Software Development: DevOps

Software Development Engineer

DevOps is the combination of ==cultural philosophies, practices, and tools== that increases an organization's ability to ==deliver applications and services at high velocity:== evolving and improving products at a faster pace than organizations using traditional software development and infrastructure management processes. This speed enables organizations to better serve their customers and compete more effectively in the market.

See how **this customer (https://aws.amazon.com/solutions/case-studies/lululemon-athletica/)** is utilizing DevOps in the AWS Cloud.

DevOps and AWS (https://aws.amazon.com/devops)

What is DevOps? (https://aws.amazon.com/devops/is-devops)

Continuous Integration

Continuous integration (https://aws.amazon.com/devops/continuous-integration/) is a DevOps software development practice where developers regularly merge their code changes into a central repository, after which automated builds and tests are run. Continuous integration most often refers to the build or integration stage of the software release process and entails both an automation component (e.g. a CI or build service) and a cultural component (e.g. learning to integrate frequently). The key goals of continuous integration are to find and address bugs quicker, improve software quality, and reduce the time it takes to validate and release new software updates.

Continuous Delivery

Continuous delivery (https://aws.amazon.com/devops/continuous-delivery) is a DevOps software development practice where code changes are automatically built, tested, and prepared for a release to production. It expands upon continuous integration by deploying all code changes to a testing environment and/or a production environment after the build stage. When continuous delivery is implemented properly, developers will always have a deployment-ready build artifact that has passed through a standardized test process.
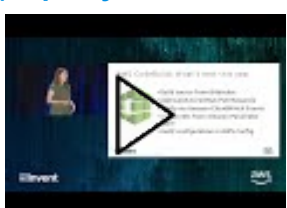
Continuous delivery lets developers automate testing beyond just unit tests so they can verify application updates across multiple dimensions before deploying to customers. These tests may include UI testing, load testing, integration testing, API reliability testing, etc. This helps developers more thoroughly validate updates and pre-emptively discover issues. With the cloud, it is easy and cost-effective to automate the creation and replication of multiple environments for testing, which was previously difficult to do on-premises.

See the resources below to learn more about DevOps and Continuous Delivery/Continuous Integration in the Cloud.

VIDEO RESOURCES:

Continuous Integration Best Practices for Software Development (https://youtu.be/GEPJ7Lo346A)

Building a CICD Pipeline for Container Deployment to Amazon ECS (https://youtu.be/9lJwlOh0B2s)

DevOps on AWS (https://youtu.be/652Wf1KKedk)

(https://youtu.be/GEPJ7Lo346A)

(https://youtu.be/9lJwlOh0B2s)

(https://youtu.be/652Wf1KKedk)

DevOps Culture at Amazon (https://youtu.be/mBU3AJ3j1rg)
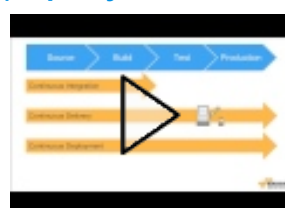
Explore DevOps on AWS (https://youtu.be/071rB05Oj9g)
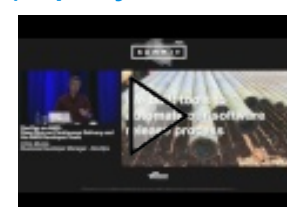
Accelerating DevOps Pipelines with AWS (https://youtu.be/7hxe_o6493s)

[(https://youtu.be/mBU3AJ3j1rg)](https://youtu.be/mBU3AJ3j1rg)

[(https://youtu.be/071rB05Oj9g)](https://youtu.be/071rB05Oj9g)

[(https://youtu.be/7hxe_o6493s)](https://youtu.be/7hxe_o6493s)

DEVELOPER TOOLS:

AWS Developer Tools ↗
[(https://aws.amazon.com/products/developer-tools)](https://aws.amazon.com/products/developer-tools)

DevOps at Amazon: A Look at Our Tools And Processes ↗
[(https://youtu.be/esEFaY0FDKc)](https://youtu.be/esEFaY0FDKc)

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CALL TO ACTION:

Developing on AWS ↗
[(https://aws.amazon.com/training/course-descriptions/developing)](https://aws.amazon.com/training/course-descriptions/developing)