
AWS
re:Invent
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SVS208-R

Building serverless applications with Terraform

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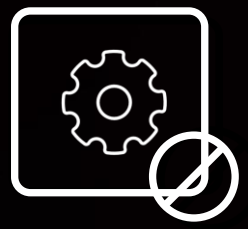
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What is serverless?



No infrastructure provisioning, no management



Automatic scaling



Pay for value



Highly available and secure

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AWS serverless portfolio

APPLICATION PRIMITIVES – COMPUTE AND DATASTORES


Amazon S3




AWS Fargate




Amazon Aurora Serverless


Amazon Kinesis

APPLICATION INTEGRATION


Amazon SNS




AWS Step Functions


Amazon EventBridge


Amazon MQ




AWS AppSync

DEVELOPER TOOLS


AWS CloudFormation



AWS Cloud9


AWS CodePipeline


AWS Config


AWS CloudTrail


Amazon CloudWatch


AWS X-Ray


AWS Serverless Application Repository

SECURITY AND ADMINISTRATION


AWS IAM


AWS SSO


Amazon GuardDuty


Amazon Inspector


Amazon VPC


AWS WAF


AWS Shield


Amazon Cognito

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2021 Australian Census goes serverless on AWS



https://aws.amazon.com/blogs/publicsector/australian-bureau-of-statistics-runs-2021-census-on-the-aws-cloud/

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Key facts about 2021 Australian Census

Australian Bureau of Statistics

7.6 million
forms submitted online

2.5 million
forms submitted on Census Day

142 forms
submitted per second at peak

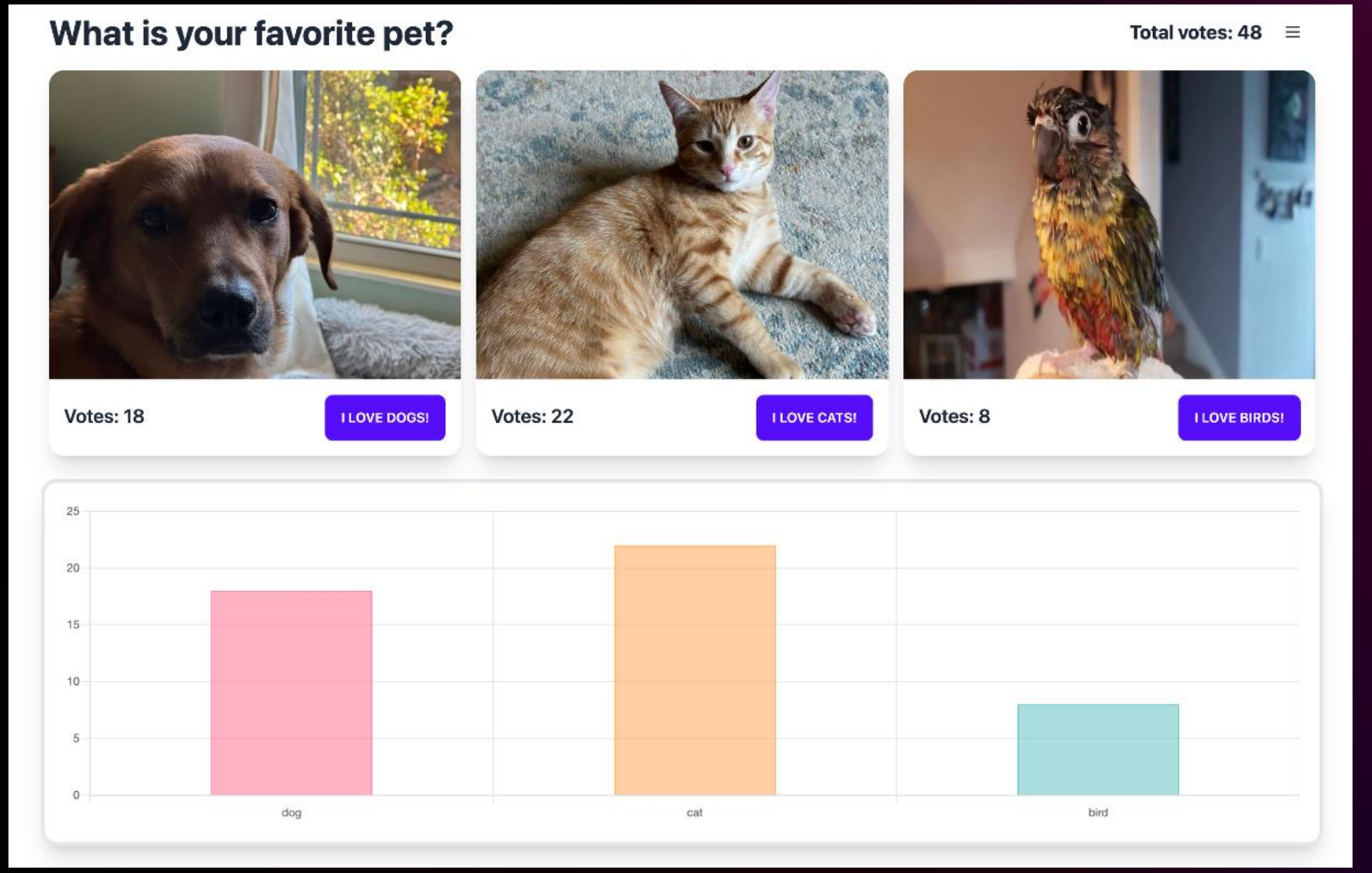
"The Census Digital Service achieved high levels of security, reliability, and scale thanks to the serverless architecture built on AWS. The most important benefit of working with AWS is that ABS doesn't have to worry about building and operating the underlying infrastructure, and ABS can focus on delivering a simple and easy experience for the people of Australia."

Steve Hamilton, Chief Information Officer at ABS

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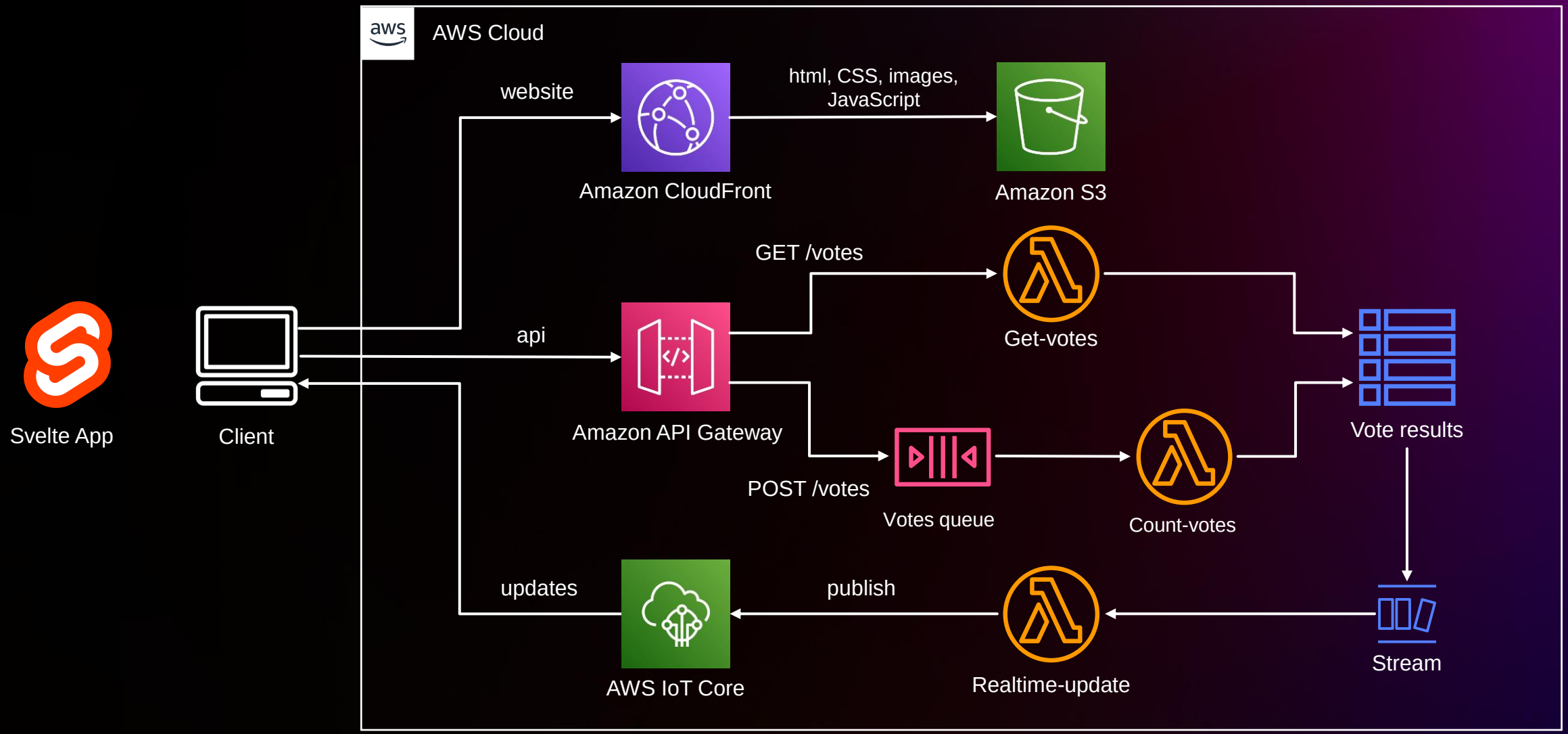
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What we are going to build today?



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The architecture



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A quick intro to Terraform

HashiCorp Terraform



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Terraform configuration

A *Terraform configuration* is a complete document in the *Terraform language* that tells Terraform how to manage a given collection of infrastructure.

A configuration can consist of multiple files and directories.

Key concepts: providers, resources, variables, outputs, and modules.

```
terraform {
  required_providers {
    aws = {
      source  = "hashicorp/aws"
      version = "~> 4.16"
    }
  }

  required_version = ">= 1.2.0"
}

provider "aws" {
  region  = "us-west-2"
}

resource "aws_instance" "app_server" {
  ami           = "ami-830c94e3"
  instance_type = "t2.micro"

  tags = {
    Name = "ExampleAppServerInstance"
  }
}
```

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Terraform CLI

Terraform CLI is a single binary command line tool written in GO.

Terraform is cross platform and can run on Linux, MacOs, and Windows.

Installing is easy. You download a zip file, unzip it, and run it.

Typical workflow: init, plan, apply, and destroy.

```
# Basic Terraform Commands
terraform version
terraform help
terraform init
terraform plan
terraform apply
terraform destroy
```

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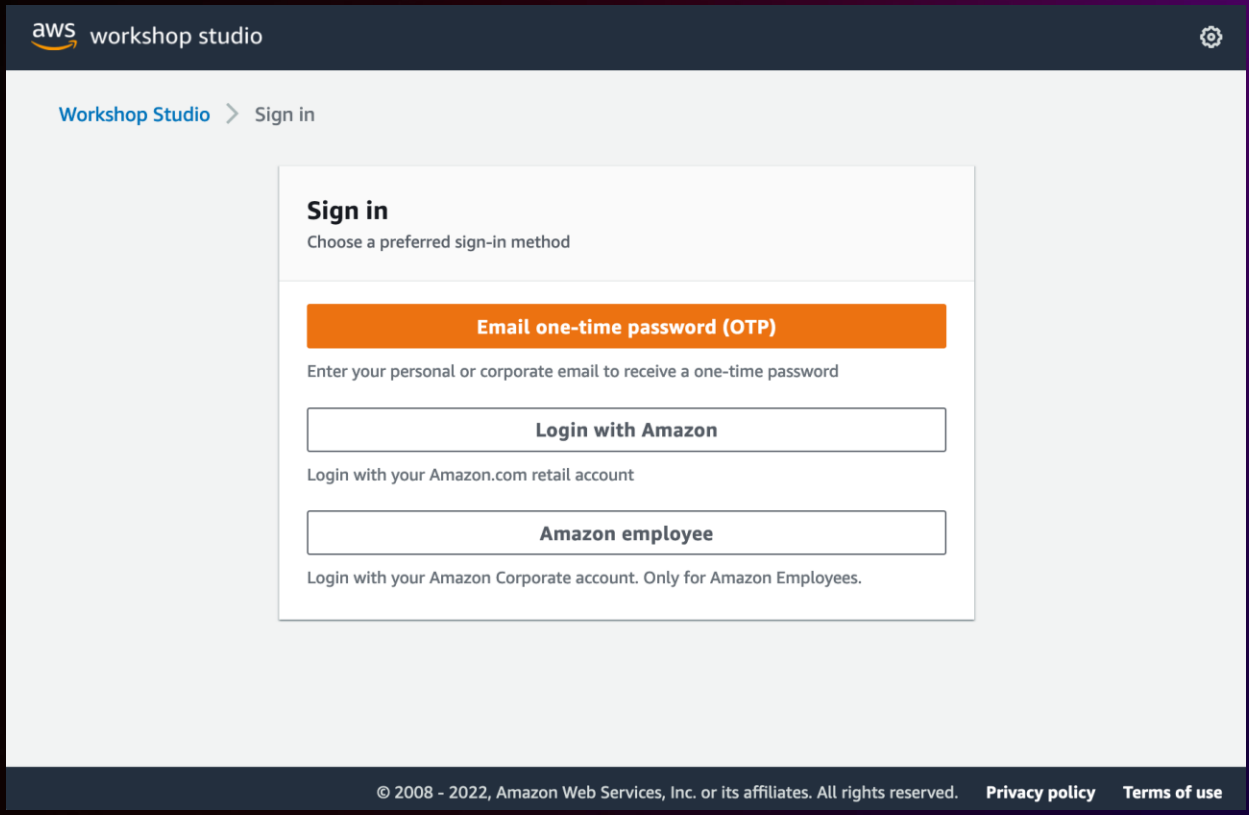
Getting started with this workshop

- 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 be available only 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.

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Step 1: Sign in via your preferred method

https://s12d.com/join-event

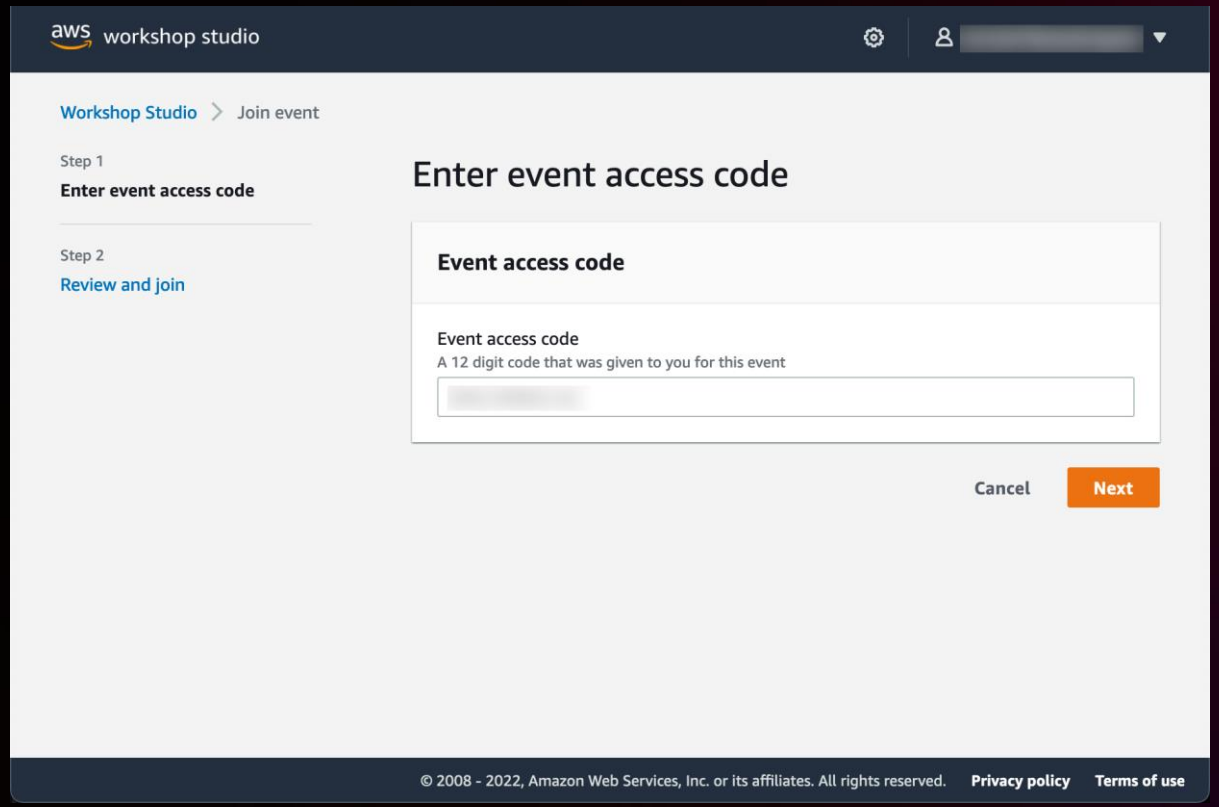


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Step 2: Enter the event access code

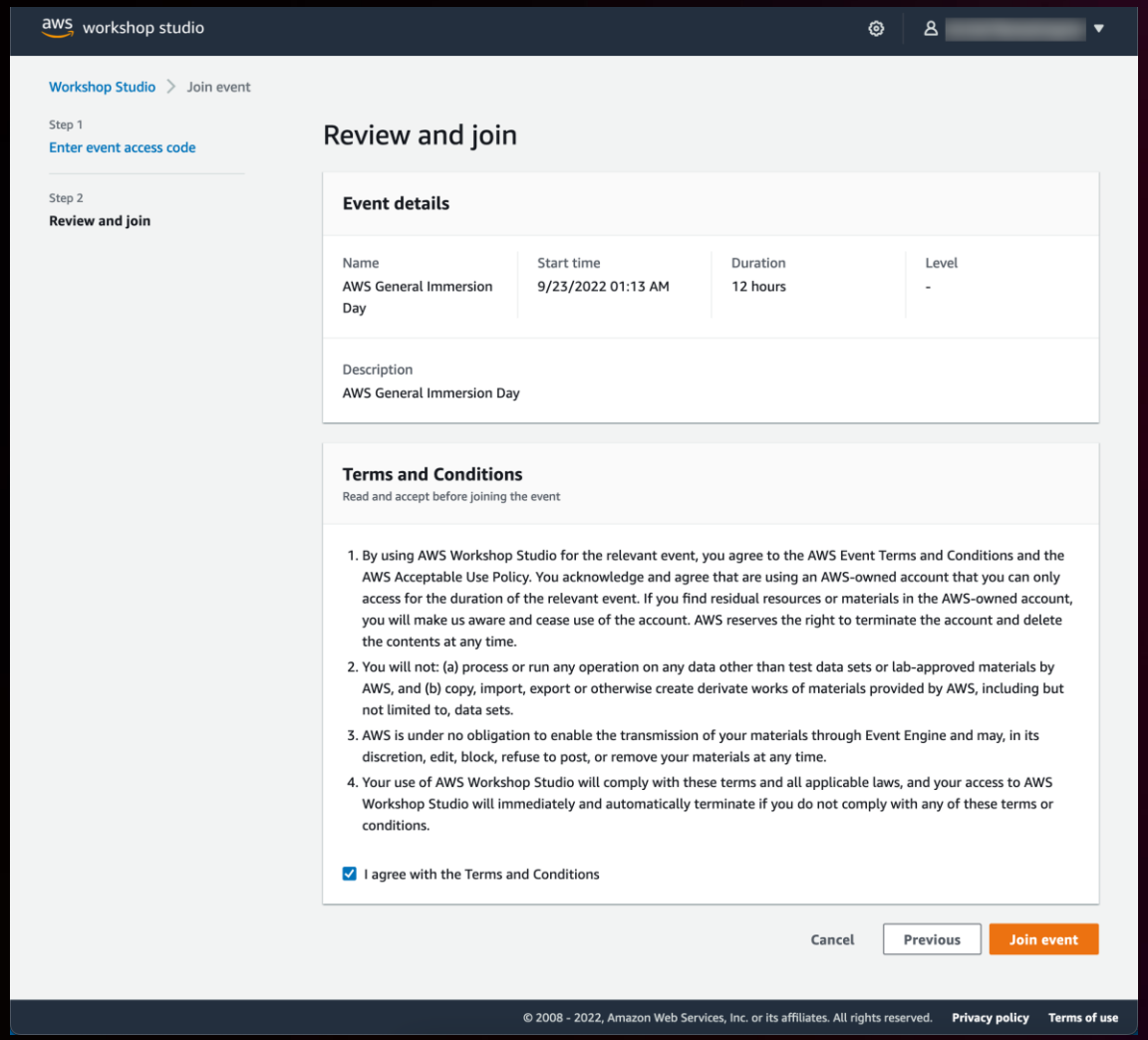
Enter the 12-digit event access code.

If you were given a one-click join link, you can skip this step.



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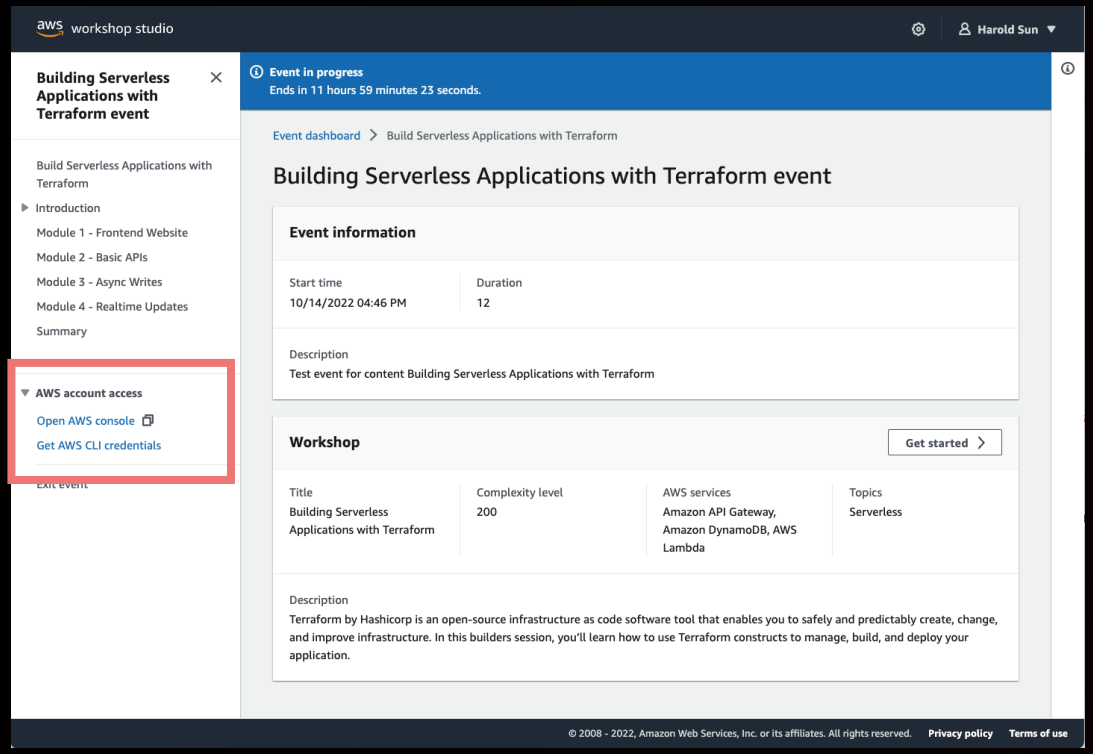
Step 3: Review the terms and join the event

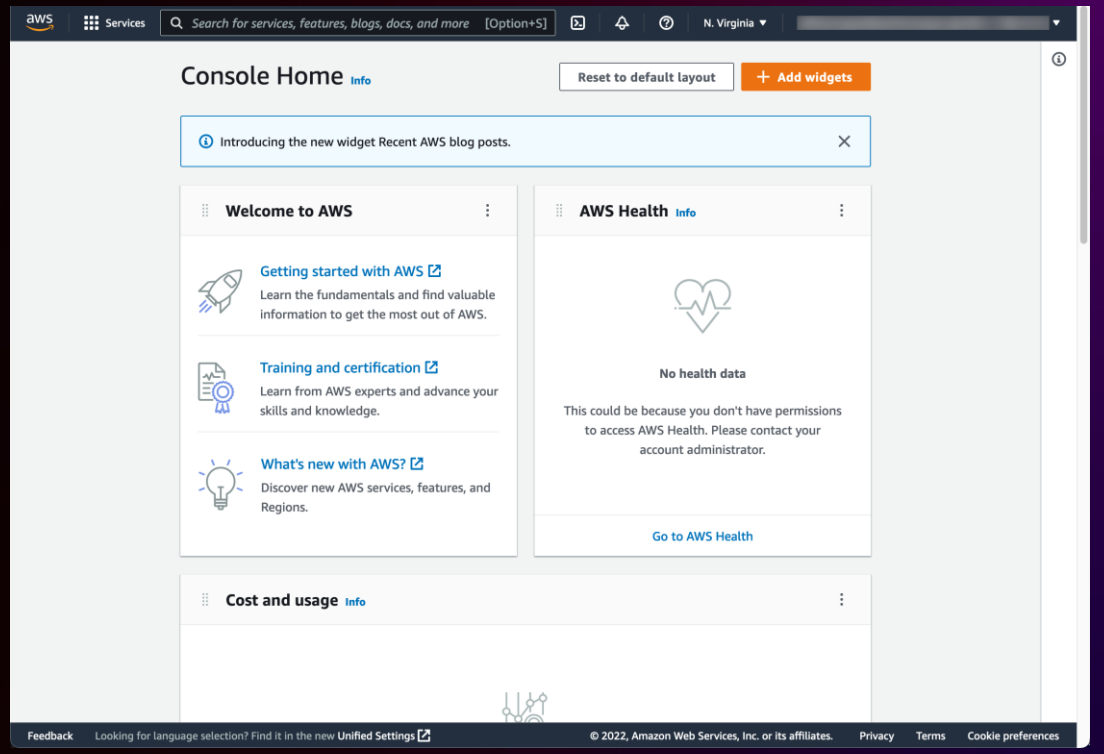


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Step 4: Access the AWS account

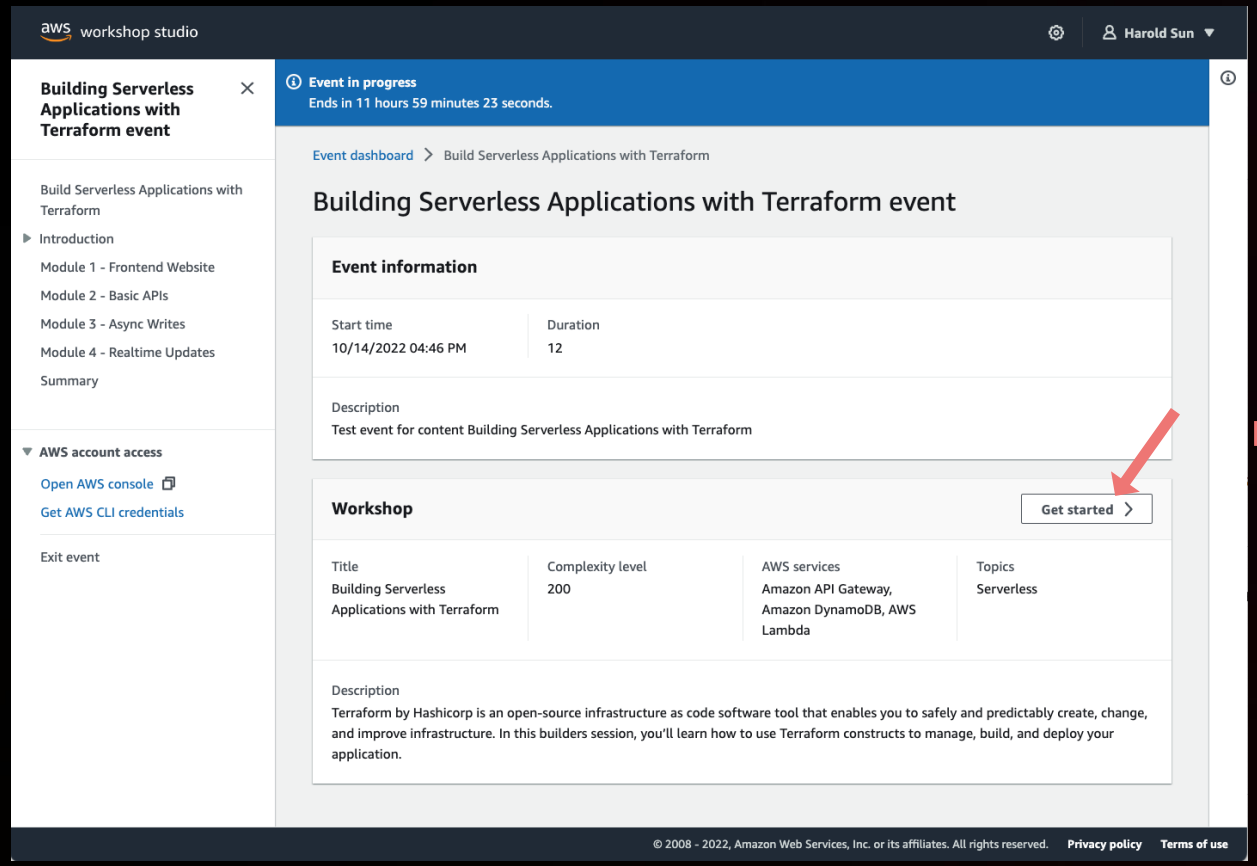
Access the AWS Console, or generate AWS CLI credentials as needed.

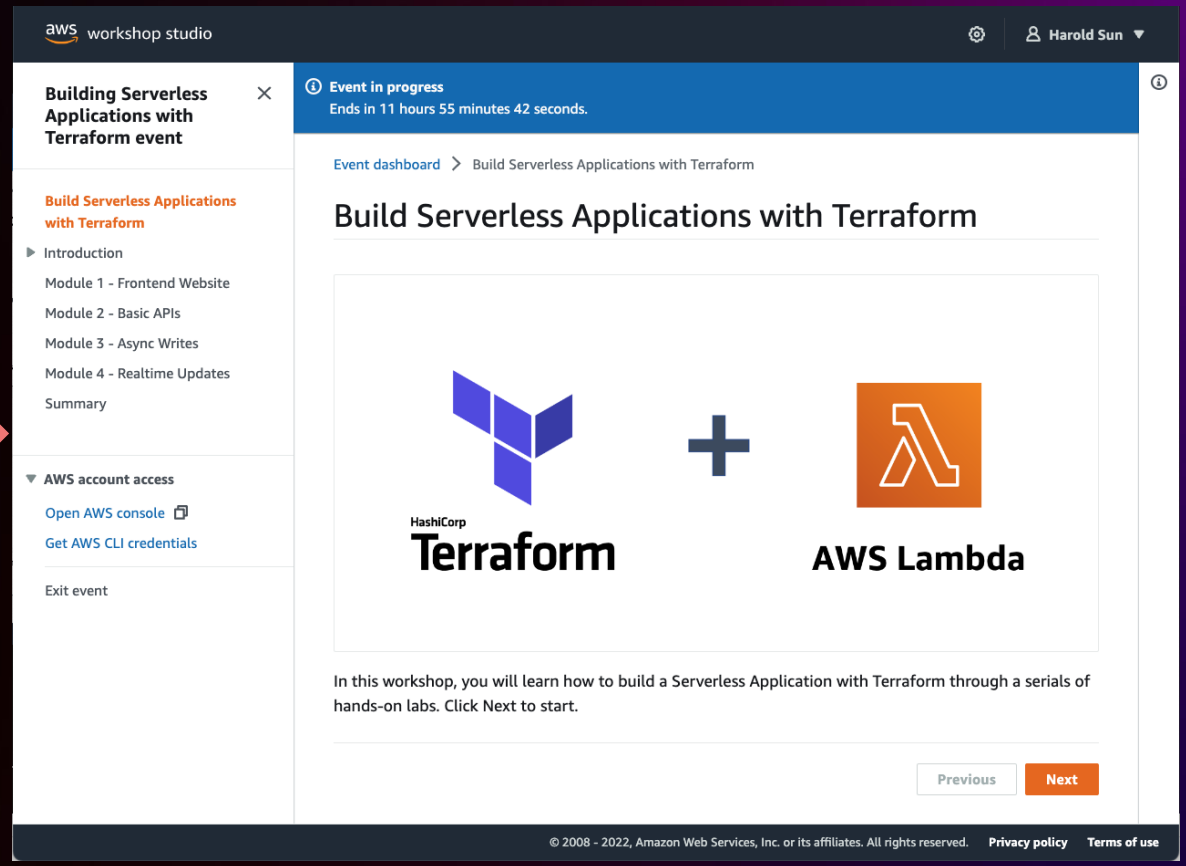




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Step 5: Get started with the workshop





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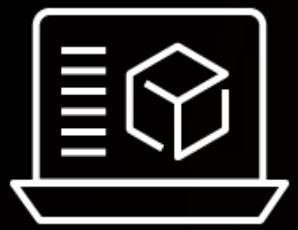
Related sessions

ID	Title	Type
SVS209	Get started building your first serverless, event-driven application	Breakout
SVS308-R	AWS serverless developer experience: A day in the life of a developer	Workshop
SVS303	Building real-world serverless applications with AWS SAM	Breakout
SVS319	PowerShell on AWS Lambda: The best of both worlds	Chalk Talk

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Thank you!

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Giedrius Praspaliauskas

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

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