

AWS re:Invent

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

SaaS microservices deep dive: Multi-tenancy meets microservices

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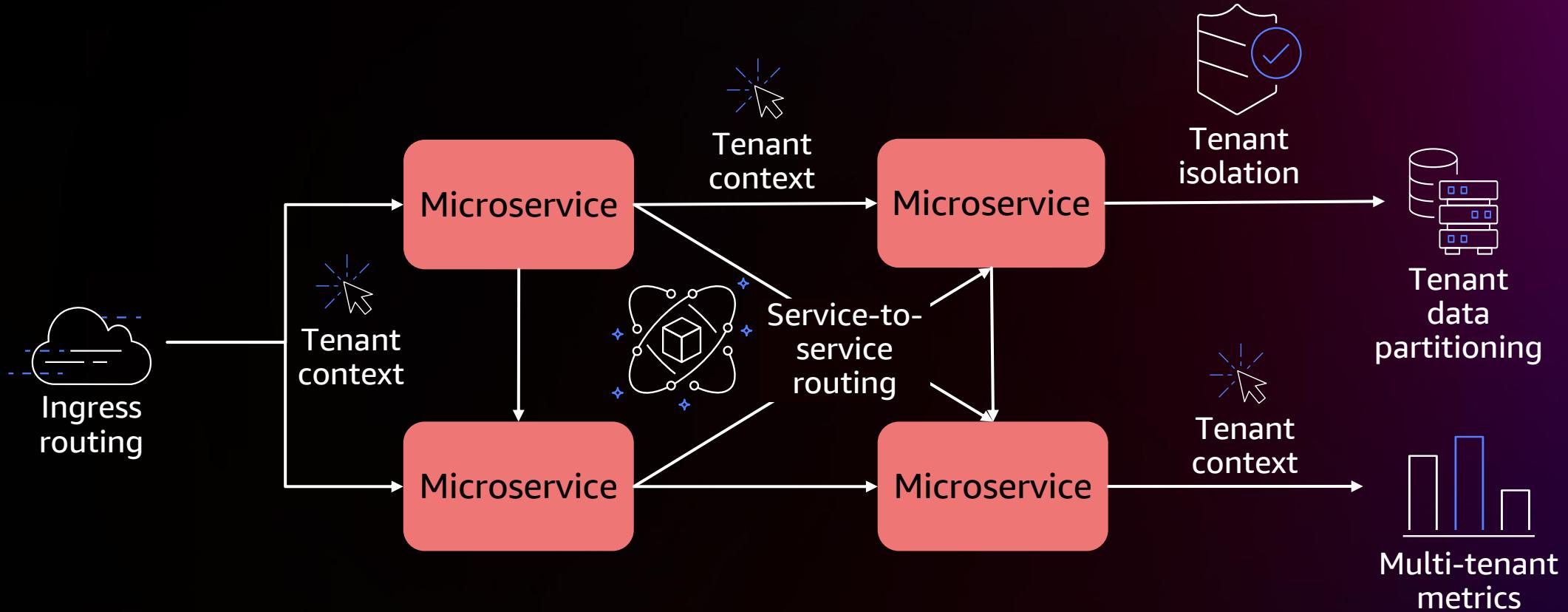
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AWS

Workshop goals

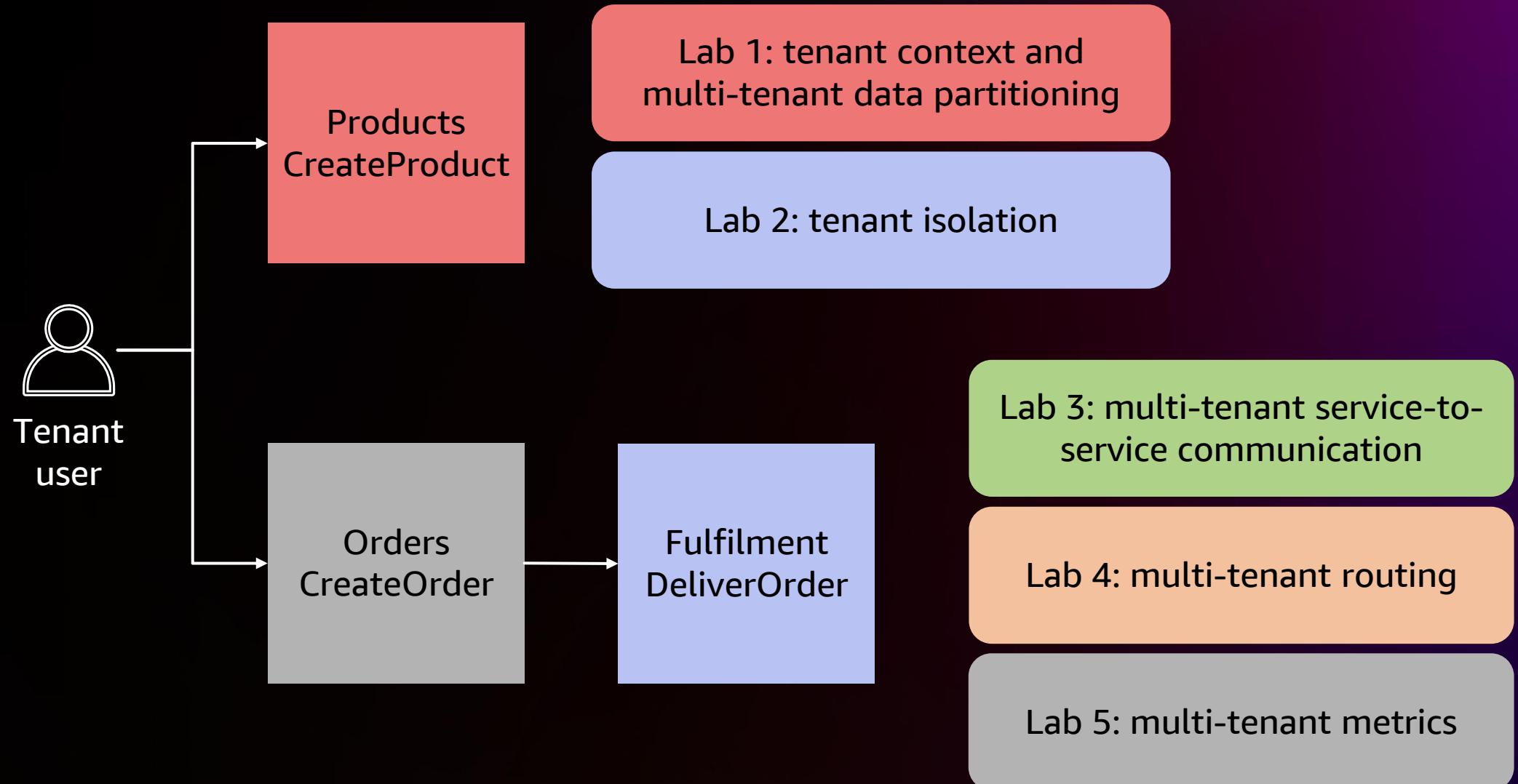
- Learn how software as a service (SaaS) influences the inner working of microservices and apply solutions to multi-tenant microservice challenges
- Pass tenant context securely throughout the execution flow of microservices
- Isolate tenant data access outside the application code
- Deal with routing challenges without adding complexity to the application
- Instrument microservices to seamlessly produce tenant-aware metrics

Multi-tenancy meets microservices

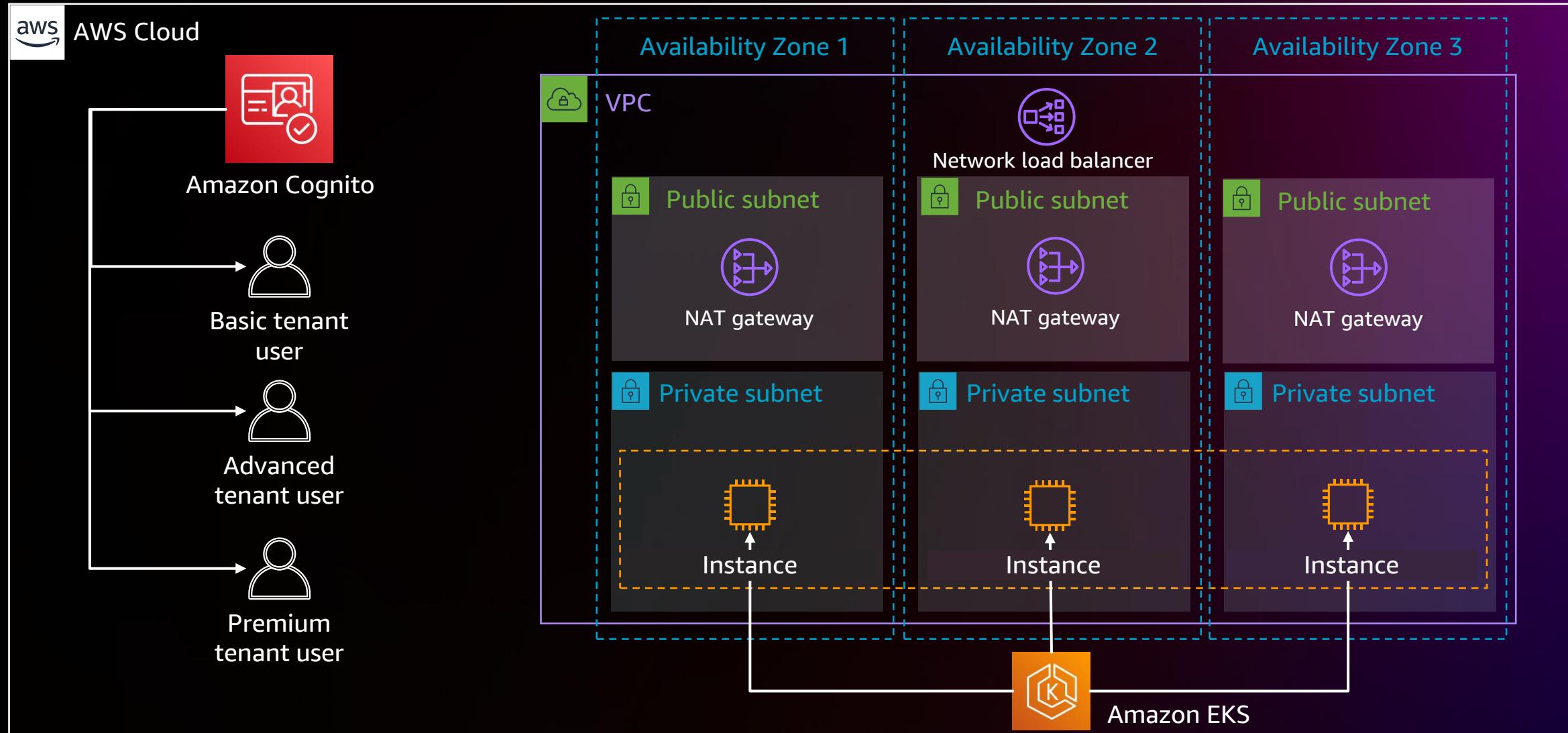


Introduction

Introduction: Application conceptual view

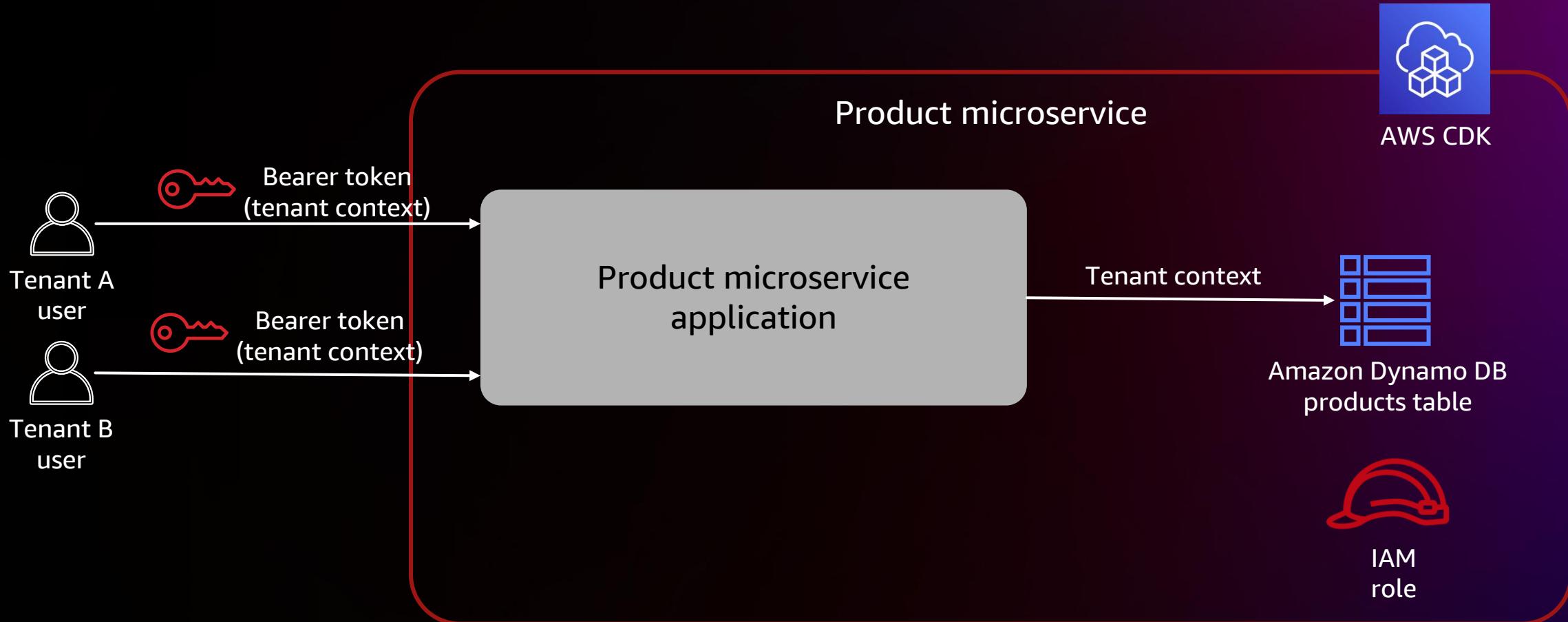


Introduction: Infrastructure starting point



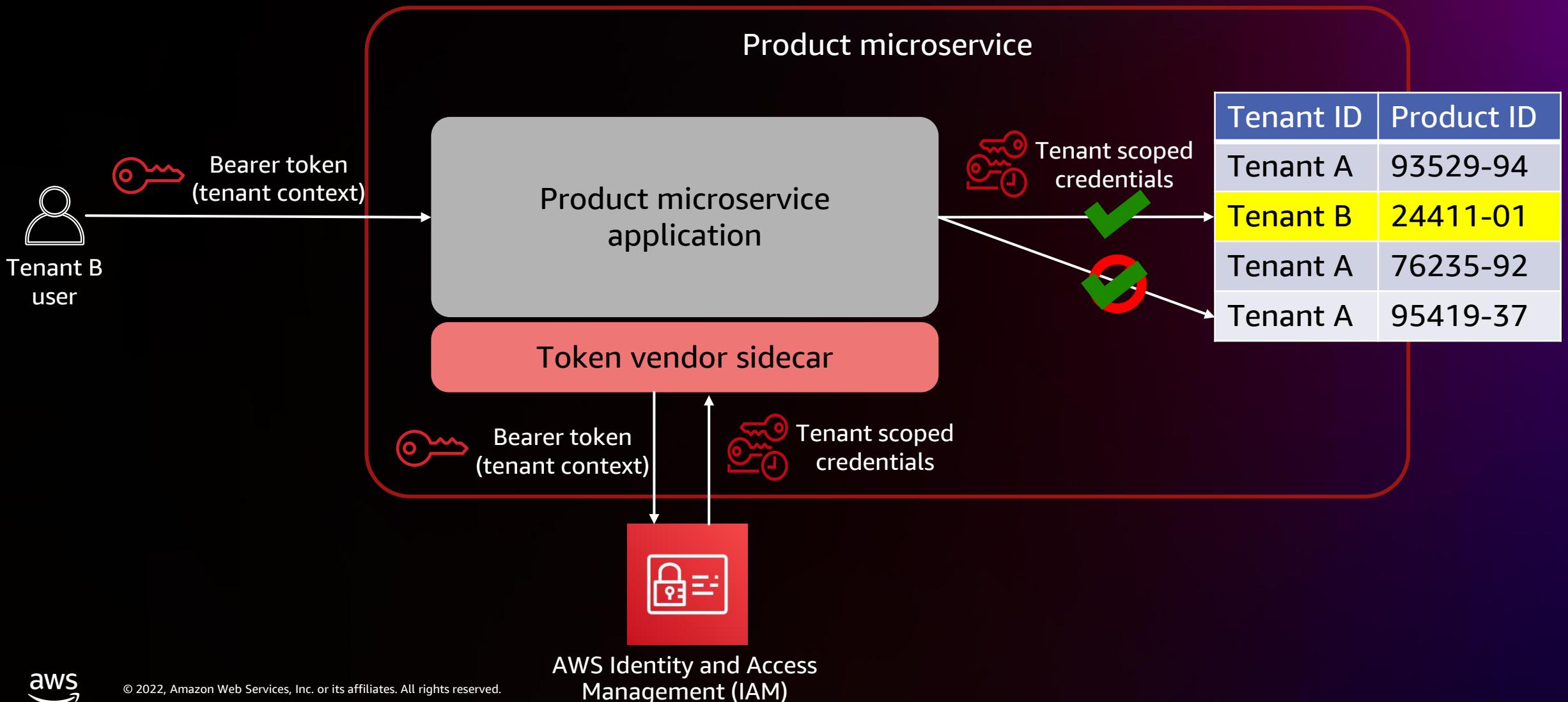
Lab 1: Tenant context and multi-tenant data partitioning

Lab 1: Acquiring tenant context



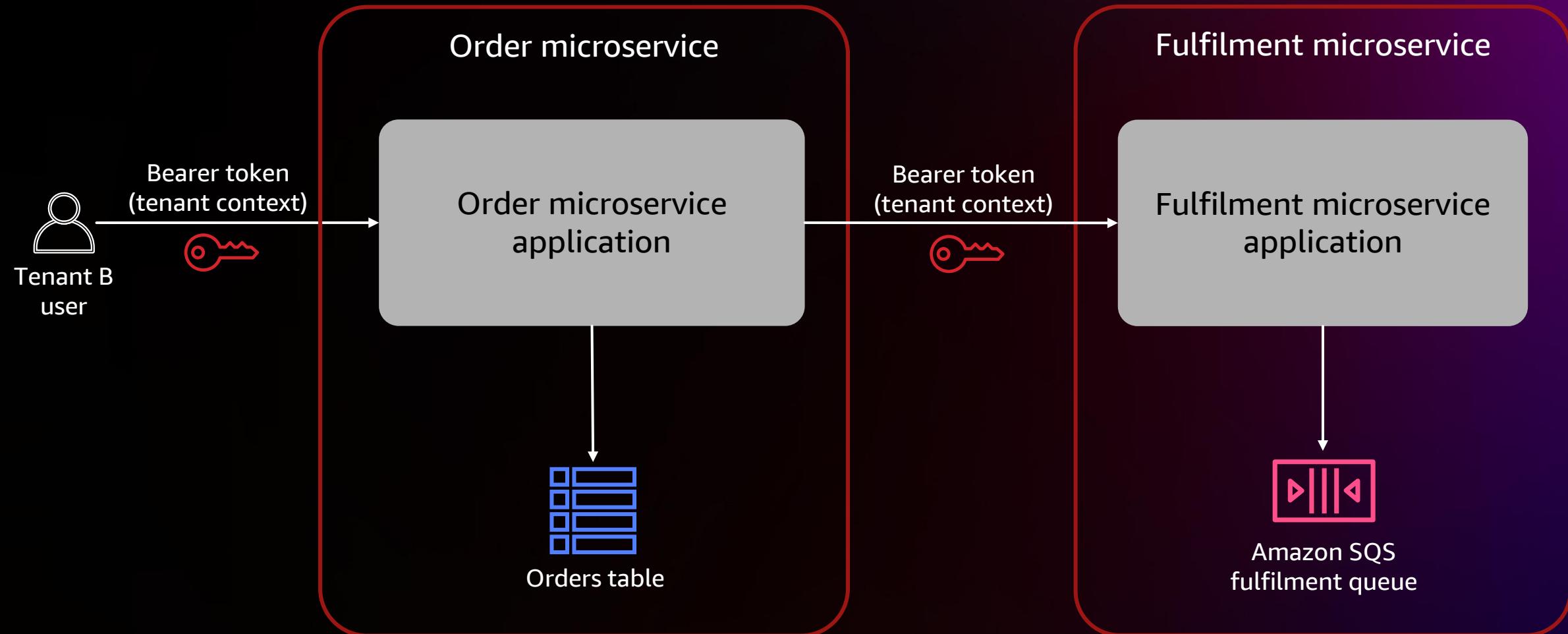
Lab 2: Tenant isolation

Lab 2: Hardening tenant isolation



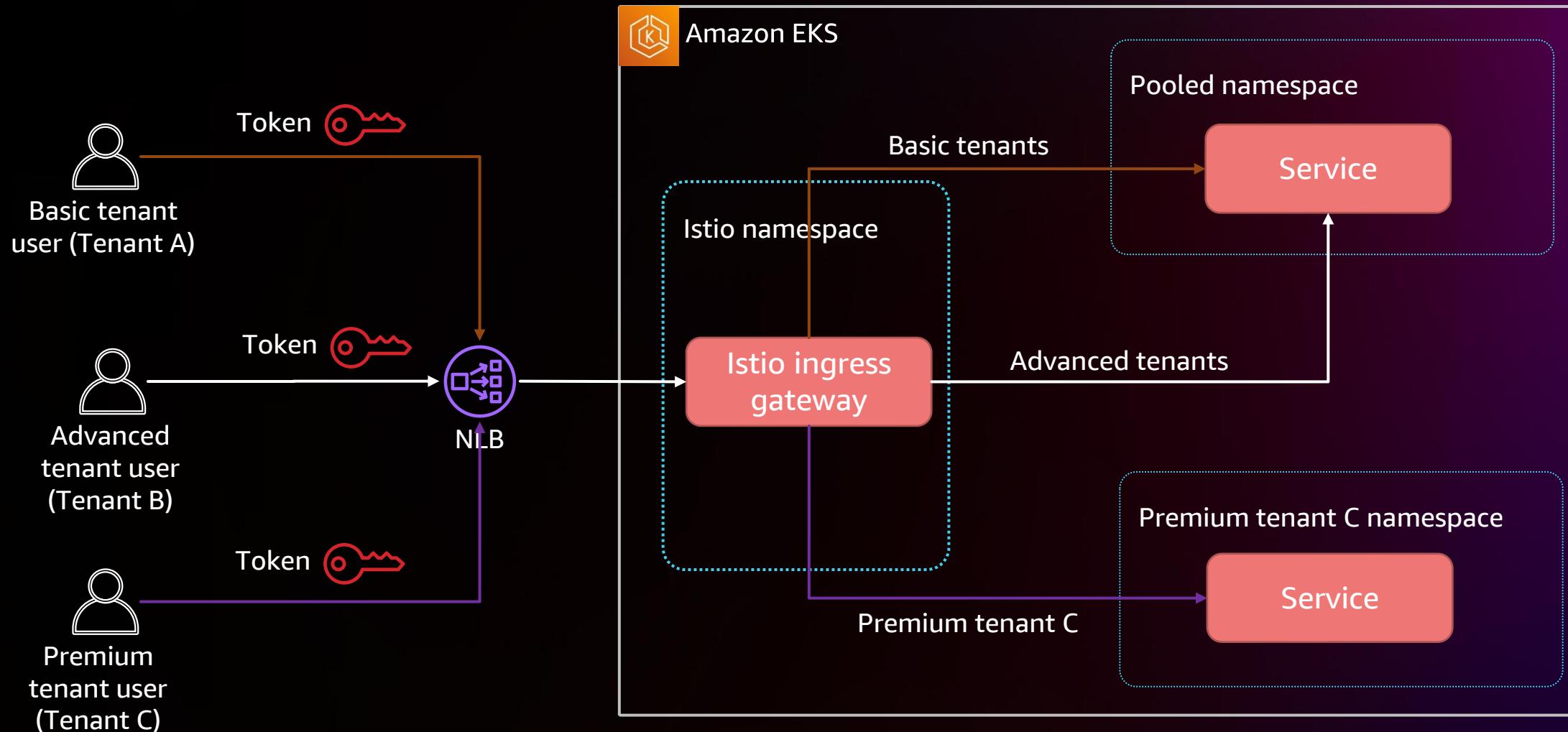
Lab 3: Multi-tenant service-to-service communication

Lab 3: Flowing tenant context through services

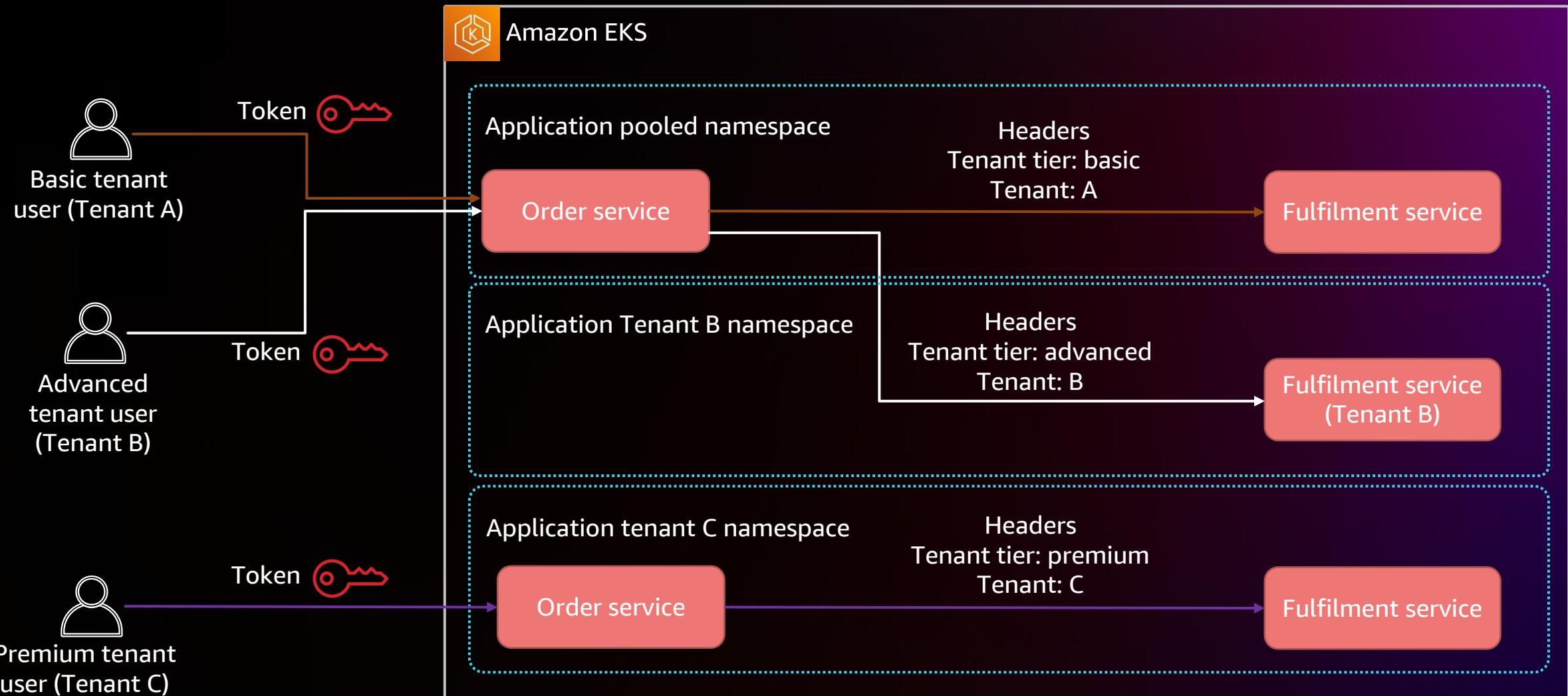


Lab 4: Multi-tenant routing challenges

Lab 4: Tenant context ingress routing

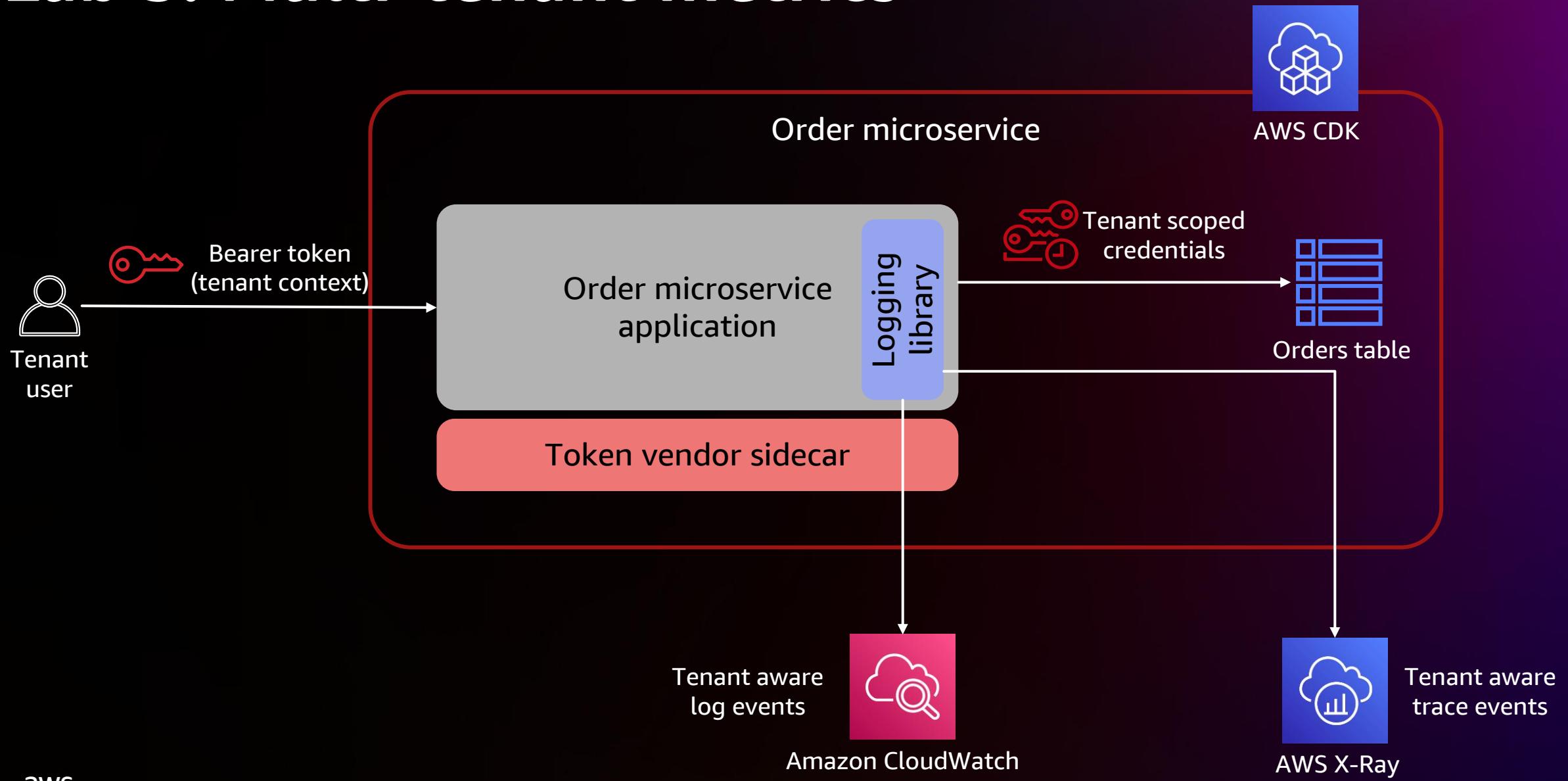


Lab 4: Tenant context service-to-service routing



Lab 5: Multi-tenant metrics

Lab 5: Multi-tenant metrics

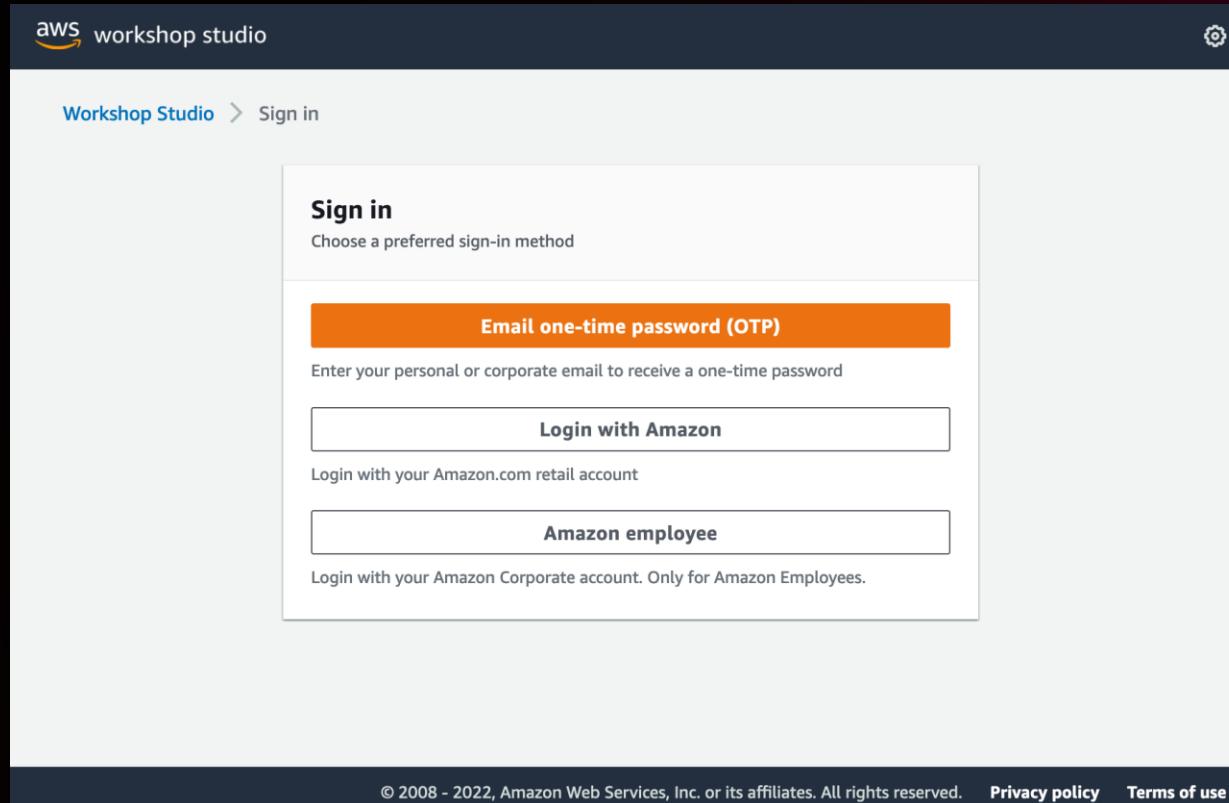


Getting started with this workshop

- 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

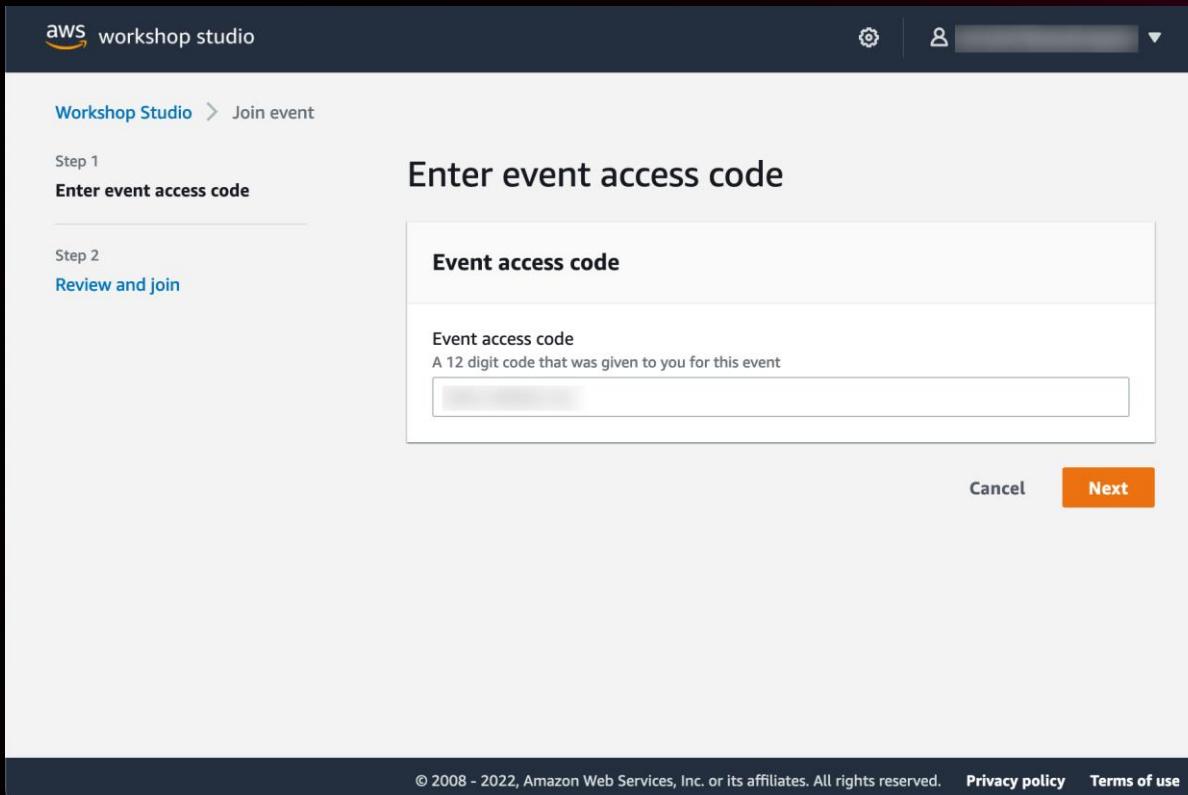
Step 1: Sign-in via your preferred method

<https://s12d.com/SAS403>

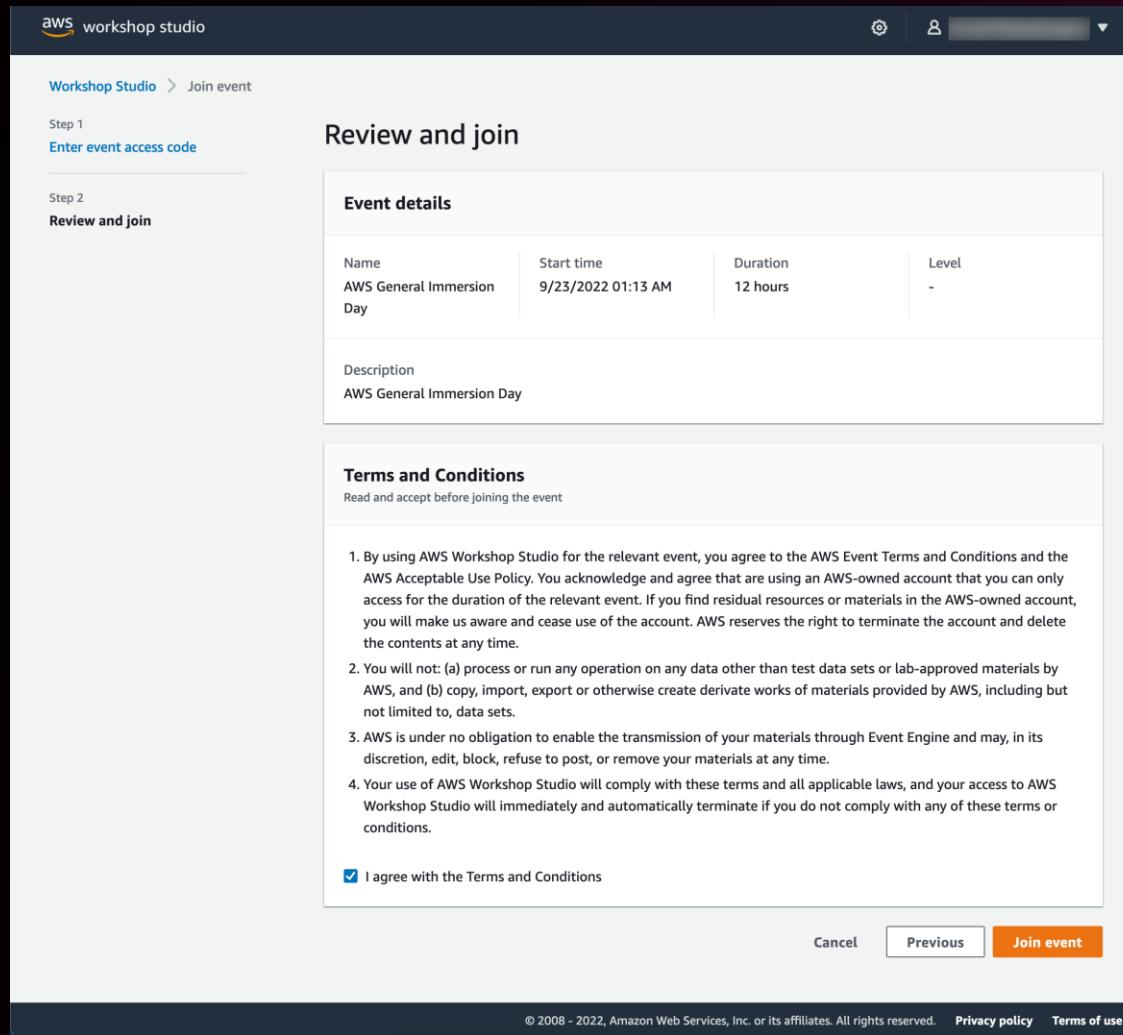


Step 2: Enter event access code

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



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.
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I agree with the Terms and Conditions

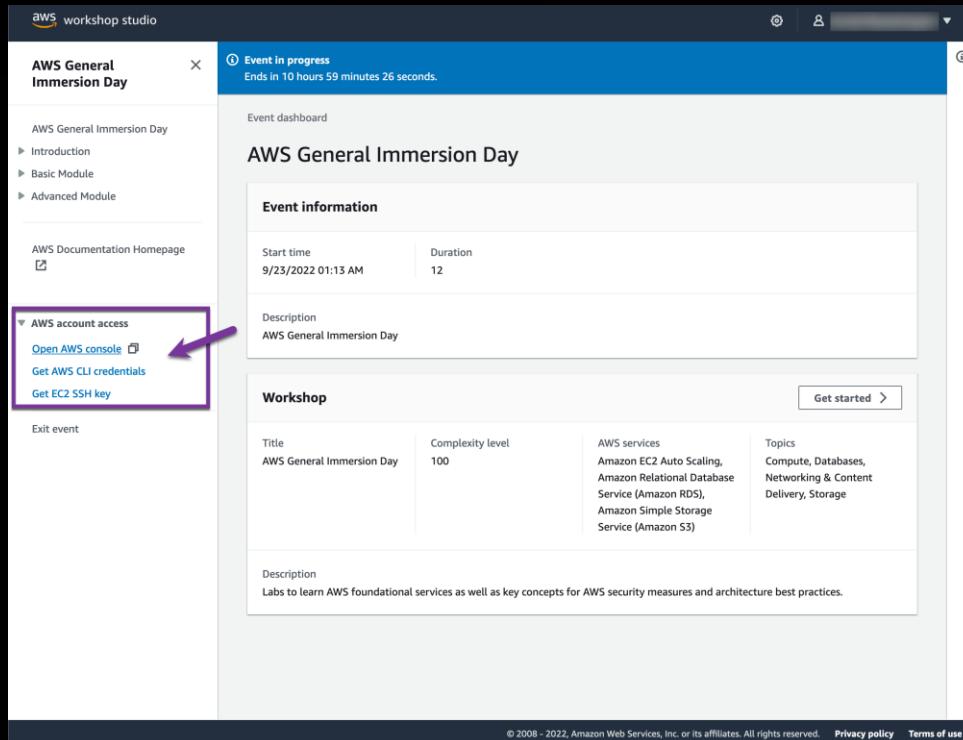
Cancel Previous **Join event**

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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
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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

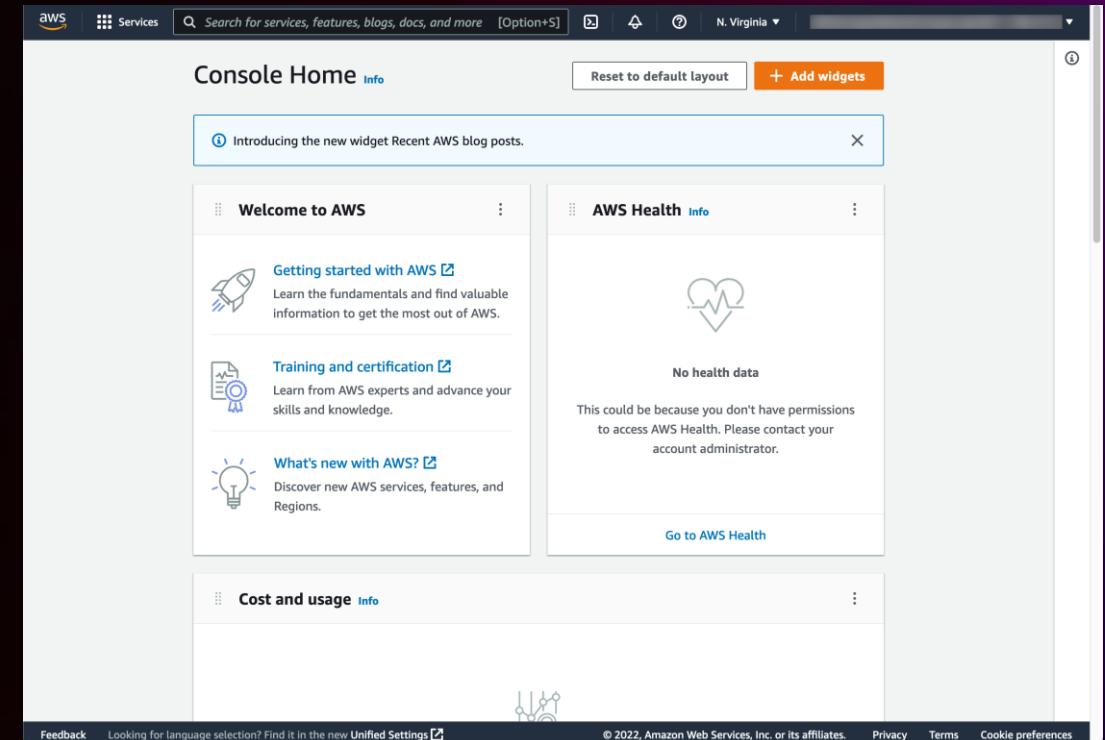
Description
Labs to learn AWS foundational services as well as key concepts for AWS security measures and architecture best practices.

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

Introducing the new widget Recent AWS blog posts.

Welcome to AWS

- Getting started with AWS
- Training and certification
- What's new with AWS?

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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More SaaS sessions

Breakout sessions

- SAS305 – SaaS architecture patterns: From concept to implementation
- SAS405 – SaaS microservices deep dive: Simplifying multi-tenant development
- SAS306 – SaaS migration: Inside a real-world multi-tenant transformation
- SAS302 – Supporting extensibility in SaaS environments
- PEX310 – Optimizing your multi-tenant SaaS architecture

Workshops

- SAS403 - SaaS microservices deep dive: Multi-tenancy meets microservices
- SAS402 – Serverless meets SaaS: Inside a real-world serverless SaaS solution
- SAS401 – Amazon EKS SaaS: Building a working multi-tenant environment

Business session

- PEX209 – Building your SaaS journey on AWS

More SaaS sessions

Chalk talks

- SAS307 – DevOps and SaaS: Applying automation in multi-tenant environments
- SAS303 – SaaS anywhere: Building SaaS that runs in hybrid models
- SAS301 – Multi-tenant meets ML: Building ML-based SaaS environments
- SAS304 – Solving the SaaS compliance puzzle
- PEX313 – The SaaS control plane: The heart of SaaS growth
- ARC403 – EKS SaaS deep dive: Inside a multi-tenant EKS solution
- ARC323 – Designing a multi-tenant SaaS tiering and throttling strategy
- SVS315 - Building multi-tenant applications with AWS Lambda and AWS Fargate

Builder session

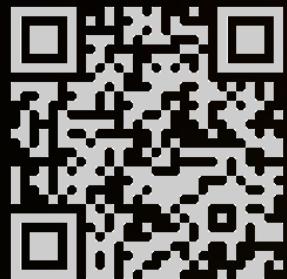
- ARC327 – How to optimize cost in your multi-tenant architecture

Additional resources

1

Subscribe to AWS SaaS Insights

Get monthly emails with advice and the latest updates



2

Explore SaaS on AWS hub

Check out the SaaS on AWS page for more resources and insights



3

Discover resources for builders

Access our curated list of SaaS reference solutions, demos, tech events, and more



Thank you!



Please complete the session
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