

AWS re:Invent

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

DAT310-R

Develop event-driven applications using Amazon Aurora Serverless v2

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Amazon Aurora Serverless v2



On demand and automatically scaling configuration

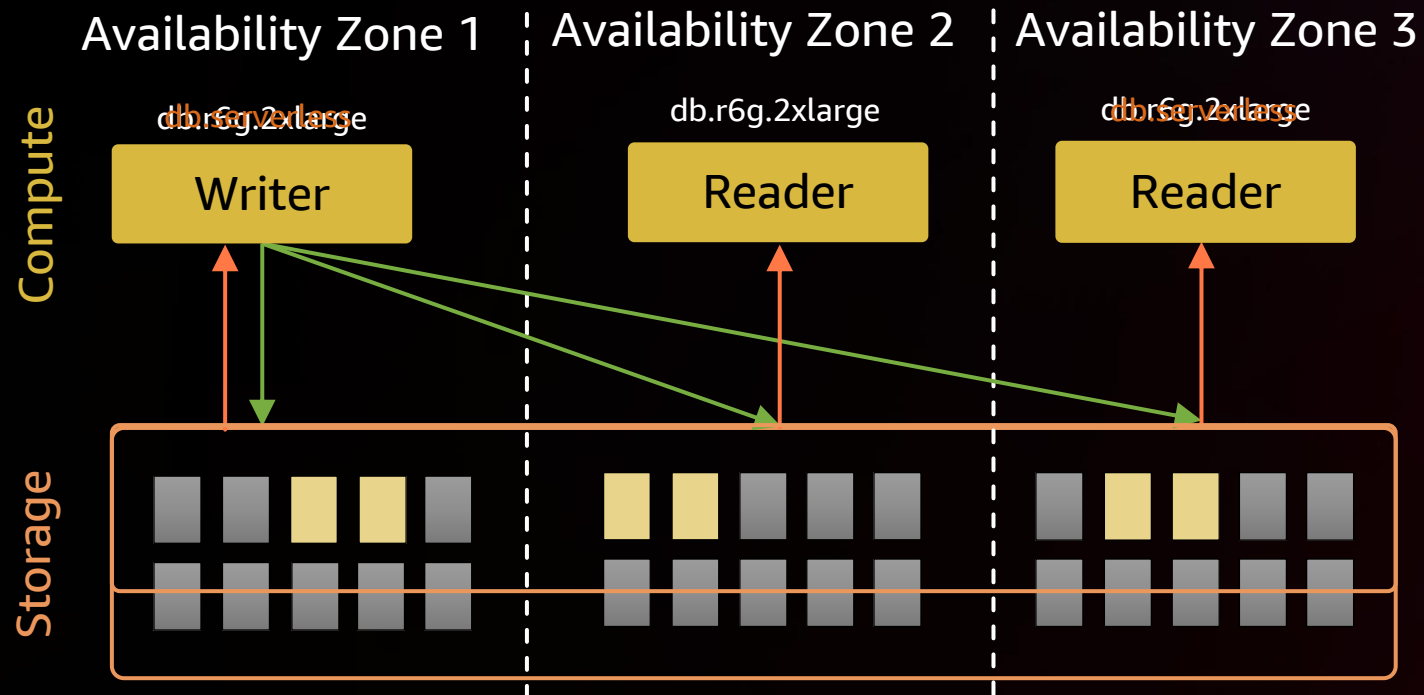
Automatically scales capacity based on application needs

Simple **pay-per-use** pricing per second

Scales instantly to support demanding applications

Straightforward database capacity management

Aurora architecture supports serverless



6 copies across 3 AZs for high availability, durability, and performance

Separation of storage and compute

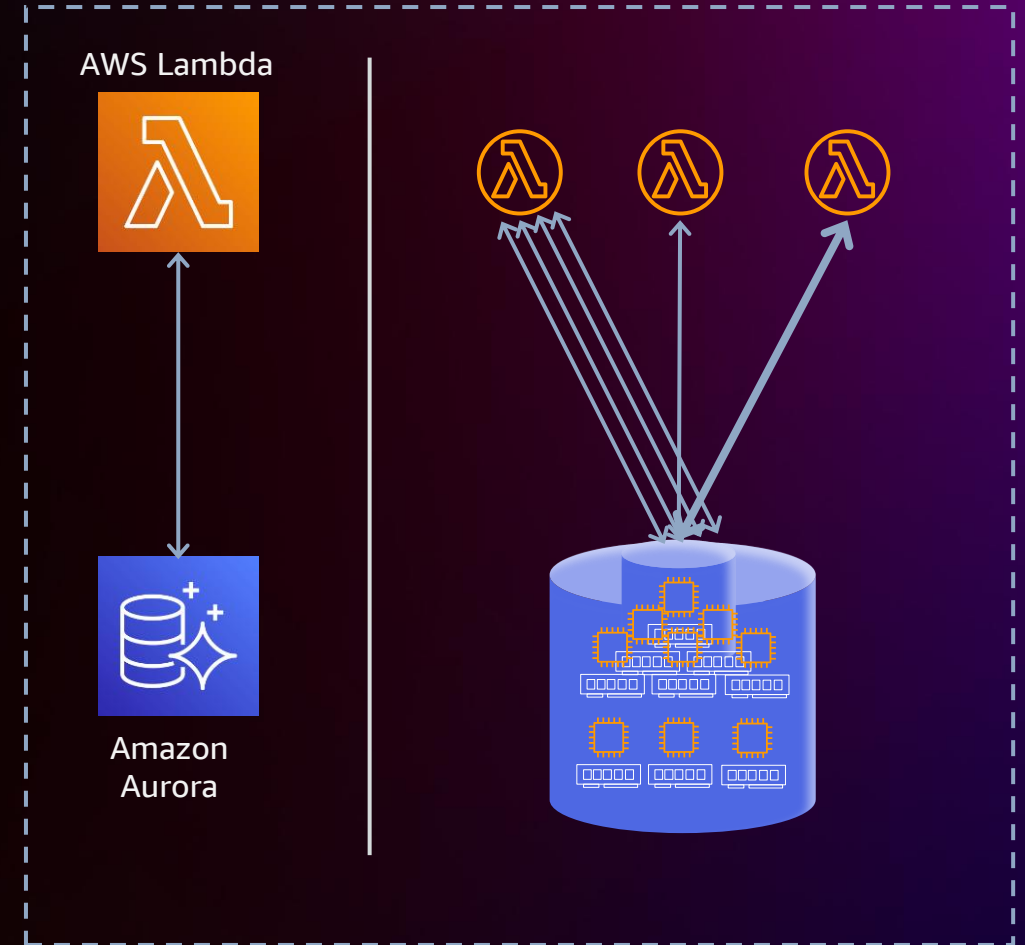
- Routine operations (such as backups) done without compute
- Up to 15 low-latency (<10 millisecond) read replicas
- **Compute scales independently**

Storage automatically grows and shrinks

Purpose-built, log-structured, distributed storage designed for cloud databases

Instant, in-place scaling

- **Scales in place** in under a second by adding more CPU and memory resources, and billed by the second
- **No impact** due to scaling even when running hundreds of thousands of transactions



What you will build today

- An event-driven, serverless, full-stack application
- Simulates a simple vote casting scenario
- React, Python, Amazon Aurora MySQL Serverless v2

Services used



Amazon Cognito
Identity store, sign in



Amazon S3
Object storage, static content hosting



Amazon CloudFront
Content caching



Amazon API Gateway
Create and publish API



Amazon SNS
Notification service



AWS Lambda
Serverless code execution



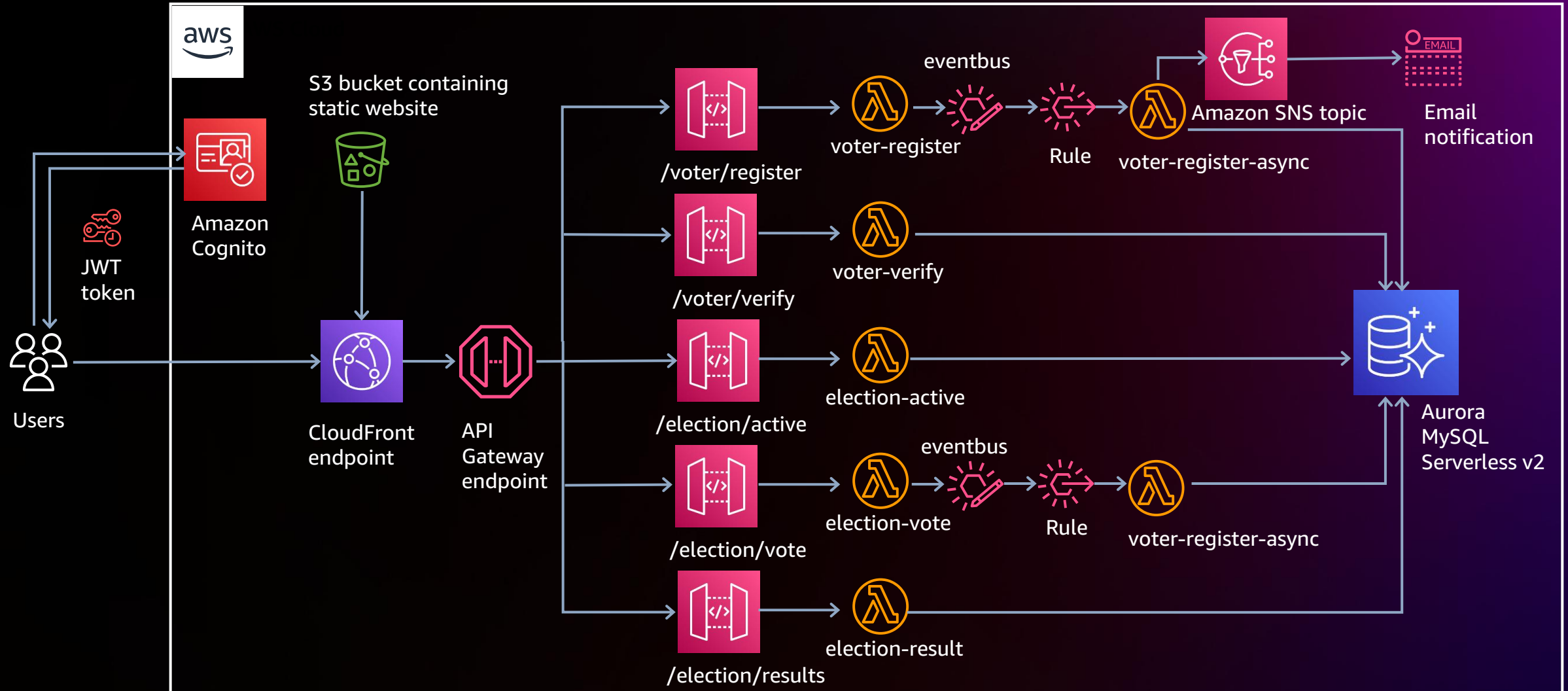
Amazon Aurora Serverless
Serverless relational database



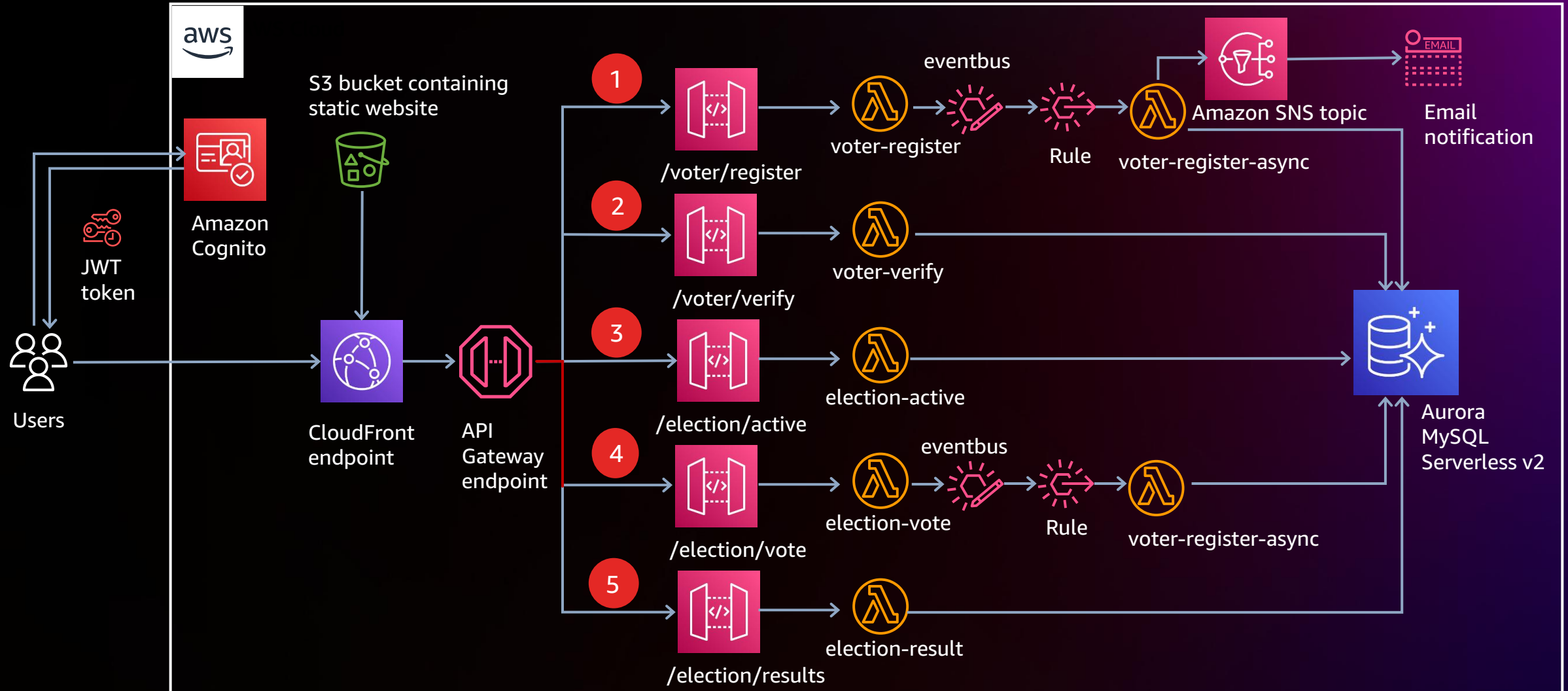
Amazon EventBridge
Serverless event router

Amazon EventBridge

Application architecture



API workflow



API scale test using Artillery

- Artillery is an open-source performance testing toolkit
- Stress testing entire stack by simulating API calls
- Test ramps up in 3 phases and winds down in the fourth
- Scenario for testing use
 1. Call register user API, register random user
 2. Call cast vote API, cast a random vote

Getting started with this workshop

- 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; check your workshop content to determine whether other Regions will be used
- Be sure to review the terms and conditions of the event; do not upload any personal or confidential information in the account

Step 1: Sign in via your preferred method

<https://catalog.workshops.aws/join>



aws workshop studio

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

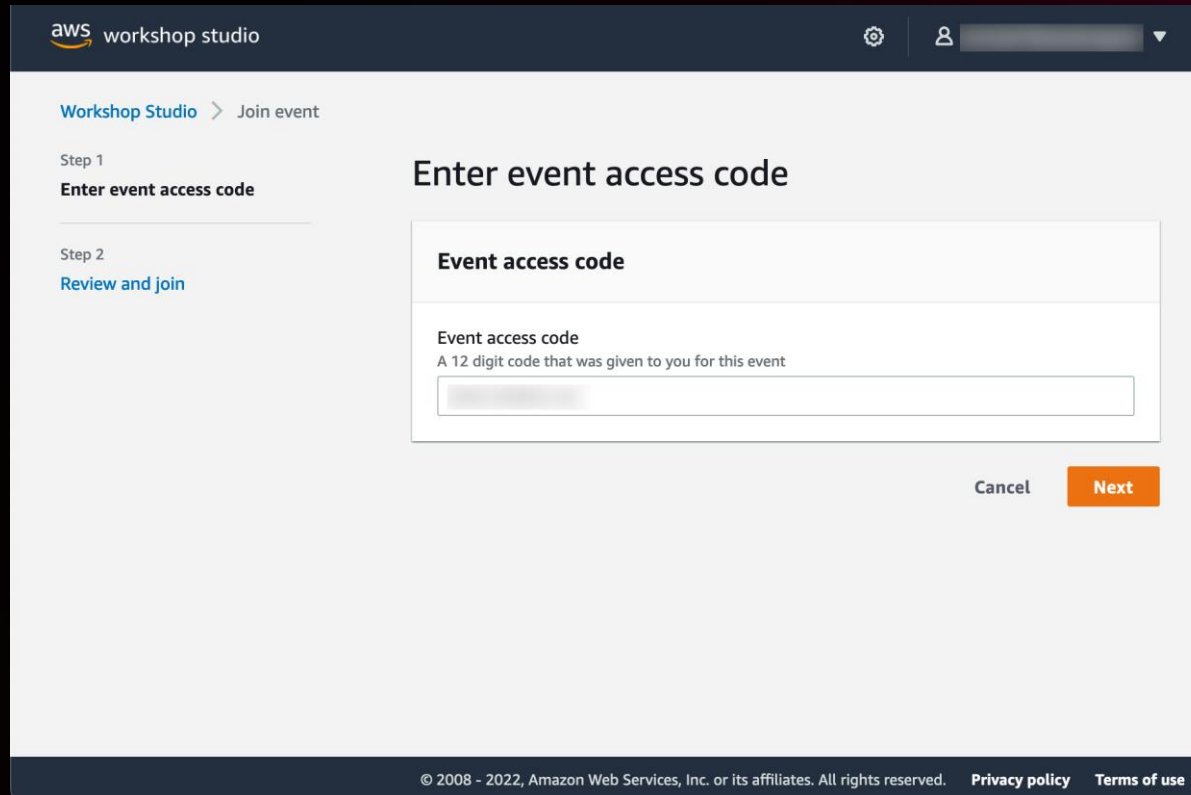
Amazon employee

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

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Step 2: Enter event access code

Enter 12-digit event access code (f193-00c456-0e)



The screenshot shows the AWS Workshop Studio interface for joining an event. The top navigation bar includes the AWS logo, 'workshop studio', a settings gear icon, and a user profile icon. The main content area has a breadcrumb trail 'Workshop Studio > Join event'. On the left, a sidebar shows 'Step 1: Enter event access code' as the current step and 'Step 2: Review and join' as the next step. The main heading is 'Enter event access code'. Below this is a form titled 'Event access code' with a description: 'Event access code' and 'A 12 digit code that was given to you for this event'. There is a text input field for the code. At the bottom right of the form are 'Cancel' and 'Next' buttons. The footer contains copyright information and links to 'Privacy policy' and 'Terms of use'.

aws workshop studio

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
A 12 digit code that was given to you for this event

Cancel Next

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Step 3: Review terms and join event

aws workshop studio

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.

☒ I agree with the Terms and Conditions

Cancel

Previous

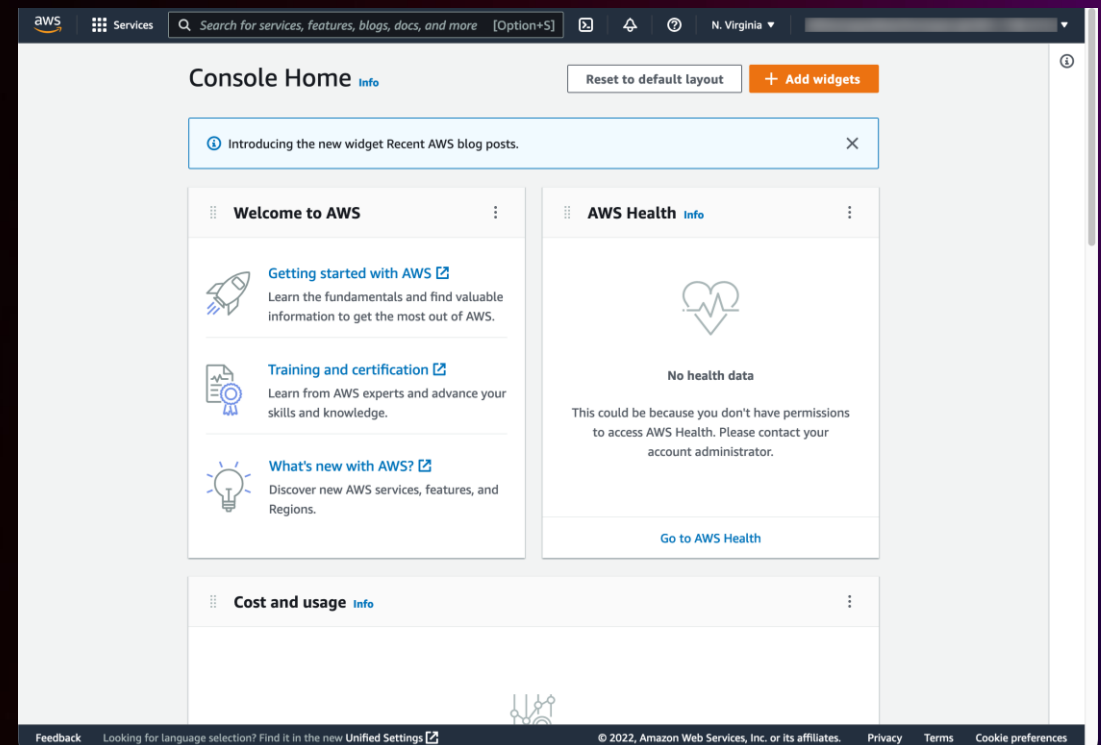
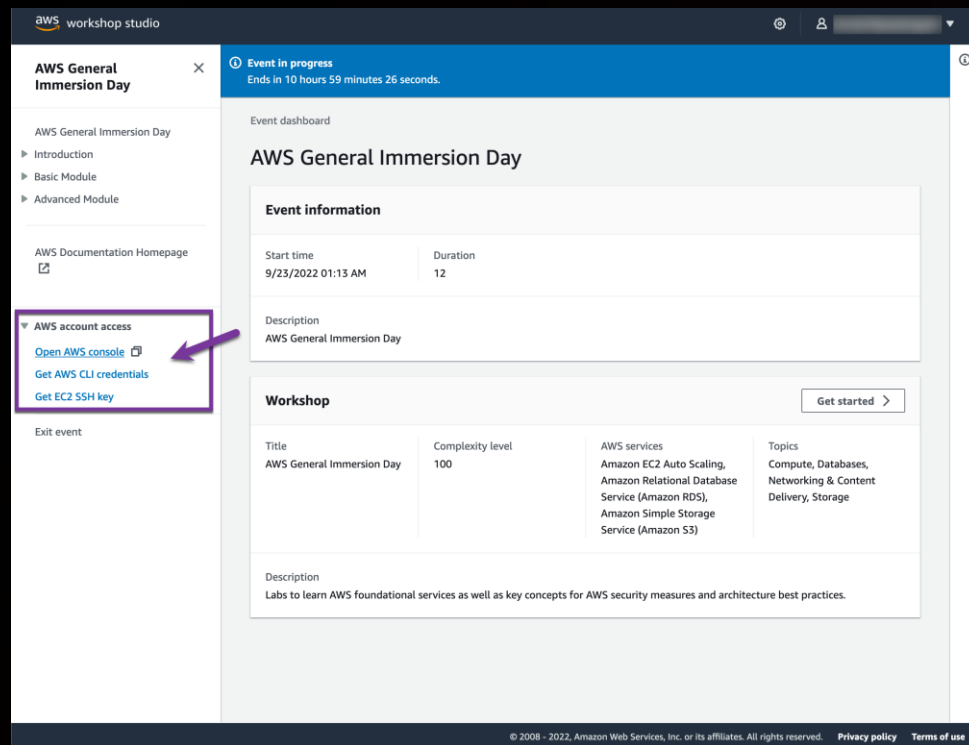
Join event

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Step 4: Access AWS account

Access the AWS Management Console or generate AWS CLI credentials as needed



Step 5: Get started with the workshop

The screenshot shows the 'Event dashboard' for the 'AWS General Immersion Day'. The left sidebar contains navigation links: 'AWS General Immersion Day' (with sub-links for Introduction, Basic Module, and Advanced Module), 'AWS Documentation Homepage', 'AWS account access' (with links for 'Open AWS console', 'Get AWS CLI credentials', and 'Get EC2 SSH key'), and 'Exit event'. The main content area has a blue header bar indicating 'Event in progress' and 'Ends in 10 hours 59 minutes 26 seconds.' Below this, the 'Event dashboard' title is followed by the event name. The 'Event information' section displays the start time (9/23/2022 01:13 AM) and duration (12). The 'Workshop' section includes a 'Get started >' button, which is highlighted by a purple arrow. Below this, a table lists the workshop details: 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)), and Topics (Compute, Databases, Networking & Content Delivery, Storage). A description at the bottom states: 'Labs to learn AWS foundational services as well as key concepts for AWS security measures and architecture best practices.'



The screenshot shows the 'Event dashboard' for the 'AWS General Immersion Day' after clicking the 'Get started' button. The left sidebar is identical to the first screenshot. The main content area has a blue header bar indicating 'Event in progress' and 'Ends in 10 hours 57 minutes 12 seconds.' Below this, the 'Event dashboard' title is followed by the event name. A large graphic of a brown helmet with a white 'O' in the center is displayed, with the text 'IMMERSION DAYS' below it. Below the graphic, the text reads: 'In this General Immersion Day workshop, through a mix of service explanation and hands-on labs led by AWS, you will learn about AWS foundational services as well as key concepts for AWS security measures and architecture best practices. The hands-on labs are largely divided into **basic and advanced modules**. In basic modules, you can learn various features of each AWS foundational service. In advanced modules, you can learn how to connect each service organically to create architecture like 3-tier web application.' At the bottom right, there are 'Previous' and 'Next' buttons.

Thank you!

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



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