

AWS re:Invent

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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

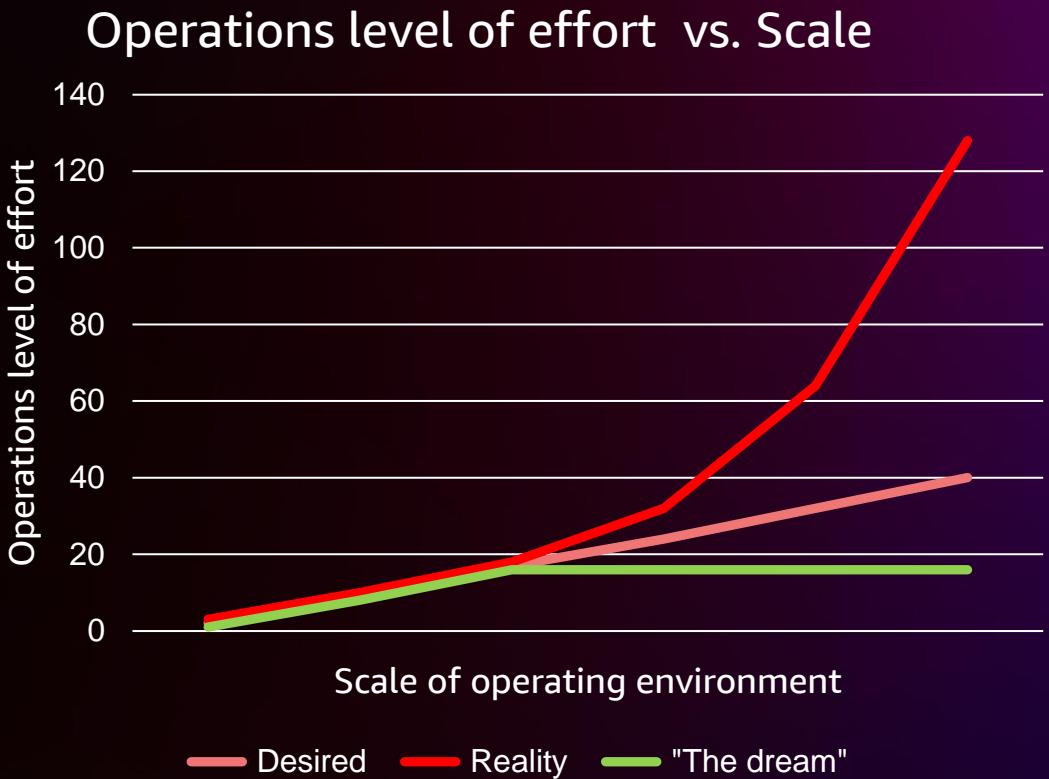
“ Managing systems at scale requires a very different mindset to ensure that we meet the reliability, performance, and scalability expectations of our customers.

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

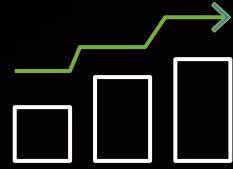
**What if scale didn't create
additional overhead for
operations teams?**

Why AWS Cloud Operations?



Return on investment

241% ROI
over 3 years*



Staff productivity

62% more efficient
IT infrastructure staff



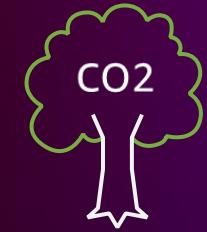
Operational resilience

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



Built on standard AWS tools and customer-owned assets

Workshop

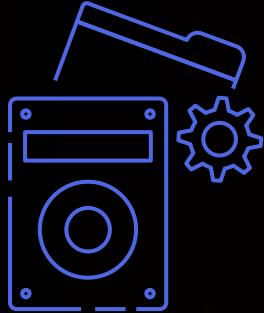


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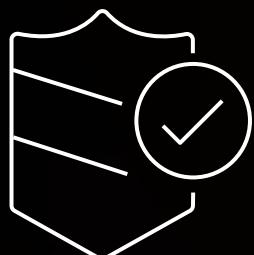
What will we automate today?



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

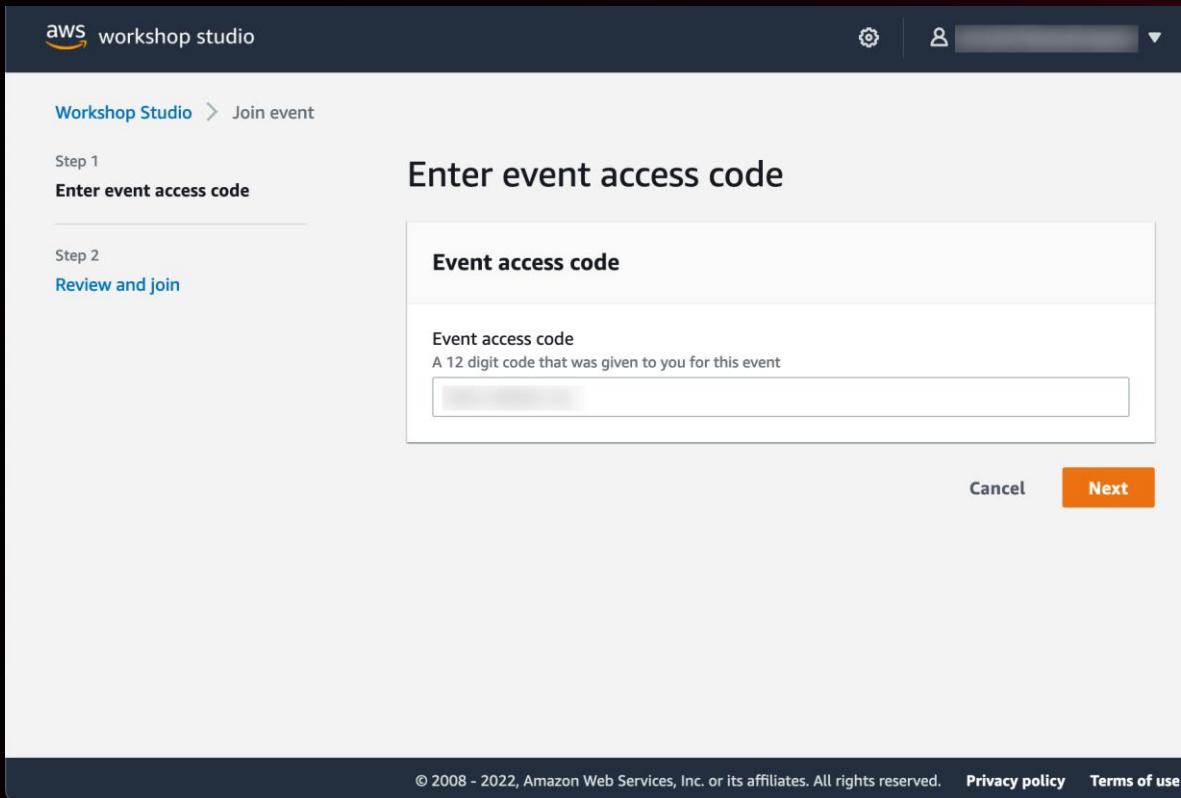
<https://s12d.com/COP310>



A screenshot of the AWS Workshop Studio sign-in page. The page has a dark header with the AWS logo and "workshop studio". Below the header, the text "Workshop Studio > Sign in" is displayed. The main content area is titled "Sign in" with the sub-instruction "Choose a preferred sign-in method". There are three sign-in options: 1) "Email one-time password (OTP)" (highlighted with an orange background), 2) "Login with Amazon" (with a sub-instruction "Login with your Amazon.com retail account"), and 3) "Amazon employee" (with a sub-instruction "Login with your Amazon Corporate account. Only for Amazon Employees."). At the bottom of the page, a dark footer bar contains the text "© 2008 - 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved." and links for "Privacy policy" and "Terms of use".

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.



Step 3: Review terms and join event

The screenshot shows the 'Review and join' step of the AWS Workshop Studio 'Join event' process. The interface is divided into two main sections: 'Event details' and 'Terms and Conditions'.

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 derivative 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.

I agree with the Terms and Conditions

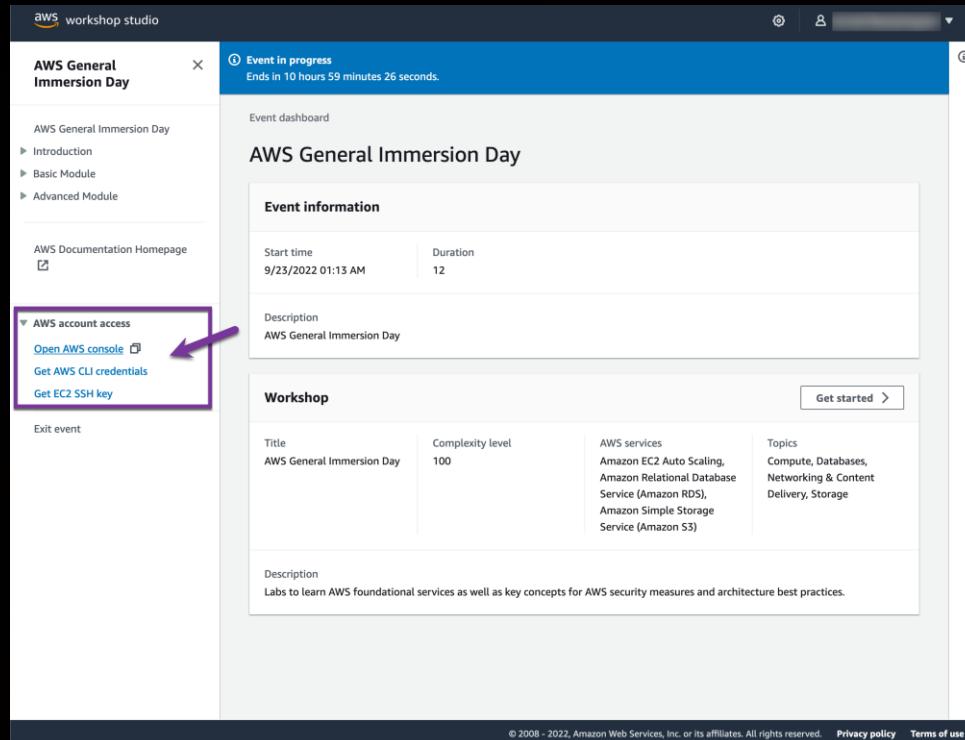
Cancel Previous **Join event**

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Step 4: Access AWS account

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



AWS General Immersion Day

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

Event dashboard

AWS General Immersion Day

Event information

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

Description
AWS General Immersion Day

Workshop

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

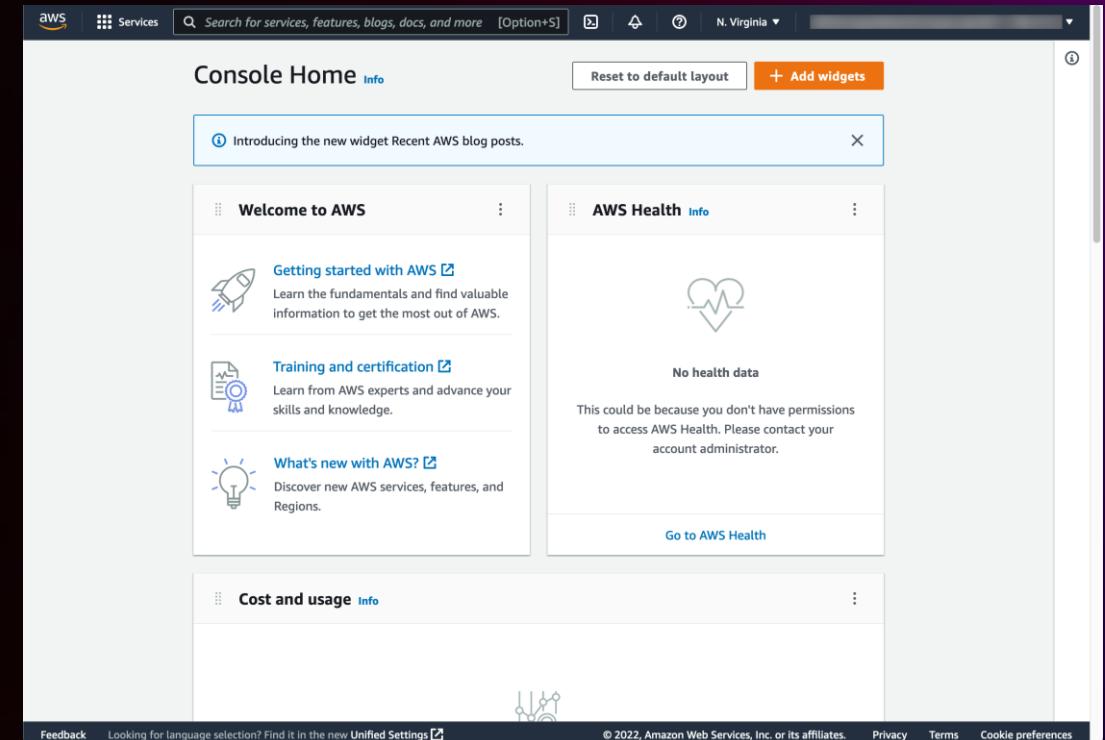
Description
Labs to learn AWS foundational services as well as key concepts for AWS security measures and architecture best practices.

AWS account access

- Open AWS console
- Get AWS CLI credentials
- Get EC2 SSH key

Exit event

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Console Home

Search for services, features, blogs, docs, and more [Option+S]

Reset to default layout + Add widgets

Welcome to AWS

Getting started with AWS  Learn the fundamentals and find valuable information to get the most out of AWS.

Training and certification  Learn from AWS experts and advance your skills and knowledge.

What's new with AWS?  Discover new AWS services, features, and Regions.

AWS Health

No health data

This could be because you don't have permissions to access AWS Health. Please contact your account administrator.

Go to AWS Health

Cost and usage

Feedback Looking for language selection? Find it in the new Unified Settings 

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Step 5: Get started with the workshop

The screenshot shows the AWS Workshop Studio interface. At the top, a blue header bar indicates an 'Event in progress' that ends in 10 hours 59 minutes 26 seconds. The main content area is titled 'Automate operations management on AWS'. It includes a 'Event information' section with start time (9/23/2022 01:13 AM) and duration (12). Below this is a 'Workshop' section with the following details:

| 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 |

The 'Workshop' section also contains a description: 'Labs to learn AWS foundational services as well as key concepts for AWS security measures and architecture best practices.' At the bottom of this section is a 'Get started >' button, which is highlighted with a purple arrow pointing to it from the left. A red arrow points from the 'Get started' button to the right side of the image, indicating the transition to the next step.

The screenshot shows the 'Automate operations management on AWS' workshop details page. The title is 'Automate operations management on AWS'. The page is divided into sections:

- Automate operations management on AWS**: Includes a list of three parts: 'Part 1 - Disaster recovery replication to AWS', 'Part 2 - Deletion of unused Amazon Elastic Block Store volumes', and 'Part 3 - Compliance monitoring and remediation'. There is also a 'Summary' link.
- Build version**: Shows a dropdown menu with the value '2cd5448b-dc52-475a-b6...'. Below it is a 'Workshop Details' section.
- Automate operations management on AWS**: Describes the workshop as balancing agility, maximizing uptime, ensuring compliance, and driving organizational efficiency. It states that the workshop 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.**

At the bottom of the page, there is a footer with the text: '© 2008 - 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy policy Terms of use'.

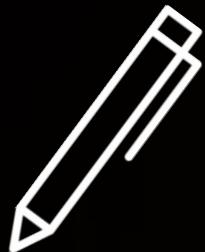
Event Link : <https://s12d.com/COP310>

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?

Please complete the
session survey
in the mobile app



Ask us anything at our
kiosks in the
AWS Village Expo



Find related sessions
in our re:Invent blog



Thank you!

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Please complete the session
survey in the **mobile app**