

AWS re:Invent

NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

COP310-R

Automate operations management on AWS

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Agenda

Why should you automate your cloud operations

AWS services for cloud operations automation

Workshop instructions

“Managing systems at scale requires a very different mindset to ensure that we meet the reliability, performance, and scalability expectations of our customers.

A key mechanism to achieve this is to automate the management as much as possible, removing error-prone manual operations.”

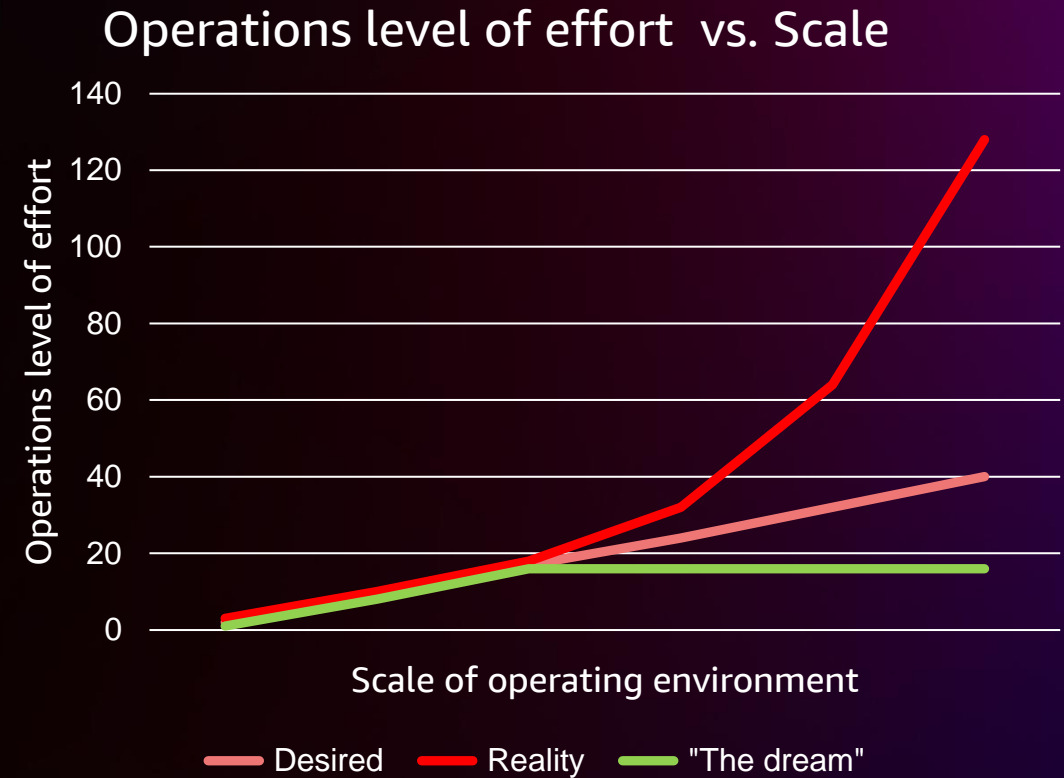
Dr. Werner Vogels

AWS CTO



Scale matters

- Linear scale is desirable, requires adding people as fast as resources
- Operational overhead grows faster than environments



Operations in cloud and hybrid environments



Manual processes don't scale



Multiple environments = multiple ops tools



Compliance can be complicated

**What if scale didn't create
additional overhead for
operations teams?**

Why AWS Cloud Operations?



Return on investment

241% ROI
over 3 years*



Staff productivity

62% more efficient
IT infrastructure staff



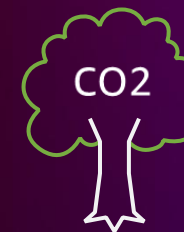
Operational resilience

57% decrease
in downtime



Business agility

37% decrease in
time to market

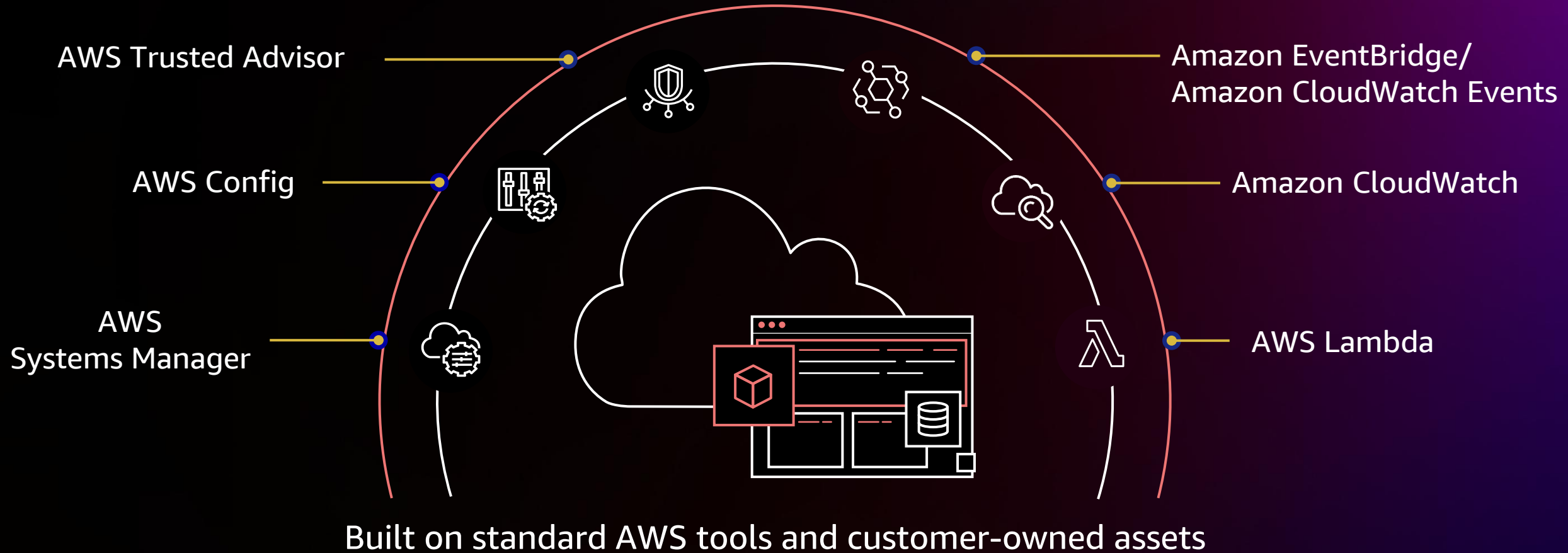


Carbon savings

88% reduction in
carbon footprint
of IT operations



AWS services for automation



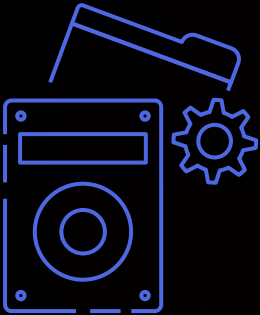
Workshop



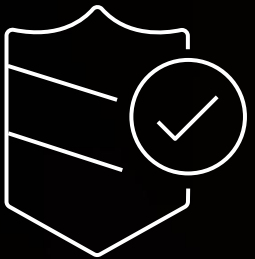
What will we automate today?



Disaster recovery agent deployment



Deletion of unused Amazon Elastic Block Store (Amazon EBS) volumes



Compliance monitoring and remediation

Disaster recovery configuration, deployment, and testing

- You will create an AWS Systems Manager document that allows us to push out the correct AWS Elastic Disaster Recovery (AWS DRS) agent, based on tags we will configure on Amazon EC2 instances
- Then you'll configure EC2 launch templates, in advance of our DR Drill
- Finally, we will launch a DR Drill, and validate the new EC2 instances have come online

Deletion of unused EBS volumes

- EBS volumes can be independent of EC2 compute instances
- If **Delete on Termination** option is not enabled at launch, the volumes will persist after the EC2 termination
- These orphaned EBS volumes accrue charges while unattached
- In the workshop, you will automate the identification of unused volumes and create OpsItems that will take snapshots of these volumes and delete them (Based on AWS blog: <https://aws.amazon.com/blogs/mt/controlling-your-aws-costs-by-deleting-unused-amazon-ebs-volumes/>)

Compliance monitoring and remediation

- AWS Config will be used to automatically detect resources that are out of compliance
- An OpsItem will be created for each of those resources in order to track details, record investigative actions, and access remediation actions
- In the workshop, you will define a config rule that automatically detects resources that misalign with their configuration and create an OpsItem that can be used to initiate actions on the resources
(Based on AWS blog: <https://aws.amazon.com/blogs/mt/using-aws-systems-manager-opscenter-and-aws-config-for-compliance-monitoring/>)

Getting started with these workshops

- As a participant, you will have access to an AWS account with any optional pre-provisioned infrastructure and IAM policies needed to complete this workshop.
- The AWS account will only be available for the duration of this workshop. You will lose access to the account thereafter.
- The optional pre-provisioned infrastructure will be deployed to a specific region – in this case us-west-2 (Oregon).
- Be sure to review the terms and conditions of the event. Do not upload any personal or confidential information to the account.

Step 1: Sign in via your preferred method

<https://s12d.com/COP310>



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Workshop Studio > Sign in

Sign in

Choose a preferred sign-in method

Email one-time password (OTP)

Enter your personal or corporate email to receive a one-time password

Login with Amazon

Login with your Amazon.com retail account

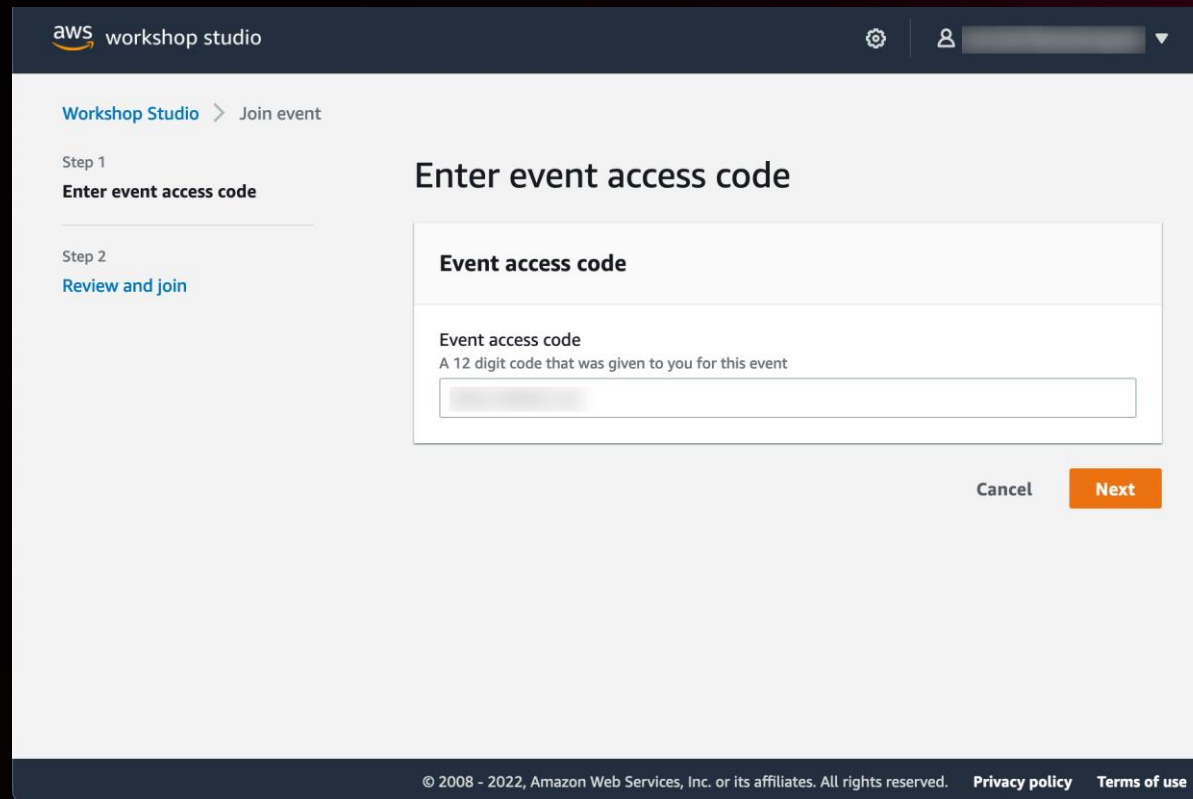
Amazon employee

Login with your Amazon Corporate account. Only for Amazon Employees.

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Step 2: Enter event access code

Enter the 12 digit event access code. If you were given a one-click join link, you can skip this step.



The screenshot shows the AWS Workshop Studio interface. At the top, there's a header with the AWS logo and 'workshop studio' text. Below the header, a breadcrumb trail shows 'Workshop Studio > Join event'. The main content area is titled 'Enter event access code'. On the left, a sidebar indicates 'Step 1: Enter event access code' (current step) and 'Step 2: Review and join'. The main form area has a title 'Event access code' and a description 'Event access code: A 12 digit code that was given to you for this event'. Below this is a text input field. At the bottom right of the form, there are 'Cancel' and 'Next' buttons. The footer contains copyright information: '© 2008 - 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.' and links to 'Privacy policy' and 'Terms of use'.

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Workshop Studio > Join event

Step 1
Enter event access code

Step 2
[Review and join](#)

Enter event access code

Event access code




Event access code
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Step 3: Review terms and join event

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Workshop Studio > Join event

Step 1

[Enter event access code](#)

Step 2

Review and join

Review and join

Event details

Name	Start time	Duration	Level
AWS General Immersion Day	9/23/2022 01:13 AM	12 hours	-

Description

AWS General Immersion Day

Terms and Conditions

Read and accept before joining the event

1. By using AWS Workshop Studio for the relevant event, you agree to the AWS Event Terms and Conditions and the AWS Acceptable Use Policy. You acknowledge and agree that are using an AWS-owned account that you can only access for the duration of the relevant event. If you find residual resources or materials in the AWS-owned account, you will make us aware and cease use of the account. AWS reserves the right to terminate the account and delete the contents at any time.

2. You will not: (a) process or run any operation on any data other than test data sets or lab-approved materials by AWS, and (b) copy, import, export or otherwise create derivate works of materials provided by AWS, including but not limited to, data sets.

3. AWS is under no obligation to enable the transmission of your materials through Event Engine and may, in its discretion, edit, block, refuse to post, or remove your materials at any time.

4. Your use of AWS Workshop Studio will comply with these terms and all applicable laws, and your access to AWS Workshop Studio will immediately and automatically terminate if you do not comply with any of these terms or conditions.

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Previous

Join event

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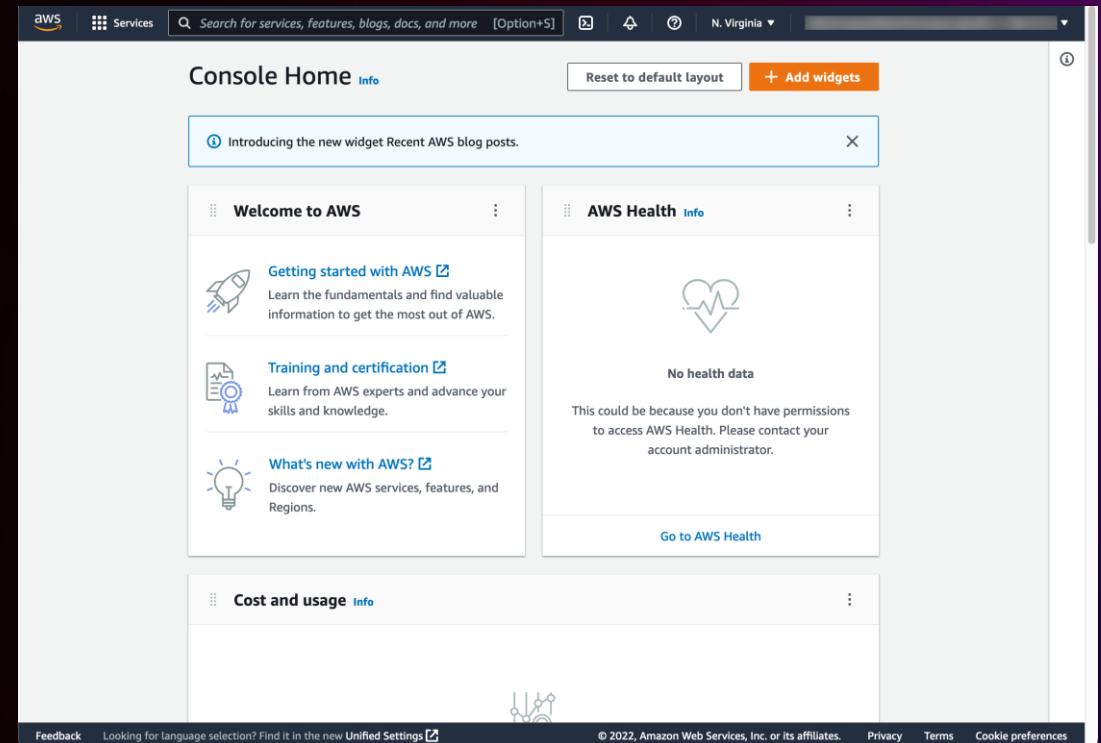
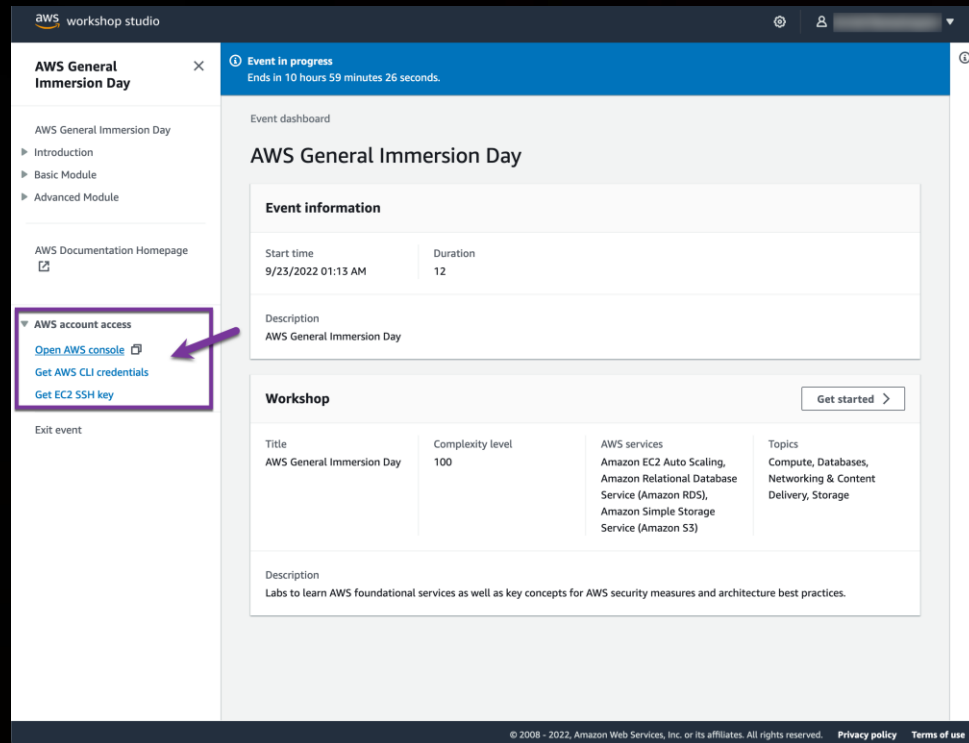
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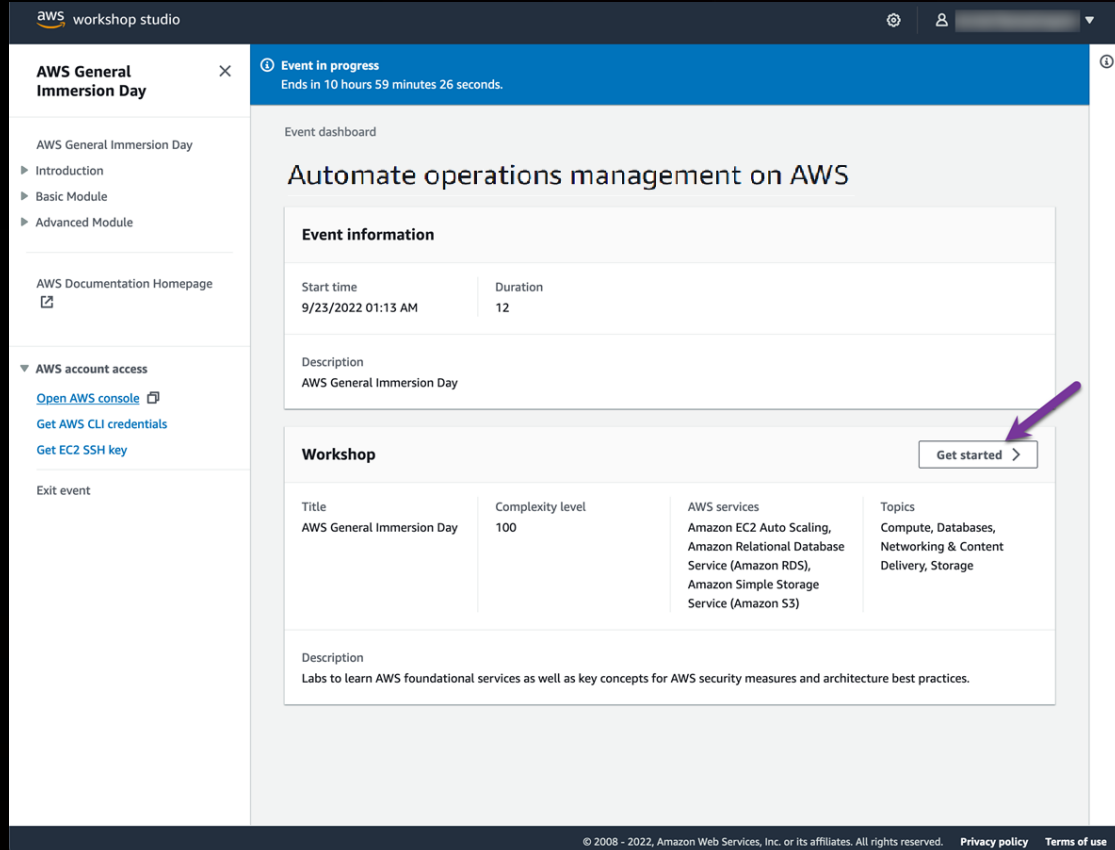
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Step 4: Access AWS account

Access the AWS console, or generate AWS CLI credentials as needed



Step 5: Get started with the workshop



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Event in progress
Ends in 10 hours 59 minutes 26 seconds.

Event dashboard

Automate operations management on AWS

Event information

Start time	Duration
9/23/2022 01:13 AM	12

Description
AWS General Immersion Day

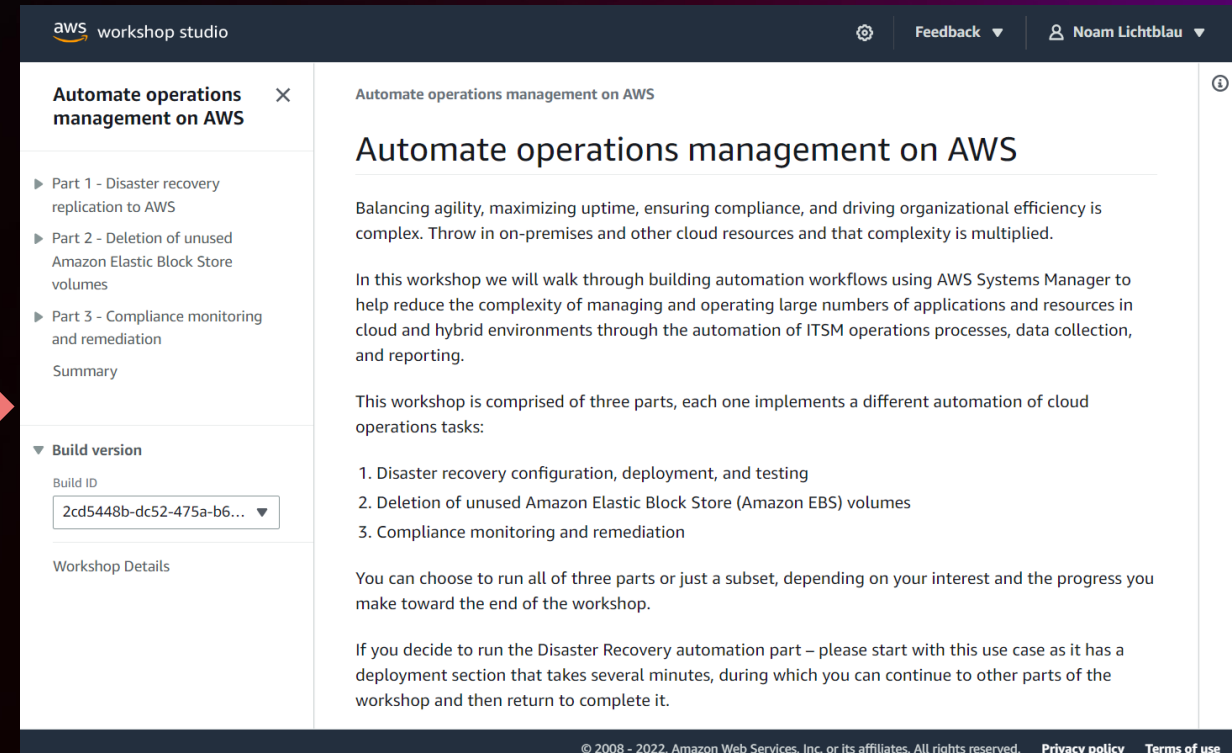
Workshop

Title	Complexity level	AWS services	Topics
AWS General Immersion Day	100	Amazon EC2 Auto Scaling, Amazon Relational Database Service (Amazon RDS), Amazon Simple Storage Service (Amazon S3)	Compute, Databases, Networking & Content Delivery, Storage

Description
Labs to learn AWS foundational services as well as key concepts for AWS security measures and architecture best practices.

Get started >

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Feedback Noam Lichtblau

Automate operations management on AWS

Automate operations management on AWS

Balancing agility, maximizing uptime, ensuring compliance, and driving organizational efficiency is complex. Throw in on-premises and other cloud resources and that complexity is multiplied.

In this workshop we will walk through building automation workflows using AWS Systems Manager to help reduce the complexity of managing and operating large numbers of applications and resources in cloud and hybrid environments through the automation of ITSM operations processes, data collection, and reporting.

This workshop is comprised of three parts, each one implements a different automation of cloud operations tasks:

1. Disaster recovery configuration, deployment, and testing
2. Deletion of unused Amazon Elastic Block Store (Amazon EBS) volumes
3. Compliance monitoring and remediation

You can choose to run all of three parts or just a subset, depending on your interest and the progress you make toward the end of the workshop.

If you decide to run the Disaster Recovery automation part – please start with this use case as it has a deployment section that takes several minutes, during which you can continue to other parts of the workshop and then return to complete it.

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Event Link : <https://s12d.com/COP310>

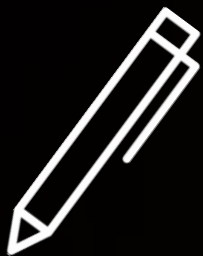
Event Code : 21c3-08e335-90



Your journey to operating at cloud scale

Get started with AWS Cloud Operations

Set up



Establish a secure foundation for governance and compliance

Build and migrate



Migrate applications to the cloud, or build new applications

Operate



Simplify ops management with an integrated experience to manage and monitor resources and apps to detect and remediate risks quickly

Want to see more AWS Cloud Operations?

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Thank you!

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