

# AWS re:Invent

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

BOA325-R

# Building a serverless Apache Kafka data pipeline

Banjo Obayomi (he/him)

Senior Developer Advocate  
AWS

Zaiba Jamadar (she/her)

Solutions Architect  
AWS



© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# Agenda

- Introductions
- Amazon MSK Serverless overview
- Architecture review
- Lab buildout

# Apache Kafka

Open source event streaming platform

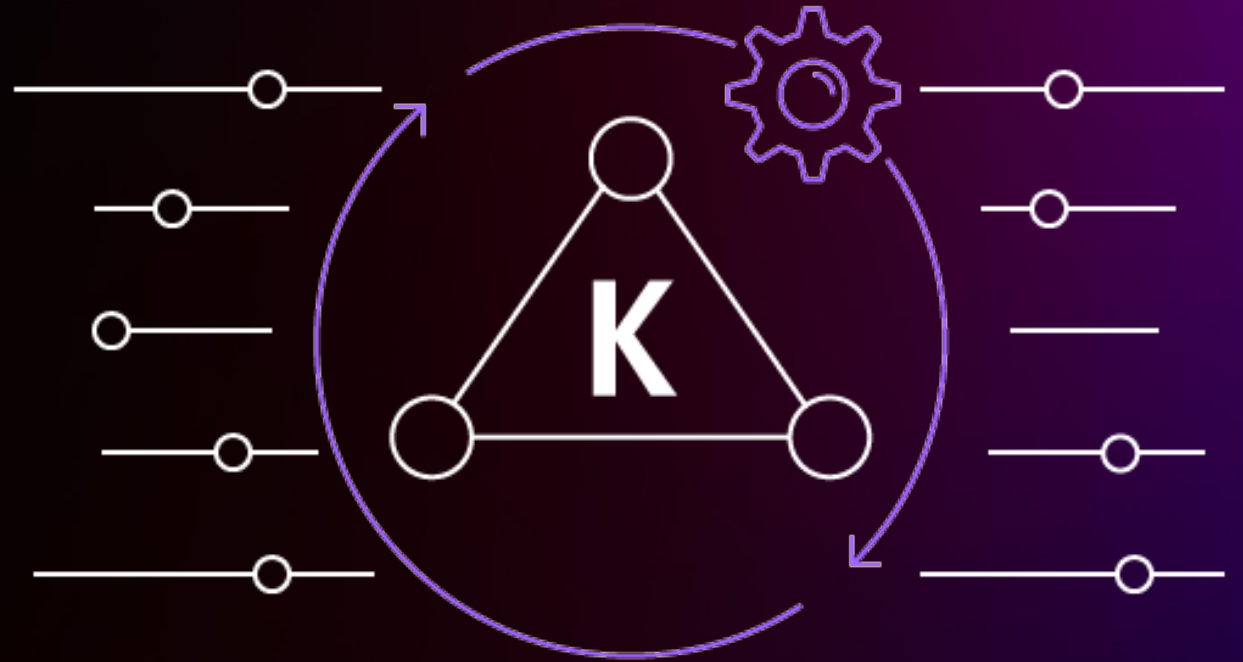
Low latency and high throughput

Fans out to any number of consumers

Enables use cases such as messaging, event-stream processing, and more...



# Amazon MSK Serverless



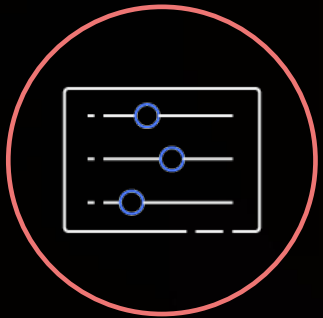
# Key features



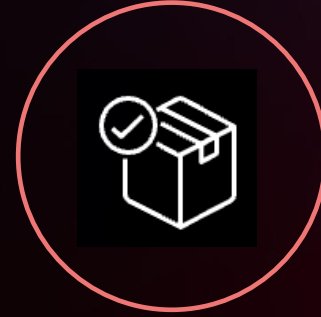
**On-demand streaming capacity**



**Throughput-based pricing**



**Auto partition placement**



**Fully compatible**



**Same security as  
Amazon MSK**



**Same high availability**

# Key benefits



## Simple to use

Get started with a few clicks and with existing applications



## Lowers operational overhead

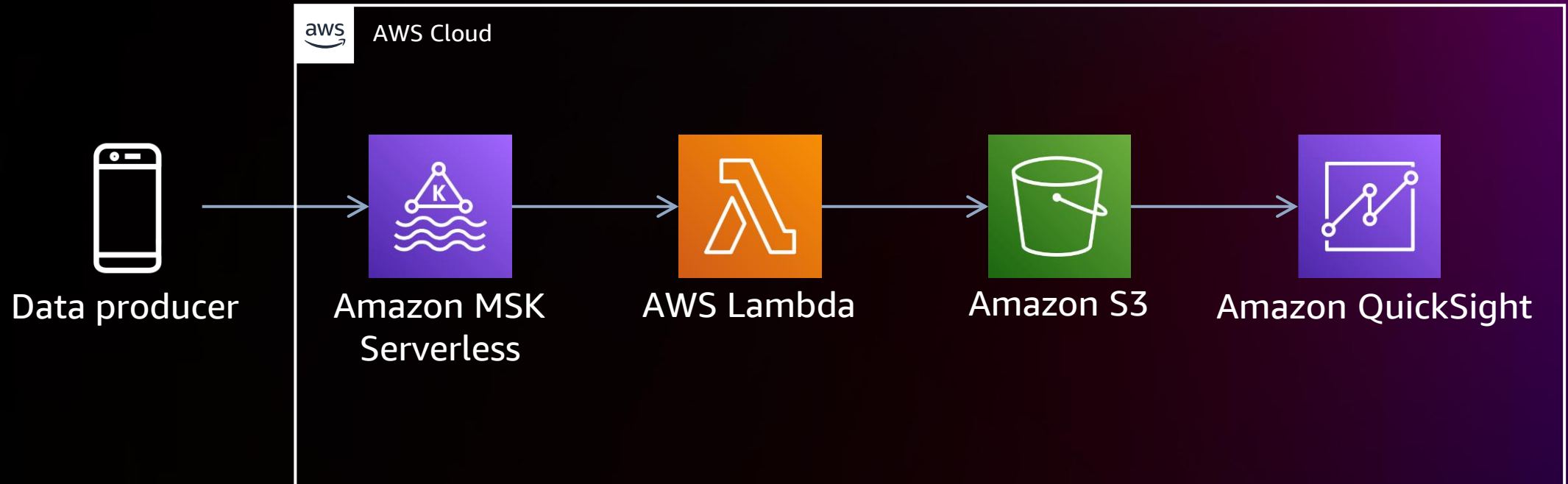
Use engineering hours to solve your customers' problems



## Cost-effective

Especially for highly variable workloads

# Architecture review – Typical scenario



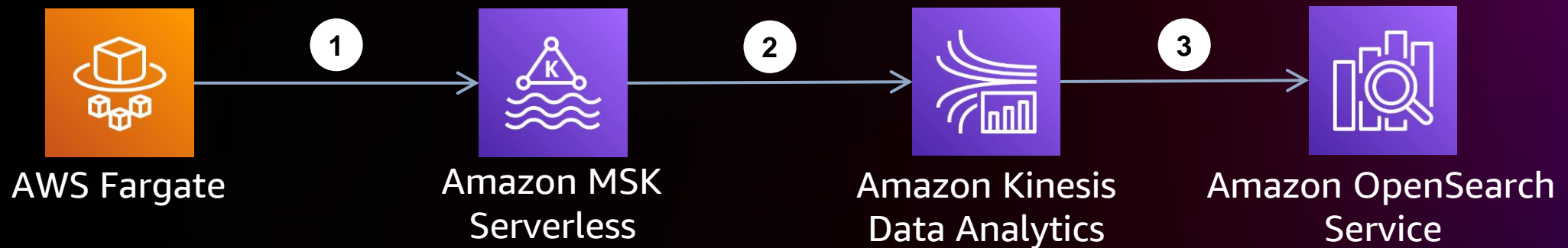


# Architecture review – Core workshop



- 1 AWS Fargate container produces clickstream data to Amazon MSK
- 2 AWS Lambda function consumes messages off the Kafka topic(s)
- 3 AWS Lambda function pushes processed messages to the bucket
- 4 Amazon QuickSight consumes processed data from the bucket

# Architecture review – Optional module



- 1 AWS Fargate container produces clickstream data to Amazon MSK
- 2 Kinesis Data Analytics consumes messages from the Kafka topics in real time
- 3 Kinesis Data Analytics pushes transformed messages to Amazon OpenSearch Service

# 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**

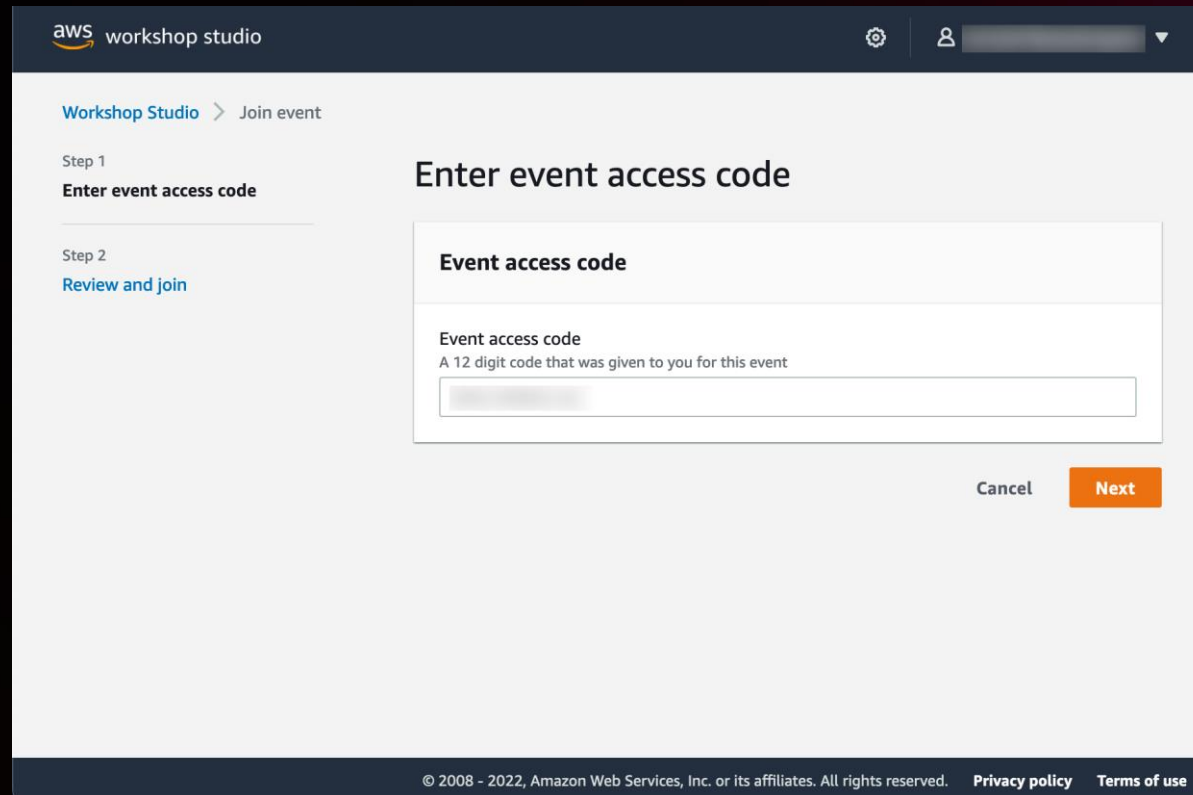
Login with your Amazon Corporate account. Only for Amazon Employees.

© 2008 - 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. [Privacy policy](#) [Terms of use](#)

# Step 2: Enter event access code

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




bc73-02fde1-cf



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'. On the left side, there's a sidebar with 'Step 1 Enter event access code' and 'Step 2 Review and join'. The main content area is titled 'Enter event access code'. Inside this area, there's a box labeled 'Event access code' which contains the text 'Event access code' and 'A 12 digit code that was given to you for this event'. Below this text is a text input field. At the bottom right of the main content area, there are two buttons: 'Cancel' and 'Next'. The footer of the page contains copyright information: '© 2008 - 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.' and links to 'Privacy policy' and 'Terms of use'.

# 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

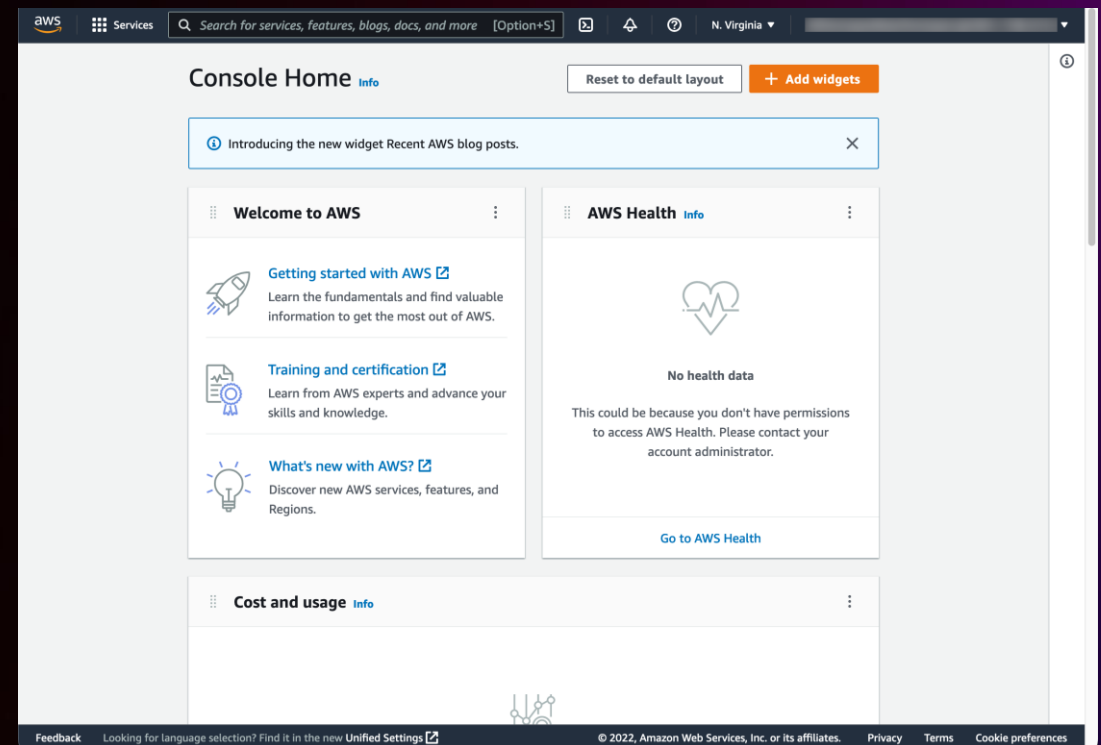
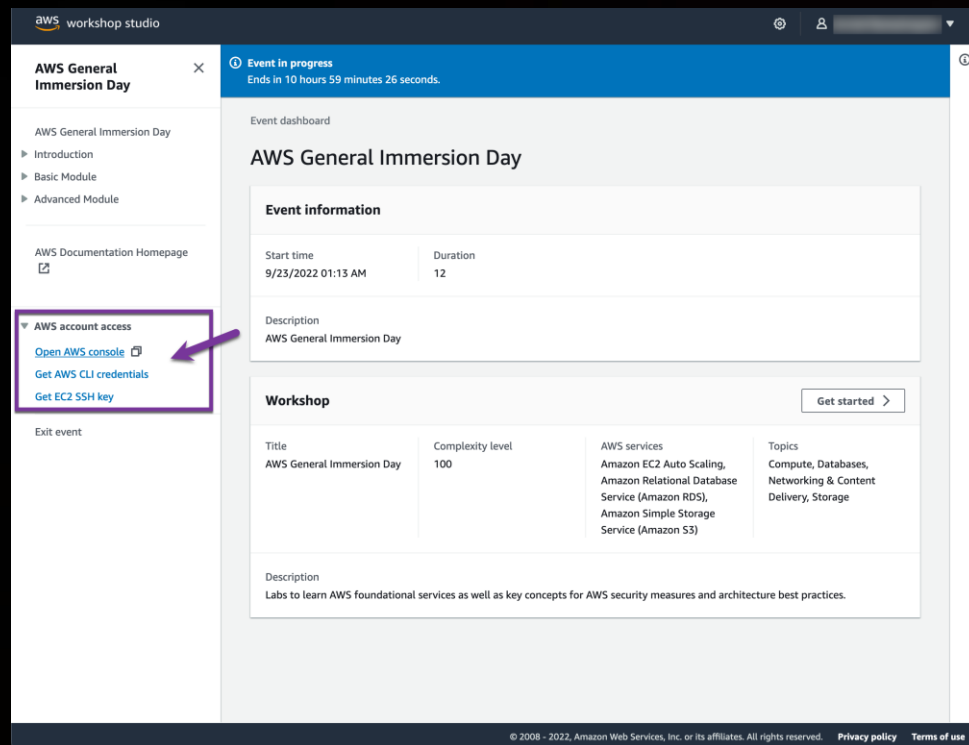
Join event

© 2008 - 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. [Privacy policy](#) [Terms of use](#)

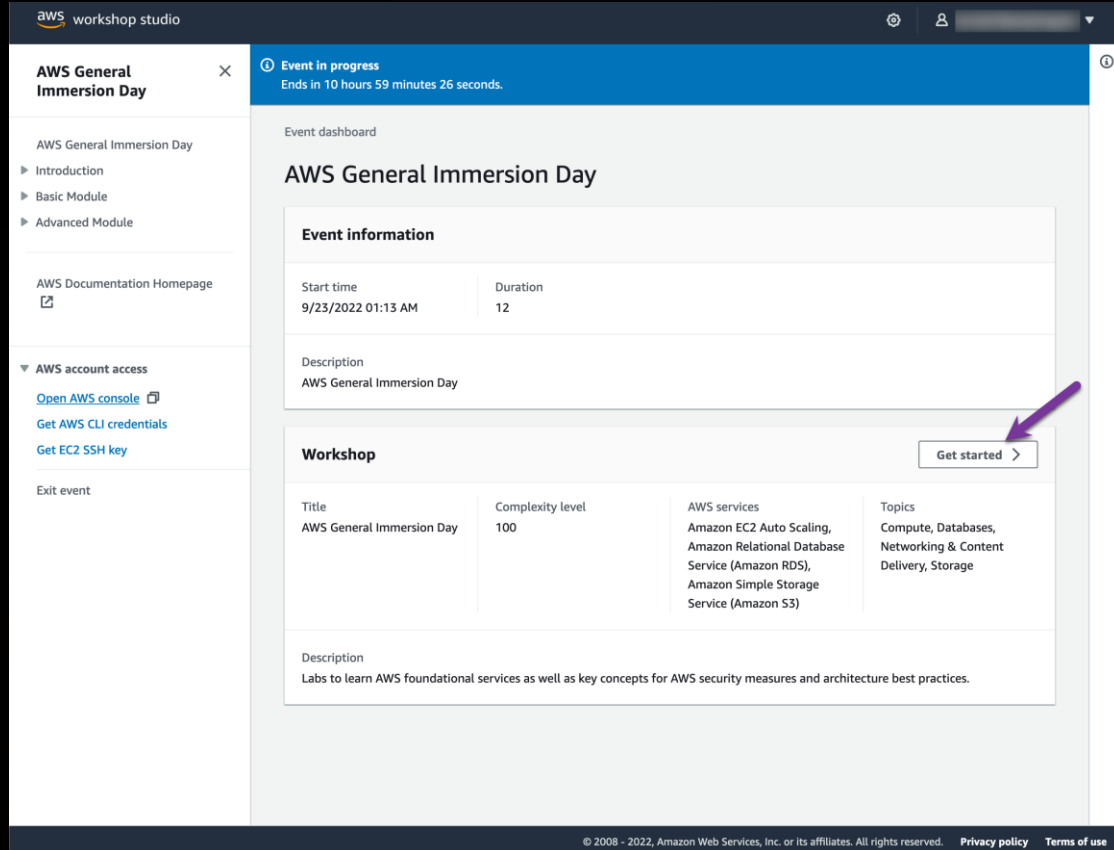
© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# Step 4: Access AWS account

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



# Step 5: Get started with the workshop



aws workshop studio

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

Event dashboard

## AWS General Immersion Day

**Event information**

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

Description  
AWS General Immersion Day

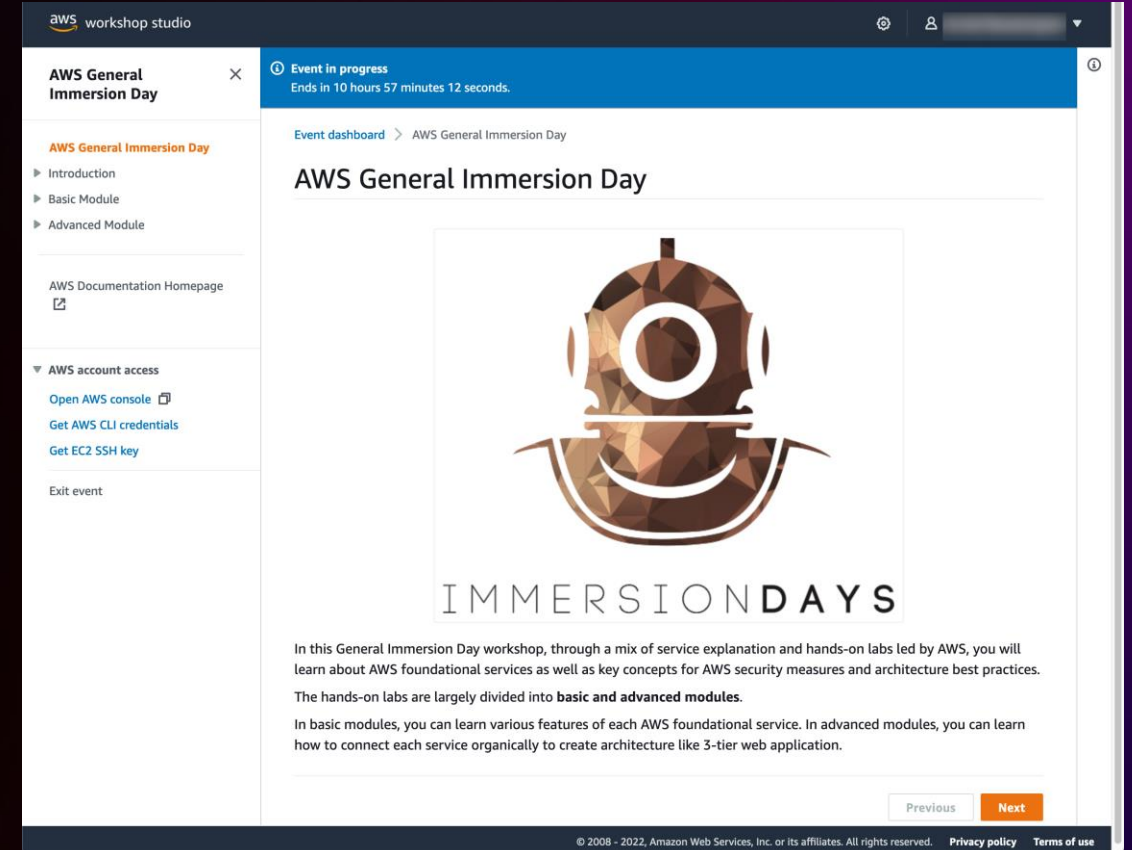
**Workshop**

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 >

© 2008 - 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. [Privacy policy](#) [Terms of use](#)




aws workshop studio

Event in progress  
Ends in 10 hours 57 minutes 12 seconds.

Event dashboard > AWS General Immersion Day

## AWS General Immersion Day



IMMERSION DAYS

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.


Previous Next

© 2008 - 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. [Privacy policy](#) [Terms of use](#)



# Thank you!

Banjo Obayomi

 @banjtheman

Zaiba Jamadar

[linkedin.com/in/zaiba-jamadar](https://www.linkedin.com/in/zaiba-jamadar)



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



© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.