Service Name

Amazon DevOps Guru

Service Overview

Amazon DevOps Guru is a fully managed operations service that uses machine learning to analyze operational data, application metrics, and events to identify deviations from normal operating patterns. It consolidates operational data from various sources including Amazon CloudWatch metrics, AWS Config, AWS CloudFormation, and AWS X-Ray to provide a single-console dashboard for analyzing anomalies. The service generates both reactive insights to address current issues and proactive insights to prevent future operational problems, automatically providing intelligent recommendations to help developers and operators enhance application performance and availability.

Key Use Cases

- Anomaly Detection: Identify unusual application behavior such as increased latency, error rates, and resource constraints that could lead to outages
- Proactive Issue Prevention: Generate proactive insights to predict and prevent future operational problems before they impact applications
- Automated Incident Response: Integrate with PagerDuty, AWS Systems Manager Incident Manager, and third-party tools to automate incident response workflows
- Multi-account Operations: Aggregate insights across multiple AWS accounts within an organization for centralized operations management
- Cost Reduction: Reduce operational overhead by automatically detecting issues and providing contextual recommendations to minimize debugging time

Features

- **ML-Powered Anomaly Detection**: Continuously analyzes metrics, logs, events, and traces to establish normal bounds for application behavior and detect deviations
- **Reactive and Proactive Insights**: Generates insights to address current issues and predict future problems with contextual recommendations
- **Multi-Account Insight Aggregation**: Enables centralized management of insights across multiple AWS accounts within an organization
- **Log Anomaly Detection**: Analyzes CloudWatch logs to identify anomalous patterns and provide recommendations
- **Third-Party Integrations**: Integrates with PagerDuty, Atlassian Opsgenie, ServiceNow, and other incident management tools
- **Automated Alert Configuration**: Automatically configures alarms and notifications through Amazon SNS and AWS Systems Manager

Value Proposition

Amazon DevOps Guru offers significant advantages over traditional monitoring solutions by leveraging machine learning trained on years of Amazon.com and AWS operational expertise. Unlike basic alerting systems, it provides intelligent insights with contextual recommendations, reducing false positives and debugging time:

- The service requires no additional software installation or complex configuration, offering one-click deployment
- It consolidates data from multiple AWS services into a single dashboard, eliminating the need to manage multiple monitoring tools
- The pay-per-use pricing model with no upfront commitments makes it cost-effective, while automated integration with incident management tools streamlines operations workflows

Service Integration

DevOps Guru deeply integrates with core AWS services to provide comprehensive operational insights. It analyzes Amazon CloudWatch metrics and logs, AWS Config configuration data, AWS CloudFormation stack information, and AWS X-Ray traces:

- The service automatically integrates with AWS Systems Manager to create OpsItems for incident management and uses Amazon EventBridge for event-driven workflows
- It leverages Amazon SNS for notifications and works with AWS CloudTrail for audit events
- Additional integrations include Amazon ECS, EKS, Elastic Beanstalk, Lambda, S3, DynamoDB, RDS, and API Gateway
- The service also supports AWS Organizations for multi-account management and AWS Backup for operational continuity

Onboarding and Offboarding

Getting started with DevOps Guru involves three simple steps with no complex setup required. First, customers sign up for an AWS account and ensure they have appropriate IAM permissions:

- Second, they enable DevOps Guru through the AWS Management Console, CLI, or API in supported regions
- Third, they specify resource coverage by choosing to analyze all resources in their account, specific CloudFormation stacks, or resources with particular tags
- The service is fully managed and requires no software installation
- Customers can estimate costs using the AWS Pricing Calculator and begin receiving insights immediately after enabling the service

- The AWS Free Tier provides 7,200 hours of resource analysis per pricing group for three months

Getting Started Guide: https://docs.aws.amazon.com/devops-guru/latest/userguide/getting-started.html

Data Removal

To offboard from DevOps Guru and remove data, customers update their AWS analysis coverage to exclude resources from monitoring, effectively stopping new data collection and analysis. Existing insights and recommendations remain accessible through the console until manually deleted. Customers can disable the service entirely through the console or API, which stops all resource analysis and prevents new charges. All operational data analyzed by DevOps Guru is derived from existing AWS services and remains in those source services after offboarding.

Backup/Restore and Disaster Recovery

DevOps Guru itself does not provide backup and disaster recovery capabilities as it is a monitoring and analysis service. The service analyzes operational data from other AWS services but does not store application data requiring backup. DevOps Guru's insights and recommendations are ephemeral operational intelligence. For disaster recovery, customers should implement appropriate backup strategies for the underlying AWS resources that DevOps Guru monitors, such as using AWS Backup for supported services.

Backup Capabilities

DevOps Guru does not have built-in backup capabilities and does not integrate with AWS Backup. The service focuses on operational analysis and insight generation rather than data preservation:

- It analyzes metrics, logs, and events from other AWS services without storing the underlying application data
- Customers must implement backup strategies for their monitored resources using appropriate AWS backup services

Disaster Recovery

DevOps Guru does not directly support disaster recovery scenarios and does not integrate with AWS Elastic Disaster Recovery. As a monitoring service, it provides operational insights that can help identify issues affecting disaster recovery preparedness. The service itself is regionally deployed, so customers should consider multi-region monitoring strategies for comprehensive operational visibility during disaster recovery scenarios.

Recovery Objectives

DevOps Guru helps customers meet RPO and RTO objectives indirectly by providing early detection of performance anomalies and potential issues that could impact recovery processes. The service's proactive insights can identify problems before they escalate into outages, potentially preventing the need for disaster recovery activation. By integrating with incident management tools, it can accelerate response times during operational issues, contributing to faster recovery.

Service Constraints

Service Quotas: https://docs.aws.amazon.com/devops-guru/latest/userguide/quotas.html

FAQ: https://aws.amazon.com/devops-guru/faqs/

Technical Requirements

Service Documentation: https://docs.aws.amazon.com/devops-guru/latest/userguide/welcome.html

User Guide: https://docs.aws.amazon.com/devops-guru/latest/userguide/welcome.html

API Reference: https://docs.aws.amazon.com/devops-guru/latest/APIReference/Welcome.html

Pricing Overview

Please see the AWS UK G Cloud 15 Pricing Document accompanying this service in the Digital Marketplace.

Public Pricing: https://aws.amazon.com/devops-guru/pricing/

Cost Optimization

DevOps Guru offers several unique cost optimization features including usage-based pricing with no upfront commitments or minimum fees. The service provides cost estimation tools to help customers understand expenses before enabling analysis:

- Customers pay only for active resources that produce metrics, events, or logs during each hour, not for idle resources
- The AWS Free Tier includes 7,200 hours of resource analysis per pricing group for three months
- By providing early detection of operational issues, the service can prevent costly outages and reduce the need for extensive troubleshooting resources, offering potential cost savings through improved operational efficiency

Savings Considerations

The primary cost savings from DevOps Guru come from reduced operational overhead and prevented outages rather than direct service cost reductions. The service can significantly decrease mean time to resolution (MTTR) by providing contextual insights and recommendations, reducing the need for manual investigation:

- Early detection of anomalies can prevent minor issues from escalating into costly production outages
- Integration with automated incident response tools reduces manual intervention requirements
- The machine learning-powered approach eliminates false positives common in traditional monitoring, reducing alert fatigue and operational costs
- Organizations can optimize their monitoring spend by using DevOps Guru's intelligent analysis instead of maintaining multiple separate monitoring tools