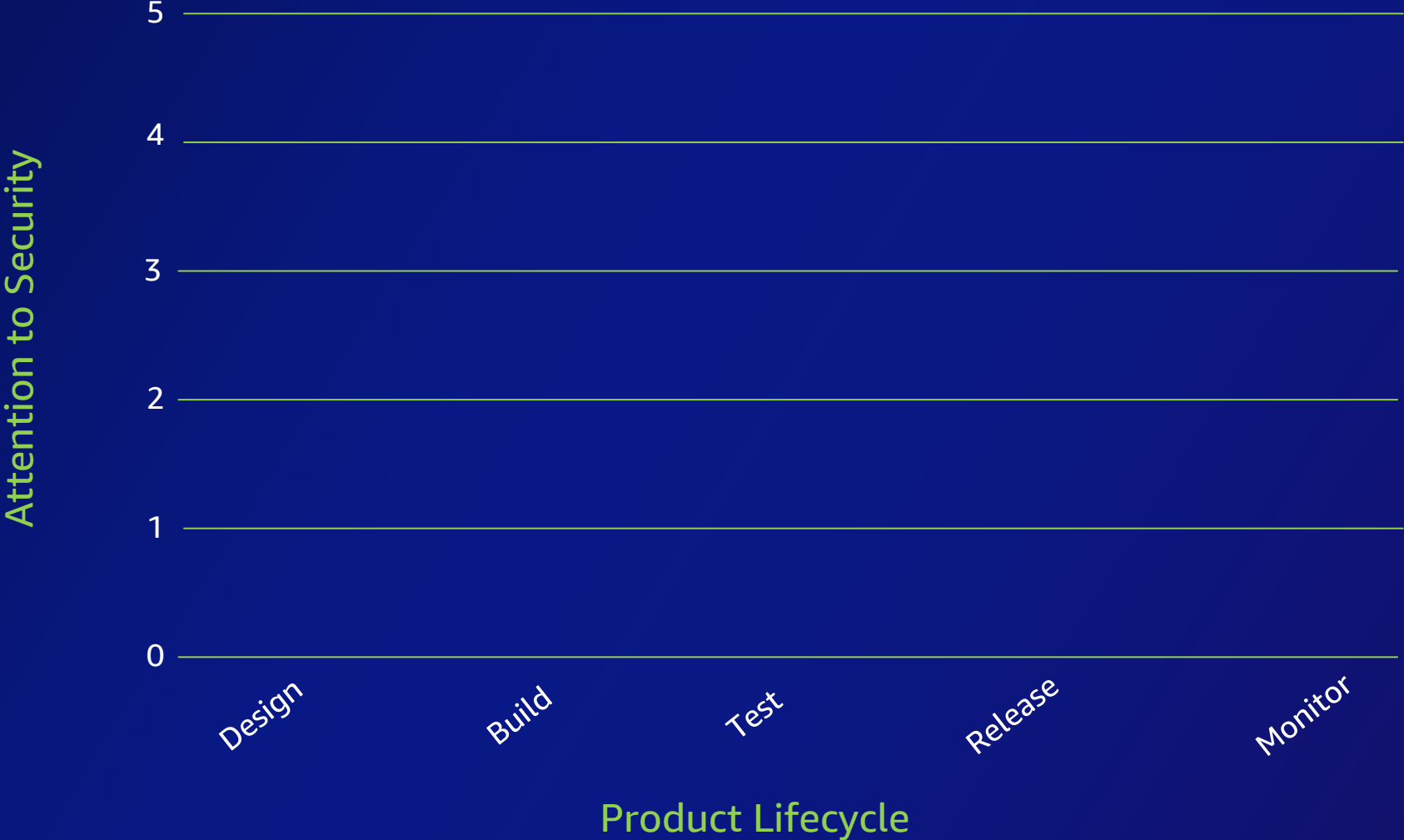


Amazon ECR

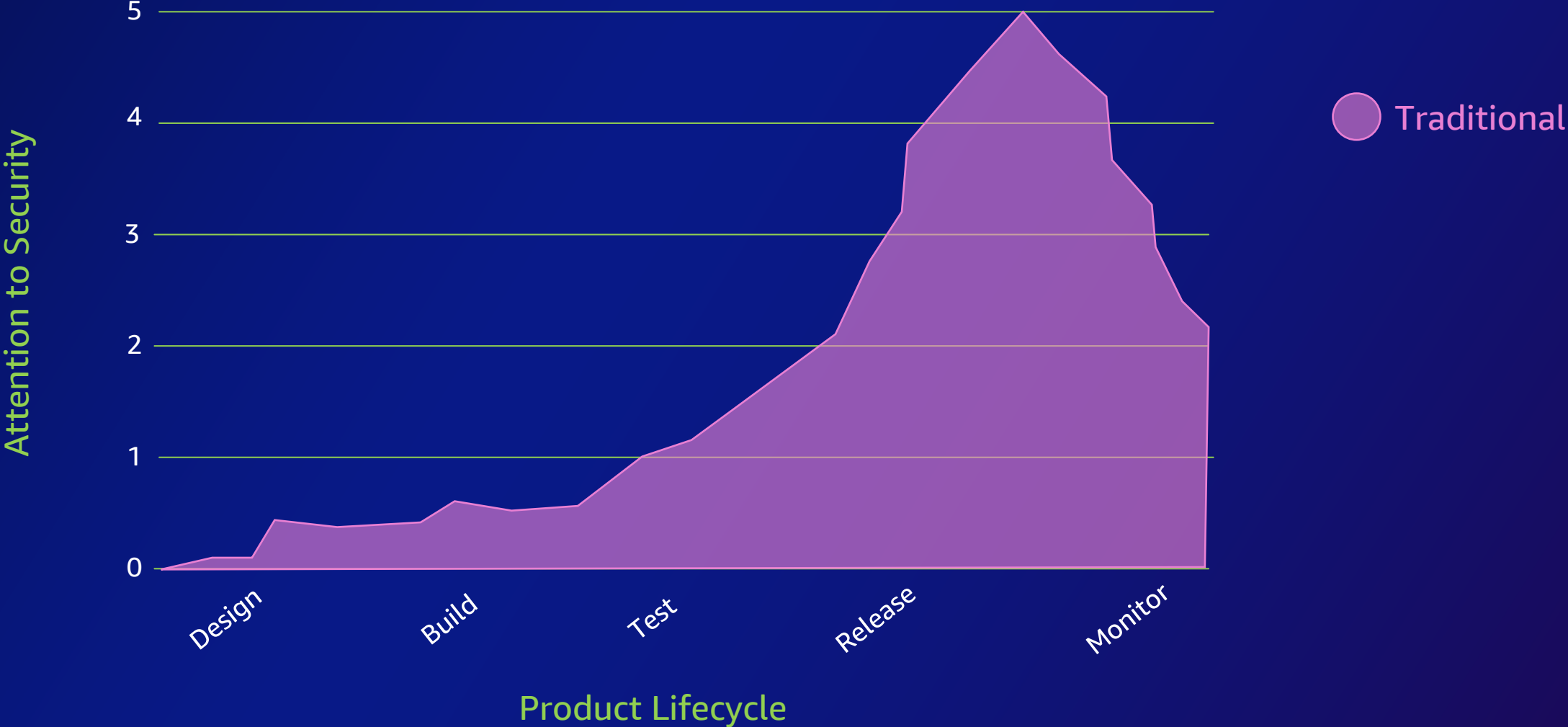
# Understanding DevSecOps



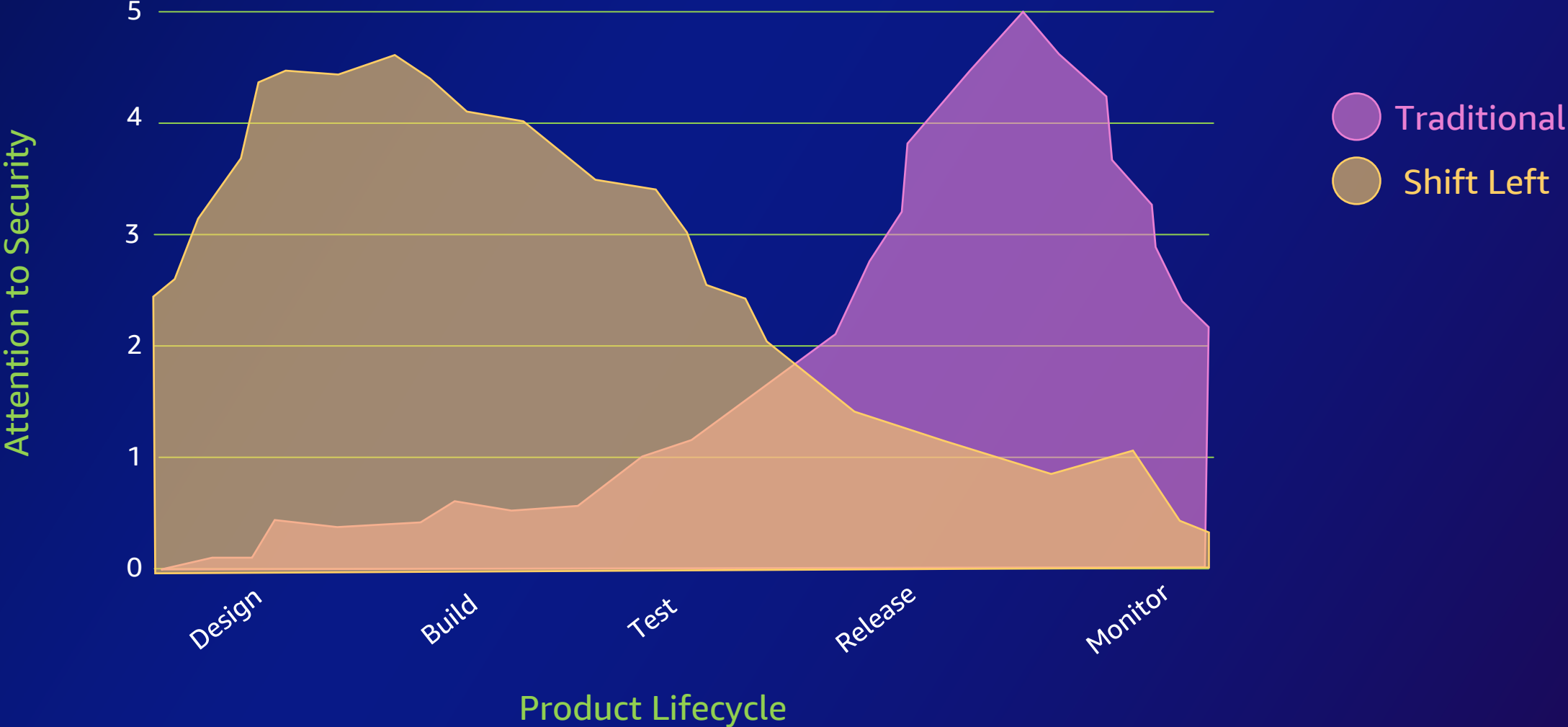
# Why DevSecOps?



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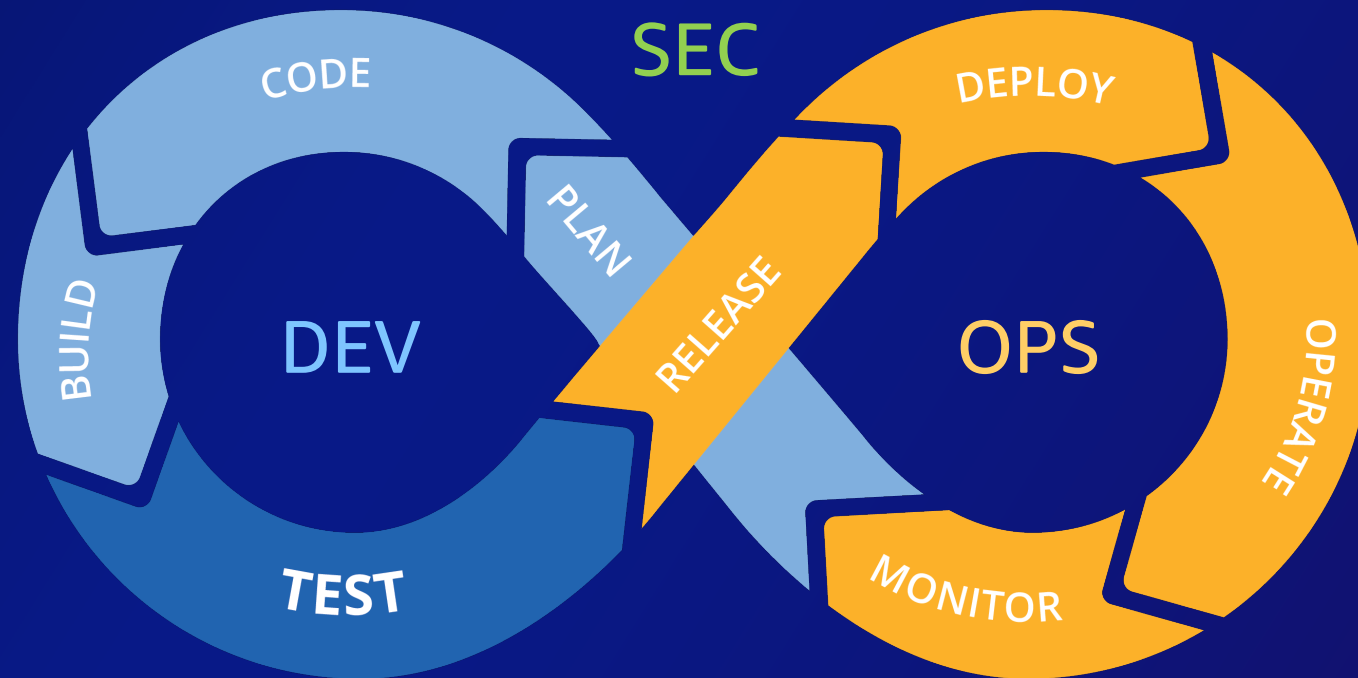
# Why DevSecOps?





# What is DevSecOps?

DevSecOps is achieved by integrating and automating the enforcement of preventive, detective, and responsive security controls into the pipeline.



# Tenets of DevSecOps



**Test early**



**Prioritize  
preventive**



**Detective with responsive  
controls**



**Automate, automate,  
automate**

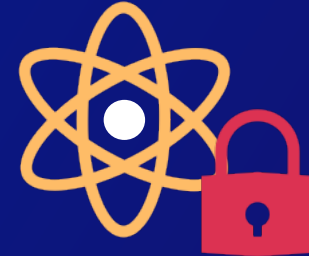
# DevSecOps Practices



**Continuous  
Integration**



**Continuous  
Delivery**



**Microservices**



**Infrastructure As  
Code**



**Logging and  
Monitoring**



**Collaboration and  
Communication**

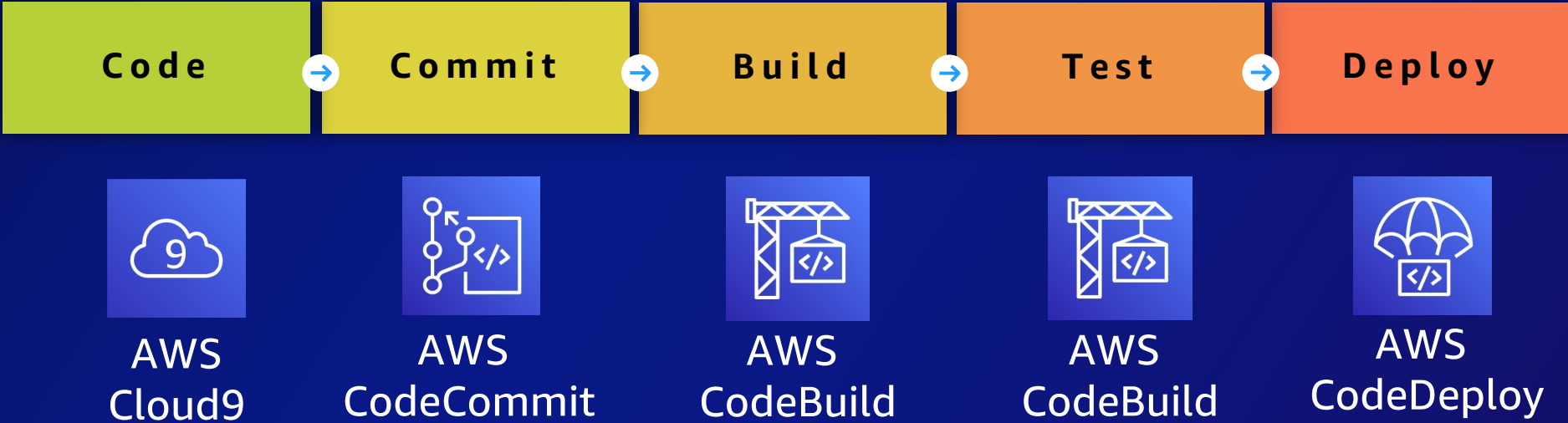
# Designing DevSecOps



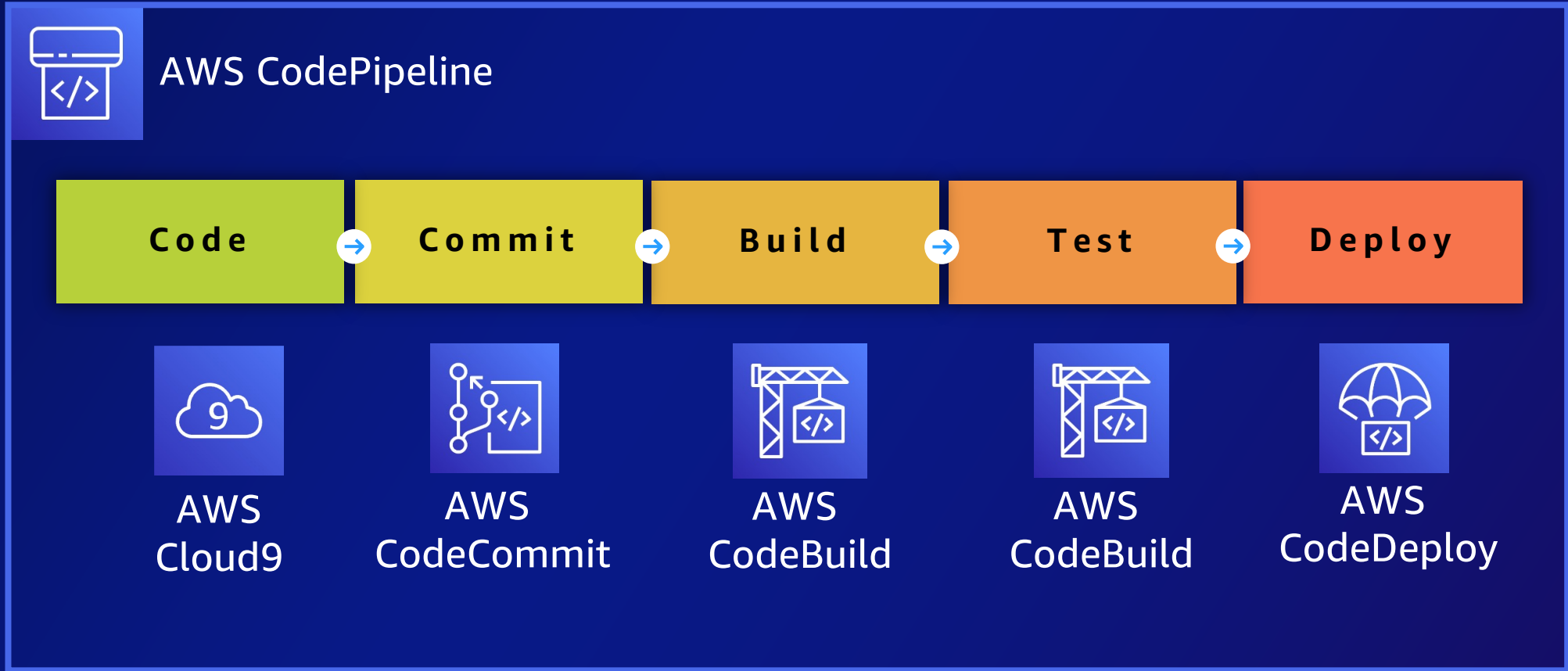
# Foundational DevSecOps pipeline



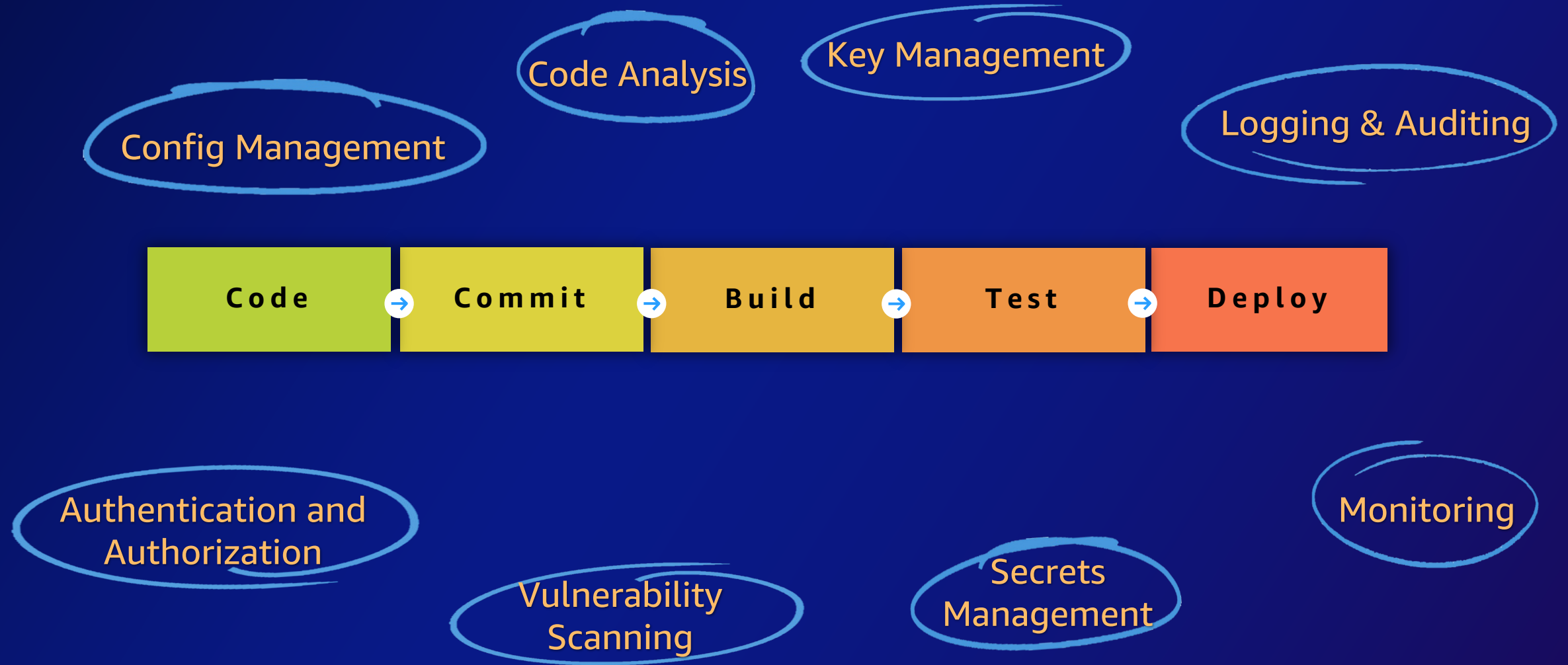
# Foundational DevSecOps pipeline on AWS



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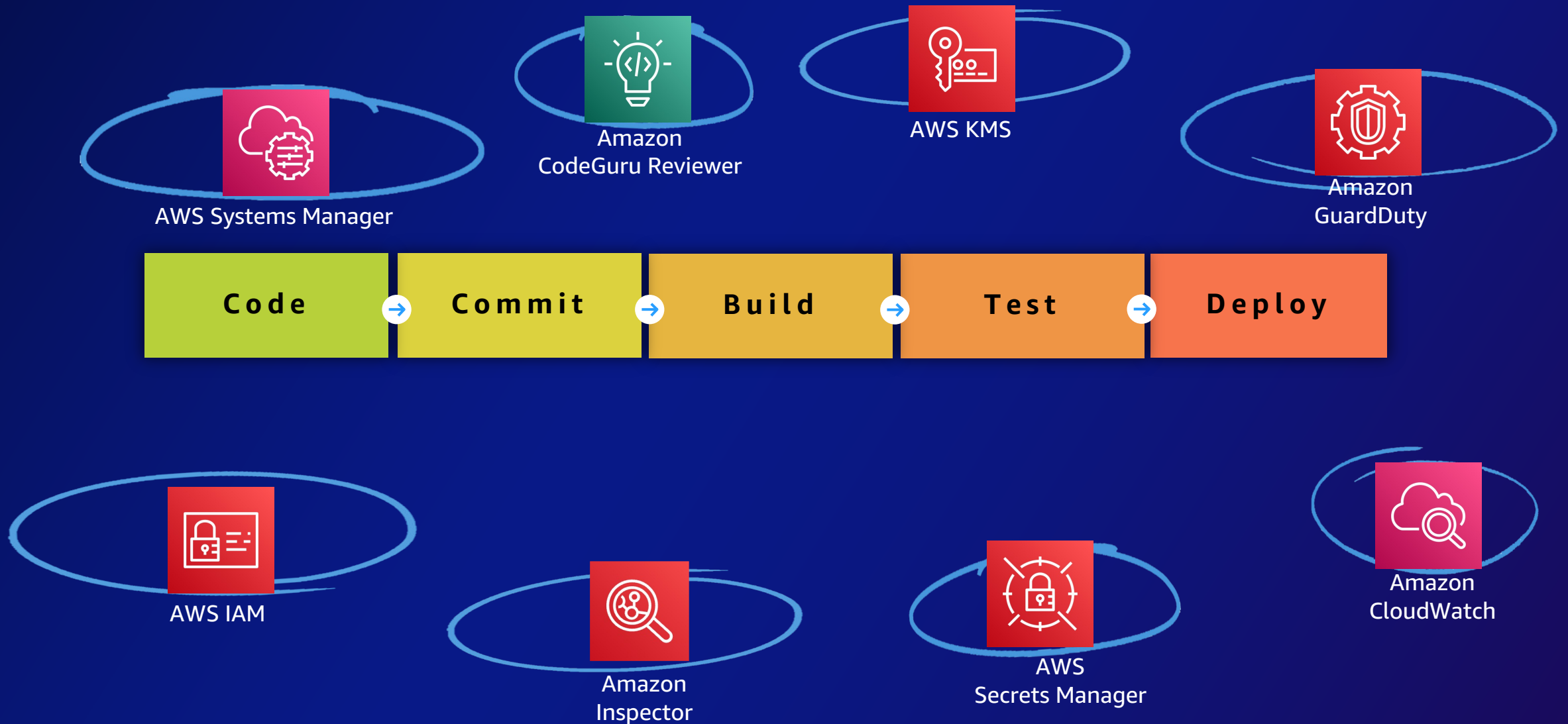


# Foundational DevSecOps pipeline on AWS





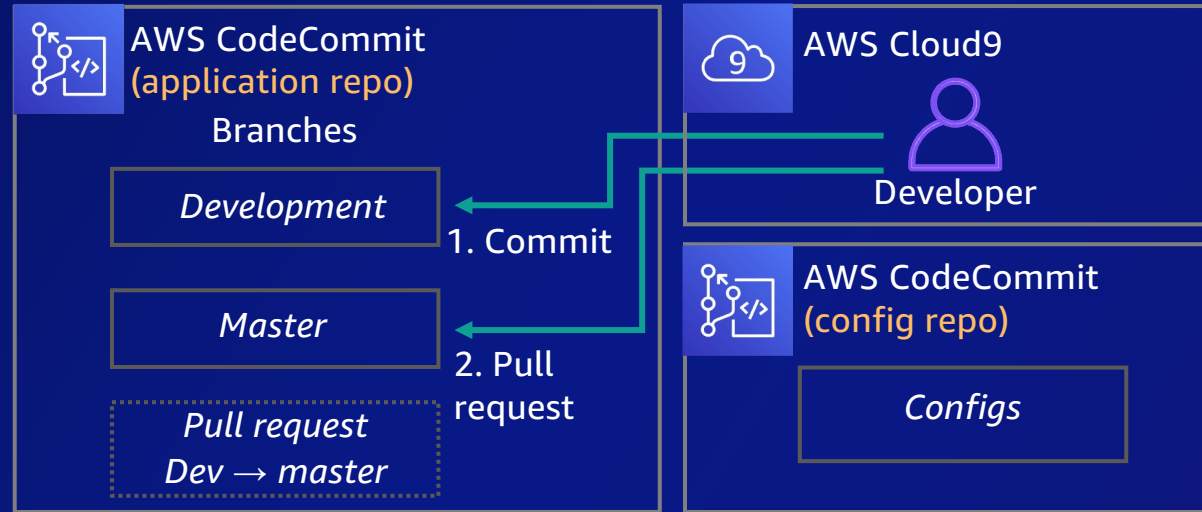
# Foundational DevSecOps pipeline on AWS





# Implementing DevSecOps

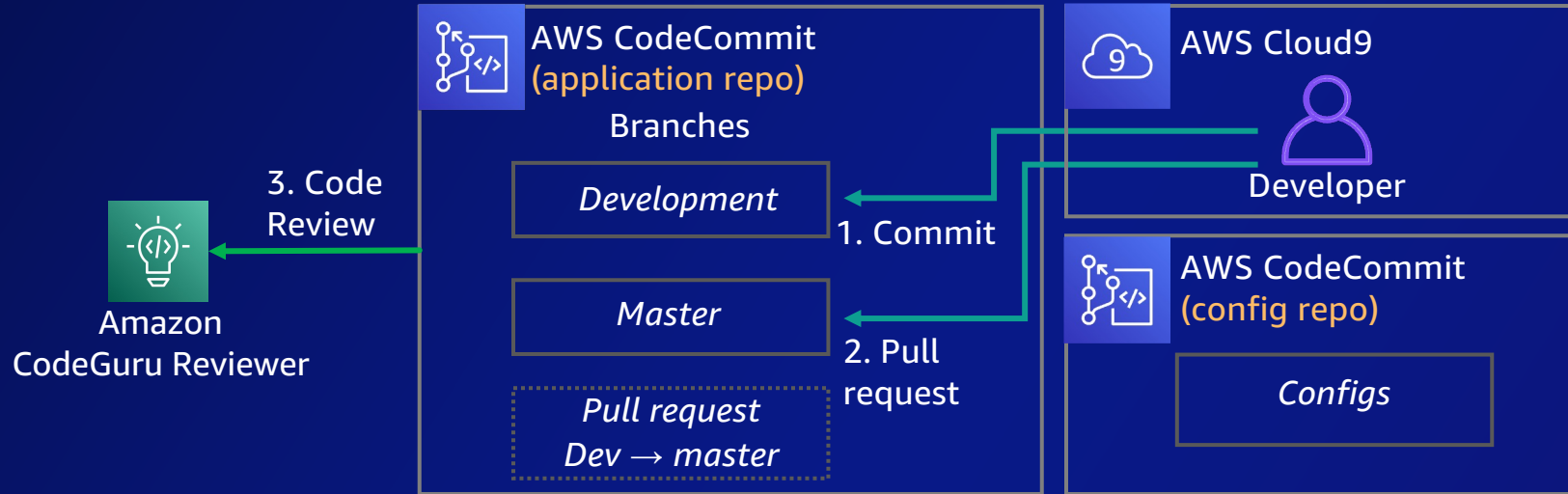


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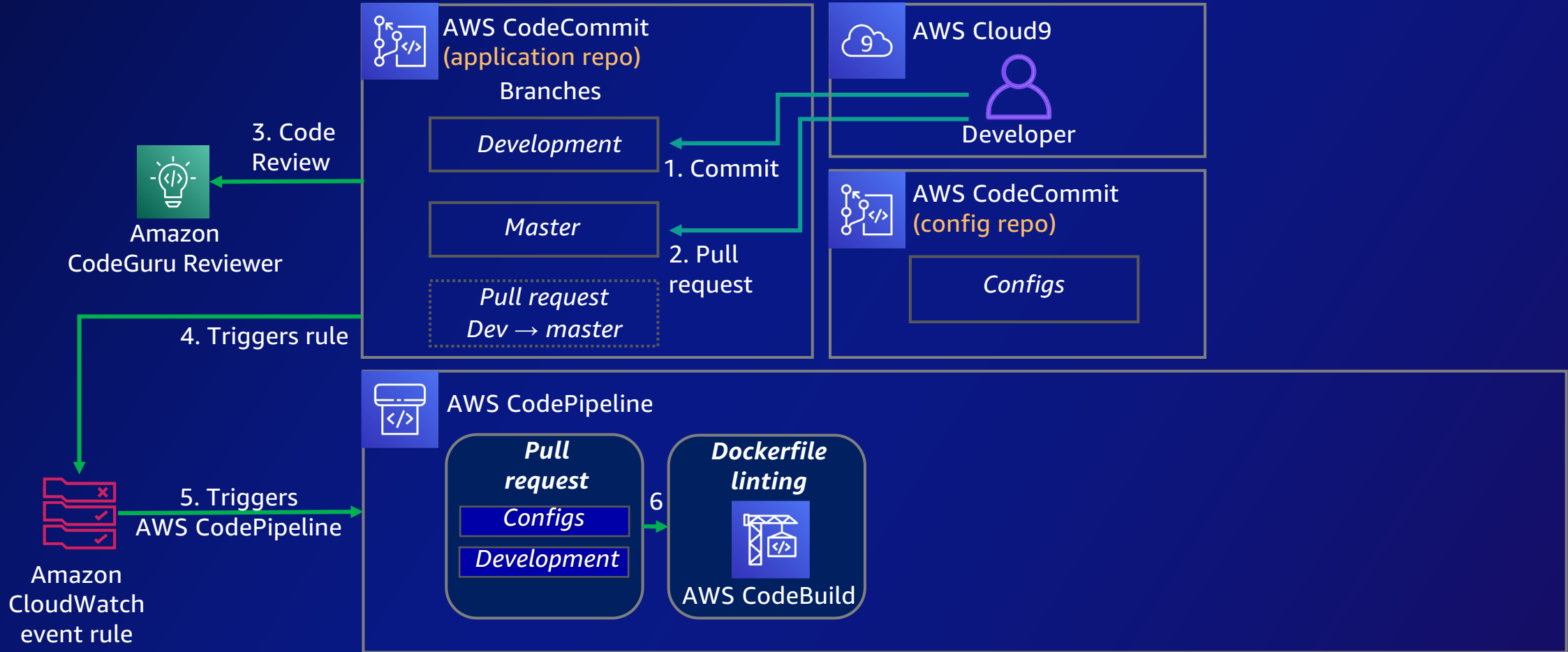


[From a Developer's perspective]

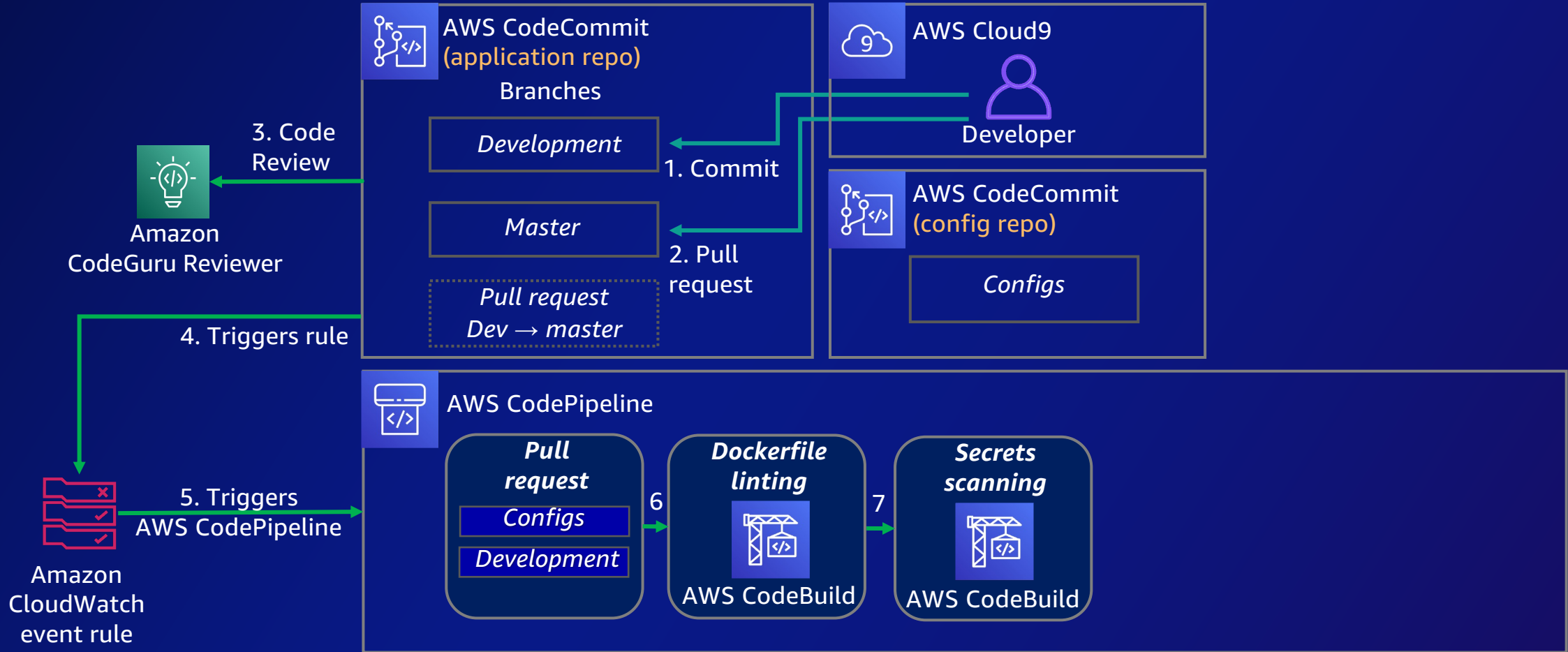
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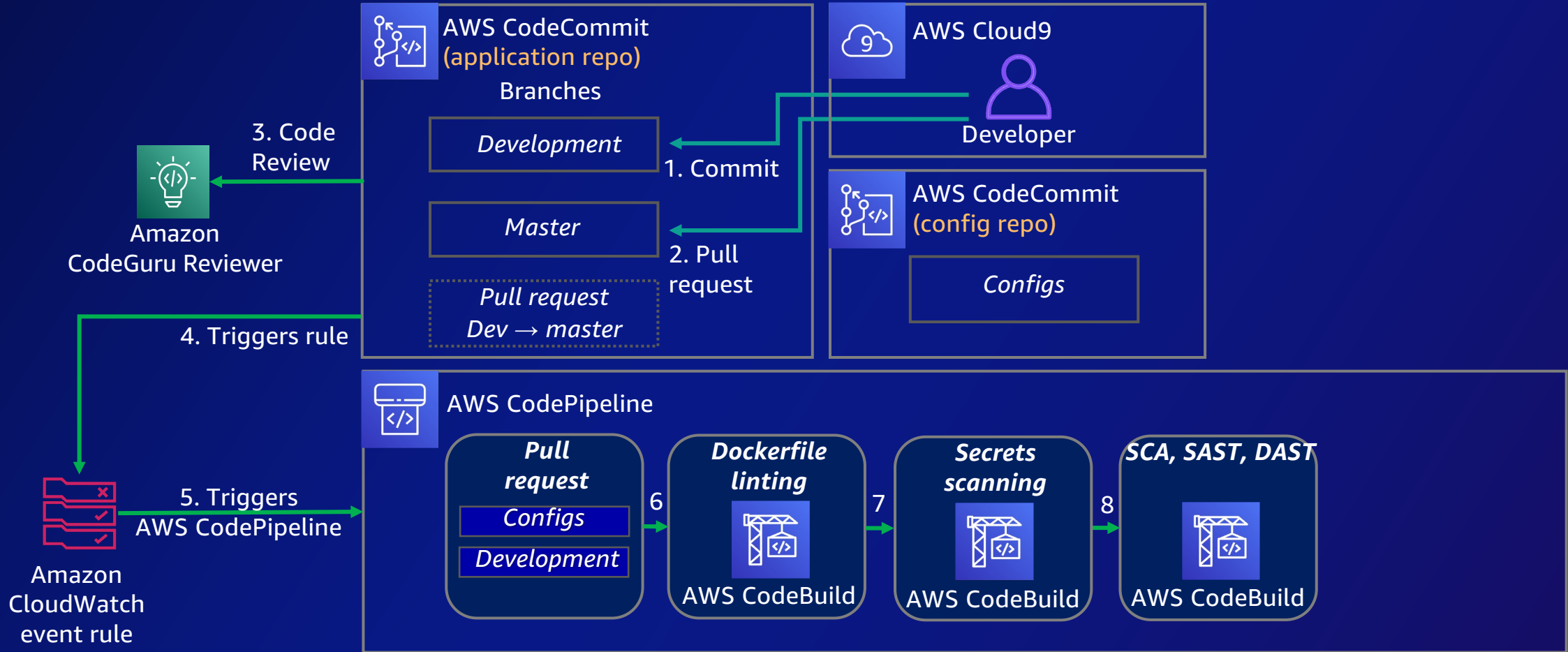
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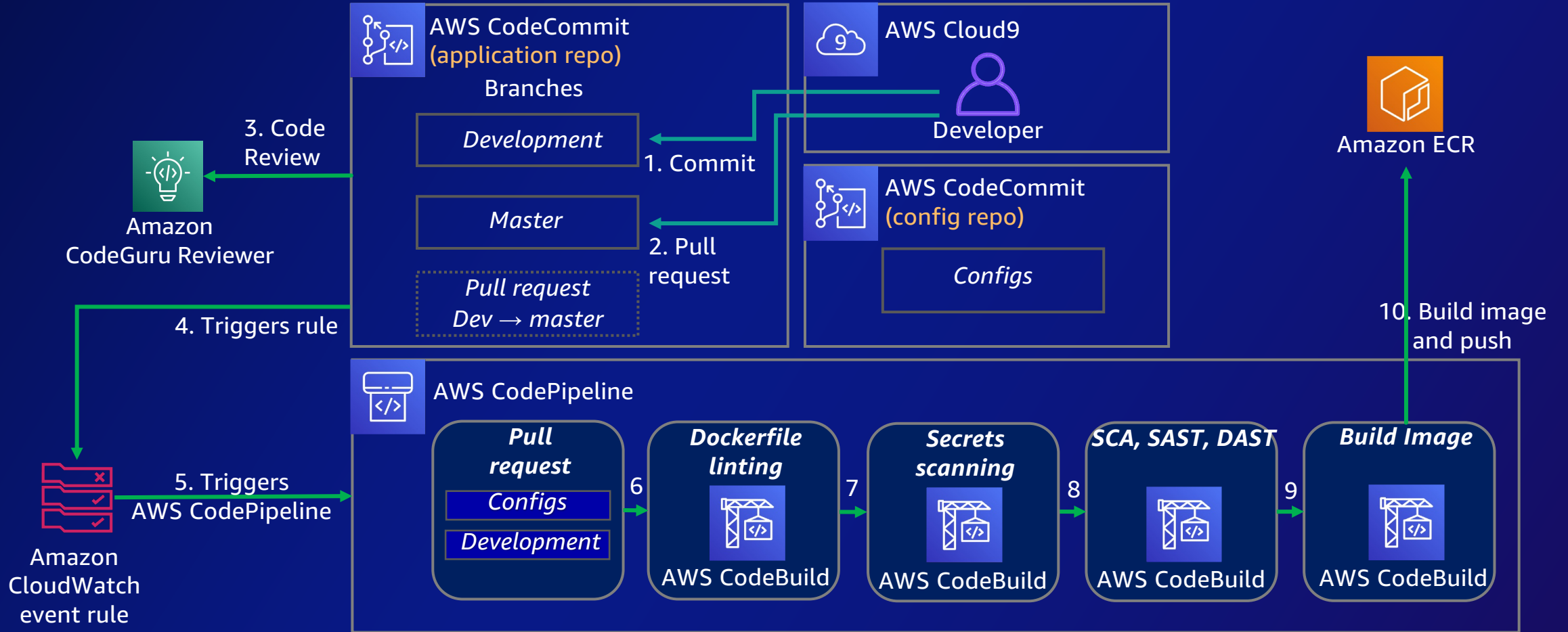
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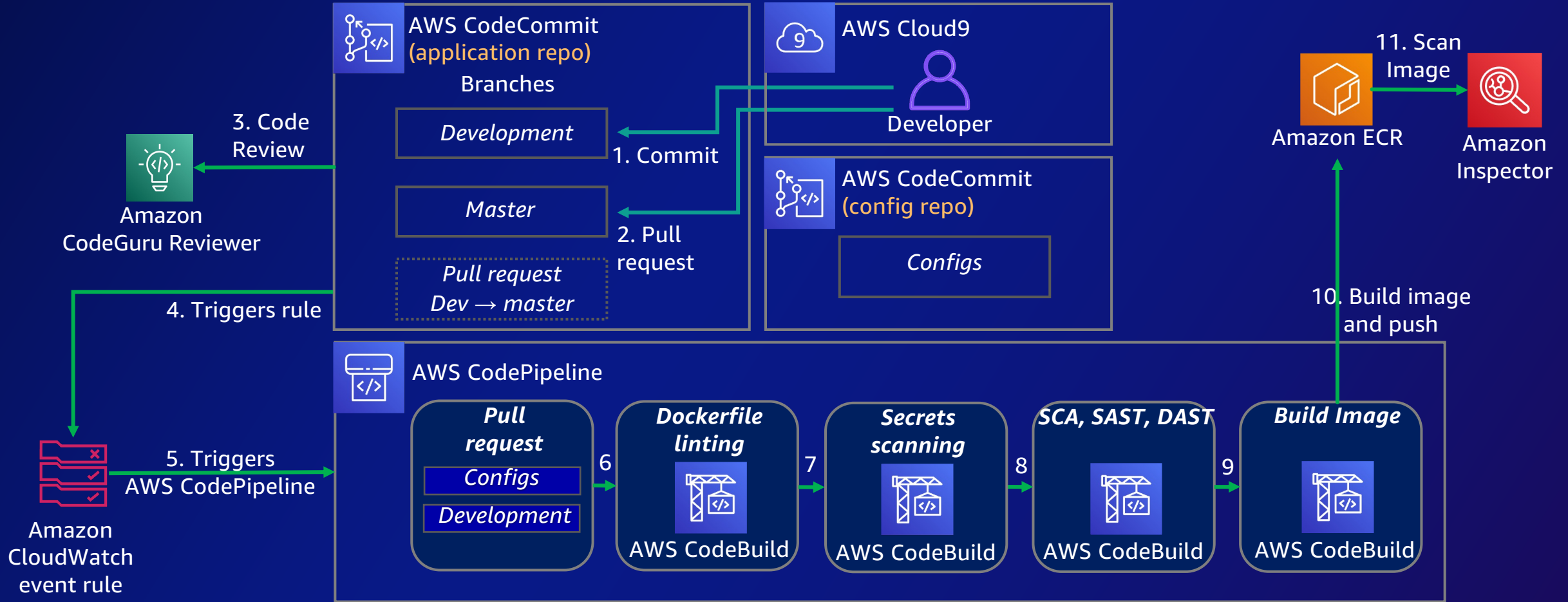


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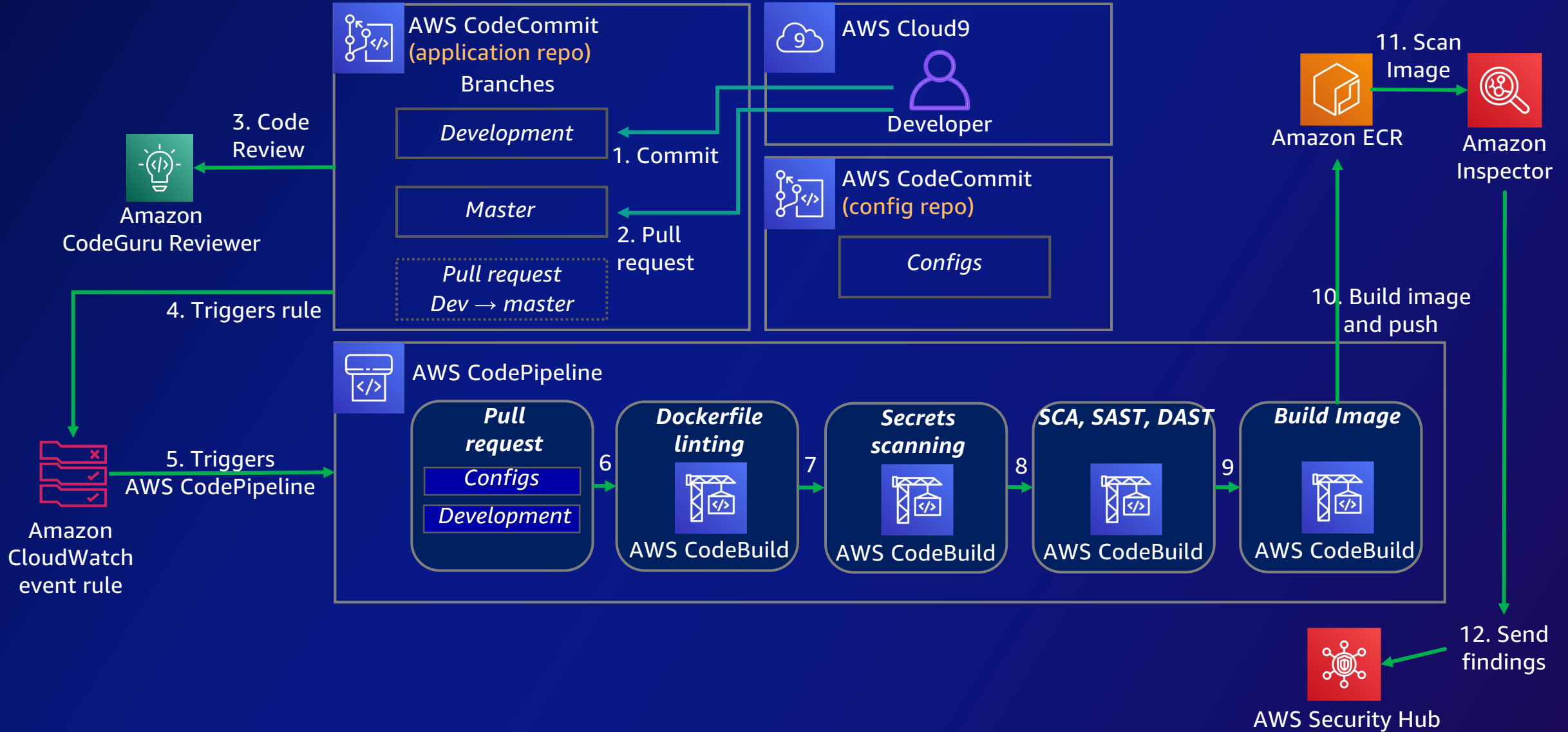




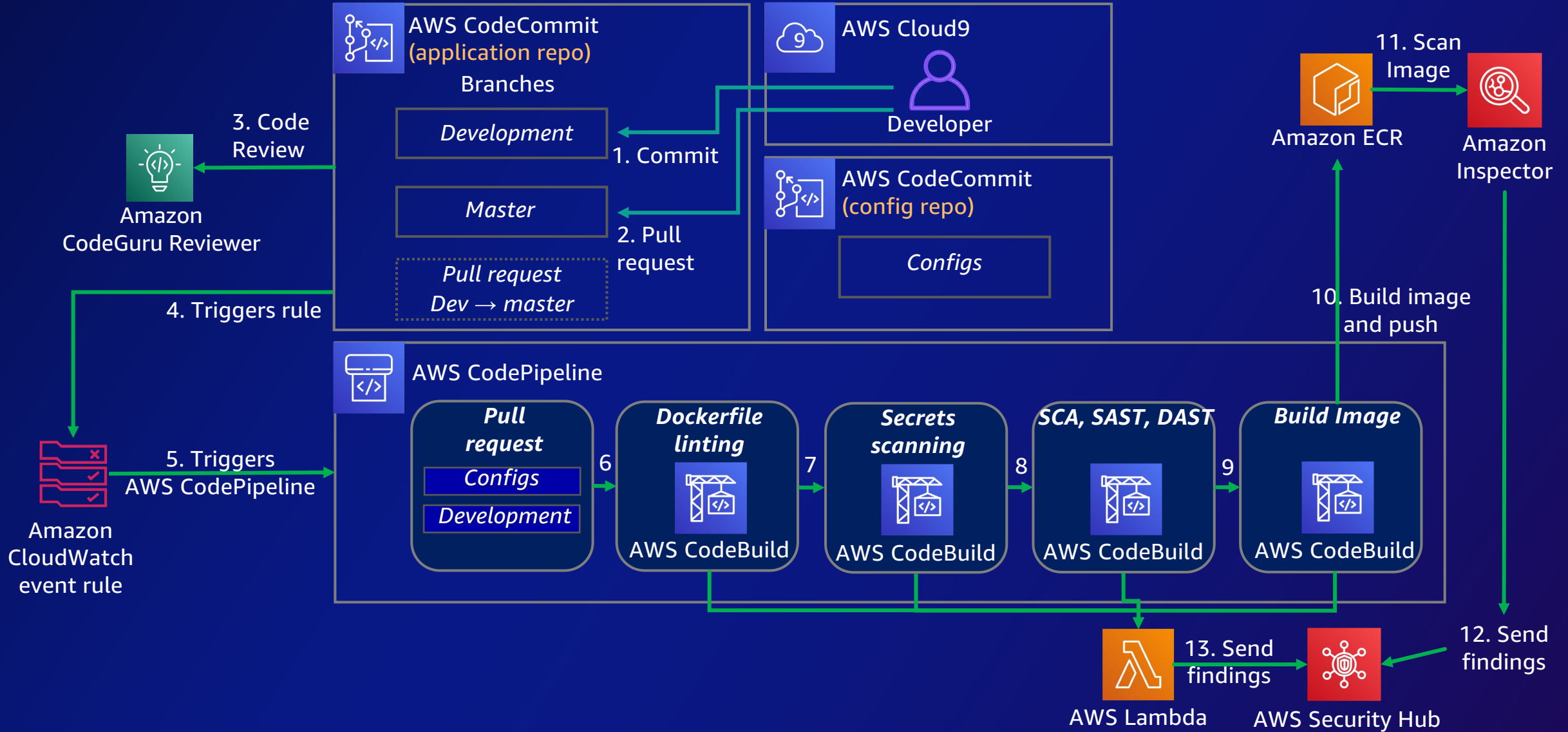
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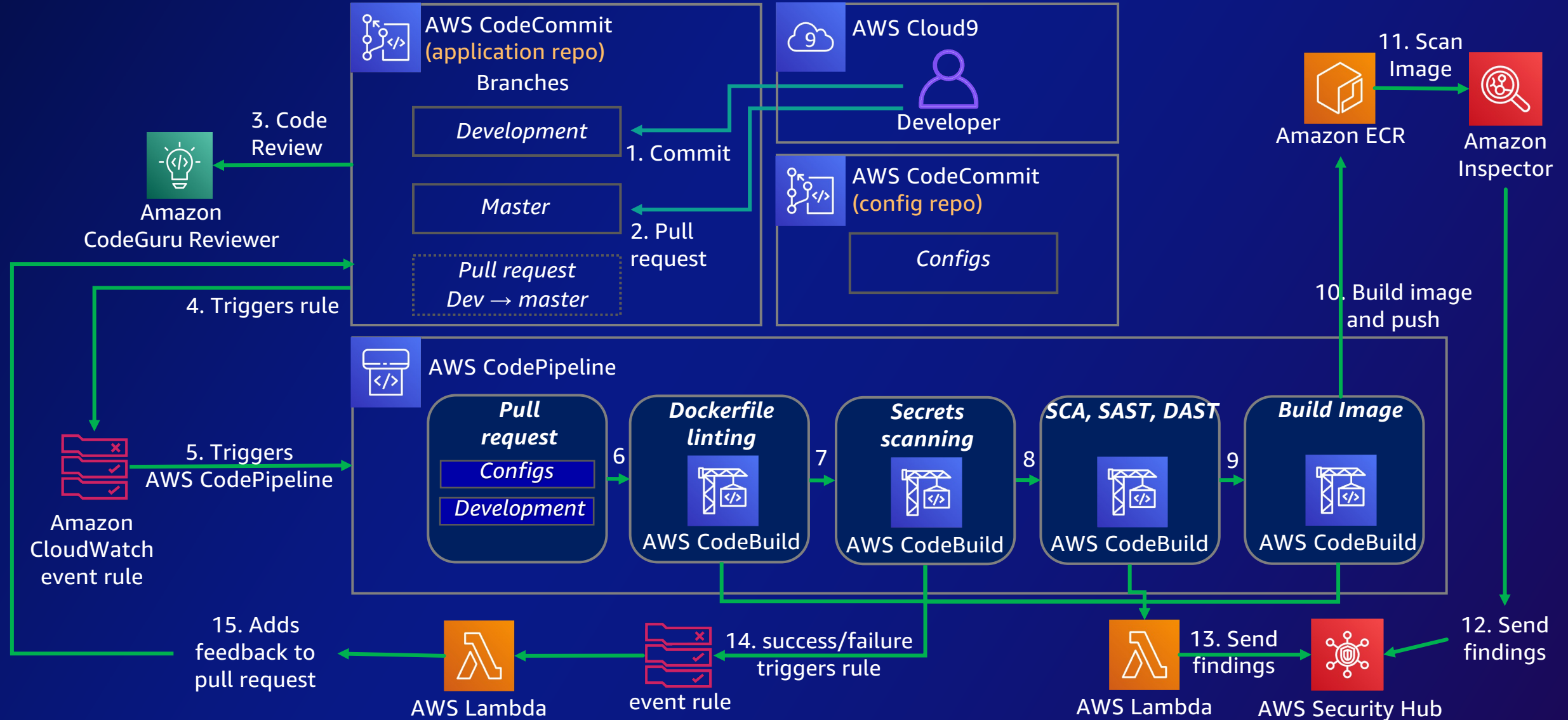
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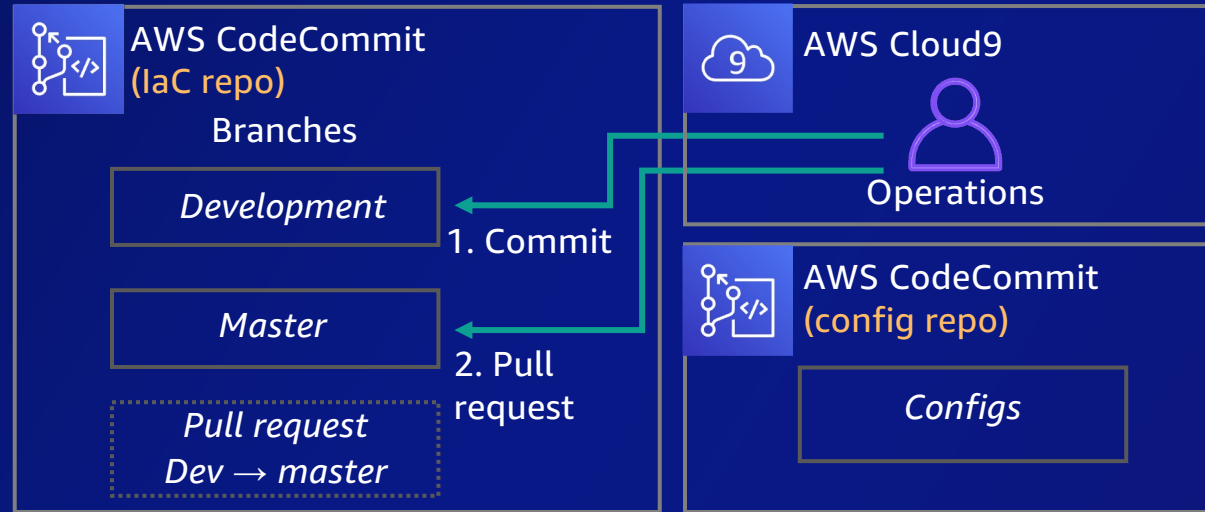
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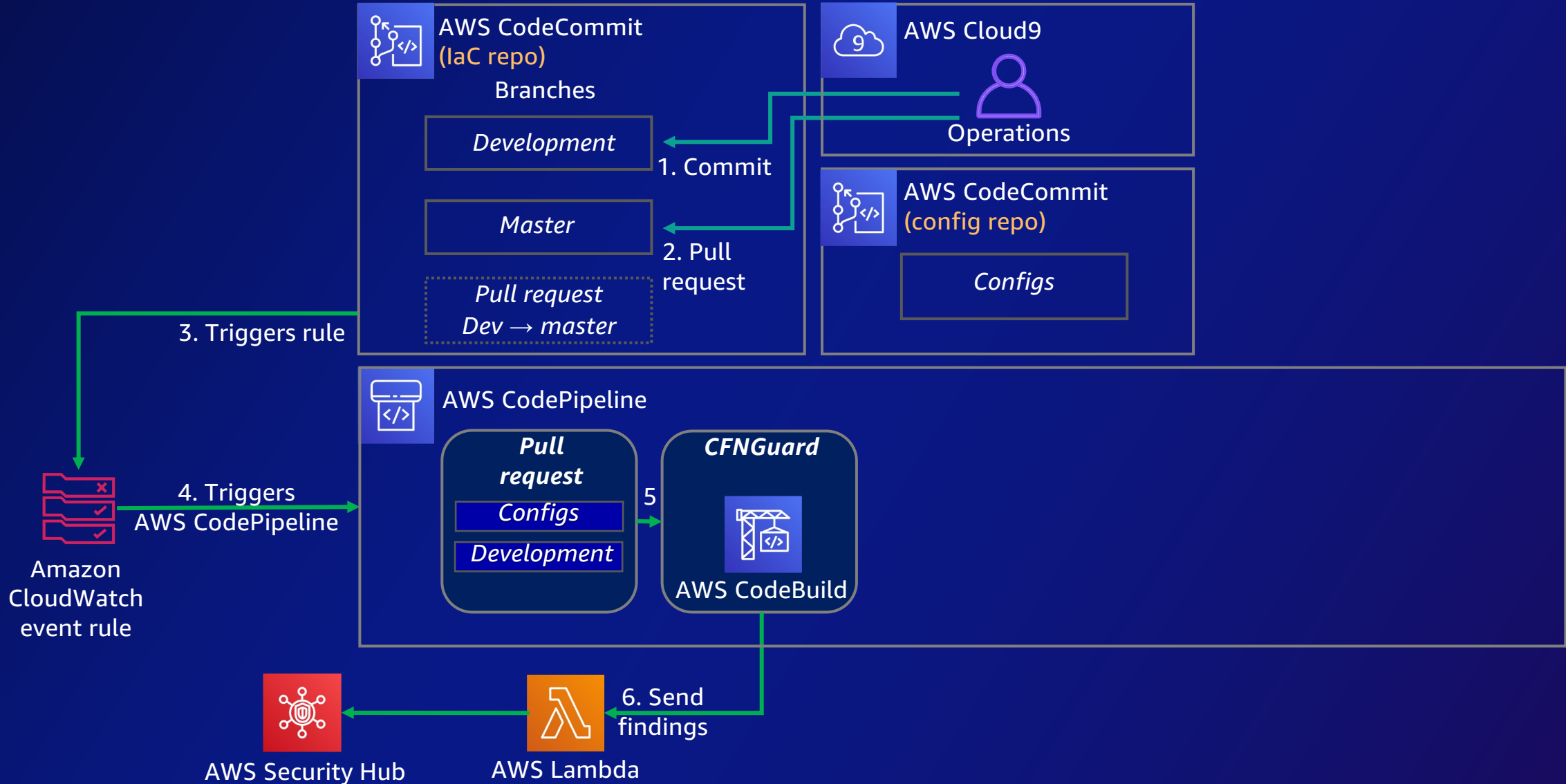




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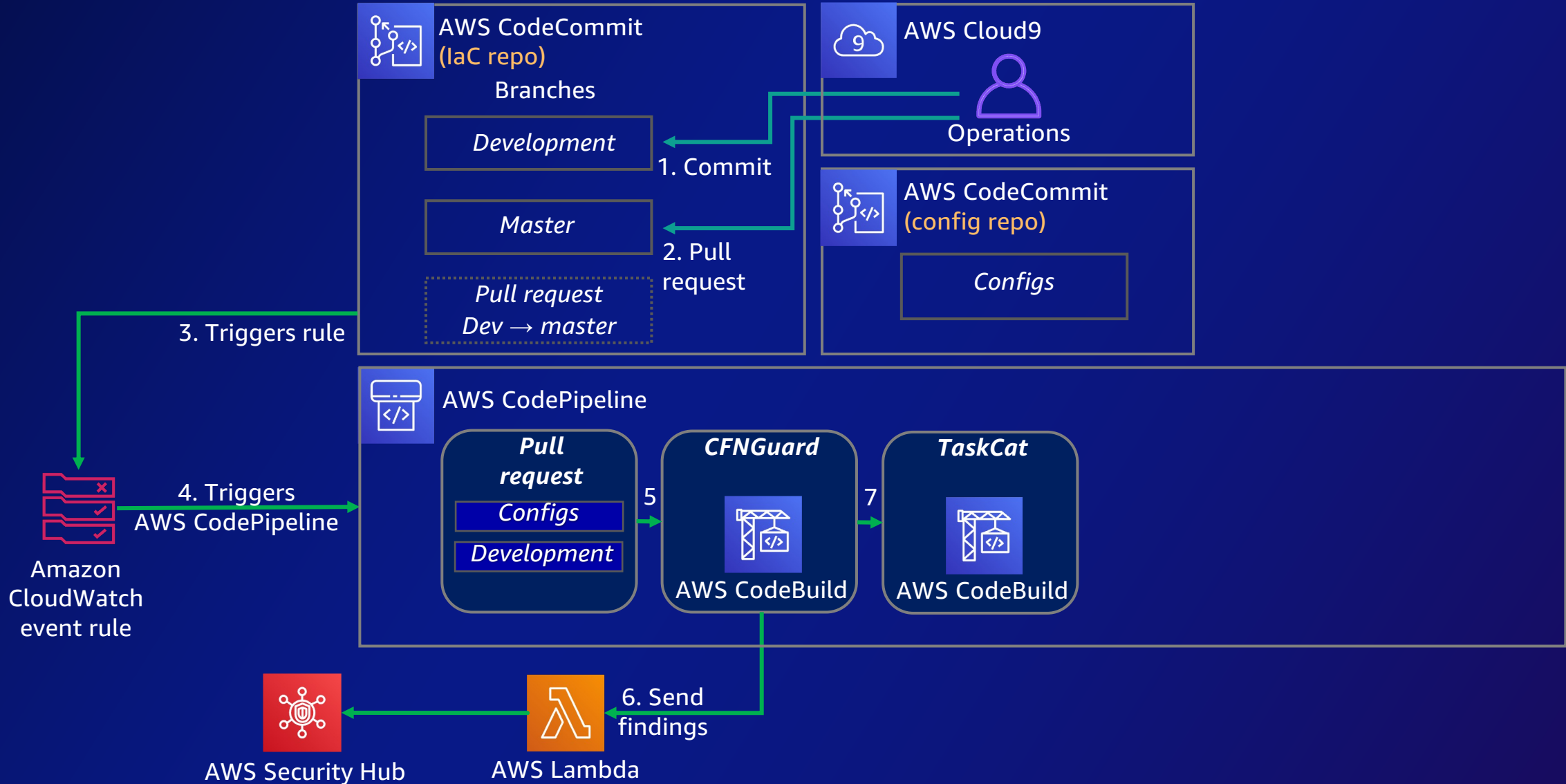


[From an Ops perspective]

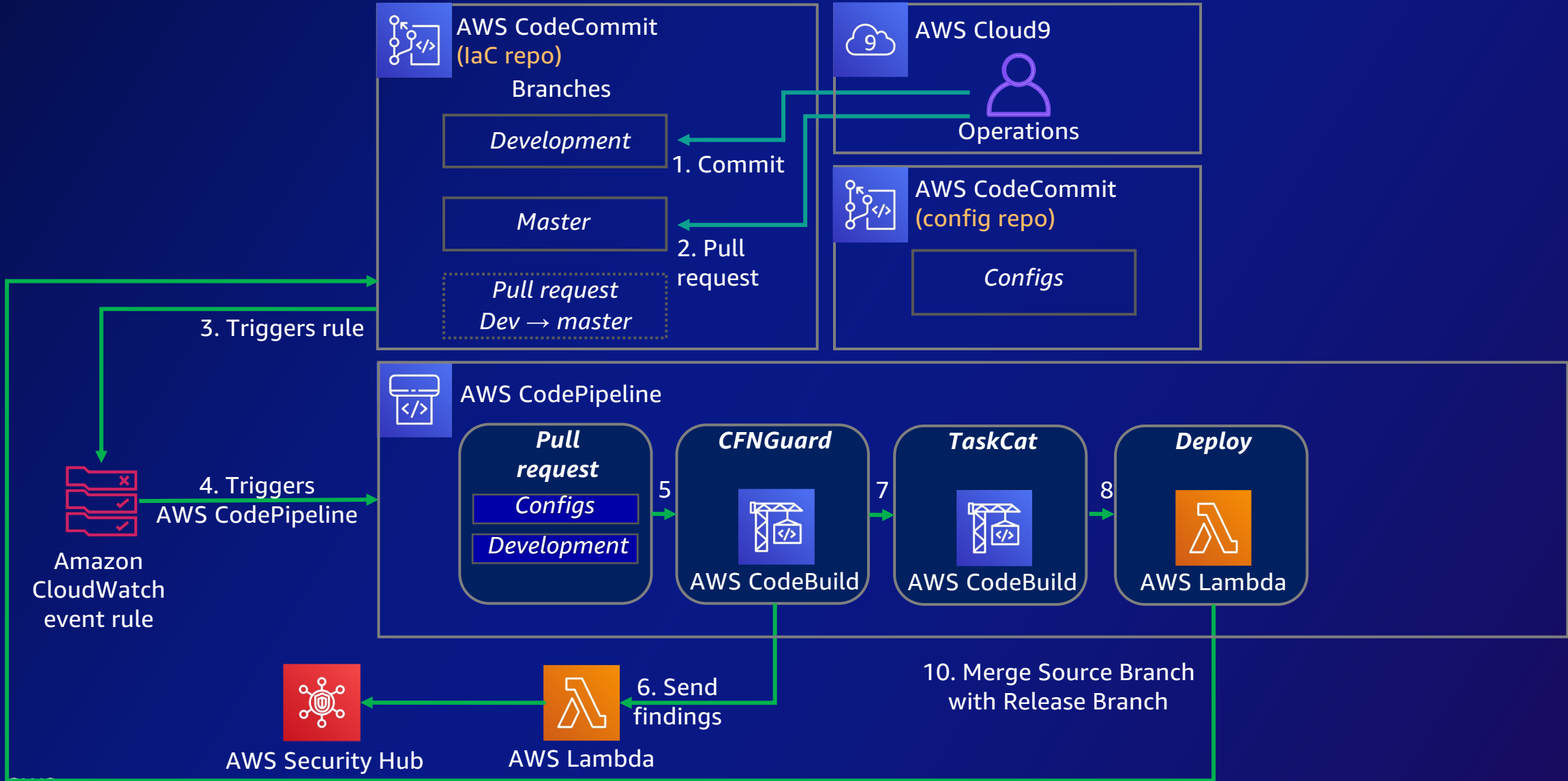
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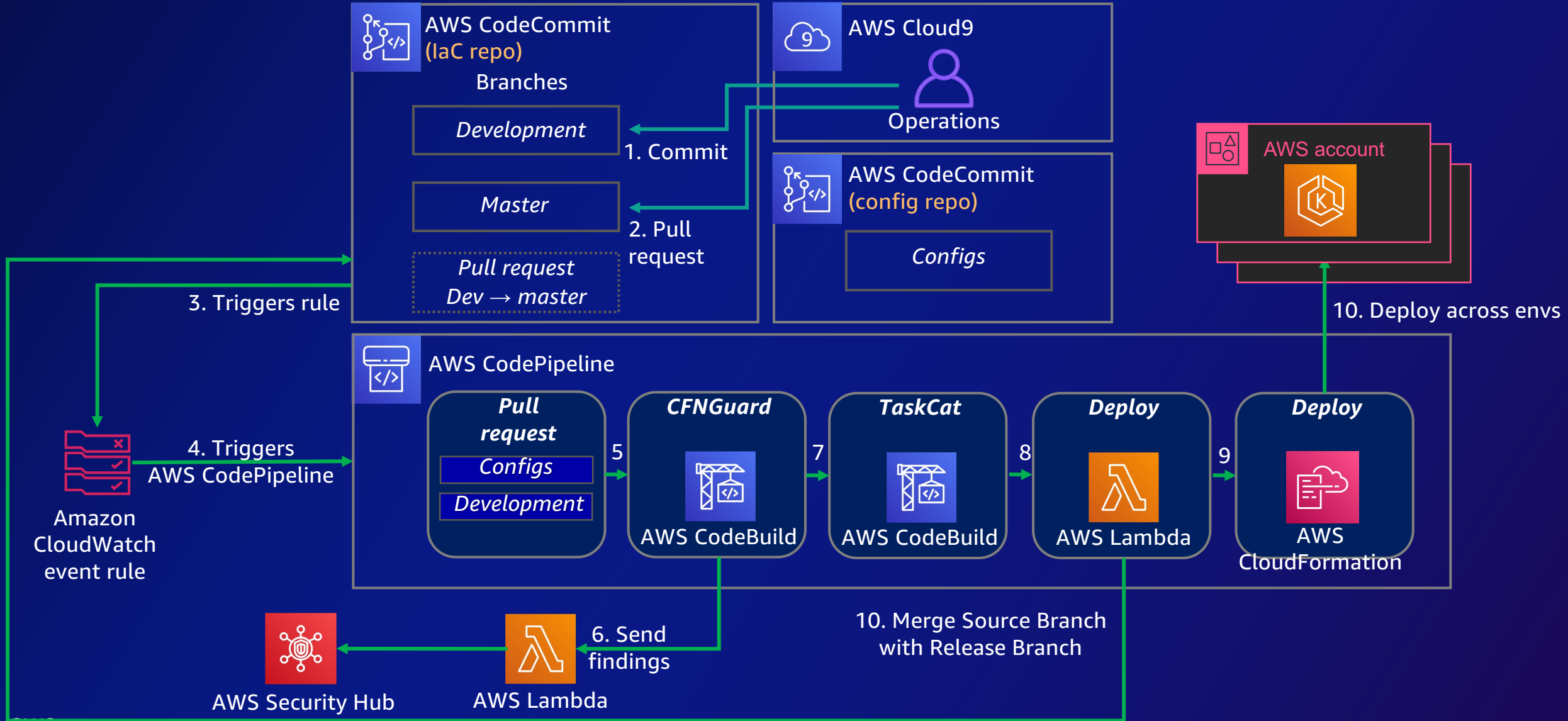


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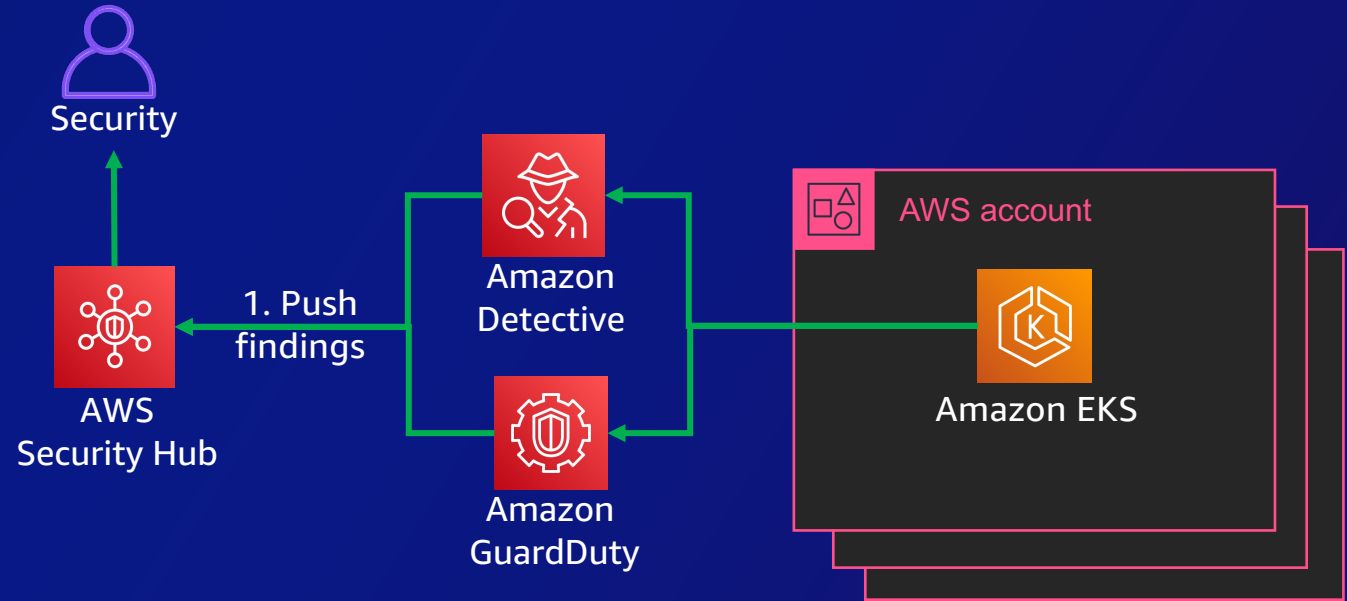


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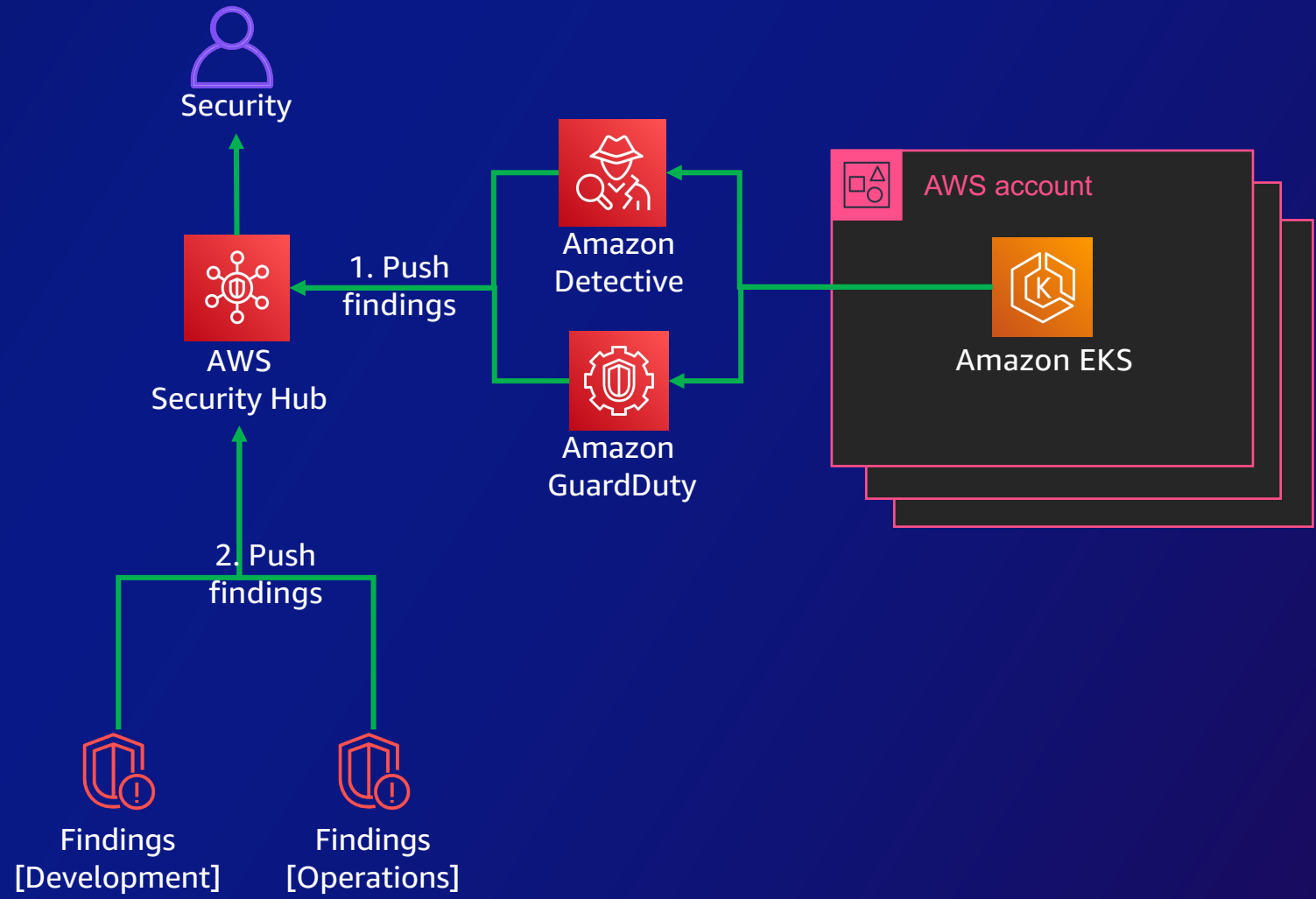


[From a Security perspective]

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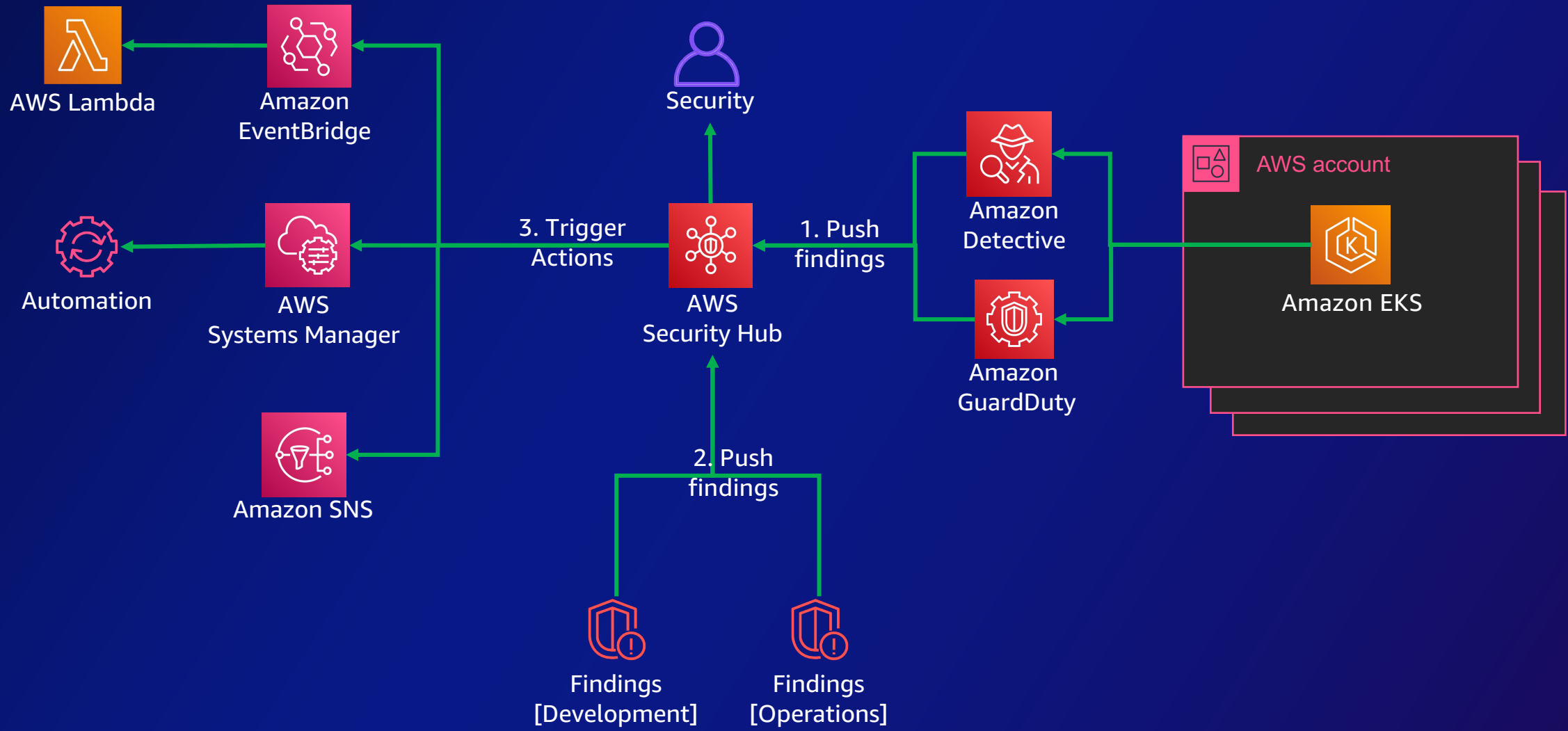


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— = Automated

— = Manual  
— = Automated



# Key Takeaways and Additional resources

# Key Takeaways



**Start early with security**



**Establish security controls**



**Design feedback mechanisms**



**Automate as much as possible**



**Promote security awareness**

# Additional Resources

## [Workshop]

Security for Developers - <https://workshops.devax.academy/security-for-developers/>

## [References]

AWS DevSecOps Blog - <https://aws.amazon.com/blogs/security/tag/devsecops/>

Security Best Practices:

- Amazon EKS - <https://aws.github.io/aws-eks-best-practices/security/docs/>
- Amazon ECS - <https://docs.aws.amazon.com/AmazonECS/latest/bestpracticesguide/security.html>

## [New Launches]

- Amazon GuardDuty for EKS Clusters - <https://aws.amazon.com/about-aws/whats-new/2022/01/amazon-guardduty-elastic-kubernetes-service-clusters/>
- Amazon Detective for EKS Clusters - <https://aws.amazon.com/blogs/aws/amazon-detective-supports-kubernetes-workloads-on-amazon-eks-for-security-investigations/>
- Amazon Inspector for ECR scans - <https://aws.amazon.com/about-aws/whats-new/2021/11/amazon-inspector-continual-vulnerability-management/>



SCAN ME



# Thank you!

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