AWS
re:Invent
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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

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“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

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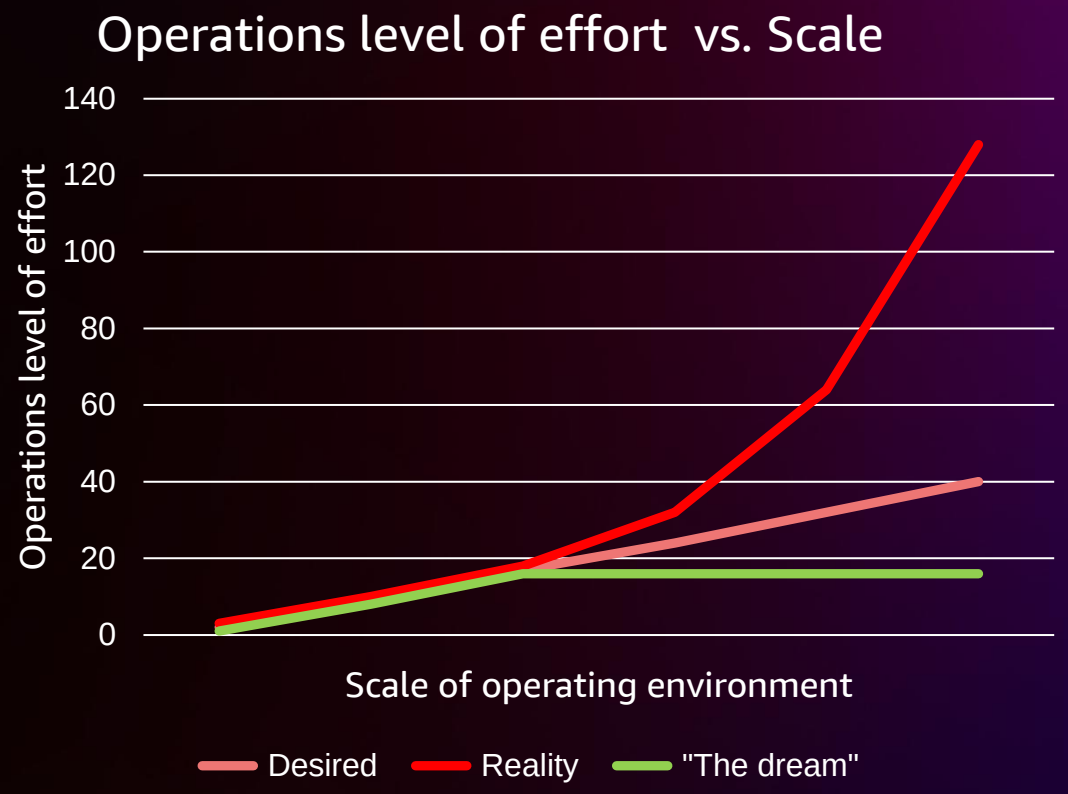
Scale matters

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



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Operations in cloud and hybrid environments

Manual processes don’t scale

Multiple environments = multiple ops tools

Compliance can be complicated

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

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Why AWS Cloud Operations?

Return on investment

241% ROI over 3 years*

Staff productivity

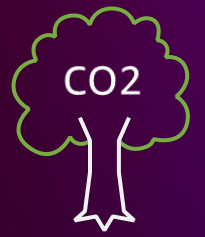
62% more efficient IT infrastructure staff

Operational resilience

57% decrease in downtime

Business agility

37% decrease in time to market



Carbon savings

88% reduction in carbon footprint of IT operations

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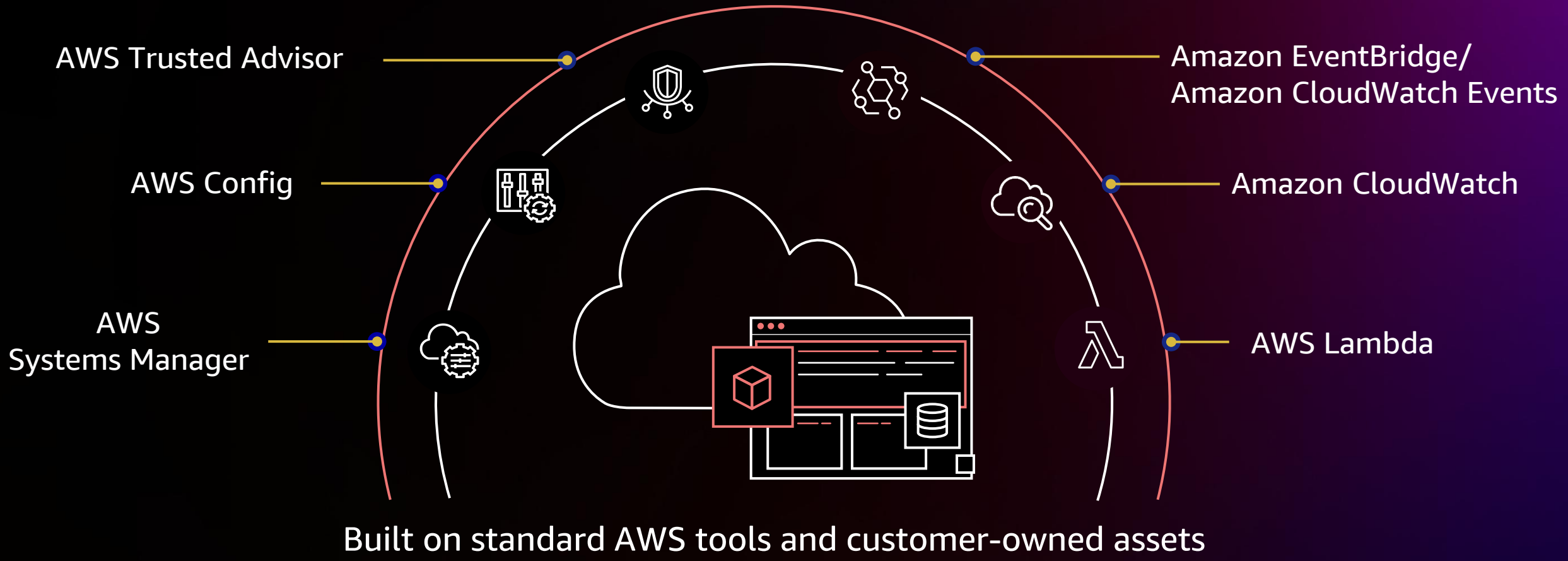
* Based on independent research of 1,500 AWS enterprise customers. Source: "The Total Economic Impact of AWS Cloud Operations: Cost Savings And Business Benefits Enabled By Operation on AWS." Commissioned study conducted by Forrester Consulting on behalf of AWS, May 2022.

AWS services for automation



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Workshop

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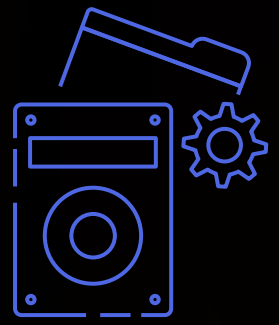
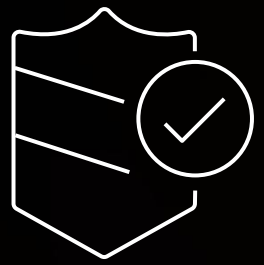
What will we automate today?

Disaster recovery agent deployment



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



Compliance monitoring and remediation

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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

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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 persists 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/)

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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/)

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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.

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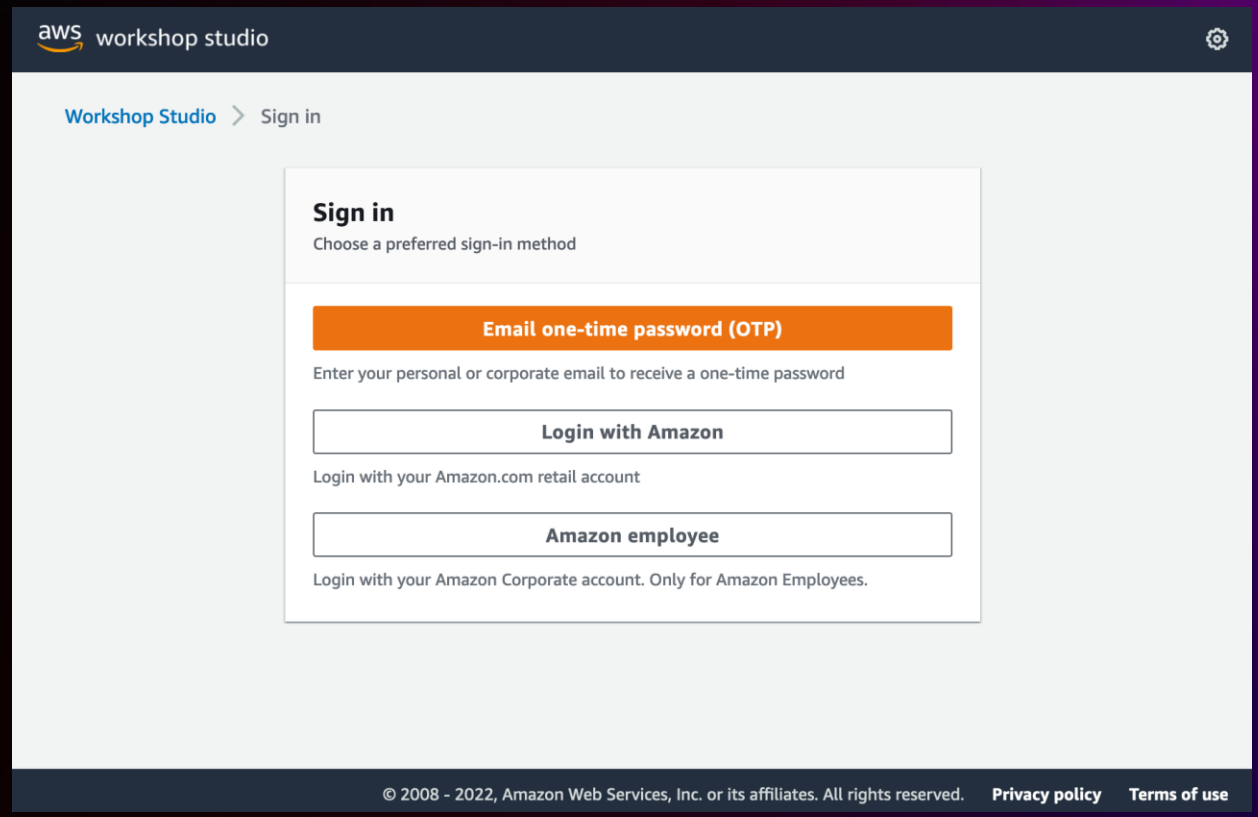
Step 1: Sign in via your preferred method

https://s12d.com/COP310



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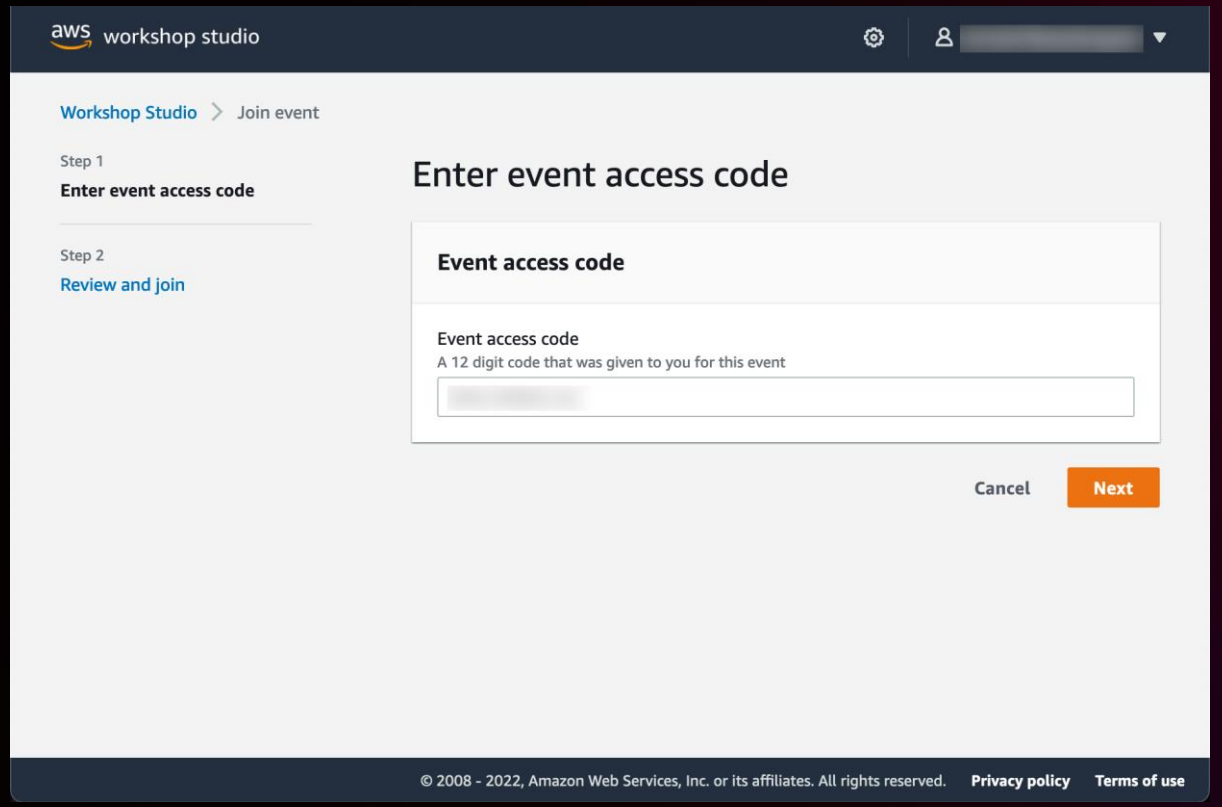
Step 2: Enter event access code

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



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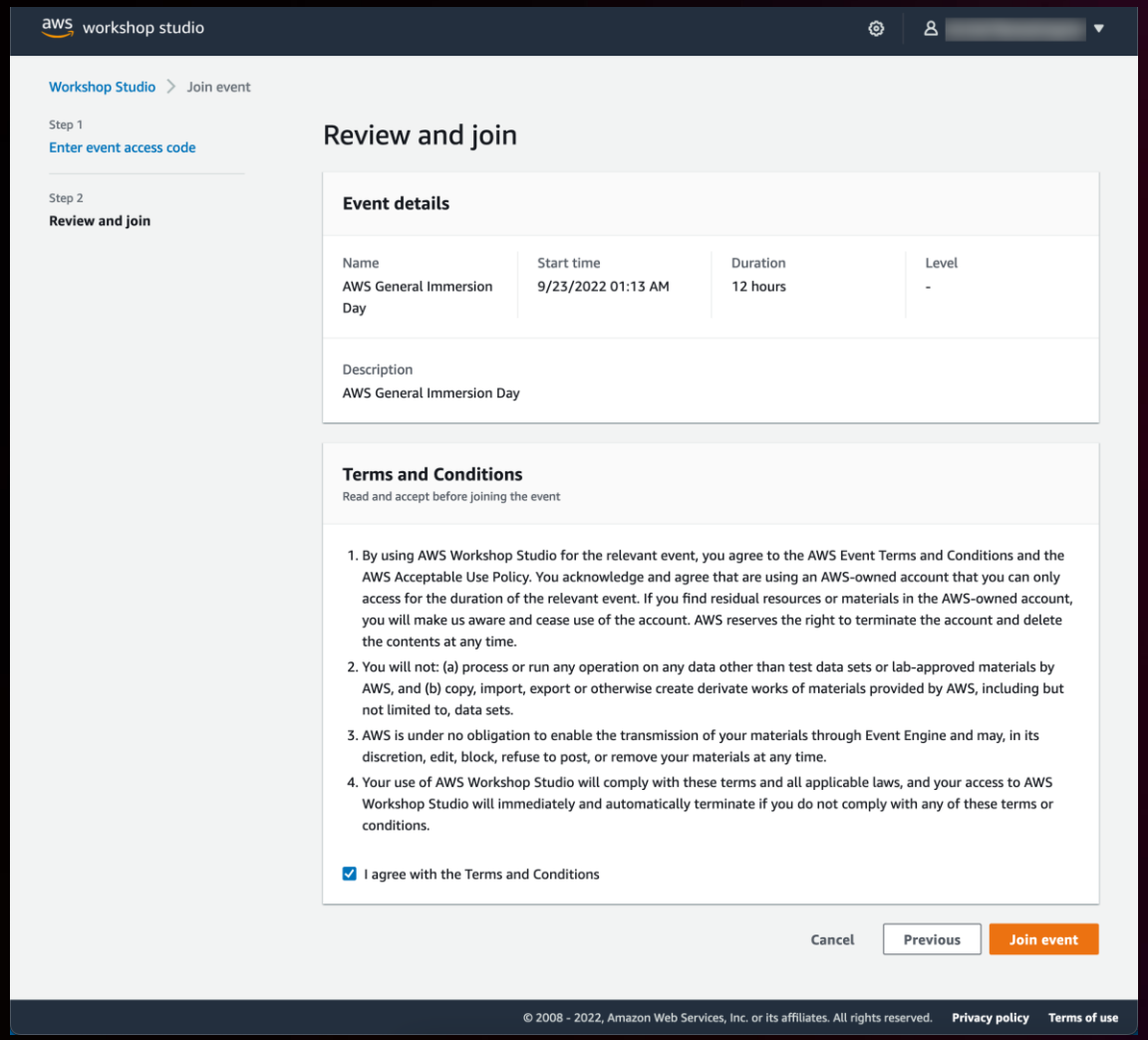
Step 3: Review terms and join event



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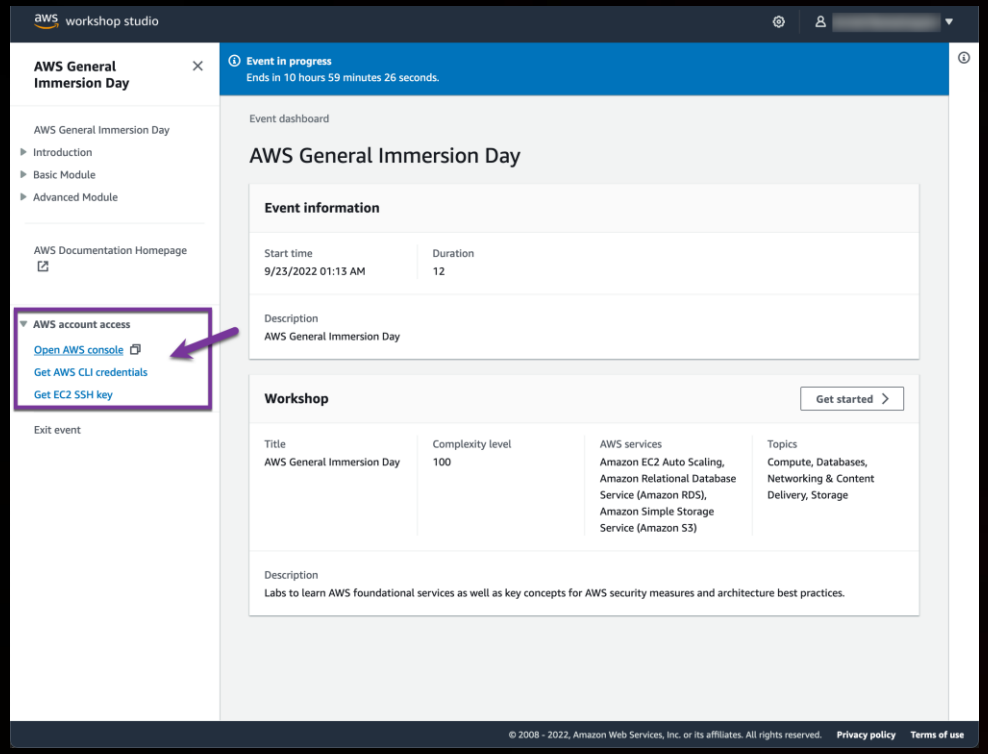
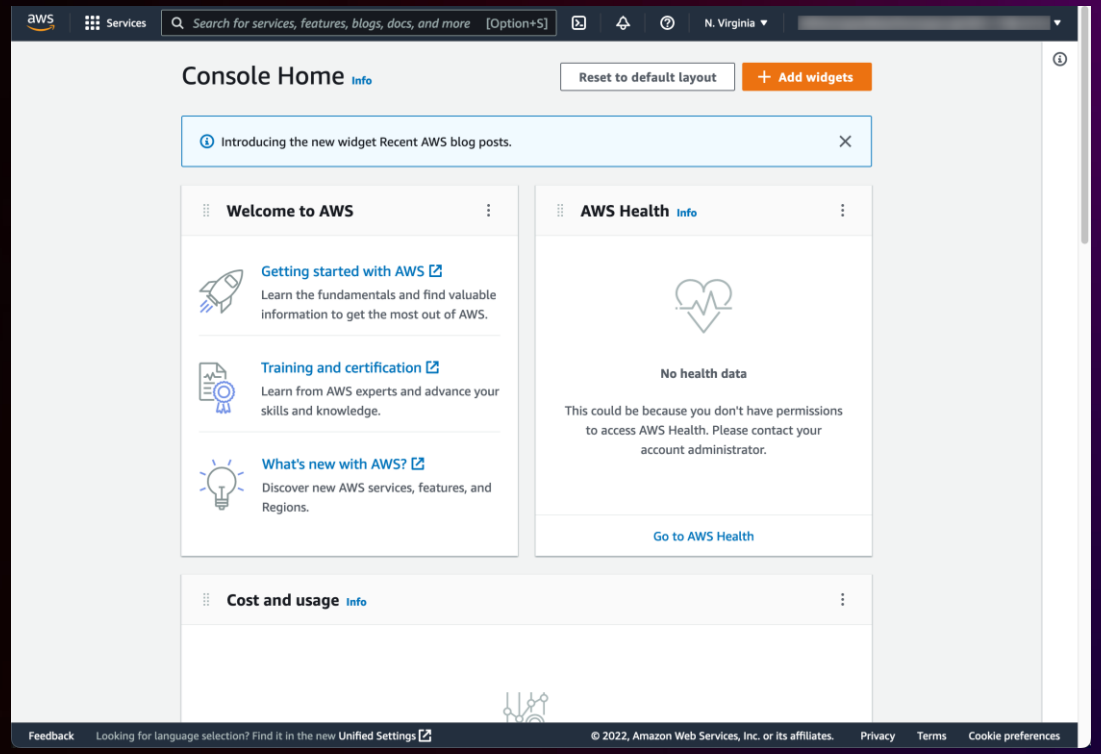
Step 4: Access AWS account

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





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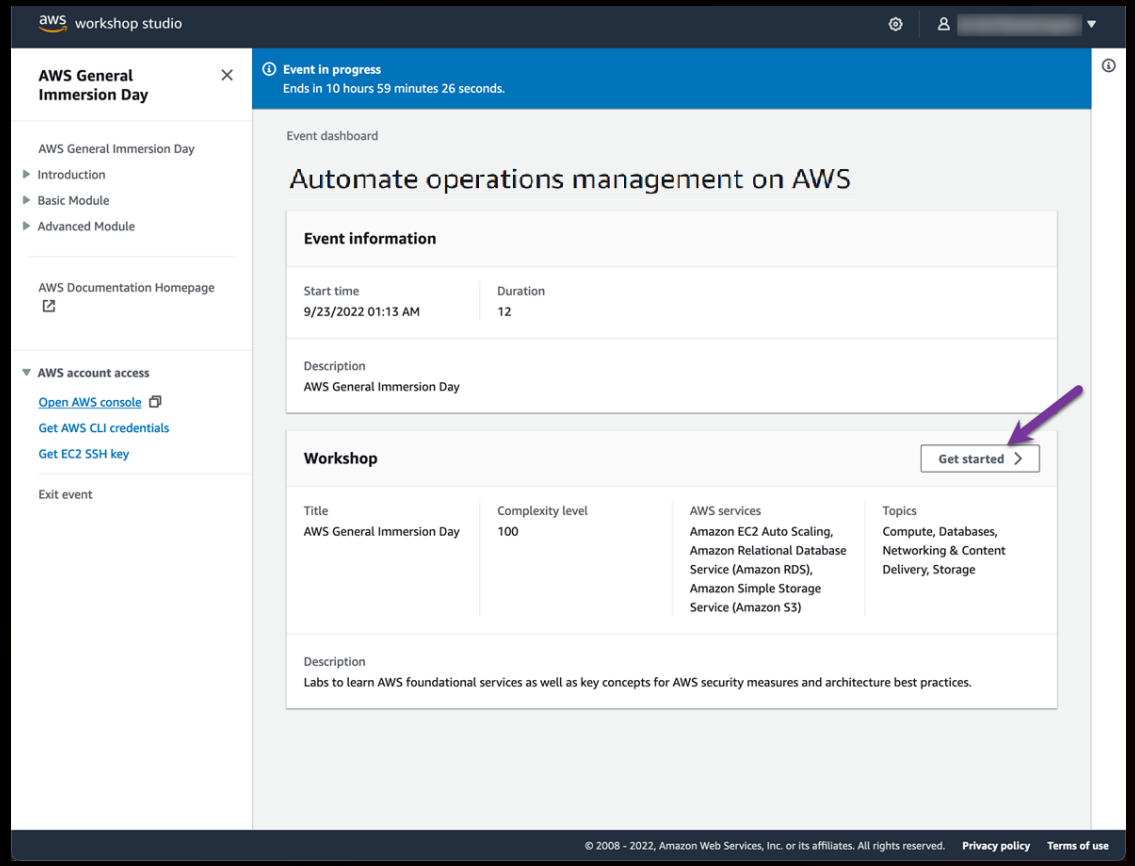
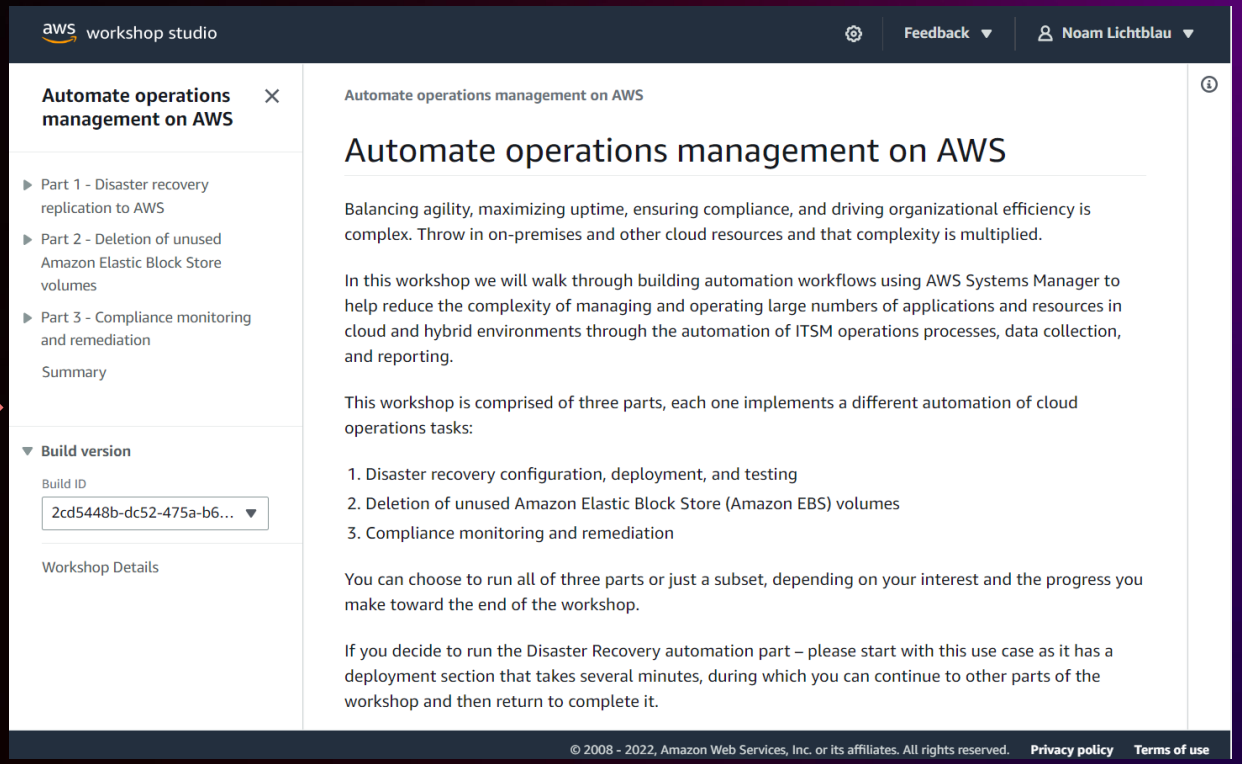
Step 5: Get started with the workshop





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

Event Code : 21c3-08e335-90

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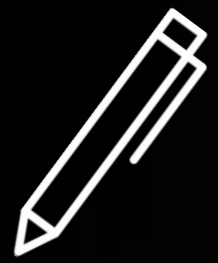
Your journey to operating at cloud scale

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

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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

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Thank you!

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