



# aws INNOVATE

MODERN APPLICATIONS EDITION

27 & 28 October 2021

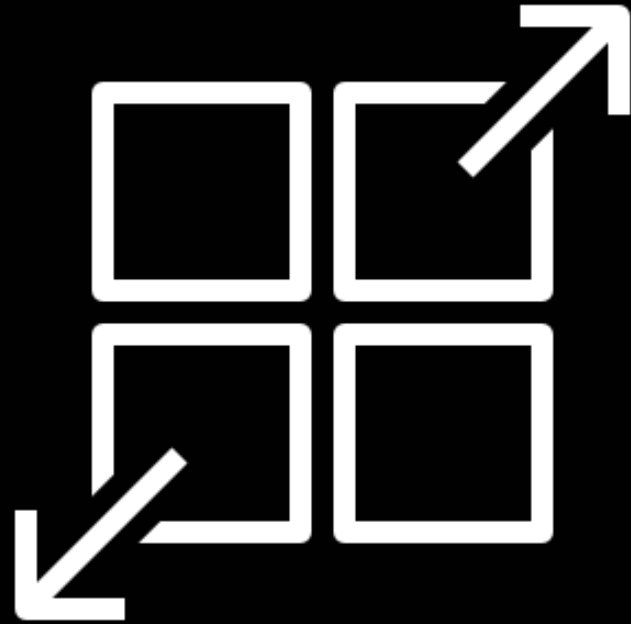
# **AWS App Runner: Deploy and run your web applications in minutes**

Paul Kukiel

Solutions Architect  
Amazon Web Services

# **What** **is AWS App Runner**

# What is AWS App Runner



AWS App Runner provides a **highly abstracted** and **simple managed** experience for running **web applications** and **APIs**

# Application properties

## 1. Web applications & API servers

- Applications that serve HTTP based requests

## 2. Multi-concurrent

- The application is long-running
- A single instance of the application may serve many requests during its lifetime
- Multiple requests maybe handled simultaneously

## 3. Stateless

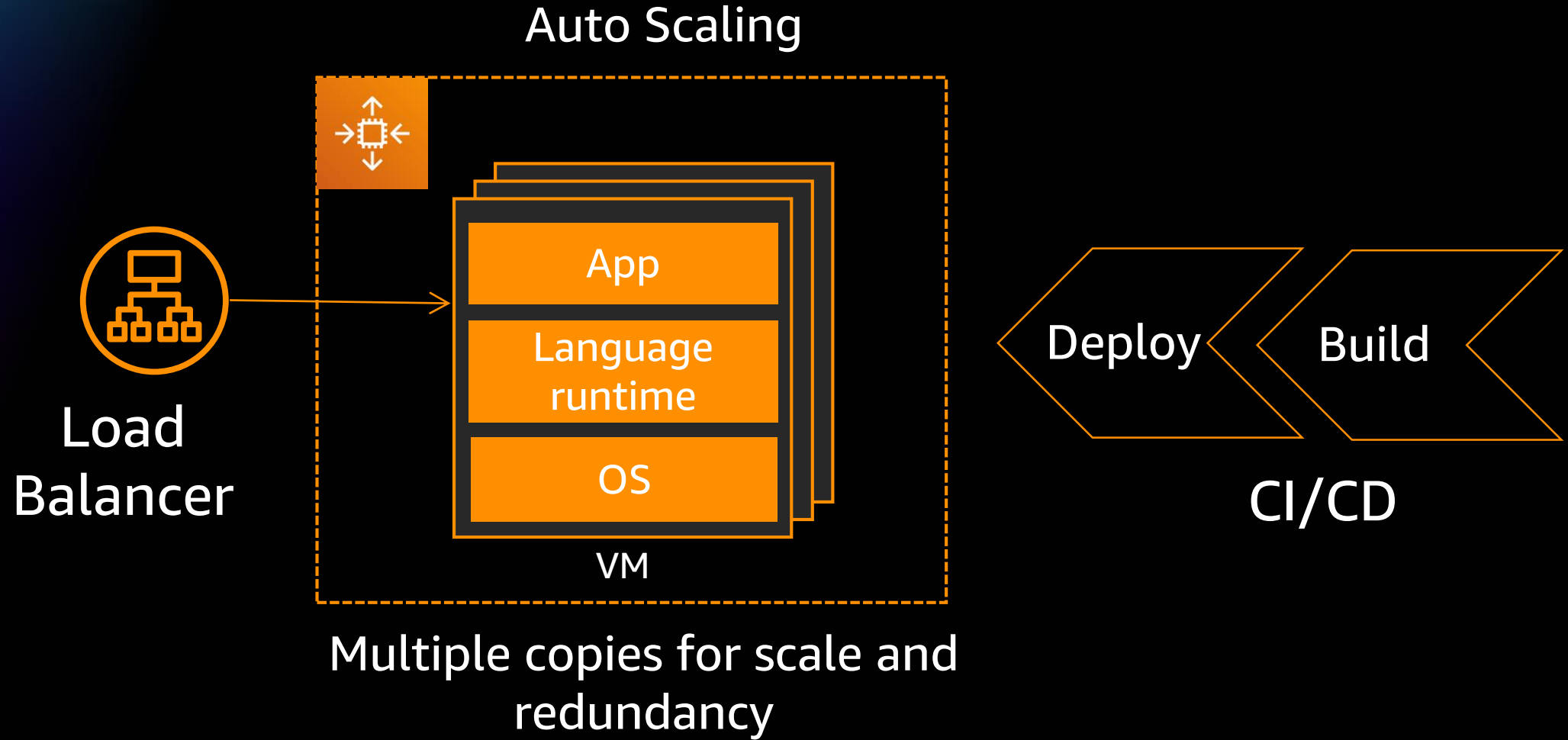
- Requests are processed independently and do not depend on local state
- State maybe stored external to the application instance (eg: an Amazon DynamoDB table)

## 4. No background processing

- Any processing outside the context of a request must be limited

# **Why** **we built AWS App Runner**

# Typical application architecture



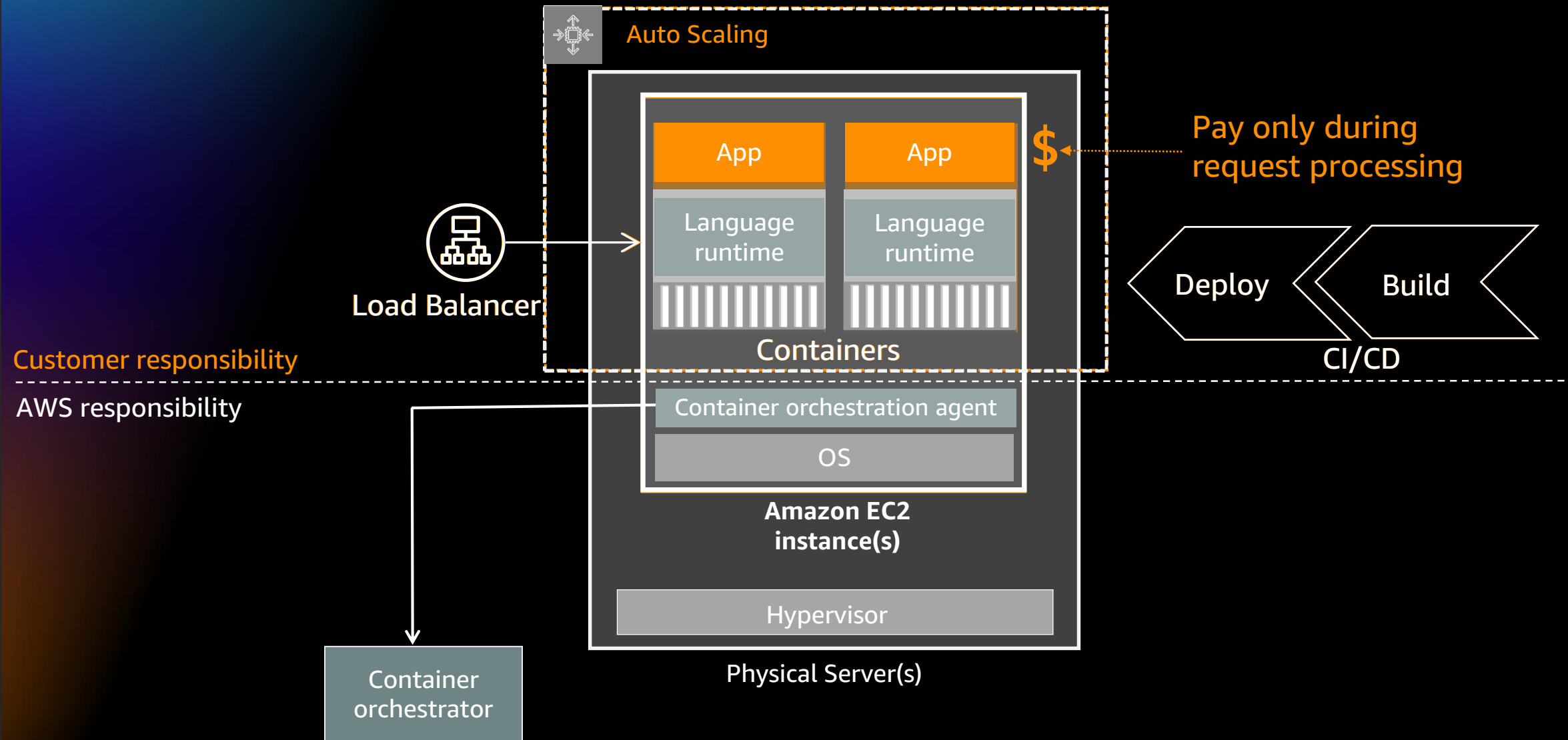
# Shared responsibility on AWS



Application security & operational stability is a shared responsibility  
between AWS and the customer

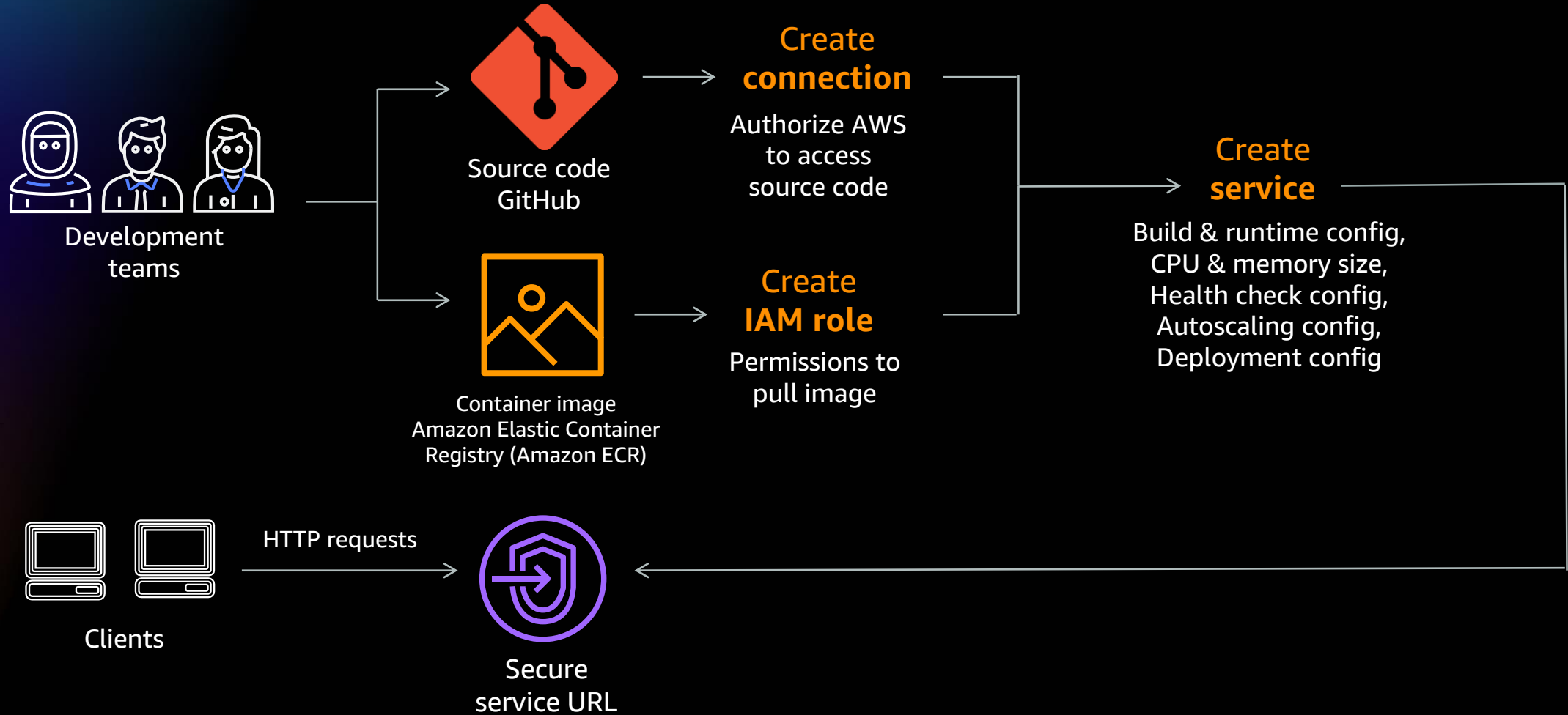


# Shared responsibility on AWS App Runner (released 2021)



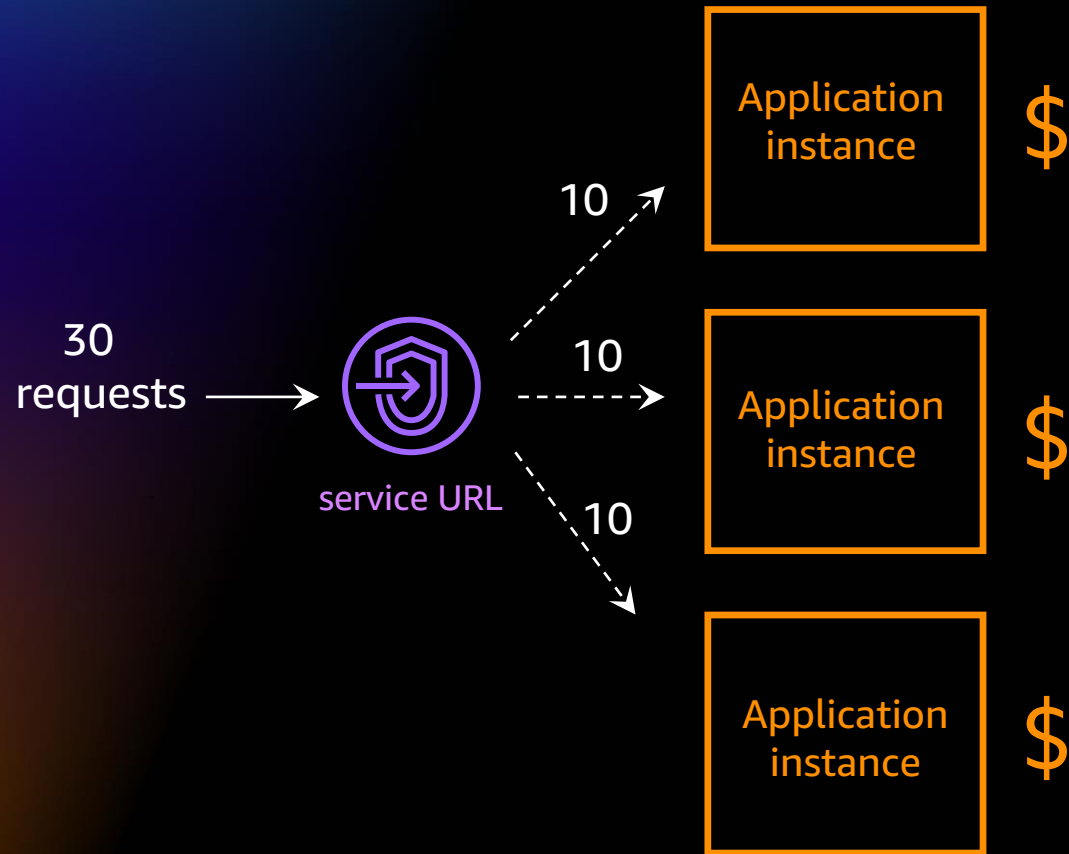
# **How** **to use AWS App Runner**

# Experience



# Setting concurrency

Concurrency = 10



**vs.**

Concurrency = 30



# Features

- **Autoscaling**
- **Deployments**
- **Observability**
- **Others**

# Autoscaling controls

## Max concurrency

- The maximum number of simultaneous requests a single application instance can handle

## Minimum provisioned instances

- Minimum provisioned instances to avoid cold start latencies

## Maximum instances

- Upper bound on the number of instances launched to control cost

# Features

- Autoscaling
- **Deployments**
- Observability
- Others

# Deployment features

- Auto deploy on GitHub code commit or Amazon ECR image push  
or
  - **StartDeployment** API to trigger a manual deployment
- 

- Blue-green deployment, no downtime
- 

- Automatic rollback if health-check fails



# Features

- Autoscaling
- Deployments
- **Observability**
- Others

# Logging

- Logs delivered to Amazon CloudWatch
- Three types of logs:

## Deployment logs

- Build output
- 

## Application logs

- Logs emitted by your web application
- 

## Event logs

- Log of lifecycle operations executed by AWS App Runner during service creation & deployments

# Metrics

- Metrics delivered to Amazon CloudWatch

## Request metrics

- Request count, latency, HTTP error codes
- 

## Active instances

- Number of application instances actively processing requests

# Events

## Service lifecycle events

- Service & deployment status change events
  - Delivered to Amazon EventBridge
  - Can be used to initiate rule-based automated actions in targets like AWS Lambda, Amazon Elastic Container Service (Amazon ECS) , Amazon Simple Notification Service (Amazon SNS), etc
- 

## API actions

- API calls logged to AWS CloudTrail for auditing

# Features

- Autoscaling
- Deployments
- Observability
- Others

# Other features

## Custom domain names

- Associate custom domain names with your service
  - AWS App Runner will create and manage certificates behind the scenes
- 

## Data encryption

- Source code and images pulled by AWS App Runner are encrypted at rest
  - Using AWS managed keys (default) or customer provided keys
- 

## Pause/resume service

- Services can be temporarily disabled using the pause/resume feature
- While paused, AWS App Runner reduces the instances behind the service to zero

# Demo

# Visit the Modern Applications Resource Hub for more resources

Dive deeper with these resources to help you develop an effective plan for your modernization journey.

- Build modern applications on AWS e-book
- Build mobile and web apps faster e-book
- Modernize today with containers on AWS e-book
- Adopting a modern Dev+Ops model e-book
- Modern apps need modern ops e-book
- Determining the total cost of ownership: Comparing Serverless and Server-based technologies paper
- Continuous learning, continuous modernization e-book
- ... and more!



<https://bit.ly/3yfOvbK>

**Visit resource hub »**



# AWS Training and Certification

Accelerate modernization with continuous learning



Free digital courses, including:  
[Architecting serverless solutions](#)  
[Getting started with DevOps on AWS](#)



Earn an industry-recognized credential:  
[AWS Certified Developer – Associate](#)  
[AWS Certified DevOps – Professional](#)



Hands-on classroom training  
(available virtually) including:  
[Running containers on Amazon Elastic  
Kubernetes Service \(Amazon EKS\)](#)  
[Advanced developing on AWS](#)



Create a self-paced learning roadmap  
[AWS ramp-up guide - Developer](#)  
[AWS ramp-up guide - DevOps](#)



Take [Developer](#)  
[and DevOps training](#)  
today



Learn more about  
[Modernization training](#) for you  
and your team

# Thank you for attending AWS Innovate Modern Applications Edition

We hope you found it interesting! A kind reminder to **complete the survey**.  
Let us know what you thought of today's event and how we can improve the event  
experience for you in the future.



[aws-apj-marketing@amazon.com](mailto:aws-apj-marketing@amazon.com)



[twitter.com/AWSCloud](https://twitter.com/AWSCloud)



[facebook.com/AmazonWebServices](https://facebook.com/AmazonWebServices)



[youtube.com/user/AmazonWebServices](https://youtube.com/user/AmazonWebServices)



[slideshare.net/AmazonWebServices](https://slideshare.net/AmazonWebServices)



[twitch.tv/aws](https://twitch.tv/aws)

# Thank you!