

Automating AWS Infrastructure with CodeRabbit

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Complexity in IaC

- Scaling AWS infrastructure introduces security and compliance risks.
- Manual IaC reviews are slow and inconsistent.
- Misconfigurations and policy drift increase operational overhead.
- Teams need faster, automated, and reliable validation.

Meet CodeRabbit!

- CodeRabbit automates code reviews, enforces standards, and accelerates delivery
- Supports application code, Infrastructure-as-Code (IaC), and configuration files across Terraform, CloudFormation, CDK, and more.
- Goes beyond static analysis with AI-driven feedback tailored to your repository's history, architecture, and best practices.
- Works with GitHub, GitLab, Bitbucket, and ADO pipelines



How CodeRabbit Reviews Work

1. CodeRabbit's AI engine analyzes pull requests to understand intent, context, and code relationships.
2. Tools Integration: Connects with security scanners, IaC validators, linters, and AWS policy tools
3. Learnings & Path Instructions: Learns from prior reviews, team feedback, and org-specific rules.
4. Verification Layer: Cross-validates suggested changes and enforces policies before merge

Seamless CI/CD Integration

- Integrates with major version control and CI/CD systems.
- Adds automated validation to every pipeline stage.
- Reduces manual review and accelerates deployment.
- Enables continuous feedback loops for IaC changes.

Automating AWS Infrastructure with CodeRabbit

- CodeRabbit brings AI to Infrastructure-as-Code (IaC) on AWS.
- Automates review, validation, and governance of infrastructure templates.
- Automates code and IaC reviews across Terraform, CloudFormation, and CDK.
- Learns from team feedback to deliver context-aware insights.
- Reduces review overhead and improves deployment reliability.



How It Works

- Scans infrastructure templates during code review.
- Detects issues before deployment.
- Provides precise, actionable feedback aligned with AWS best practices.
- Learns continuously from team patterns and feedback.

Built-In AWS Intelligence

- Enforces IAM least-privilege and tagging standards.
- Optimizes cost and resource utilization automatically.
- Aligns with compliance frameworks like CIS AWS Foundations Benchmark.
- Ensures consistency across AWS accounts and teams.



CodeRabbit

CodeRabbit + AWS CDK

- Integrates with CDK to review infrastructure-code written in familiar languages (TypeScript, Python, etc.).
- Identifies architecture issues, best-practice deviations and drift in CDK stacks before deployment.
- Embeds into pull requests and CI/CD workflows for real-time feedback on CDK logic and infra intent.
- Ensures governance and consistency across AWS accounts even when teams use expressive CDK constructs.



CodeRabbit

CodeRabbit + AWS CloudFormation

- Works with CloudFormation YAML/JSON templates to detect misconfigurations, insecure patterns and policy violations early.
- Automates review of template changes, ensuring changes to AWS stacks align with corporate and security standards.
- Integrates into PRs and pipelines so every template revision gets governance before being applied.
- Provides visibility and control over multi-account deployments and maintains consistency across AWS environments.

CodeRabbit + Terraform

- Integrates with Terraform workflows (including pull requests, plan files, and merge pipelines).
- Runs infrastructure-specific tools (e.g., Checkov for mis-configs, secret scanners, linters) to catch security gaps and best-practice violations.
- Analyzes Atlantis/plan output to validate proposed changes before apply.
- Delivers real-time feedback in PRs and CI/CD pipelines
- Ensures governance, cost-efficiency, and consistency across AWS accounts when using Terraform at scale with Terragrunt.



CodeRabbit

Learnings & Path Instructions

- CodeRabbit refines its recommendations over time by analyzing review patterns and team feedback.
- Records when deviations from best practices are intentional (e.g., exceptions for testing, temporary configs, or legacy compatibility).
- Associates each deviation with rationale tags or commit context, reducing false positives in future reviews.
- Updates its internal knowledge base to reflect organization-specific IaC or coding norms.

Pre-Merge Checks

- CodeRabbit's *Agentic Pre-Merge Checks* automatically validate pull requests against built-in and custom rules before merge.
- Built-in checks include docstring coverage, PR title format, PR description quality, and linked-issue assessment.
- Custom checks let you define natural-language instructions for organization-specific policies
- Enforcement modes: warning (flag issues), error (block merges) to ensure critical policies are not bypassed.

The Results

- 60–80% faster infrastructure review cycles.
- Fewer production misconfigurations and policy breaches.
- Greater DevOps productivity and confidence in releases.
- Consistent compliance and governance across AWS environments.

Why Teams Choose CodeRabbit

- Works with existing IaC workflows — no retraining needed.
- Scales across multiple AWS accounts and cloud teams.
- AI-driven governance ensures every change meets standards.
- Trusted by teams building reliable, compliant cloud infrastructure.

Thank You

