



# aws INNOVATE

MODERN APPLICATIONS EDITION

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# Modernizing Content Management Systems with Serverless Deployments

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Amazon Web Services



# Agenda

- Our example application
- Application requirements
- Why modernize?
- Why containers?
- Why serverless?
- Serverless benefits for deploying content management systems
- Demo
- Wrap-up

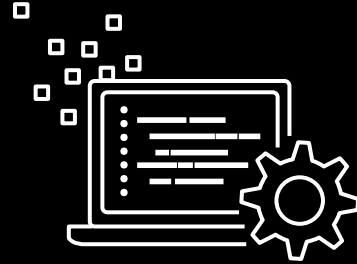
# Examples of applications that customers are modernizing



## Web serving and content management

Creation and modification of digital web content

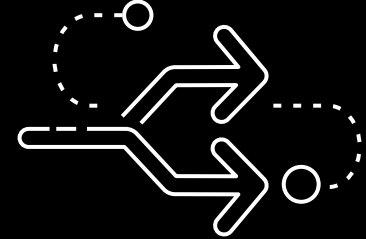
Applications include: WordPress, Drupal, Moodle, Confluence, OpenText



## Data Science and Analytics

Accelerate data insights and streamline ingestion, ML training, inference, and analysis

Tools include Airflow, TensorFlow, Informatica



## Simplify and centralize DevOps

CI/CD pipelines, source control, issue tracking, code repositories

Applications include Jenkins, Jira, Git, Chef, Maven

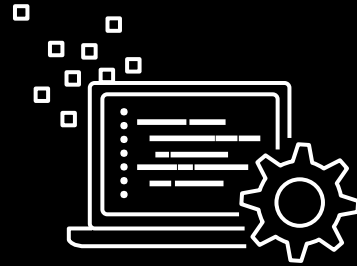
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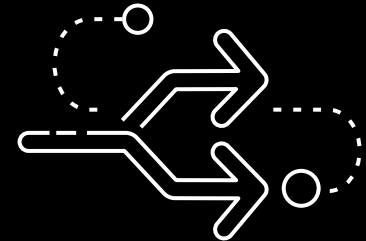
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# Why use a Content Management System (CMS)?

- Simplify the creation and modification of digital content
- No coding required
- Libraries of templates & plug-ins
- Powerful publishing tools
- Social media integration
- Built-in SEO tools
- Detailed analytics



# Content Management System requirements

Long running,  
stateful  
applications



- Always on data availability
- Concurrent access from anywhere, anytime
- Dynamic scale with no performance impact
- Shared plug-ins & themes across containers
- High aggregate throughput and IOPS

# Why modernize?

Speed



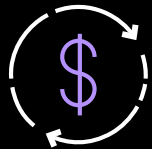
Consistent environment improves time-to-market

Agility



Automation simplifies testing and iterating

Simplicity



Reduce operational burden by removing undifferentiated heavy lifting

Security



Uniform security across the environment, maintained with automation



# All about containers!



App A	App B	App C
Bins/Libs	Bins/Libs	Bins/Libs
Guest OS	Guest OS	Guest OS
Hypervisor		
Host Operating System (OS)		
Server (Host)		

Virtual Machines

App A	App A	App B	App B	App C	App C
Bins/Libs	Bin/Libs				
Content Manager (e.g. Docker)					
Host Operating System (OS)					
Server (Host)					

Containers

# AWS Container Services



Amazon ECS

- A fully managed container orchestration service
- Application needs determine compute capacity, enabling focus on building & managing applications instead of infrastructure



Amazon EKS

- Enables the flexibility to start, run, and scale Kubernetes applications in the AWS cloud or on-premises
- Provides highly-available, secure clusters and automates key tasks such as patching, node provisioning, and updates

# AWS Container Services



AWS Fargate



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# AWS Fargate



AWS Fargate

Zero server management,  
maintenance, scaling

Scale independently

Improved security through  
workload isolation

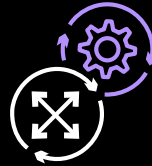
# Amazon Elastic File System (Amazon EFS)

Serverless shared  
storage



Serverless and scalable

Simple and highly  
reliable

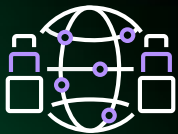


Elastic

Performant and  
cost-optimized



Performant



Full AWS compute integration

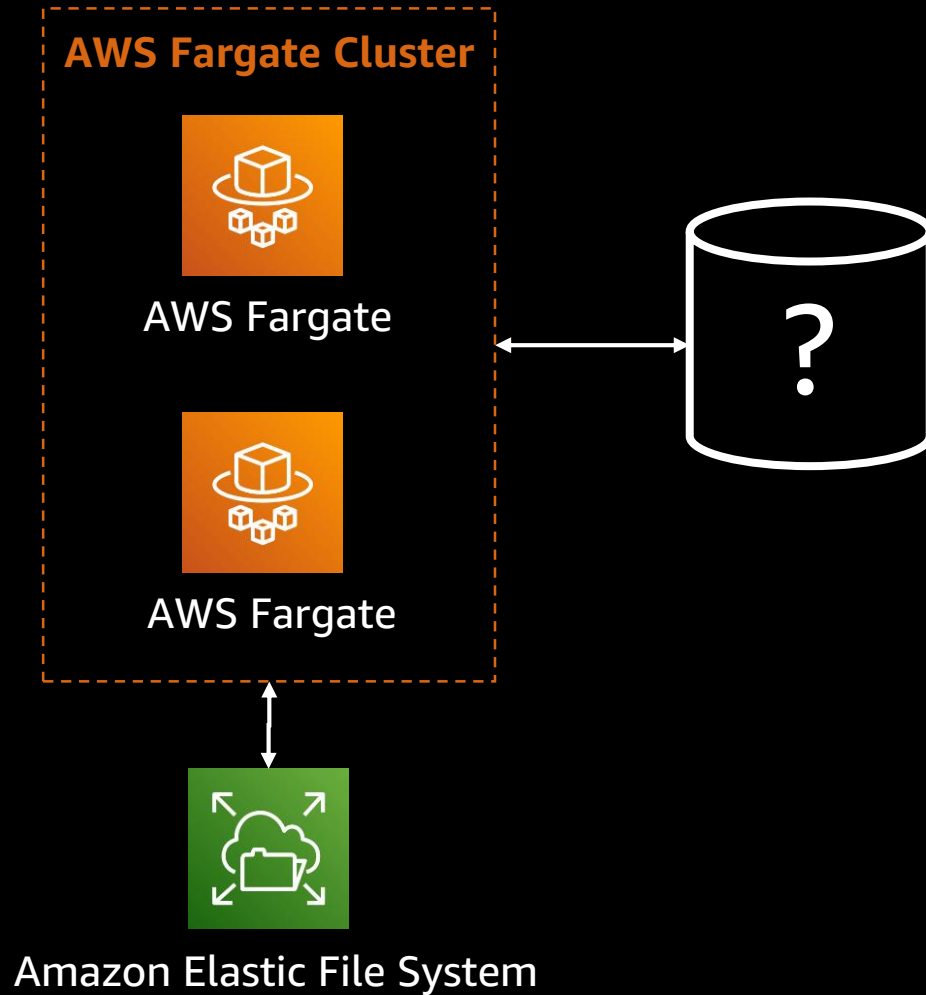


Highly durable and available

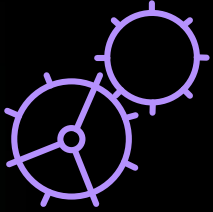


Four storage classes

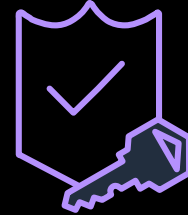
# Recap: Application modernization with containers



# Amazon Aurora



**High performance**



**Enterprise-class**



**No servers to manage**



**Built-in integration**

# Benefits of application modernization with containers, serverless, and Amazon EFS

## Simple

Fully serverless, no instances to manage; staff focus on applications, not infrastructure

## Available

Regional services enable applications to span multiple Availability Zones, with automatic failover



## Elastic

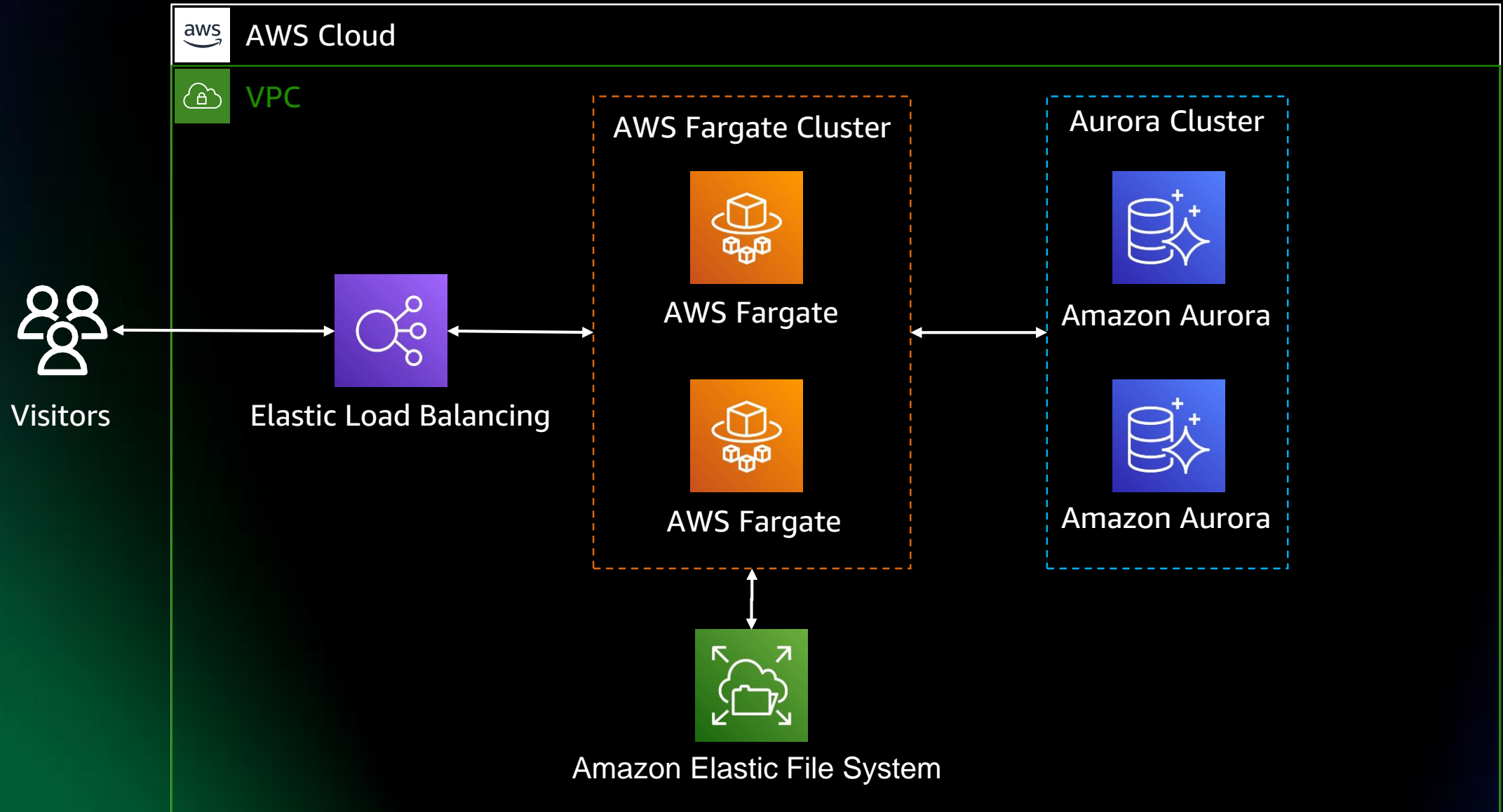
Scale up or down rapidly based on demand; pay only for what you use

## Secure

Restrict data access based on role; enable granular access when multiple applications share a file system



# Architecture

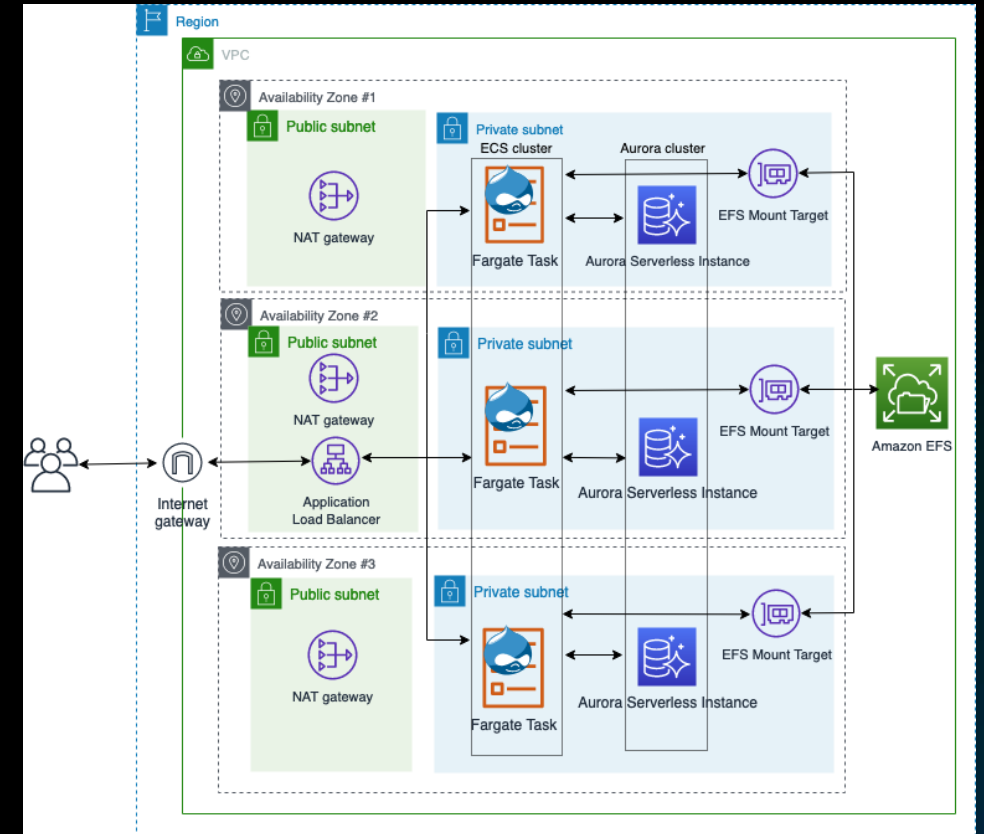


# Solution

<https://github.com/aws-samples/drupal-on-ecs-fargate>

## Deployment steps:

- Download the deployment template
- Log-in to the AWS Console
- Navigate to the AWS CloudFormation service
- Create a new stack using the template downloaded

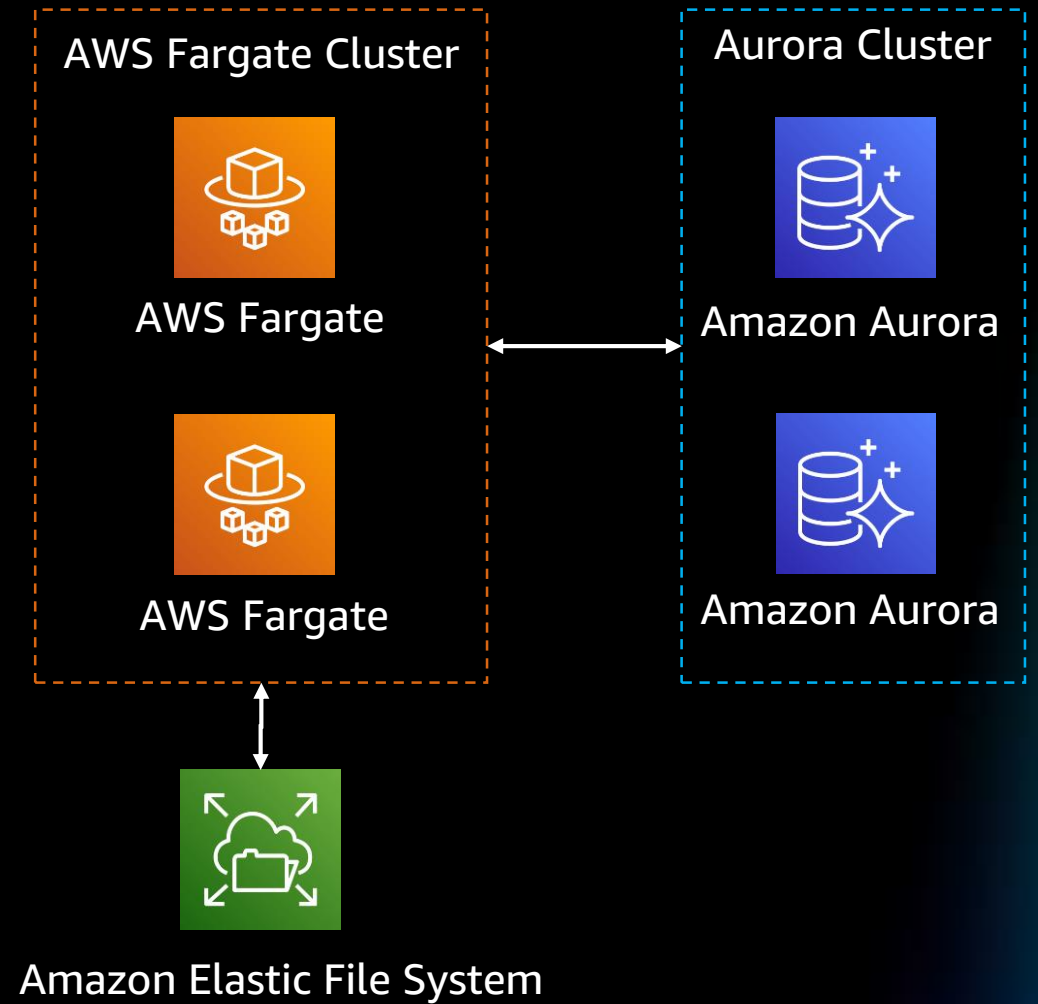


# Demo



# Takeaways

- Customers use CMSs to modernize digital web content platforms
- Serverless systems such as AWS Fargate, Amazon Aurora and Amazon EFS allows a focus on content as opposed to infrastructure
- Solution templates make these types of deployments simple



# Visit the Modern Applications resource hub

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

- Build modern applications on AWS
- Business value of cloud modernization
- An introduction to event-driven architectures
- Accelerate full-stack web and mobile app development
- Determining the total cost of ownership: Comparing serverless and server-based technologies
- Building event-driven architectures with AWS
- Continuous learning, continuous modernization



<https://tinyurl.com/modern-apps-aws>

Visit resource hub

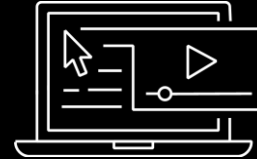


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# Thank you!