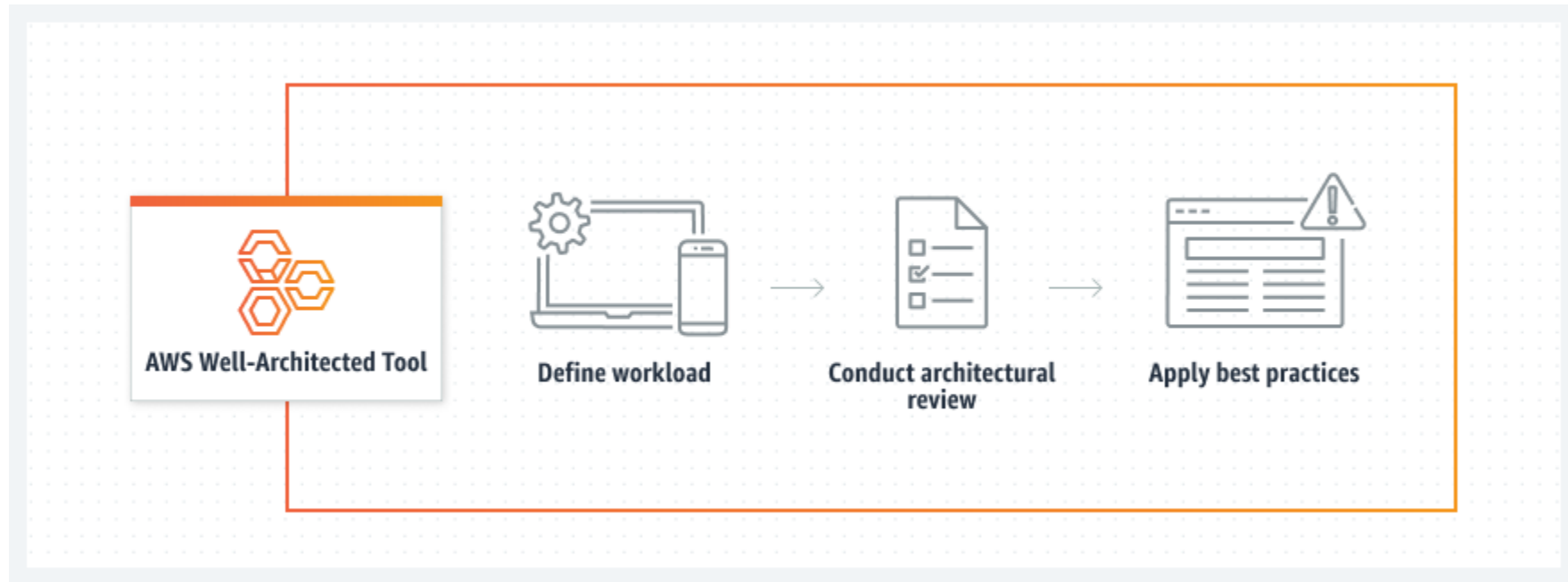


AWS Well-Architected Tool

# AWS Well-Architected Tool

- The AWS Well-Architected Tool is designed to help you review the state of your applications and workloads against architectural best practices, identify opportunities for improvement, and track progress over time.





## AWS Service Catalog



Fancy having a meal...





# Chefs know it better

SALADS

lorem

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SOUPS

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SANDWICHES

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SALADS

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SOUPS

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BON APPETIT!











Add dressing (if needed)...

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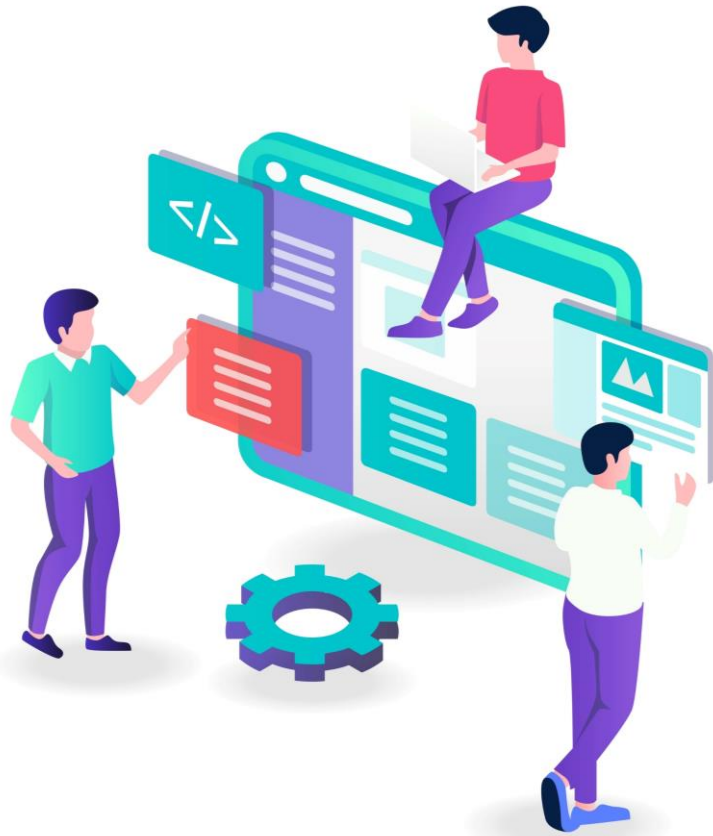
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# Current scenario



- Developer
  - Which version of PHP should be used?
  - What tags are relevant for my workload?
- Security Team
  - Which VPC is suitable for deploying forensic instance?
  - Where is the latest AMI?
- Sys Admins
  - What are best practices for deploying EKS cluster?
  - Do we have a template for 3-Tier App?

# In AWS Context

## AWS Service Catalog

### Portfolio

- ☐ Product 1
- ☐ Product 2
- ☐ .....



Template  
Constraints



AWS CloudFormation



Product  
Deployed

### FRONTEND PORTFOLIO

- Single Server PHP Server
- Auto Scale PHP Server

### DATABASES

- MySQL Standalone
- My SQL with HA

### DEVELOPMENT STACK

- LAMP Stack
- MERN Stack
- Ruby on Rails
- Django Stack

### MONITORING

- Wireshark
- Nagios

## Restaurant Menu

### SALADS

lorem	- - - - -	\$5.00
lorem	- - - - -	\$4.50
lorem	- - - - -	\$6.50

### SOUPS

lorem	- - - - -	\$6.50
lorem	- - - - -	\$4.50
lorem	- - - - -	\$5.00

### SANDWICHES

lorem	- - - - -	\$5.00
lorem	- - - - -	\$4.50
lorem	- - - - -	\$6.50

### SALADS

lorem	- - - - -	\$6.50
lorem	- - - - -	\$4.50
lorem	- - - - -	\$5.00

### SOUPS

lorem	- - - - -	\$5.00
lorem	- - - - -	\$4.50
lorem	- - - - -	\$6.50

BON APPETIT!

### Category

- ☐ Dish 1
- ☐ Dish 2
- ☐ .....



Customization  
Instructions



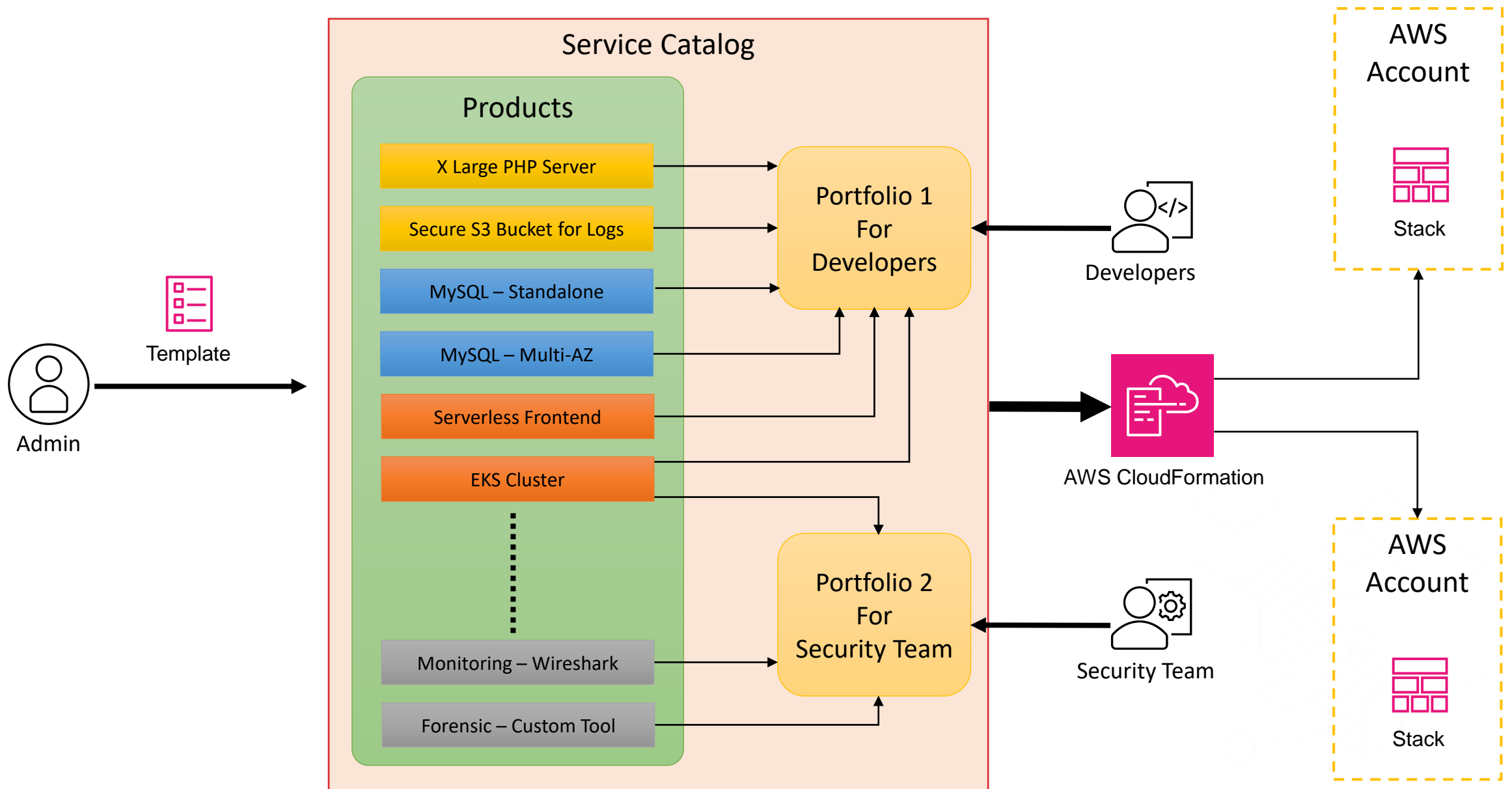
Chef

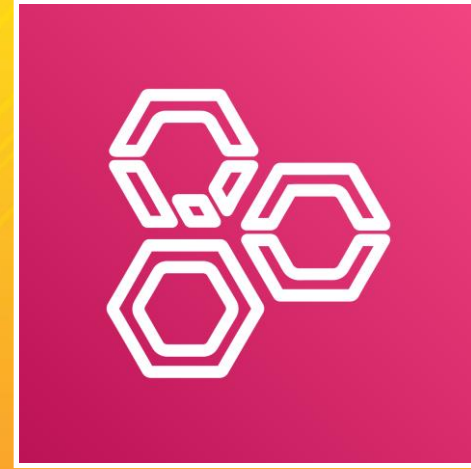


Dish  
Served



# How AWS Service Catalog works?





AWS Trusted Advisor



# AWS Trusted Advisor

- AWS Trusted Advisor provides recommendations that help you follow AWS best practices.
- Trusted Advisor evaluates your account by using checks. These checks identify ways to optimize your AWS infrastructure, improve security and performance, reduce costs, and monitor service quotas.

## Cost Optimization



0  9  0 

**\$7,516.85**

Potential monthly savings

## Performance



3  7  0 

## Security



2  4  11 

## Fault Tolerance



0  15  5 

## Service Limits



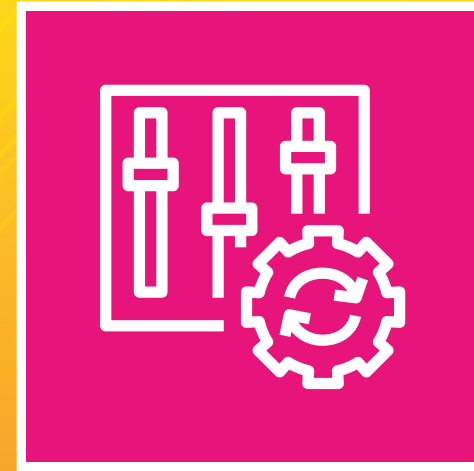
37  0  1 

AWS Basic Support and  
AWS Developer Support

Basic 7  
Checks

AWS Business Support and  
AWS Enterprise Support

All  
Checks



AWS Config



# AWS Config

- AWS Config continually assesses, audits, and evaluates the configurations and relationships of your resources.

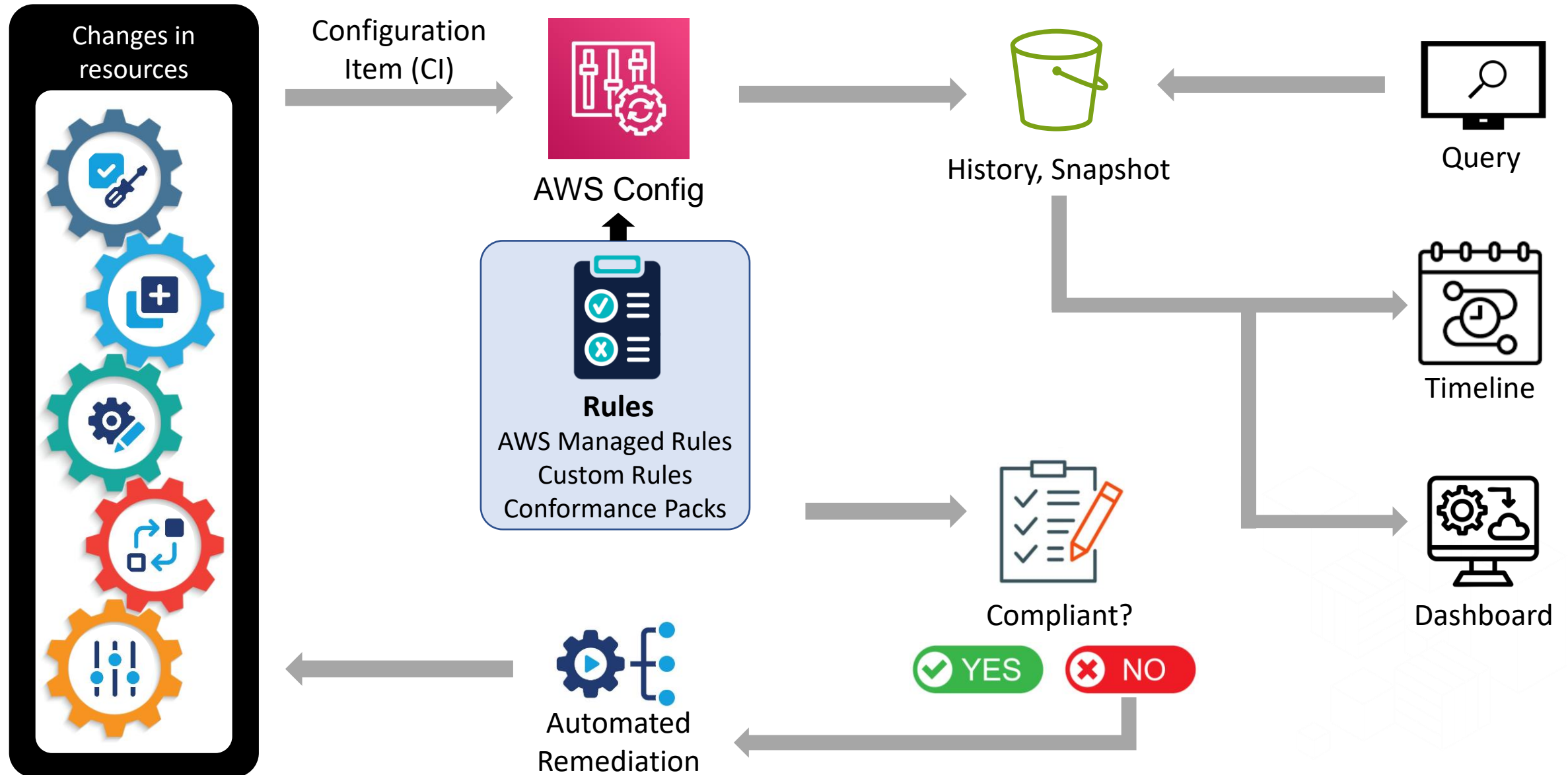
## **Inventory and configuration management**

- What is currently out there?
- What is the latest configuration state of my resources?
- What relationships exist between my resources?
- What configuration changes occurred in the past?
- Which resources have violated compliance policies?

## **Governance and compliance management**

- Are my resources properly configured?
- Do my resources comply with regulatory requirements
- How do I ensure continuous compliance?
- How can I get notified in near real-time if resource(s) go out of compliance?

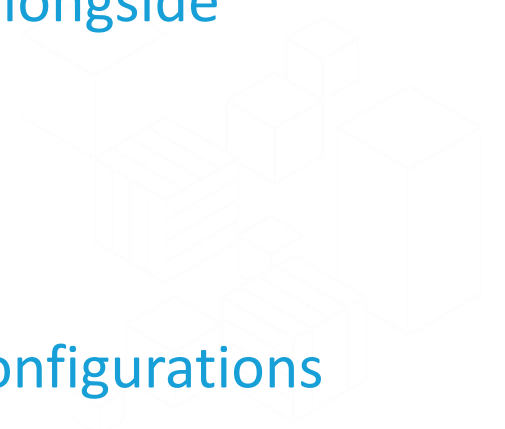
# AWS Config - Track Resource Inventory and Changes







# AWS Config – Features (1)

- Configuration history of AWS resources
  - Records details of changes to your AWS resources to provide you with a configuration history timeline
  - Obtain details of what a resource's configuration looked like at any point in the past
- Configuration history of software (requires SSM agent)
  - Records software configuration changes within your Amazon EC2 instances and servers running on-premises or other cloud providers
  - Provides a history of OS and system-level configuration changes alongside infrastructure configuration changes recorded for EC2 instances
- Configuration snapshots
  - Provides a point-in-time capture of all your resources and their configurations



## AWS Config – Features (2)

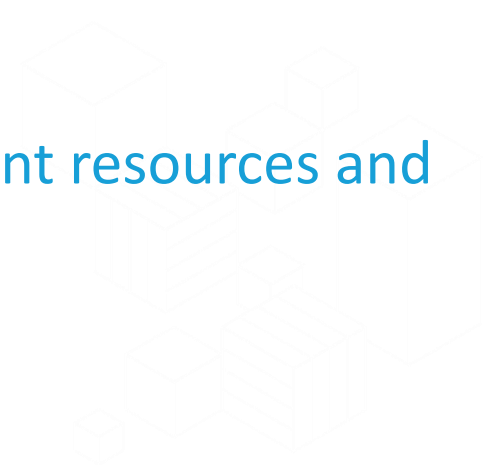
- Configurable and customizable rules
  - Assess your resource configurations and resource changes for compliance against built-in or custom rules and automate remediation of non-compliant resources 
  - Customize pre-built rules or create your own custom rules in AWS Lambda that define your internal best practices and guidelines for resource configurations 
- Resource relationship tracking
  - Discovers, maps, and tracks AWS resource relationships in your account
  - For example, if a new Amazon EC2 security group is associated with an Amazon EC2 instance, Config records the updated configurations of both the Amazon EC2 security group and the Amazon EC2 instance.





## AWS Config – Features (3)

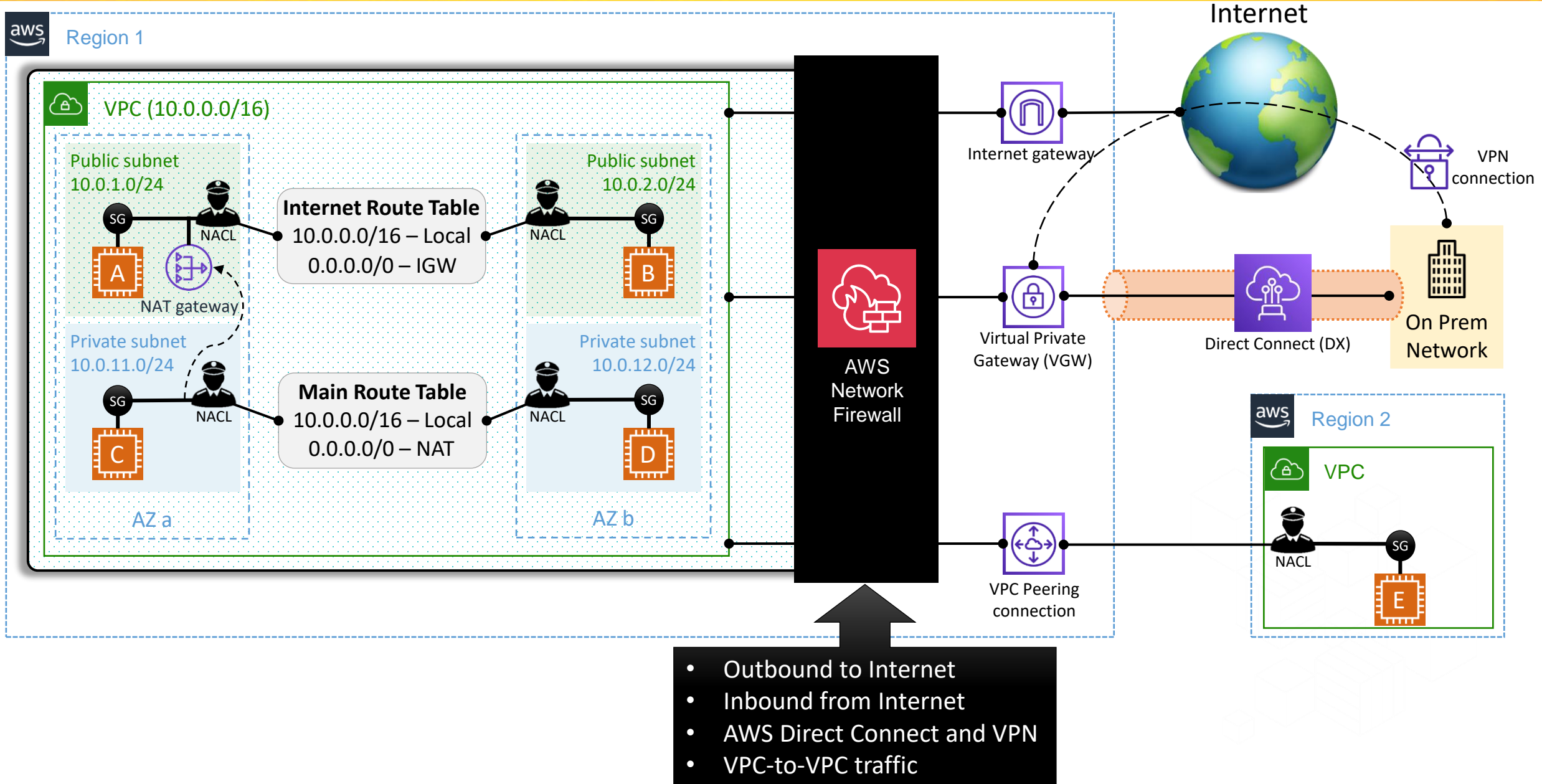
- Conformance packs
  - Packages a collection of AWS Config rules and remediation actions into a single entity and deploy it in a single account or across an entire organization.
- Multi-account, multi-region data aggregation
  - Enables centralized auditing and governance by providing an enterprise-wide view of your resources and Config rule compliance status
- Cloud governance dashboard
  - Provides a visual dashboard to help you quickly spot non-compliant resources and take appropriate action





## AWS Network Firewall

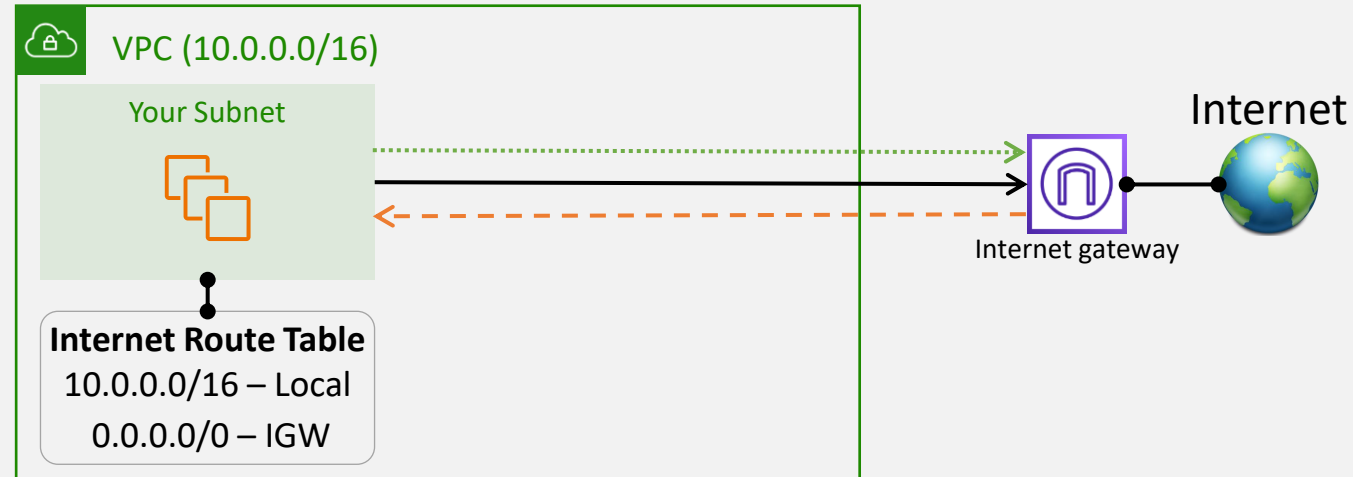
# AWS Network Firewall



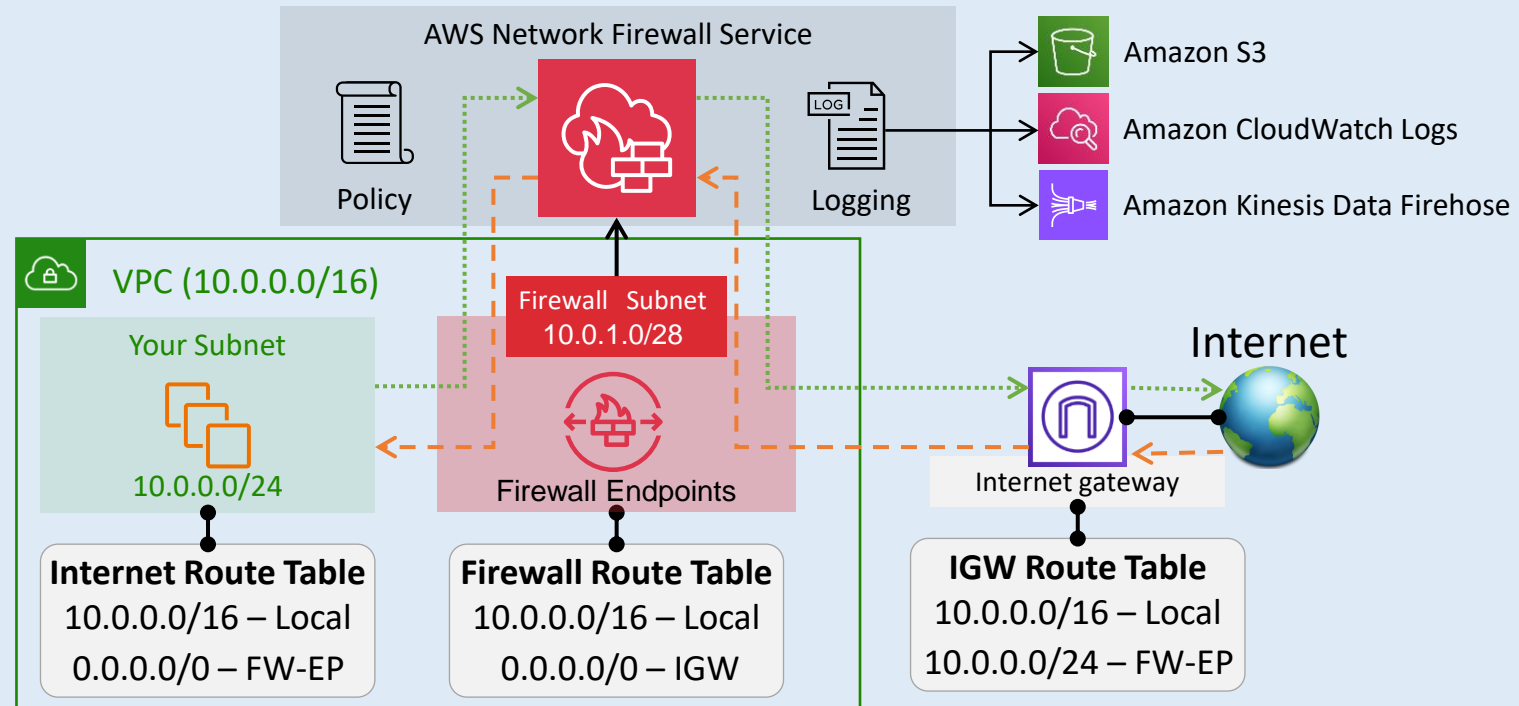


# With and Without AWS Network Firewall

## Without Network Firewall

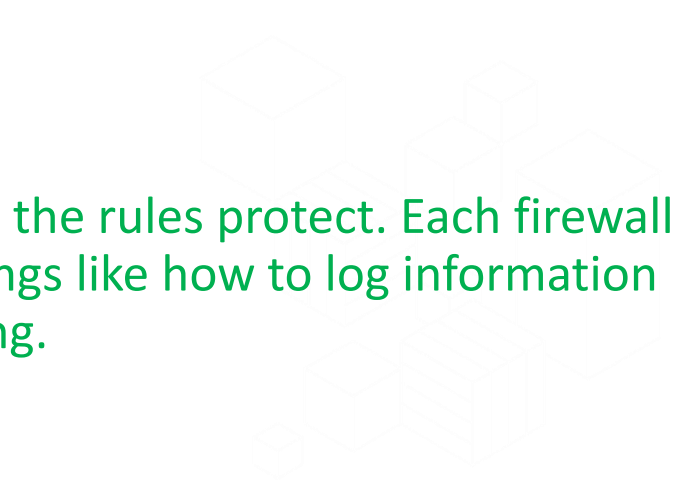


## With Network Firewall



# AWS Network Firewall

- There are 3 key components of AWS Network Firewall.
  - Rule Groups
    - Holds a reusable collection of criteria for inspecting traffic and for handling packets and traffic flows that match the inspection criteria.
  - Policy
    - Defines a reusable set of stateless and stateful rule groups, along with some policy-level behavior settings.
  - Firewall
    - Enforces the inspection rules in the firewall policy to the VPC that the rules protect. Each firewall requires one firewall policy. The firewall additionally defines settings like how to log information about your network traffic and the firewall's stateful traffic filtering.



# AWS Network Firewall - Walkthrough

