

How does Amazon build and operate software?



ALEX XU
APR 13, 2022



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How does Amazon build and operate software?

In 2019, Amazon released The Amazon Builders' Library. It contains architecture-based articles that describe how Amazon architects, releases, and operates technology.

As of today, it published 26 articles. It took me two weekends to go through all the articles. I've had great fun and learned a lot. Here are some of my favorites:

- ◆ Making retries safe with idempotent APIs
- ◆ Timeouts, retries, and backoff with jitter
- ◆ Beyond five 9s: Lessons from our highest available data planes
- ◆ Caching challenges and strategies
- ◆ Ensuring rollback safety during deployments
- ◆ Going faster with continuous delivery
- ◆ Challenges with distributed systems
- ◆ Amazon's approach to high-availability deployment

LEVEL 400





Workload isolation using shuffle-sharding

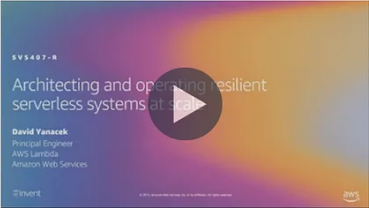
Author: Colm MacCarthaigh

Shuffle Sharding is one of our core techniques for drastically limiting the scope of impact of operational issues.

[PDF](#) | [Kindle](#)


LEVEL 400




Architecting and operating resilient serverless...

Author: David Yanacek

In this video, we cover what AWS does to build reliable and resilient services, including avoiding modes and overload, performing bounded work, throttling at multiple layers, guarding concurrency,



LEVEL 300





Caching challenges and strategies

Authors: Matt Brinkley, Jas Chhabra

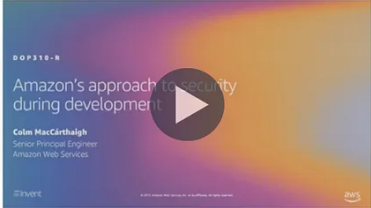
Improving latency and availability with caching while avoiding the modal behavior they can introduce.

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ARCHITECTURE

LEVEL 300




Amazon's approach to security during...

Author: Colm MacCarthaigh

In this video, learn about how AWS teams both minimize security risks in

ARCHITECTURE

LEVEL 400




Avoiding insurmountable queue backlogs

Author: David Yanacek

Prioritizing draining important

SOFTWARE DELIVERY AND OPERATIONS

LEVEL 400



Implementing health checks


Author: David Yanacek

Automatically detecting and mitigating



    

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