

CTRL+HACK+DEL 2.0 Workshop Report

Shipping a Full-Stack App on AWS in a Hackathon

Hosted by AWS Cloud Club @ York University for CTRL+HACK+DEL 2.0

Summary of Workshop:

The **AWS Cloud Club** at *York University* will host a **demo-driven** workshop for **CTRL+HACK+DEL** focused on helping participants deploy a **real full-stack application** during the **hackathon**. The workshop introduces a **prebuilt full-stack template** deployed using **AWS Amplify** showcasing a *contrasting vendor service* as opposed to netlify, heroku, and vercel which hackathon participants are largely familiar with, allowing teams to quickly set up hosting, environment variables, and an automated CI/CD pipeline directly from Git. **One of the key conveniences of AWS Amplify** is its GitHub integration, which automatically **provides a bot** that monitors the codebase and triggers builds on every pull request or commit. This bot generates preview deployments, allowing teams to test changes in a live environment before merging, which helps catch issues early and keeps hackathon development fast and stable.

Participants will learn how **AWS Amplify** manages builds and deployments, how to configure and use an **Amazon S3 bucket** for common hackathon use cases such as file storage and assets, and gain practical insight into core **AWS services** without deep cloud theory. The session emphasizes speed, reliability, and real-world deployment practices, helping teams move beyond local demos and ship a working, publicly accessible application by demo day.

At the end of the workshop, we will host a raffle and give away (x2) AWS \$25 gift card credits for attendees this will hopefully incentivize them to show up and attend as well.

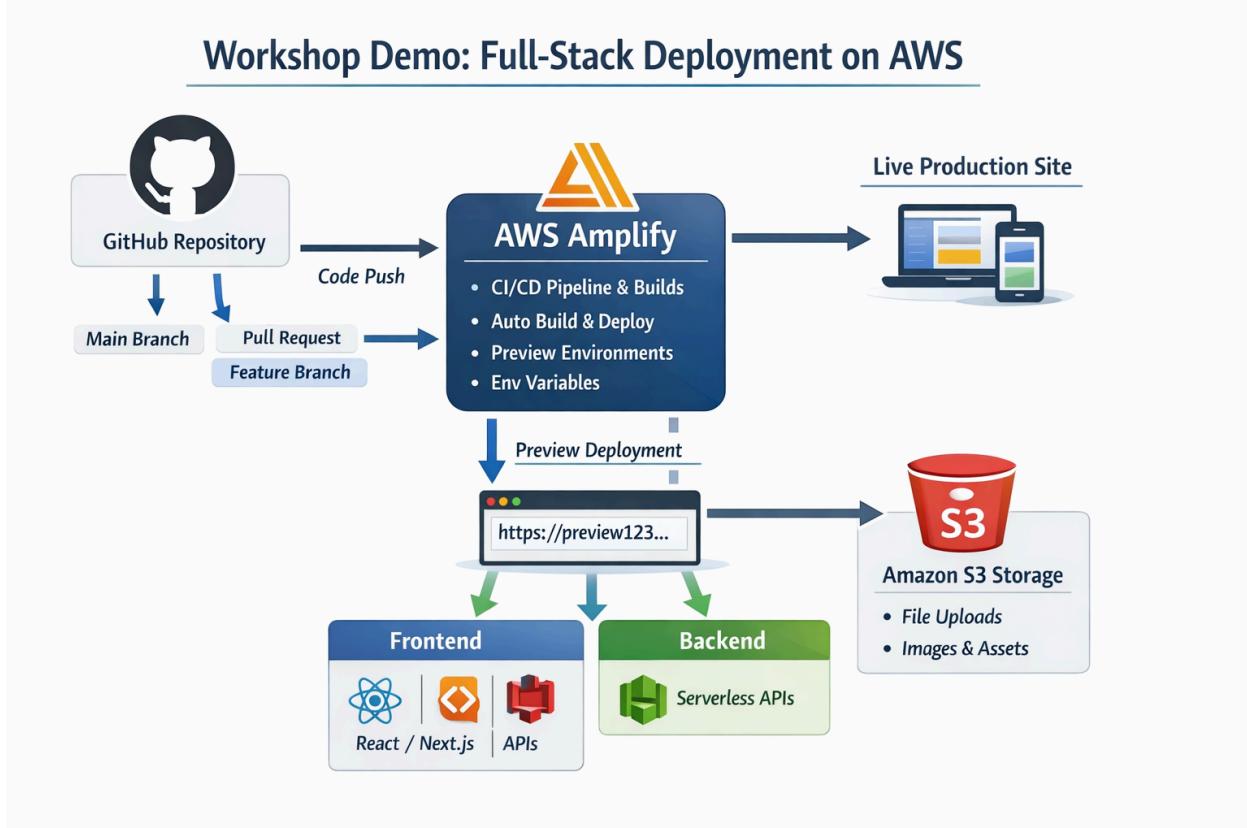


Image made by Ahmed (in canva fayaaz)

Workshop Demo (45–50 Minutes)

Overview

This workshop is a live, demo-only walkthrough showing how a full-stack app can be deployed on AWS during a hackathon. The goal is to show participants a realistic deployment workflow without requiring them to create accounts or set up AWS during the session. Everything shown can be copied later by teams who choose to deploy their own projects.

The demo follows the architecture shown in the diagram and moves step by step from code to a live deployed application.

Please view the following pages below:

1. Full-Stack Template Introduction (5 minutes)

We begin by introducing a prebuilt full-stack template designed for hackathons.

We briefly explain:

- What the frontend is and what it does
- What the backend is responsible for
- How the app talks to storage
- Why starting from a template saves time during a hackathon

This section focuses on helping participants understand what they are about to see, not on code details.

2. GitHub Repository and Workflow (5 minutes)

We show the GitHub repository that contains the full-stack app.

We explain:

- GitHub as the main place where all code lives
- The difference between the main branch and feature branches
- How teams usually work with pull requests during a hackathon

This sets up the rest of the demo and shows that everything starts from pushing code.

3. Connecting the App to AWS Amplify (10 minutes)

We connect the GitHub repository to AWS Amplify.

During this demo we show:

- Selecting the repository in the Amplify console
- How Amplify automatically detects the app
- How environment variables are managed
- How Amplify sets up hosting and builds without manual configuration

We explain that Amplify handles the hard parts so teams can focus on building features.

4. CI/CD and Automatic Deployments (10 minutes)

We demonstrate how AWS Amplify handles continuous deployment.

We show:

- A code push triggering a build
- Amplify running the build steps automatically
- The app deploying to a live URL without manual steps

We emphasize why this matters in a hackathon setting where time is limited and mistakes are common.

5. Preview Builds with the Amplify GitHub Bot (10 minutes)

This is the key feature highlight of the workshop.

We demonstrate:

- Opening a pull request
- The Amplify GitHub bot automatically creating a preview build
- A live preview URL that shows changes before merging
- How this helps teams test safely without breaking the main app

We explain this in simple terms as a safe testing version of the app.

6. Storage with Amazon S3 (5–7 minutes)

We show how the deployed app connects to Amazon S3 for storage.

We explain:

- What S3 is in simple terms
- Common hackathon uses like file uploads and images
- Why storage is separate from the app itself

We keep this high level and focused on practical usage.

7. Wrap-Up and Takeaways (3–5 minutes)

We close the workshop by reviewing the full flow:

- Code lives in GitHub
- AWS Amplify handles building and deployment
- Preview builds allow safe testing
- S3 stores files and assets

We also share:

- The template repository link
- Where participants can find documentation
- Encouragement to deploy later if they choose

Key Notes for Organizers

- **This workshop is demo-only to avoid setup delays**
- **No AWS accounts are required for attendees**
- **The full workflow is shown end to end within 50 minutes**

Workshop Objective

This workshop is designed to help hackathon participants **move beyond local demos** and deploy a real, production-style full-stack application using AWS services *quickly and safely*.

By the end of the session, participants will:

- Deploy a working full-stack template using **AWS Amplify**
- Understand how CI/CD works in a real AWS environment with a provisioned bot
- Configure and use **Amazon S3** for storage
- Gain practical intuition about when and why to use common AWS services during a hackathon

Why This Workshop Matters for a Hackathon

Most hackathon teams struggle not with ideas, but with **execution under time pressure**. Teams frequently build applications that only run locally, break during demo setup, or fail to deploy reliably before judging. These issues often overshadow otherwise strong technical work and learning outcomes.

This workshop directly addresses that gap by showing participants how modern teams ship software **quickly, safely, and publicly** using managed cloud services. Rather than teaching abstract cloud concepts, the session demonstrates a real deployment workflow used in industry: code pushed to GitHub automatically builds, deploys, and generates live preview environments. This helps participants understand how frontend, backend, CI/CD, and storage fit together in practice.