

Using AWS Lambda with CloudFront Lambda@Edge

Overview

Lambda@Edge is a feature of Amazon CloudFront that allows you to run AWS Lambda functions at AWS edge locations globally. This brings computation closer to users, reducing latency and enabling powerful serverless edge computing solutions.

CloudFront Trigger Points

- **Viewer Request:** Executes when CloudFront receives a request from a viewer
- **Origin Request:** Executes before CloudFront forwards request to origin
- **Origin Response:** Executes when CloudFront receives response from origin
- **Viewer Response:** Executes before CloudFront returns response to viewer

Common Use Cases

- **Content Personalization:** Tailor content based on location, device, or user preferences
- **A/B Testing:** Route users to different versions based on cookies
- **Authentication:** Validate tokens and enforce access controls
- **URL Rewriting:** Manipulate URLs and create user-friendly paths
- **Security Headers:** Add HSTS and other security headers
- **Image Optimization:** Compress and resize images on-the-fly
- **Bot Mitigation:** Detect and block malicious traffic at the edge

- **Custom Load Balancing:** Dynamic origin selection based on conditions

Lambda@Edge vs CloudFront Functions

- **CloudFront Functions:** Lightweight, ultra-low latency, simple tasks (header manipulation, basic auth)
- **Lambda@Edge:** More powerful, complex logic, external API calls, database queries, full request/response body access

Edge Computing Power: Lambda@Edge enables you to execute custom logic at AWS edge locations worldwide, providing millisecond latency improvements and enhanced user experiences without managing servers.