
AWS
re:Invent

FWM305

Faster application iteration with AWS Amplify CI/CD

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Associate Director of Engineering
Noom

Nader Dabit

Senior Developer Advocate
Amazon Web Services

AWS re:Invent

Agenda

Introduction to AWS Amplify

Hosting with CI / CD

Managing users and data

App settings and management



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AWS Amplify



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Amplify – Solution across app lifecycle

Develop

Authentication
DataStore
Storage
API
Analytics
PubSub
Predictions
Interactions
Notifications


Libraries


CLI



Admin UI

Deliver

Static web hosting
Fully managed
Full stack deployments
CI / CD built in
Pull request previews

Tools


CLI


Console

Manage



Authentication
Manage users and groups

DataStore
Manage data content


Admin UI



Amplify Framework (OSS)

Amplify Console (Service)

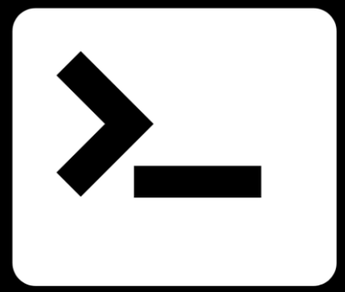
Amplify Framework (OSS)



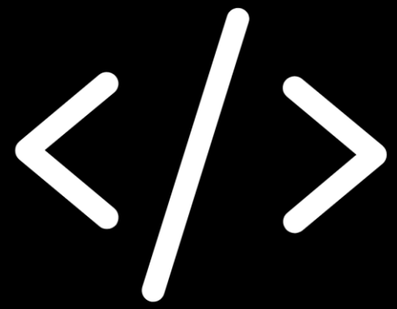
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Amplify Framework

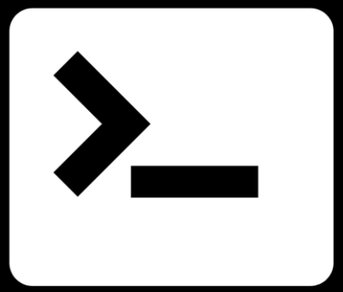


CLI



Client Libraries

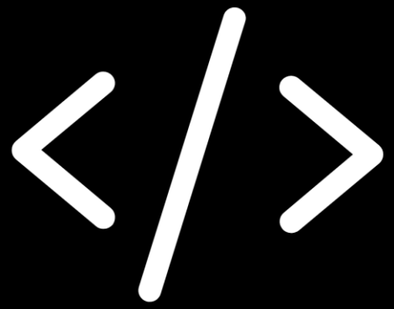
Amplify CLI



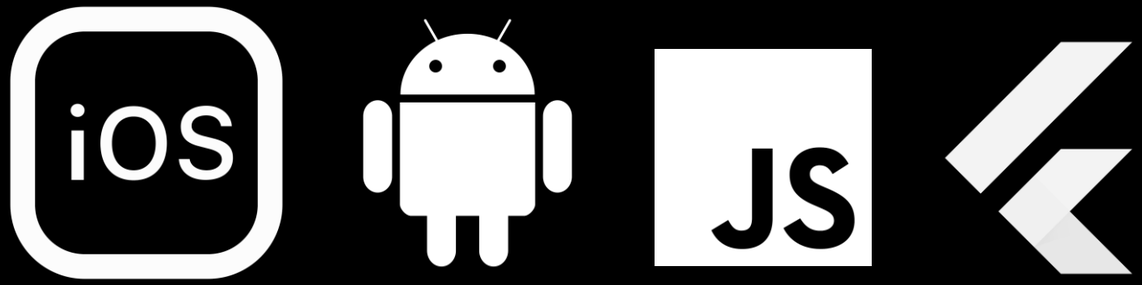
CLI

- Provision, update, and manage cloud services
- Environment management
- Code generation
- Local testing / mocking
- Initialize existing projects

Amplify Client Libraries



Client



Platform-specific libraries optimized for interacting with AWS services from web and mobile clients

Amplify Console



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Amplify Console

Control center for your Amplify app

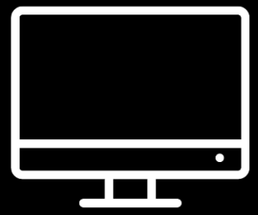


Amplify Console

Control center for your Amplify app



Hosting



Admin

Amplify Hosting



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Amplify Console

- ✓ Instant atomic deployments
- ✓ Easy custom domains
- ✓ Feature branch deployments
- ✓ Pull request previews
- ✓ Password-protected deployments and previews
- ✓ Git integration for simplified CI / CD





Amplify Hosting

Deployment techniques

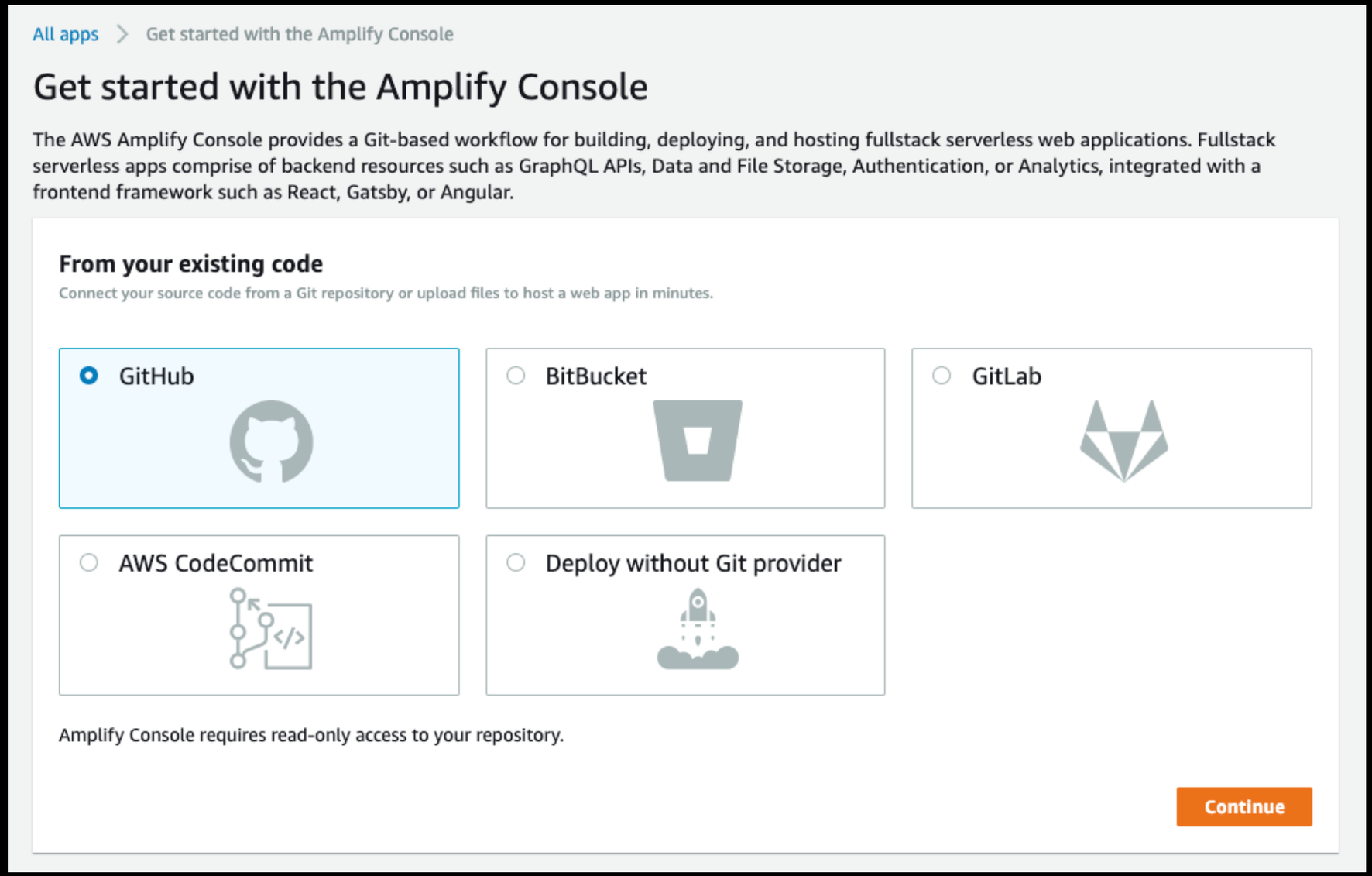
Amplify Hosting

DEPLOYMENT TECHNIQUES

1. Amplify Console
2. Amplify CLI

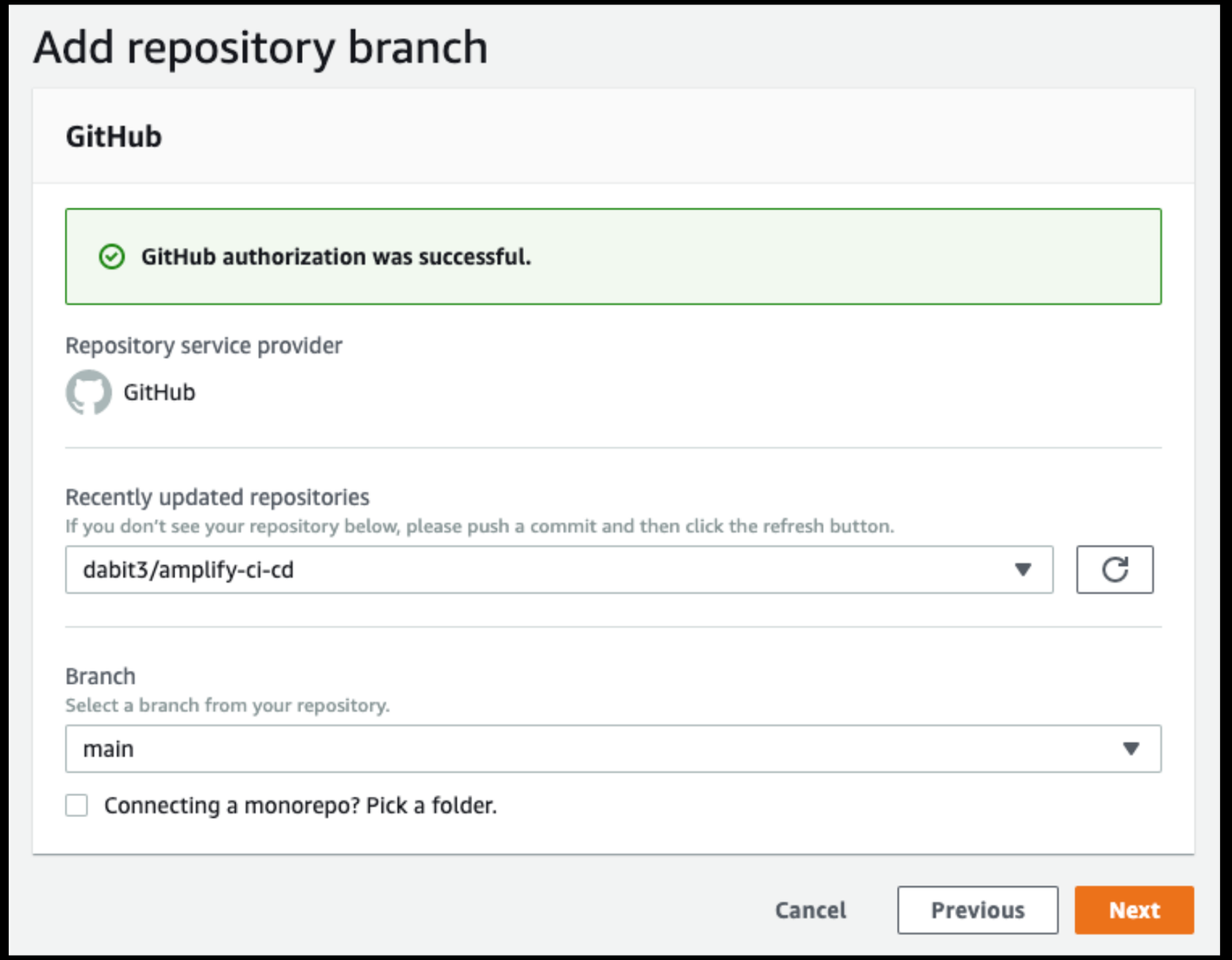
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AMPLIFY CONSOLE



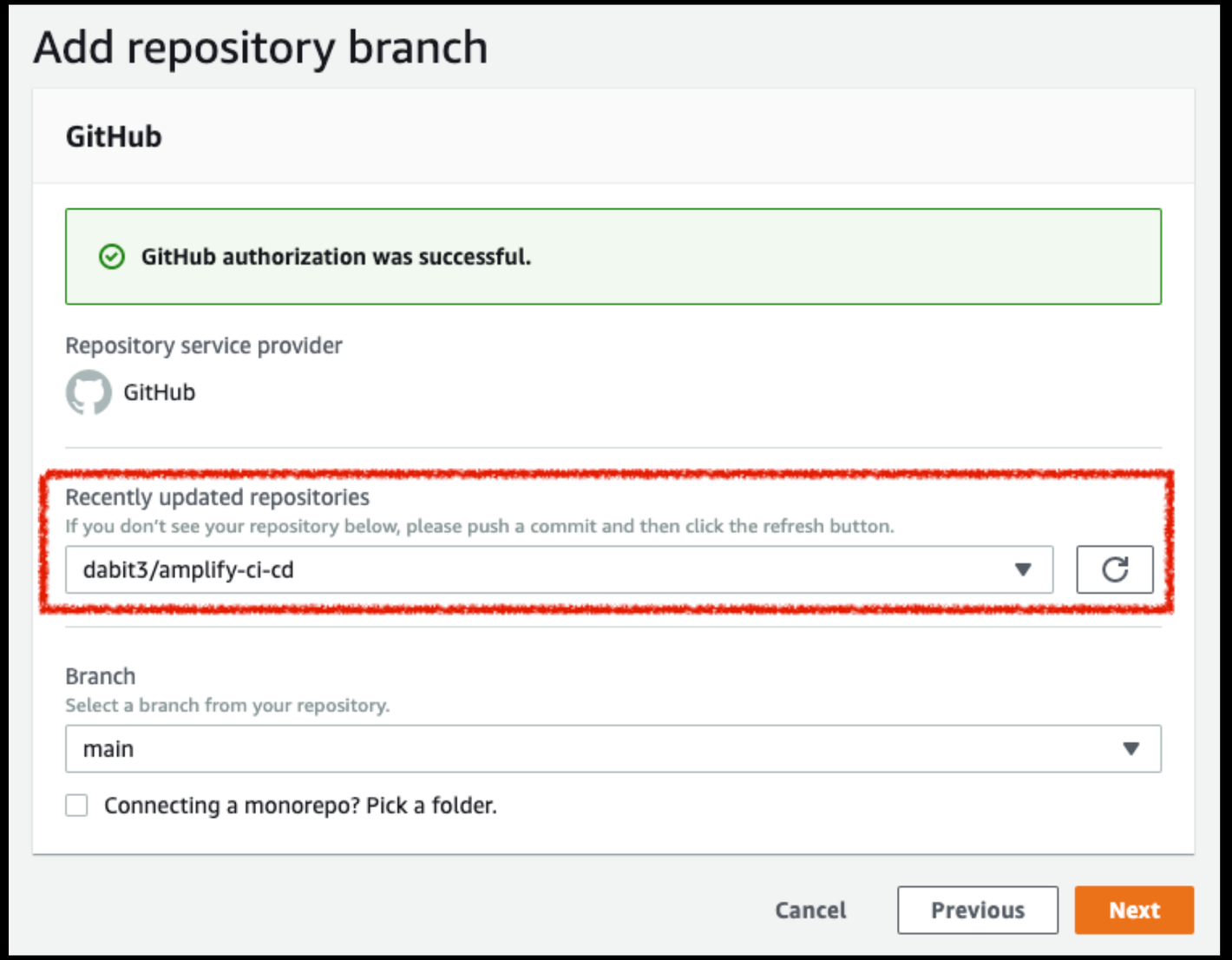
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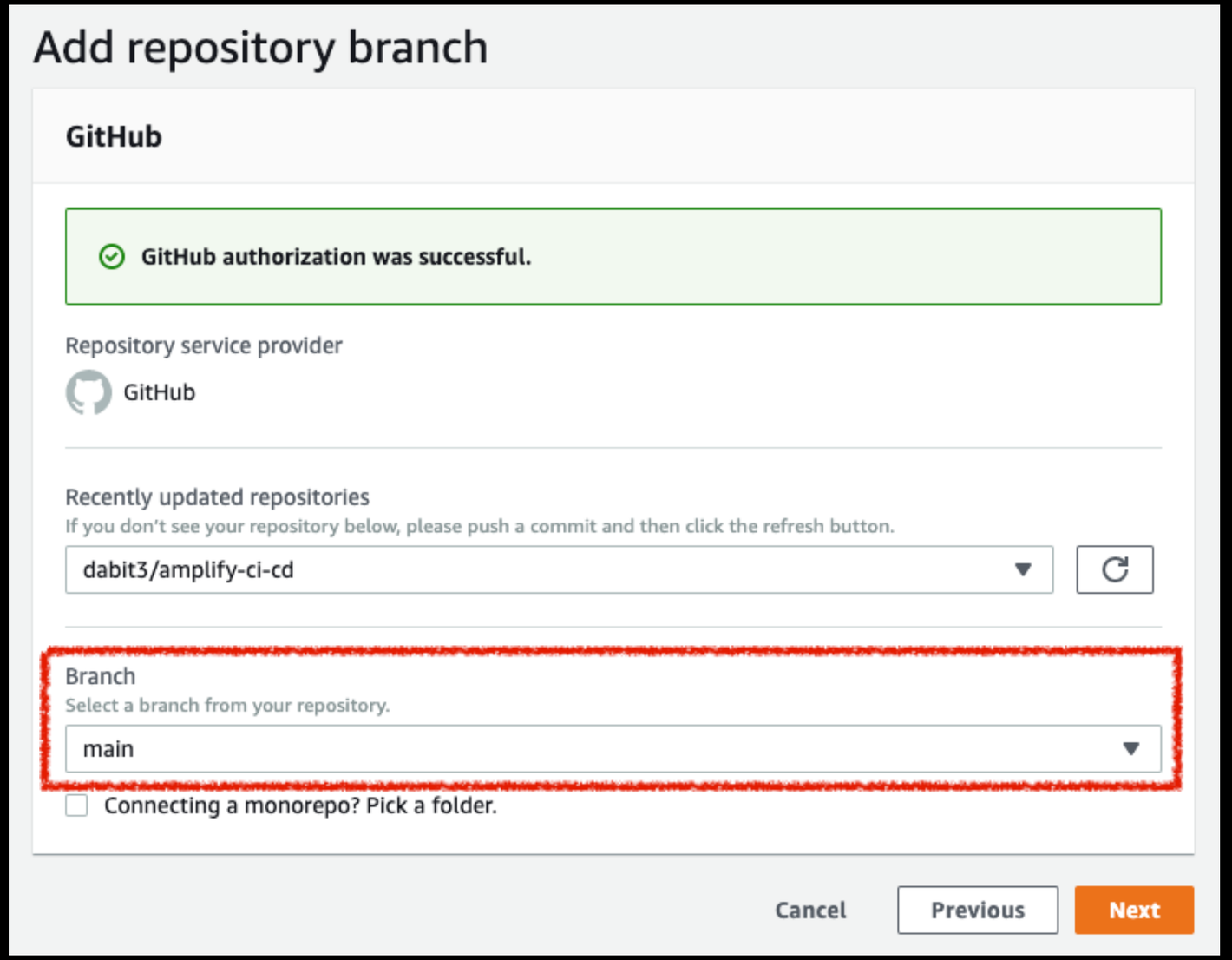
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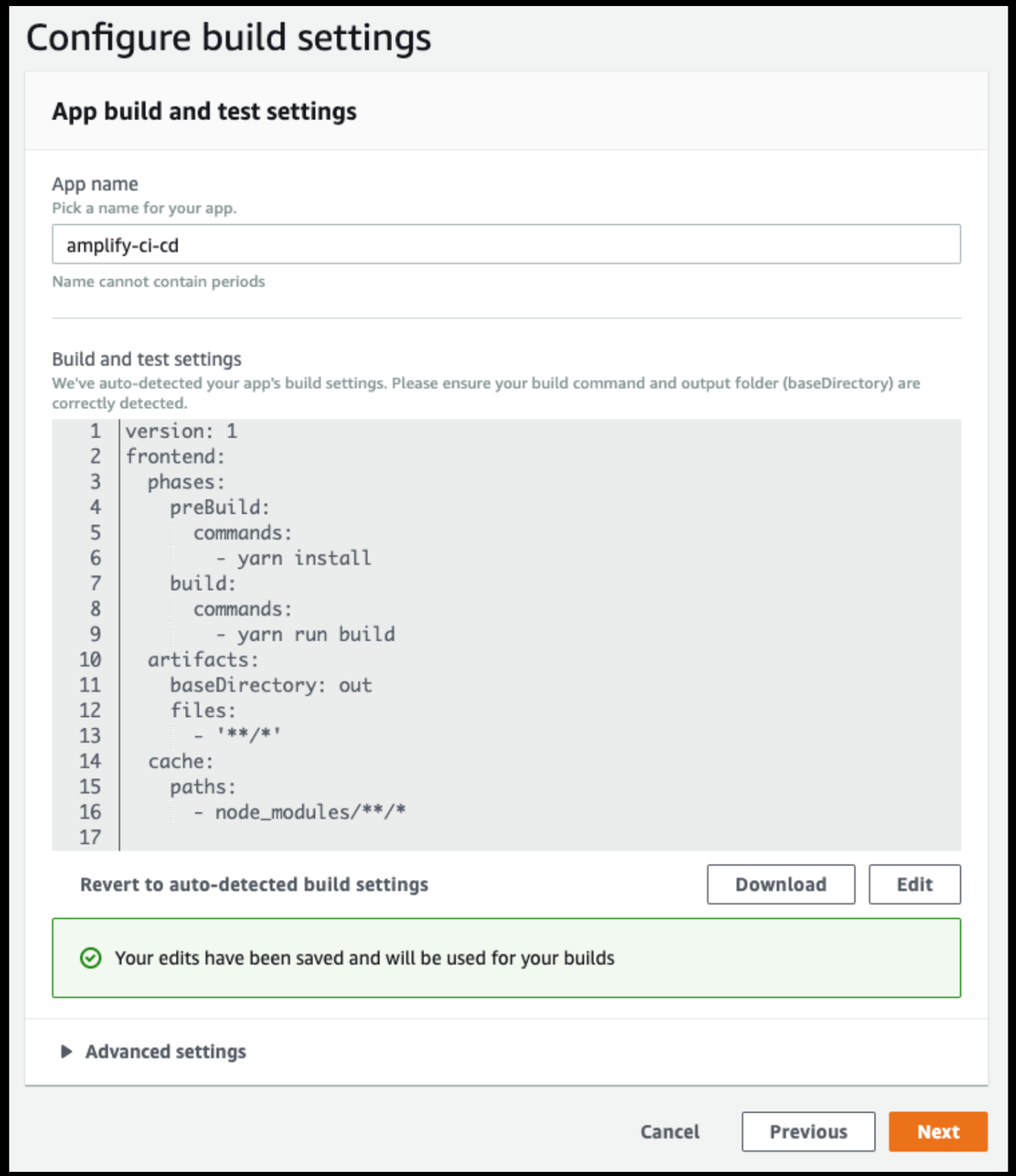
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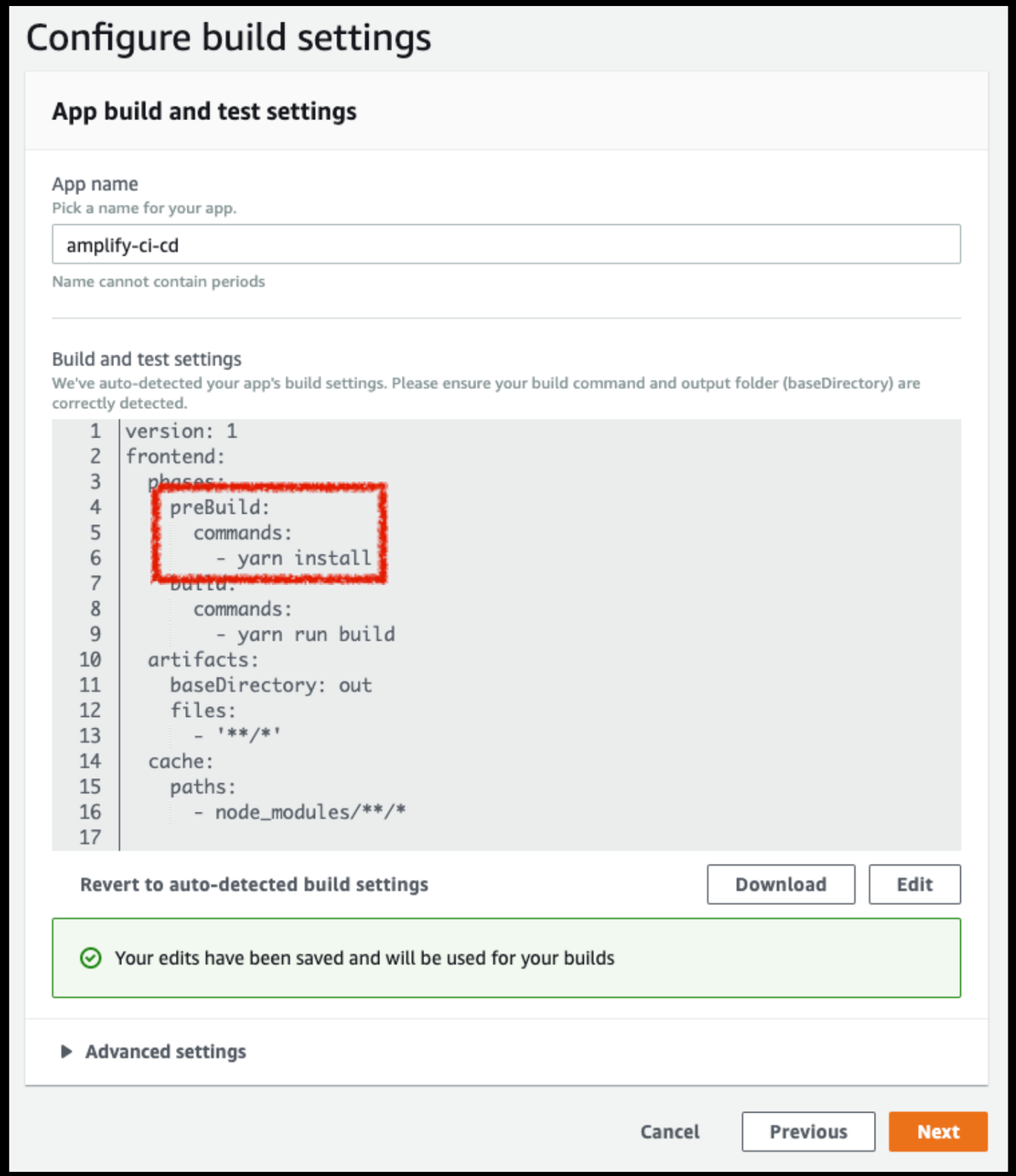
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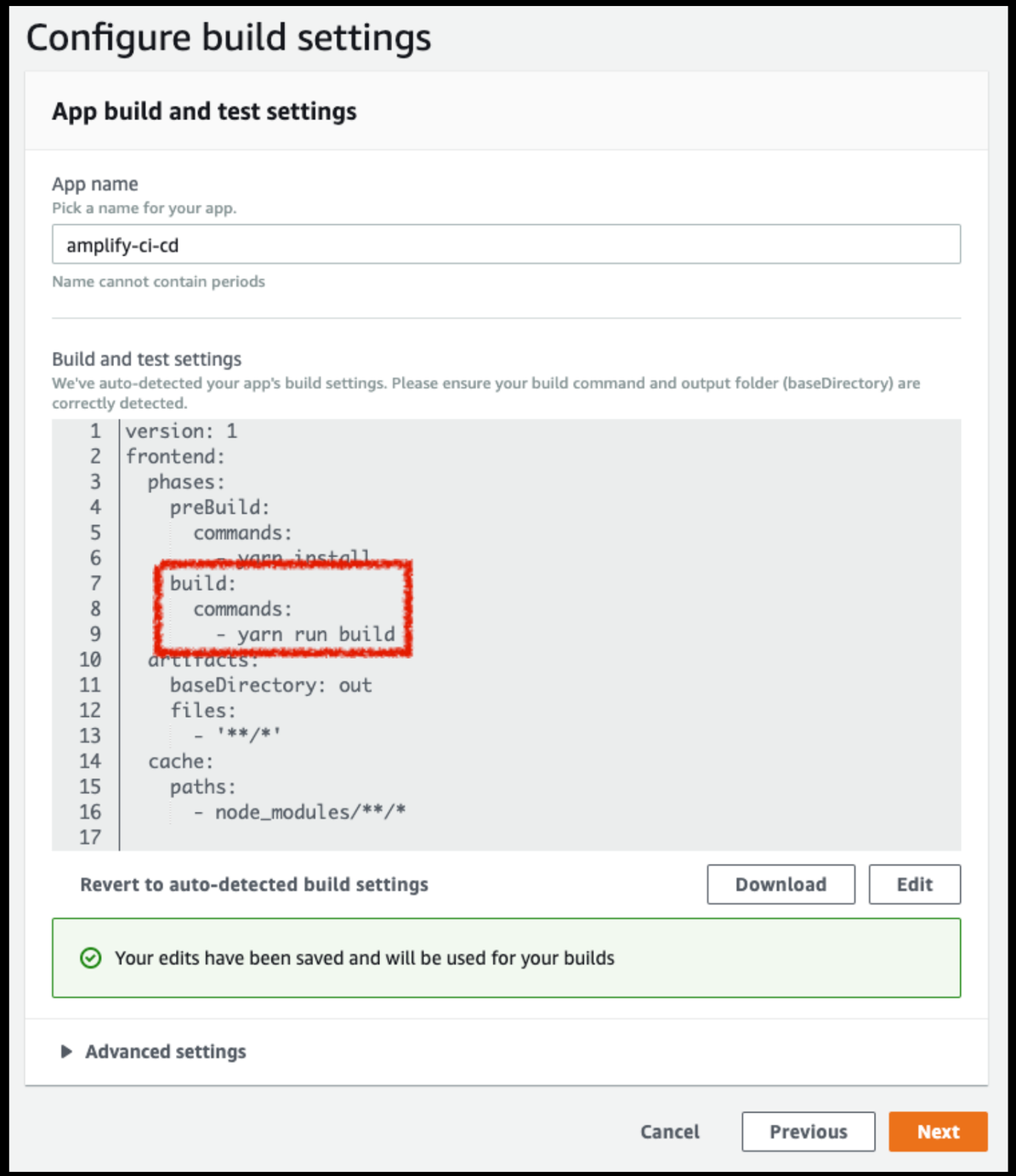
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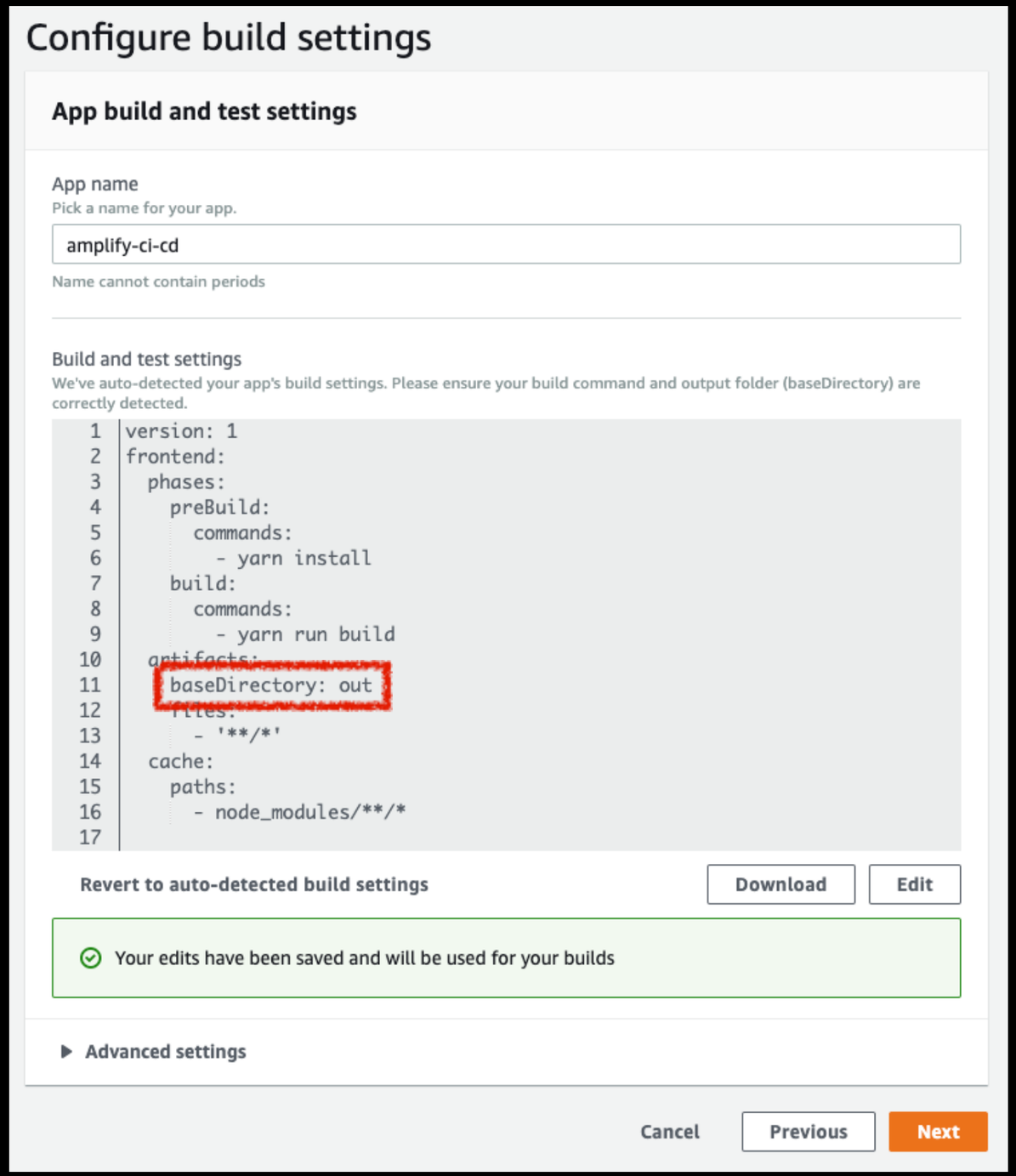
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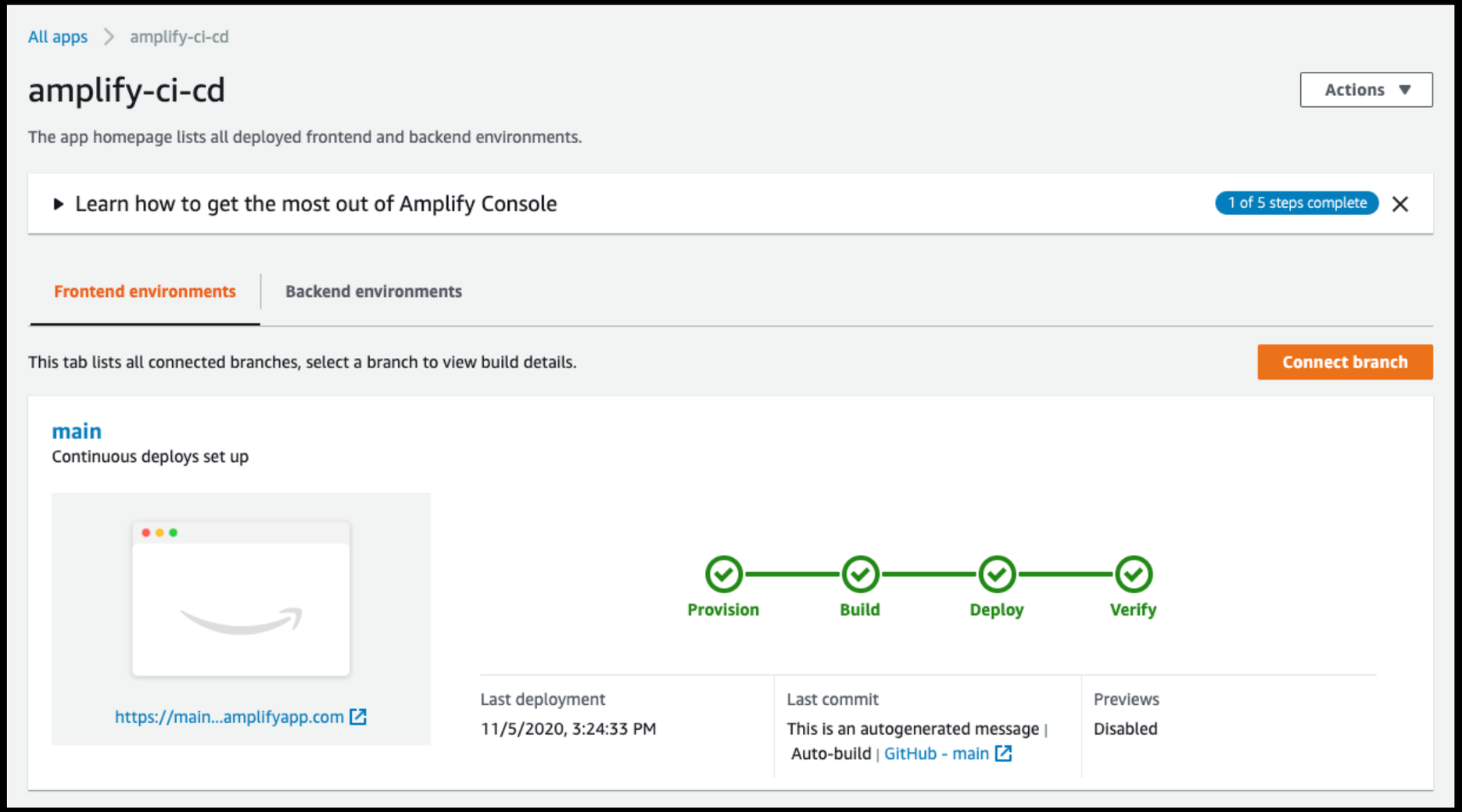
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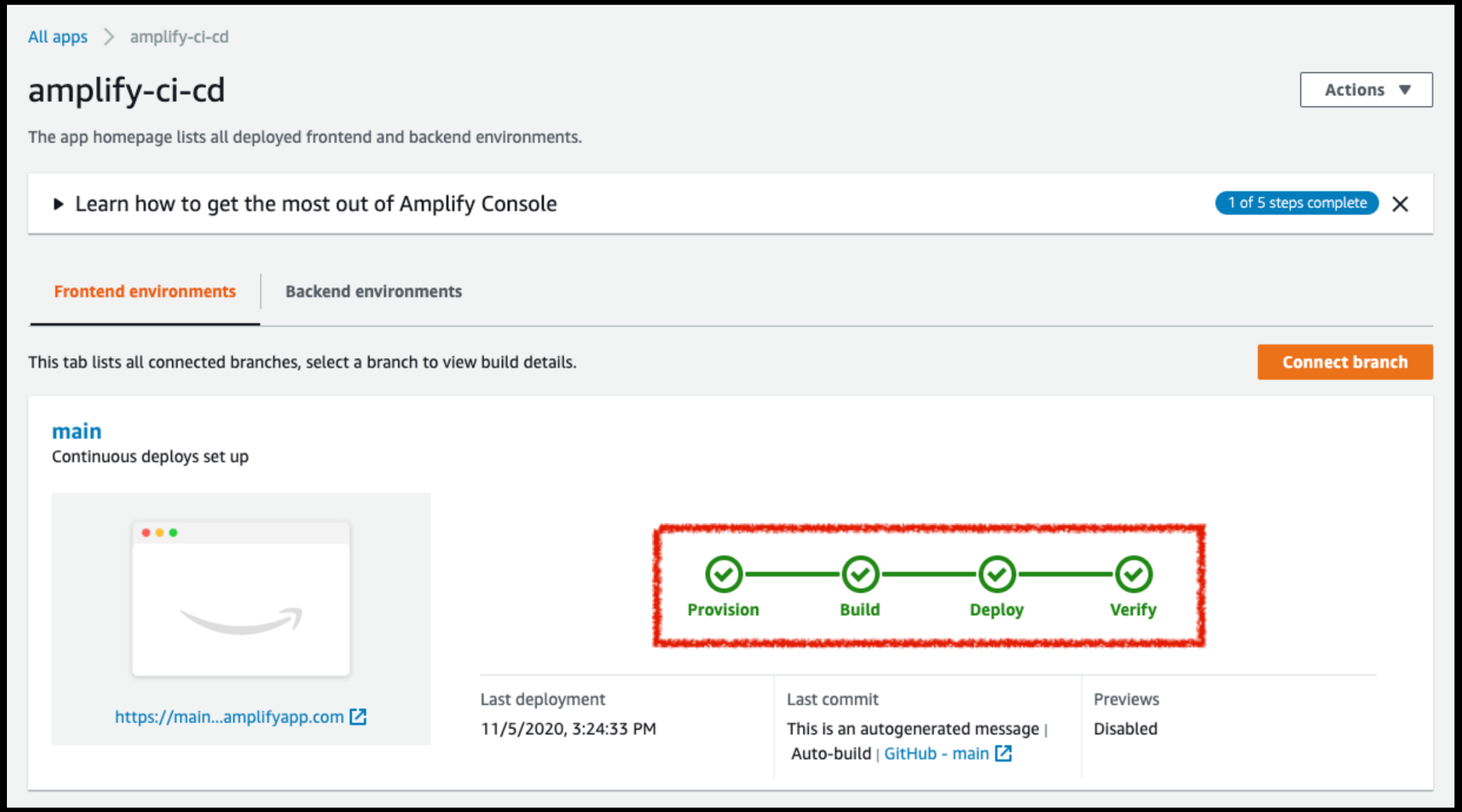
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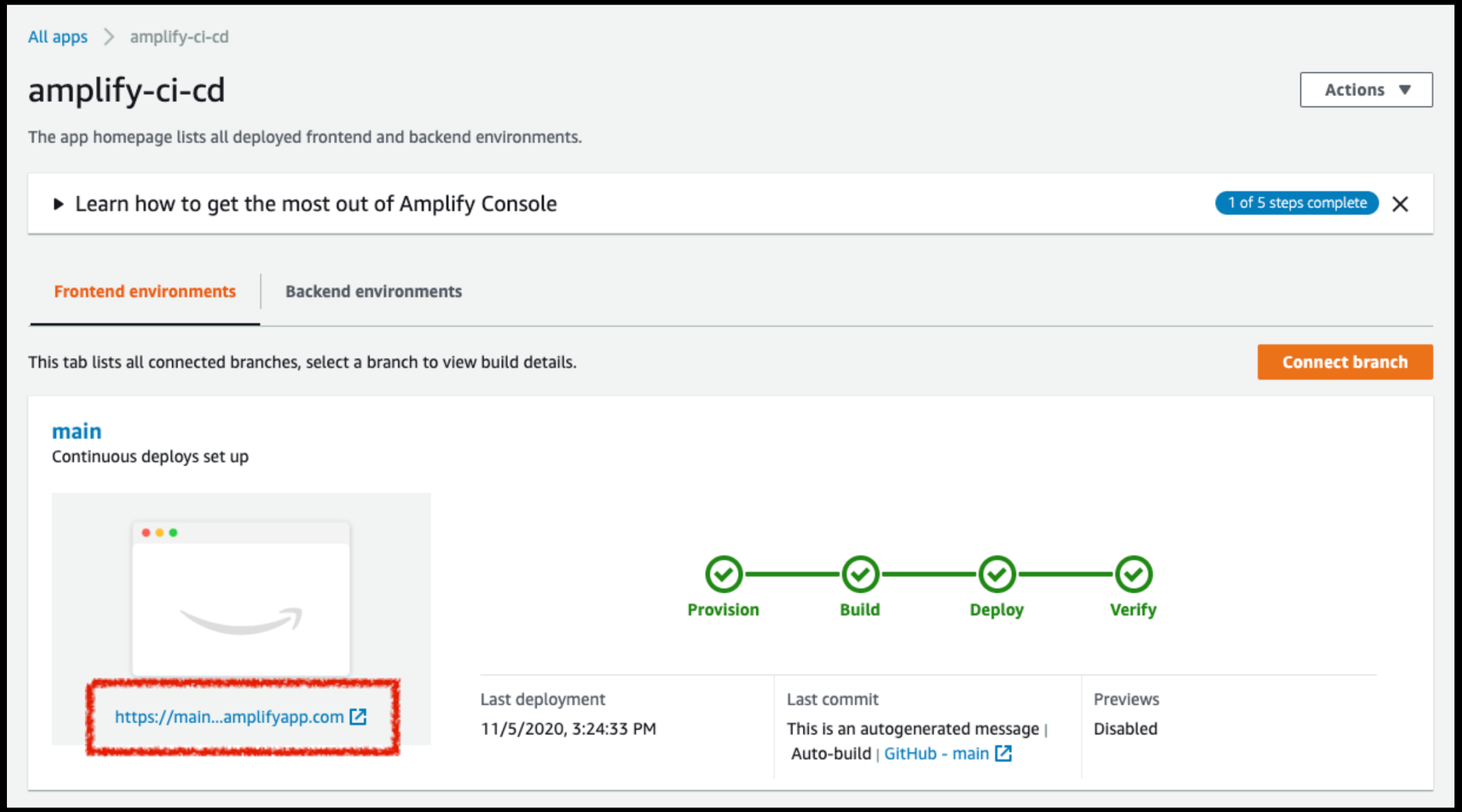
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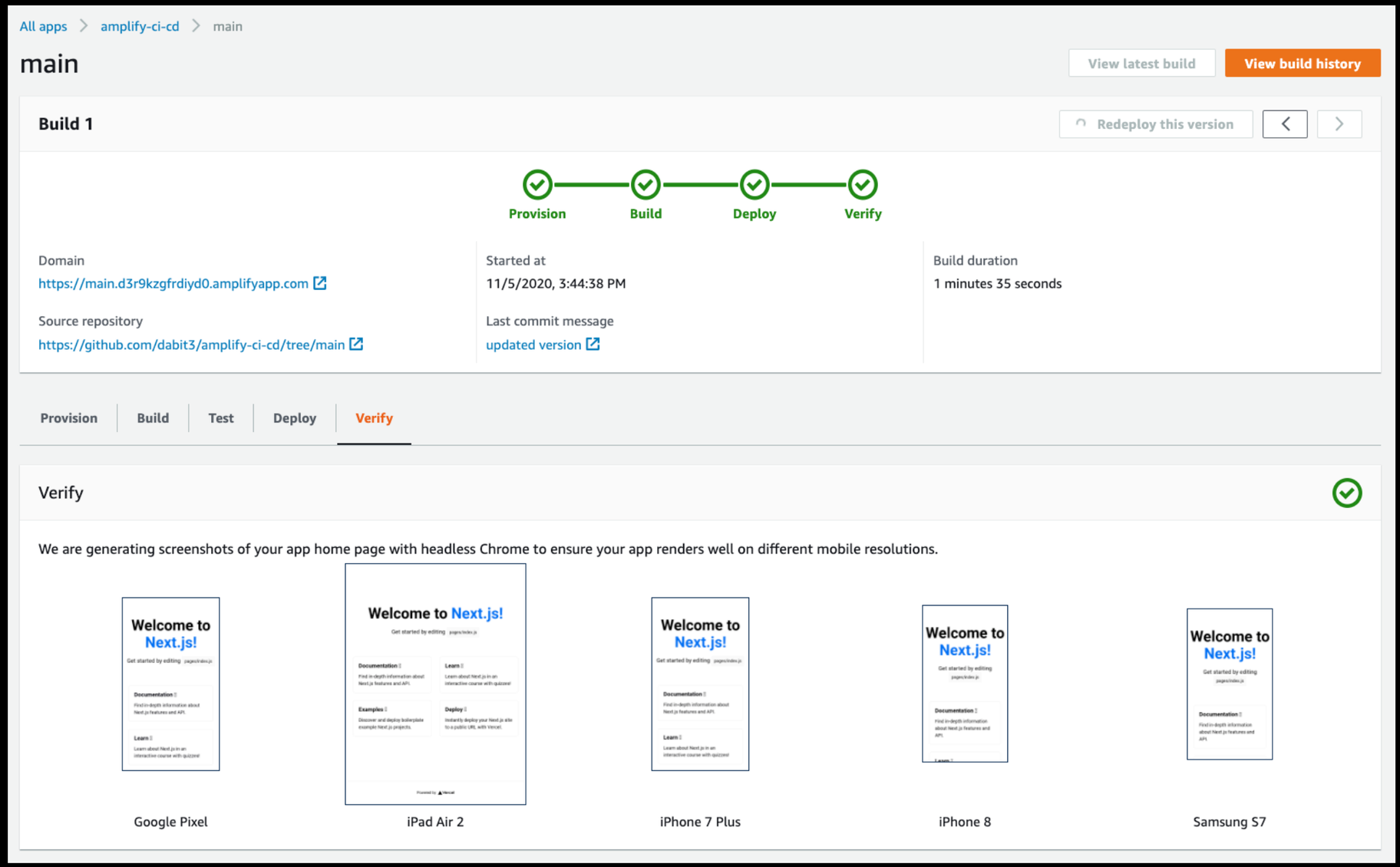
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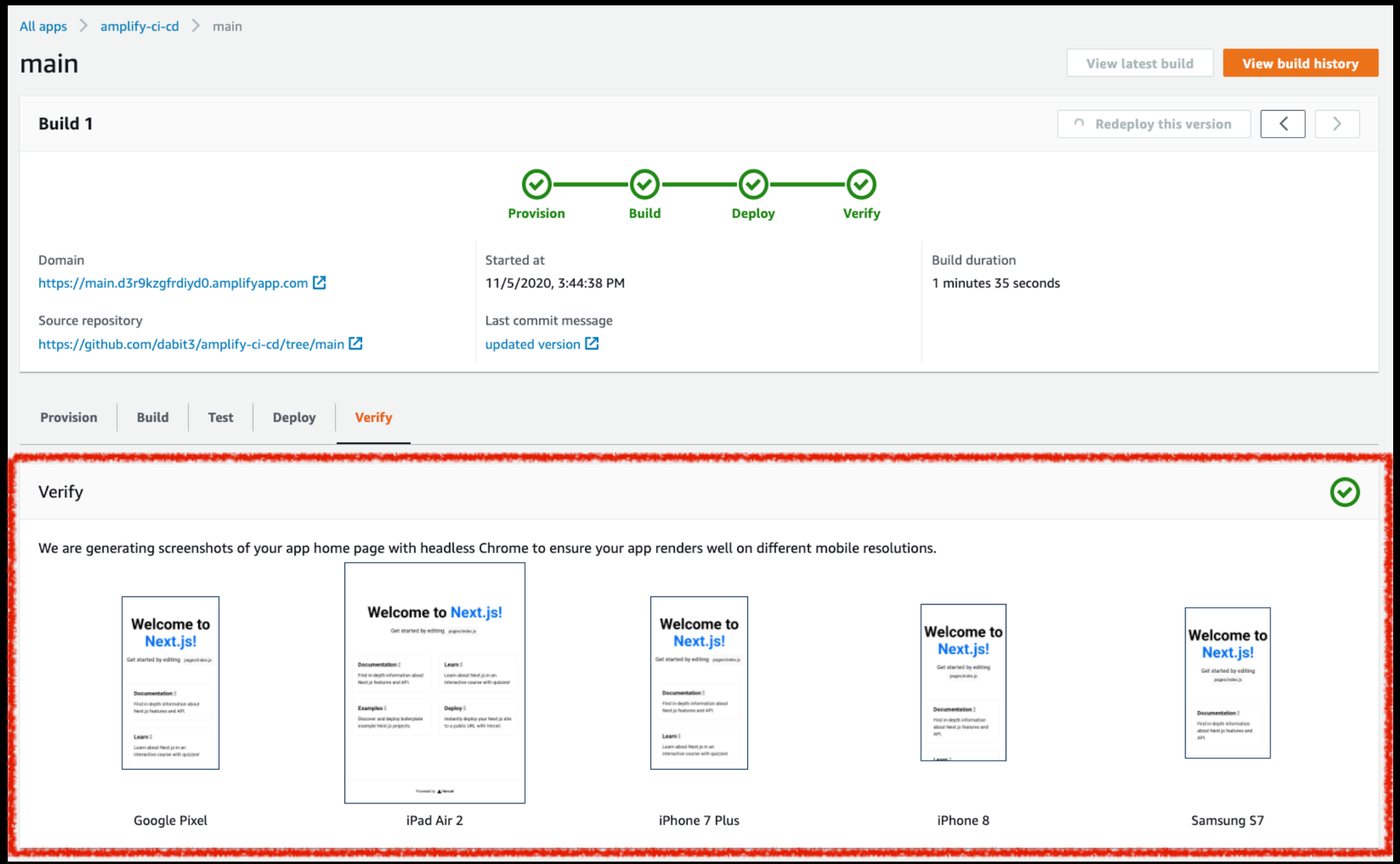
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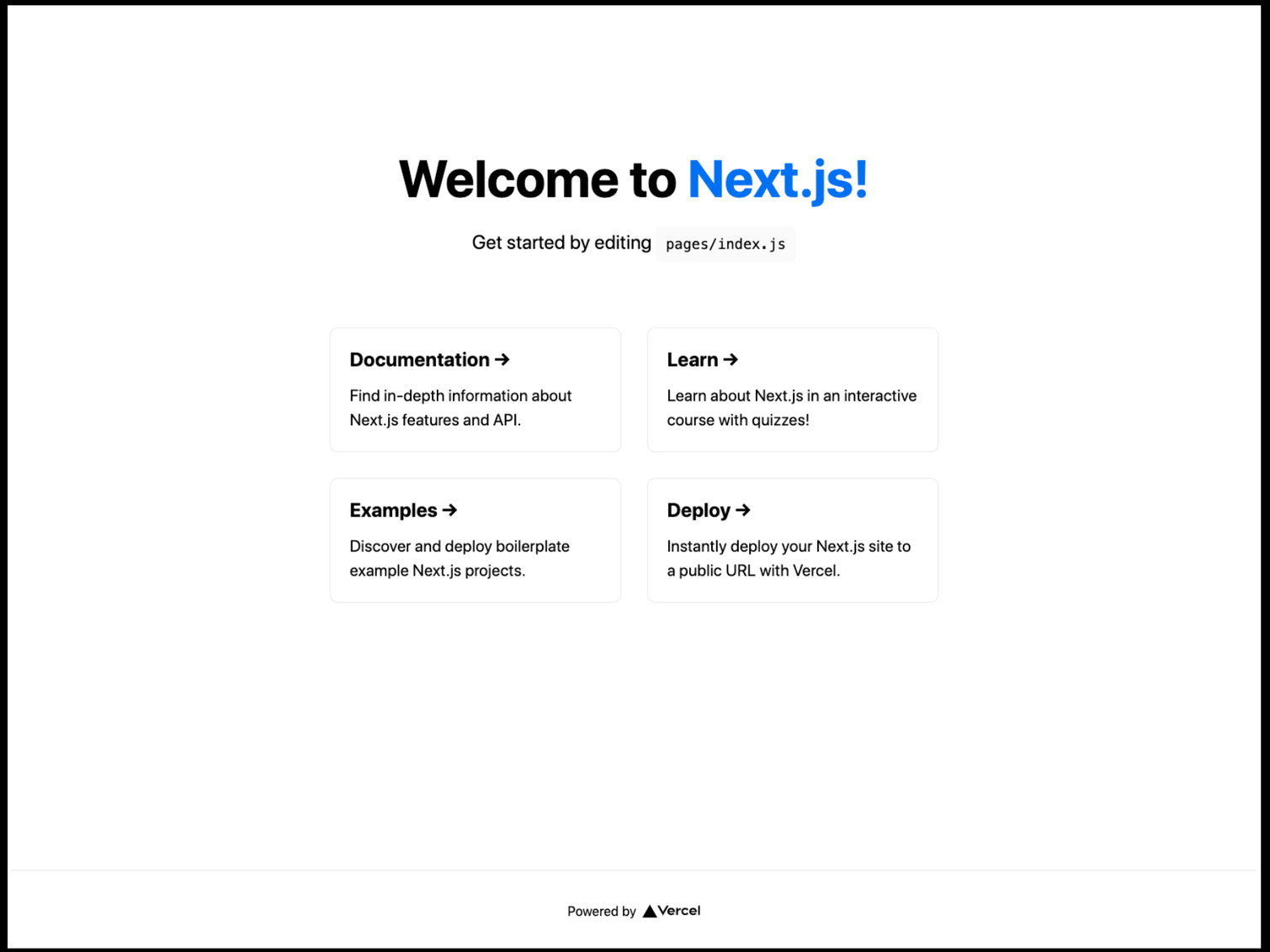
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AMPLIFY CONSOLE



Amplify Hosting

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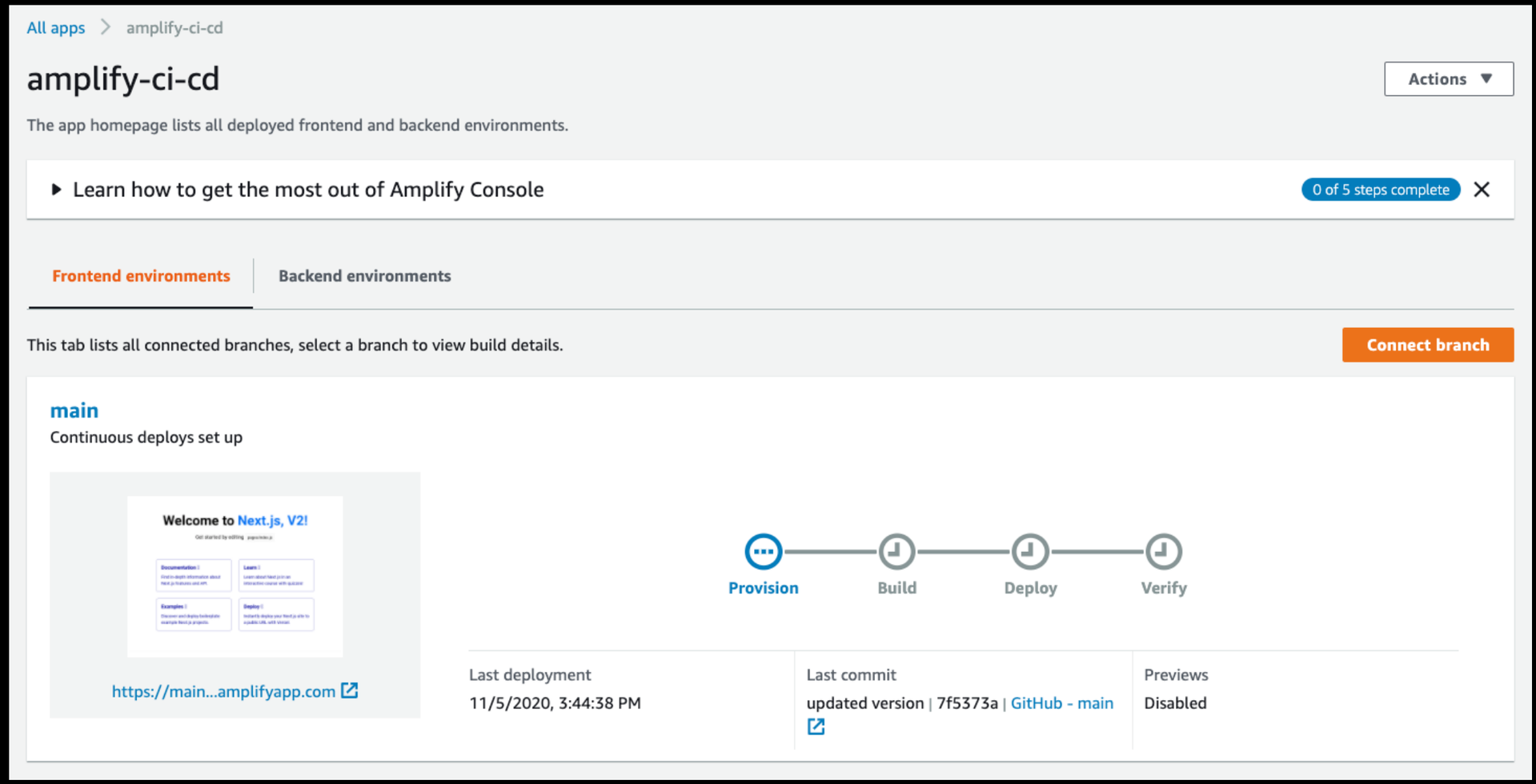
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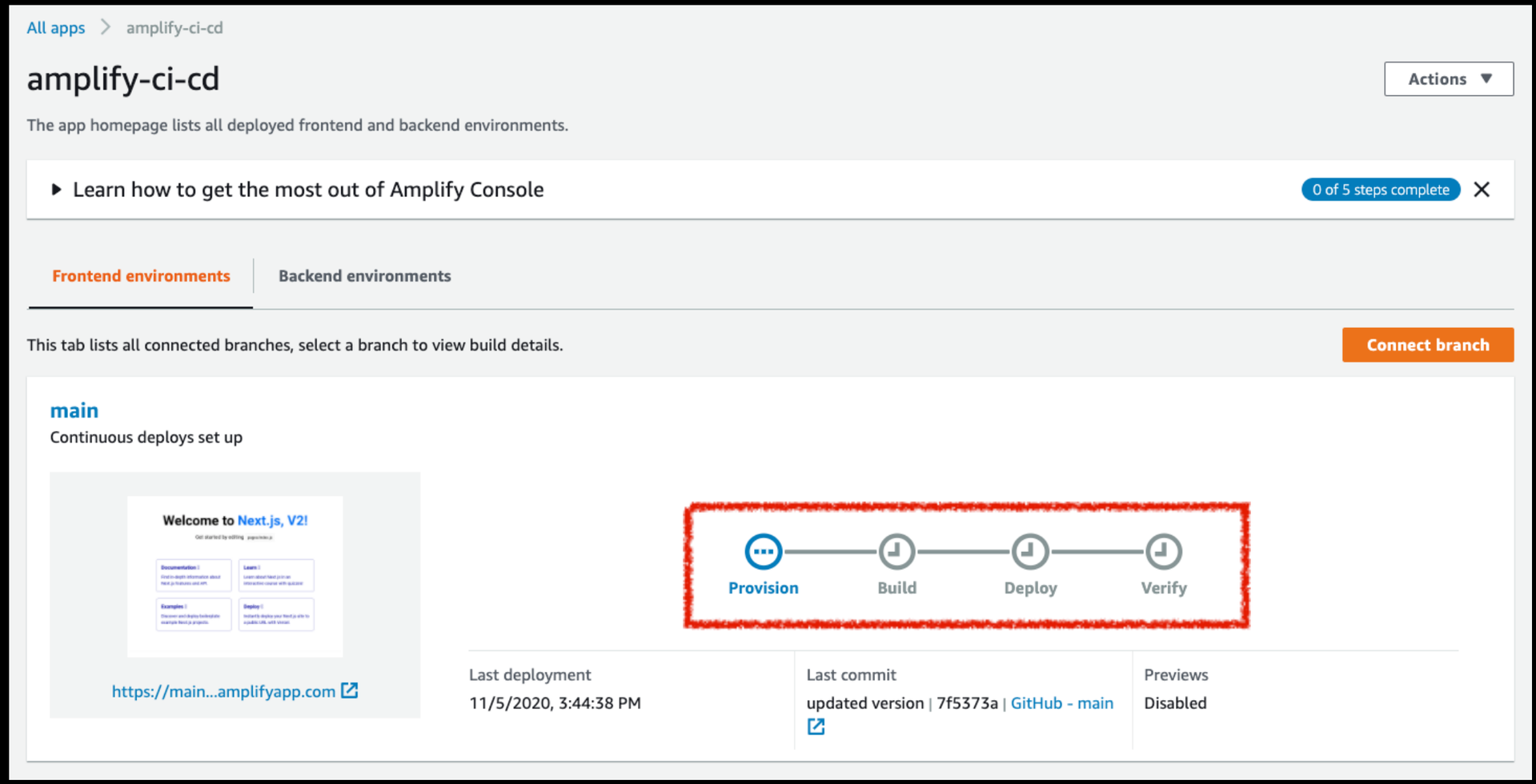
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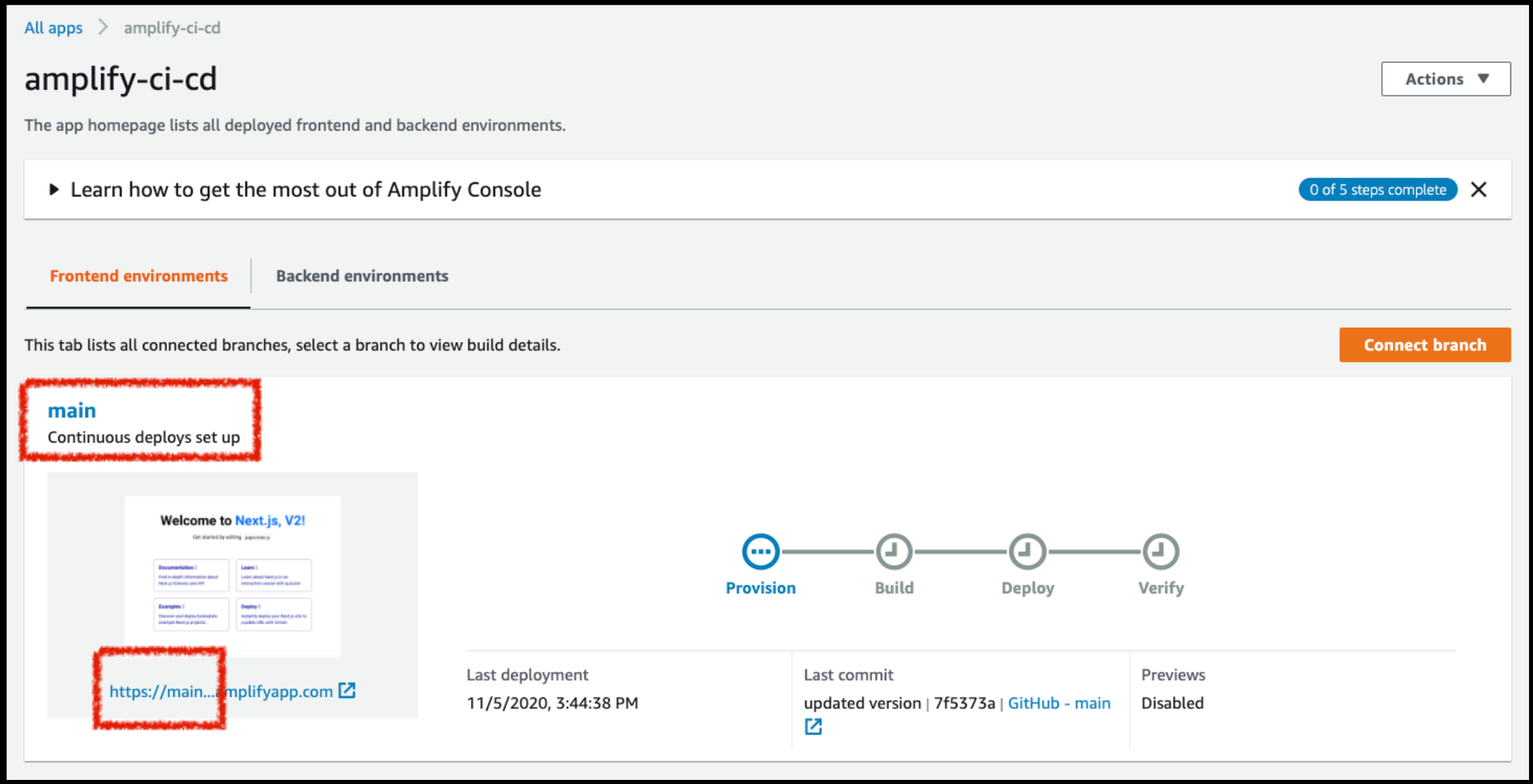
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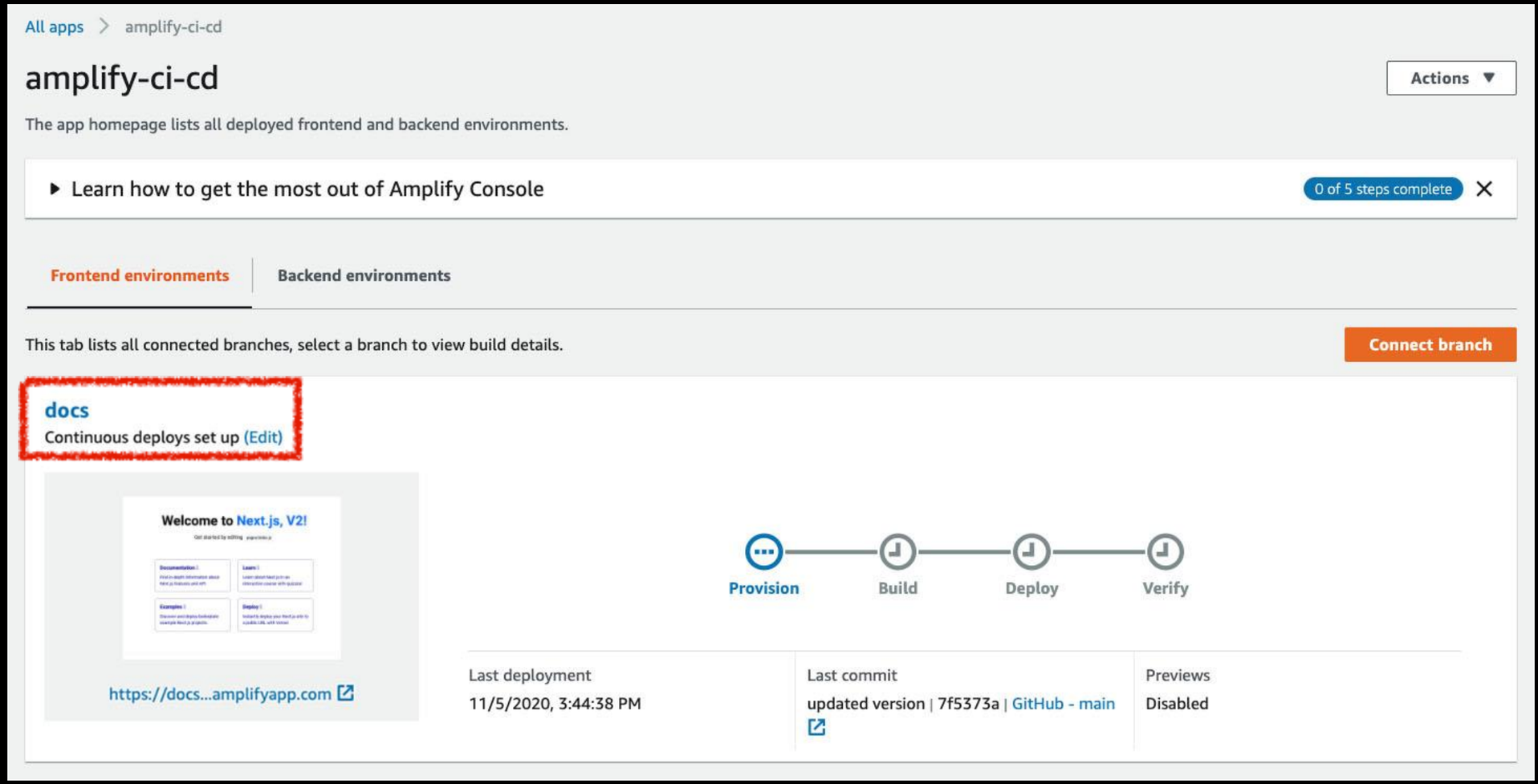
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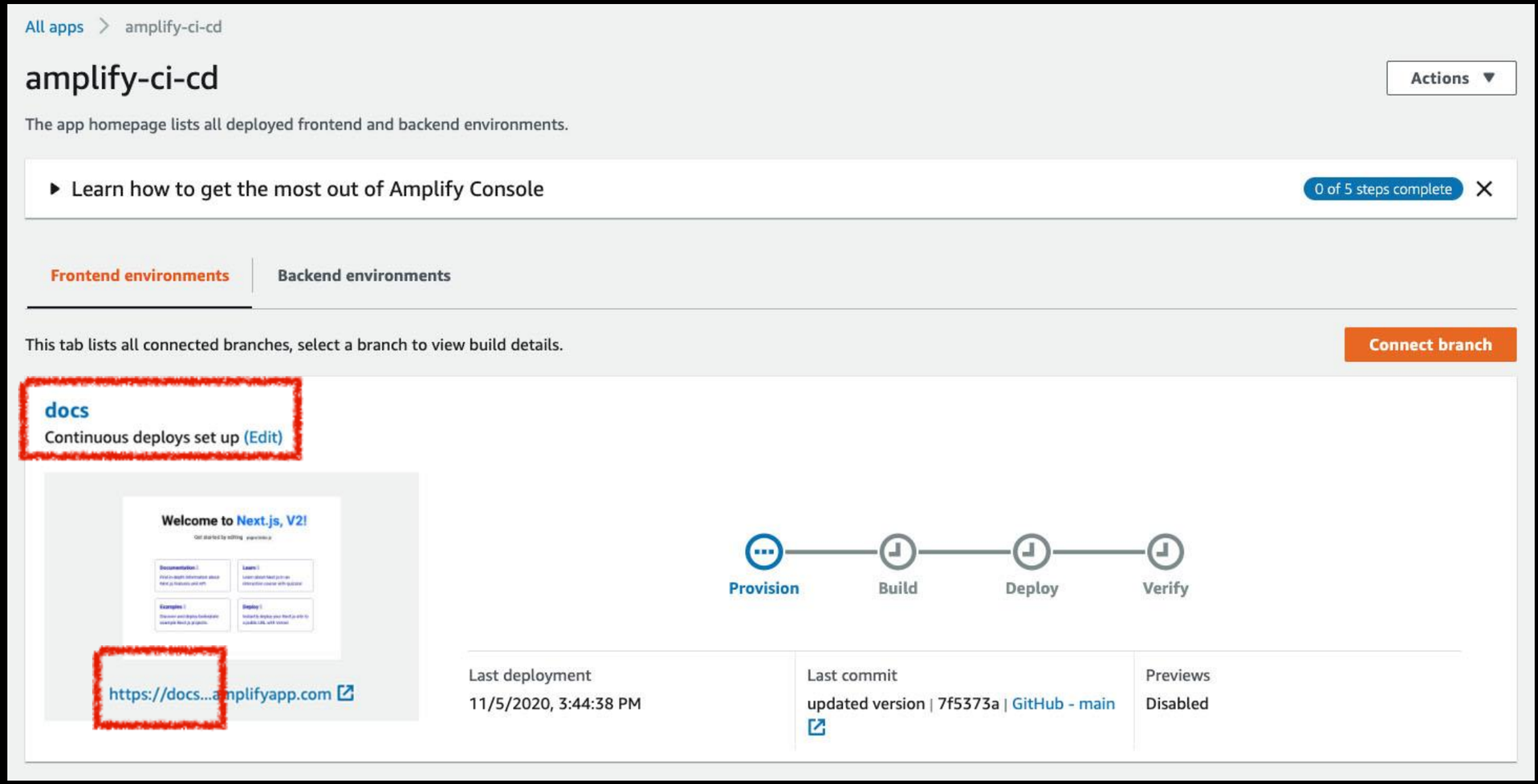
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AMPLIFY CONSOLE



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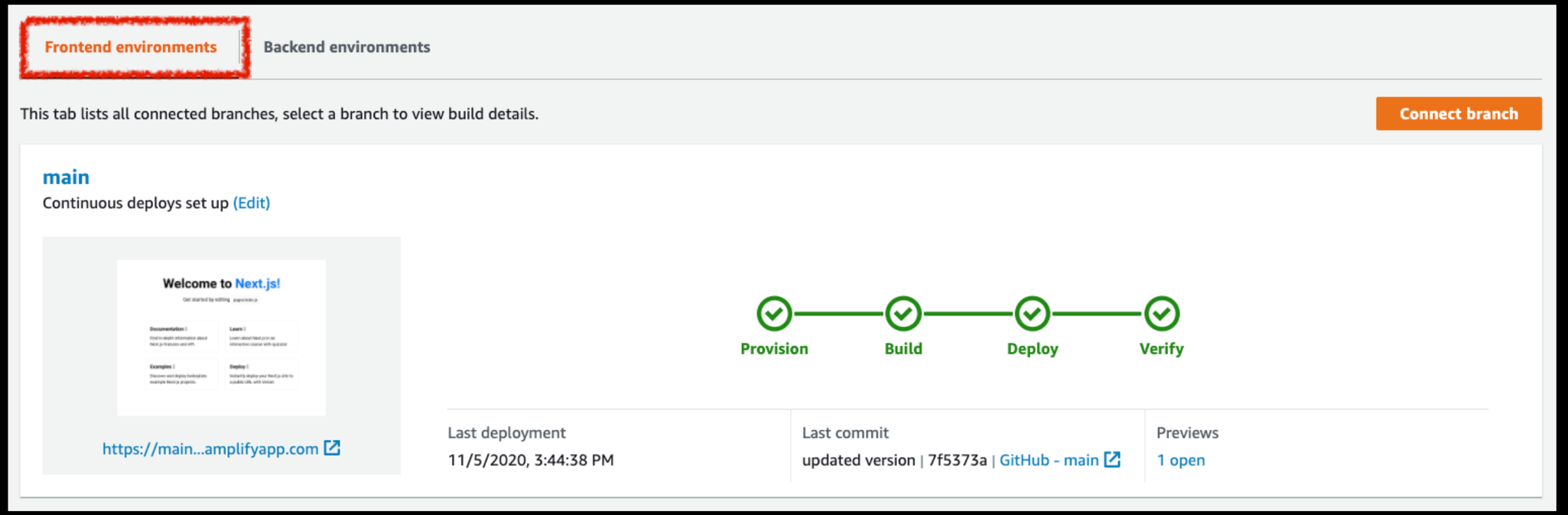


Amplify Console

Backend management

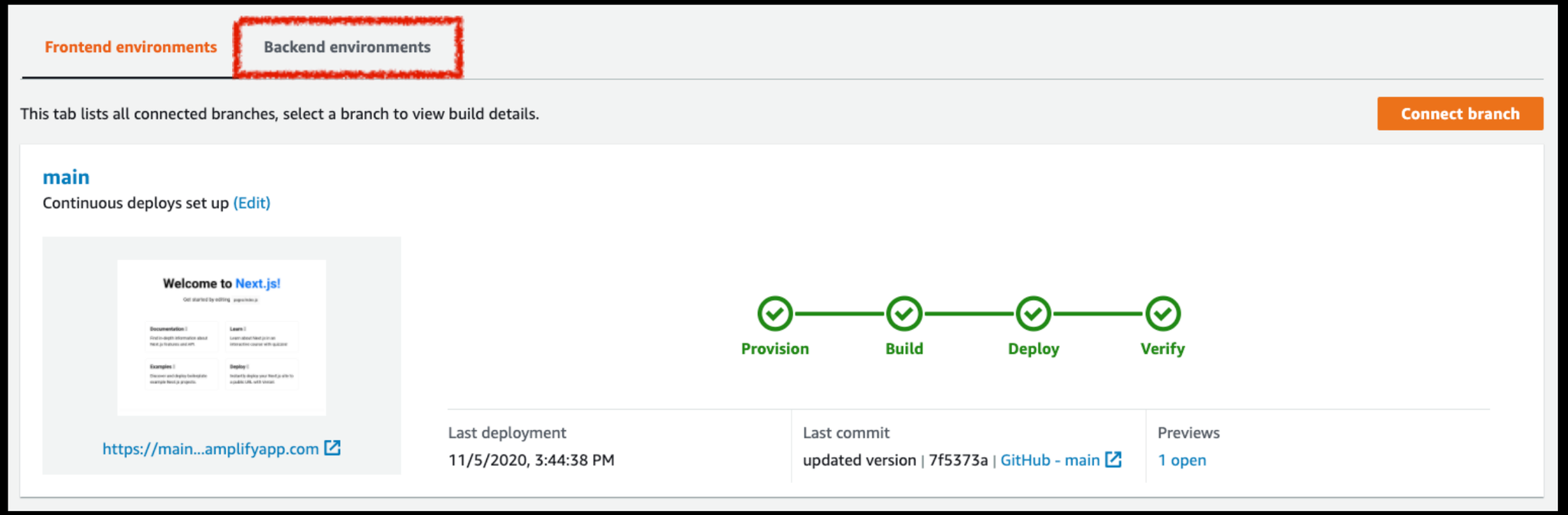
Amplify Console

BACKEND MANAGEMENT



Amplify Console

BACKEND MANAGEMENT



Amplify Admin

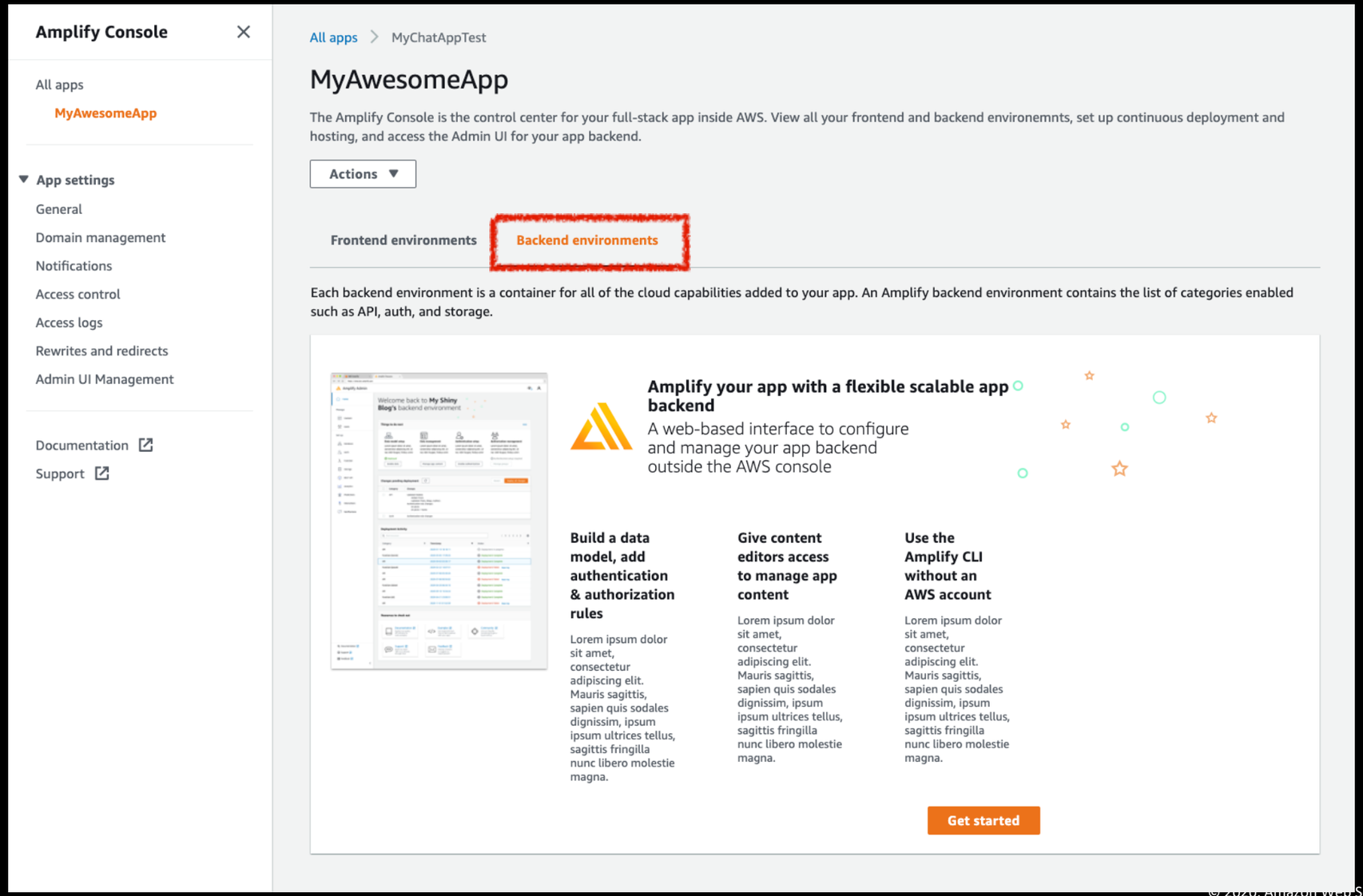


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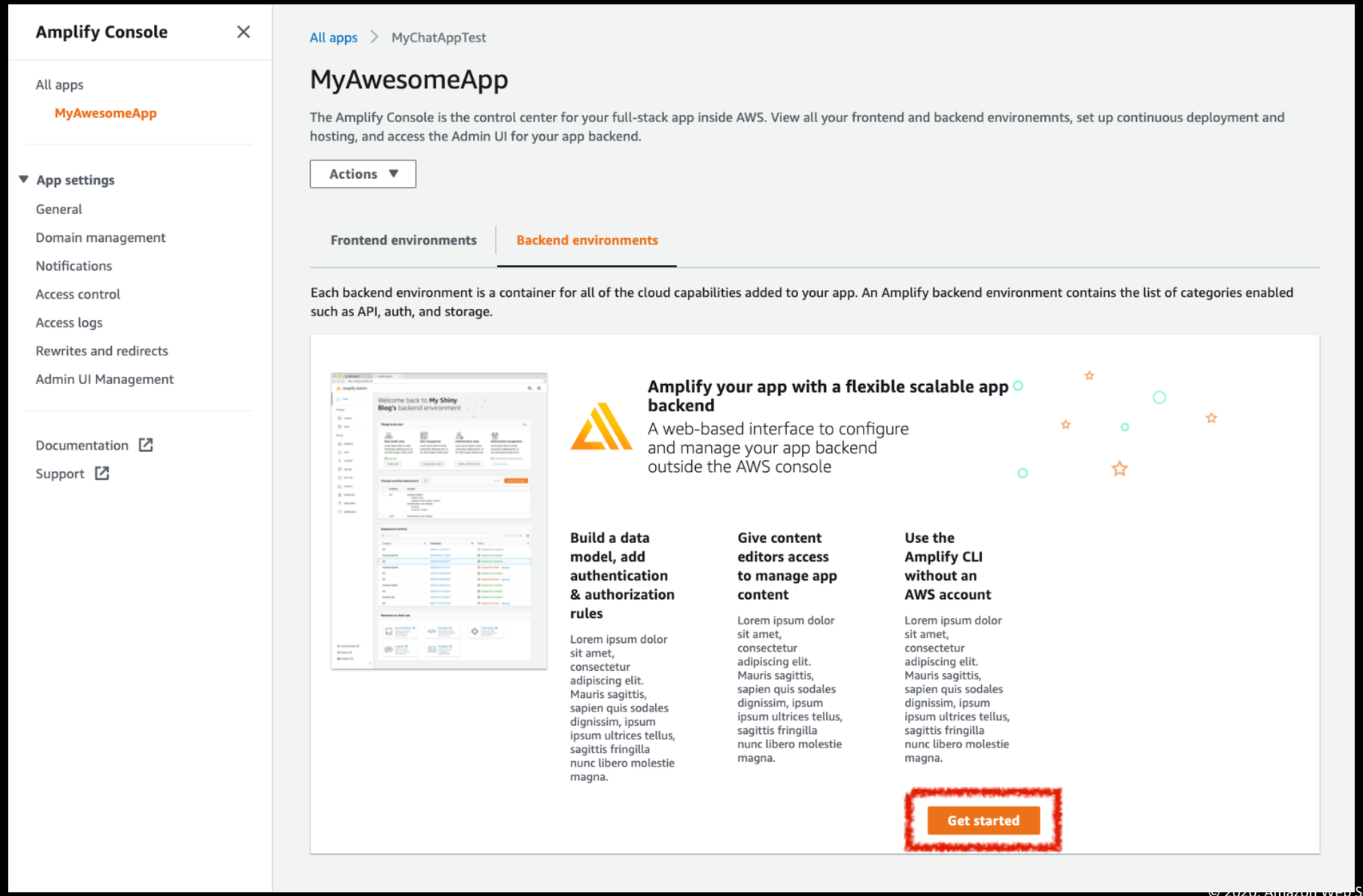


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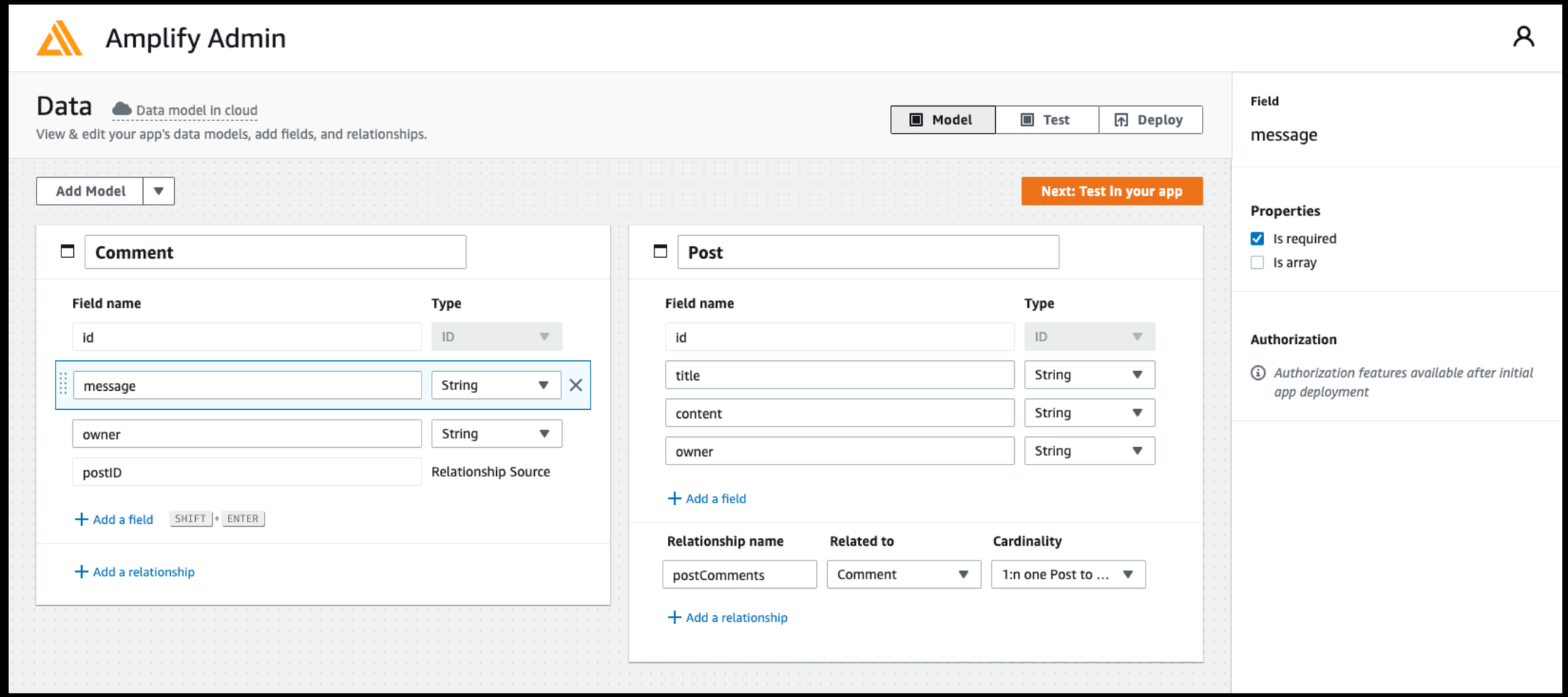
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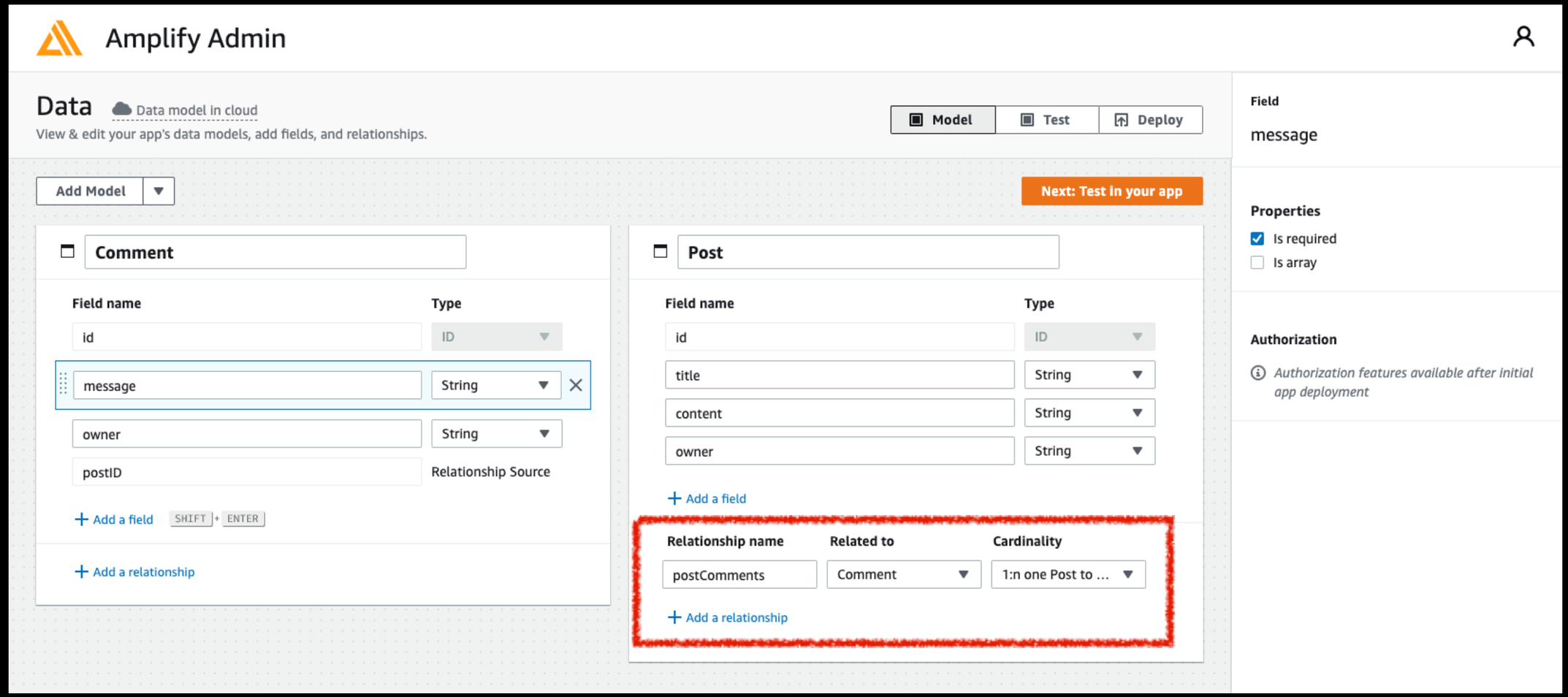
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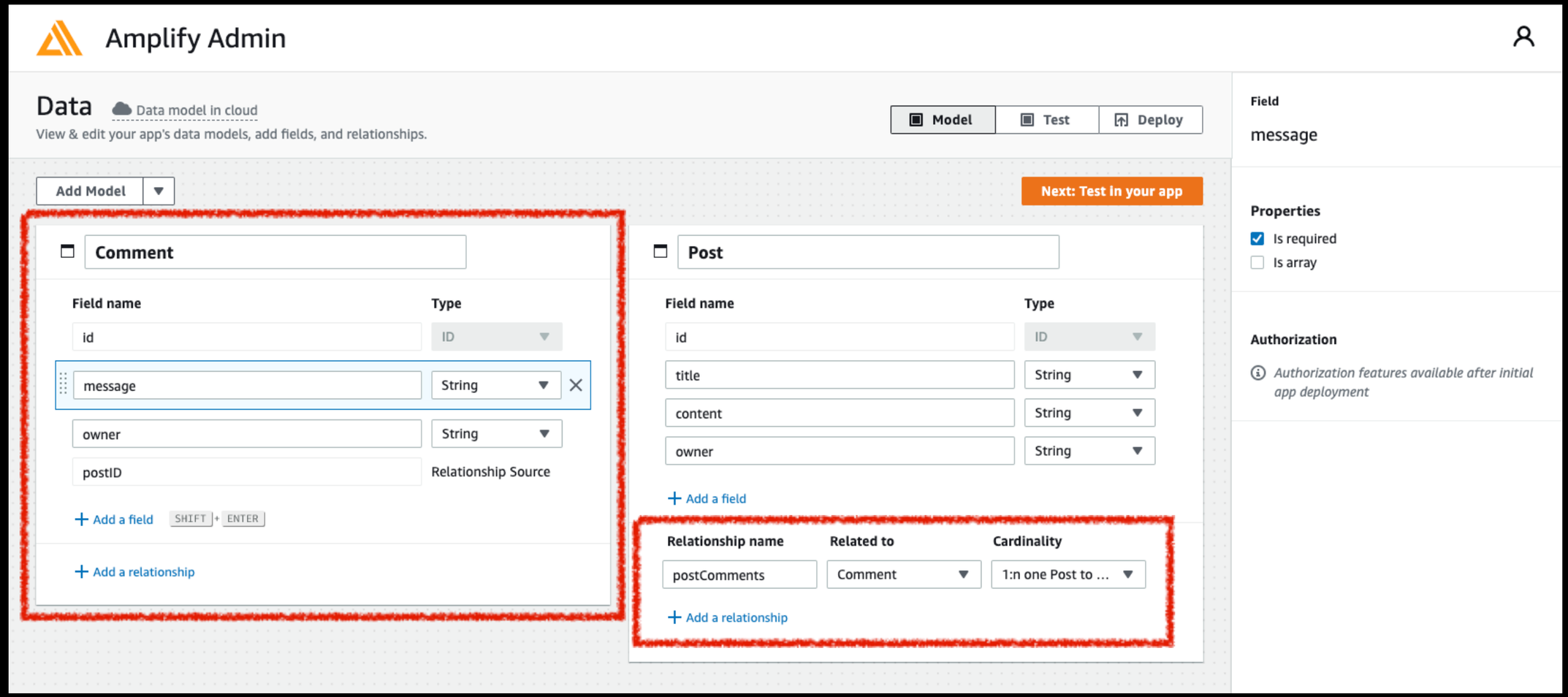
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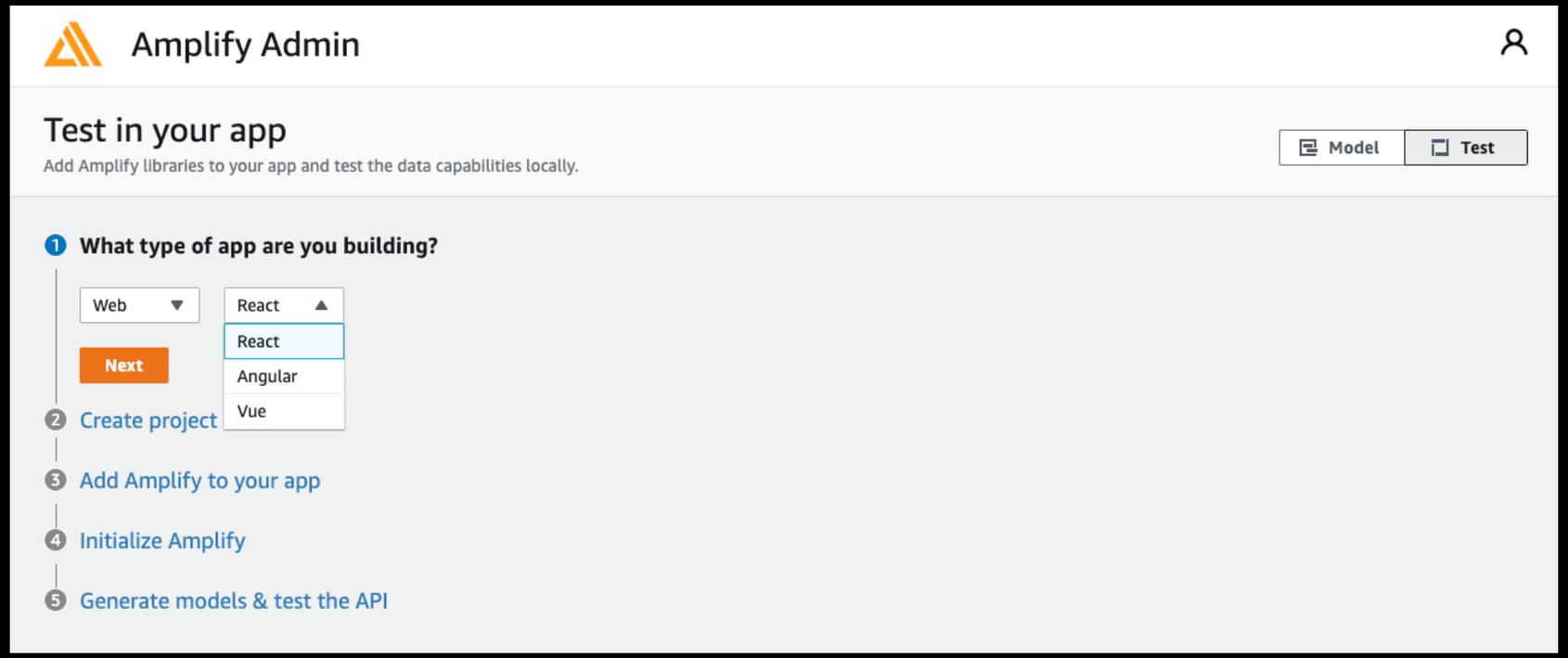
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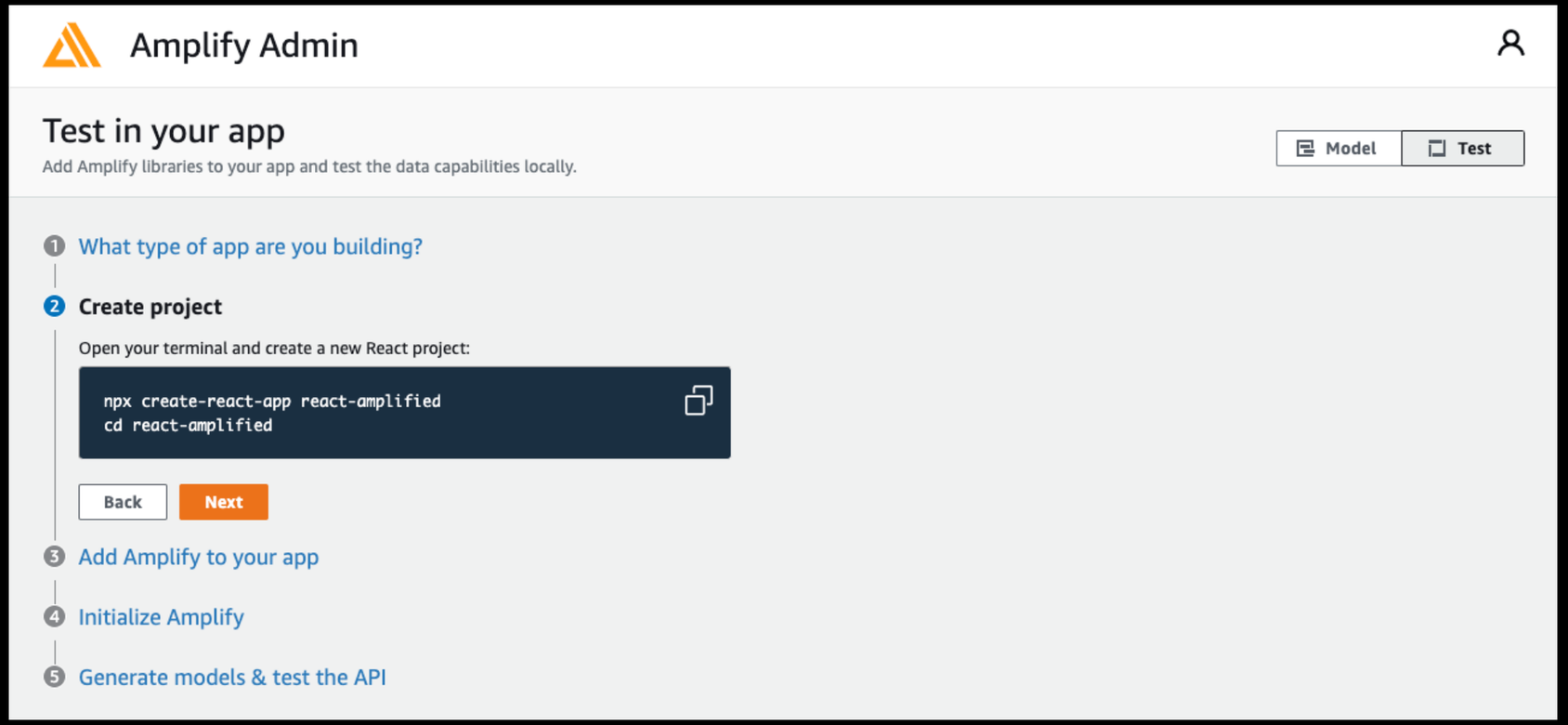
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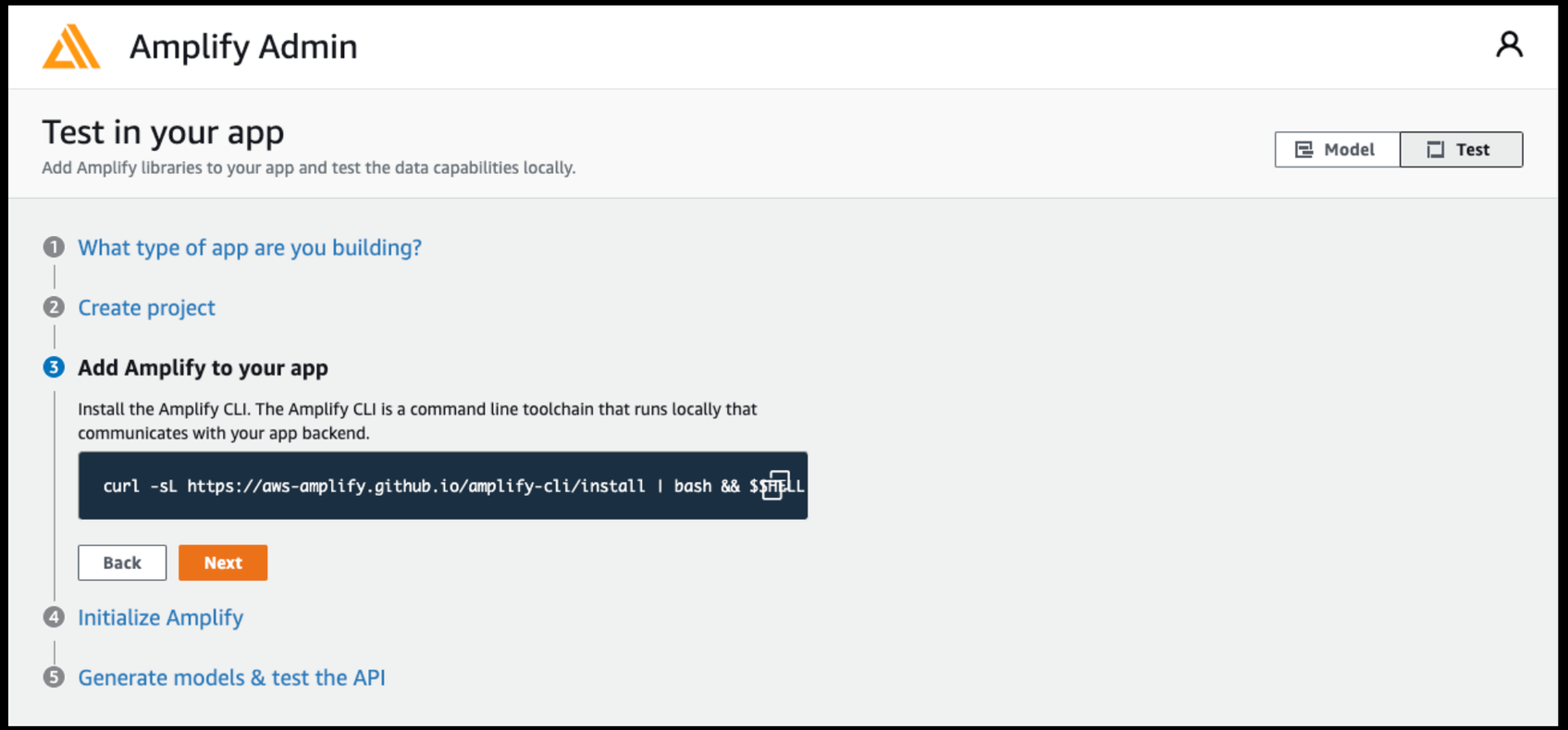
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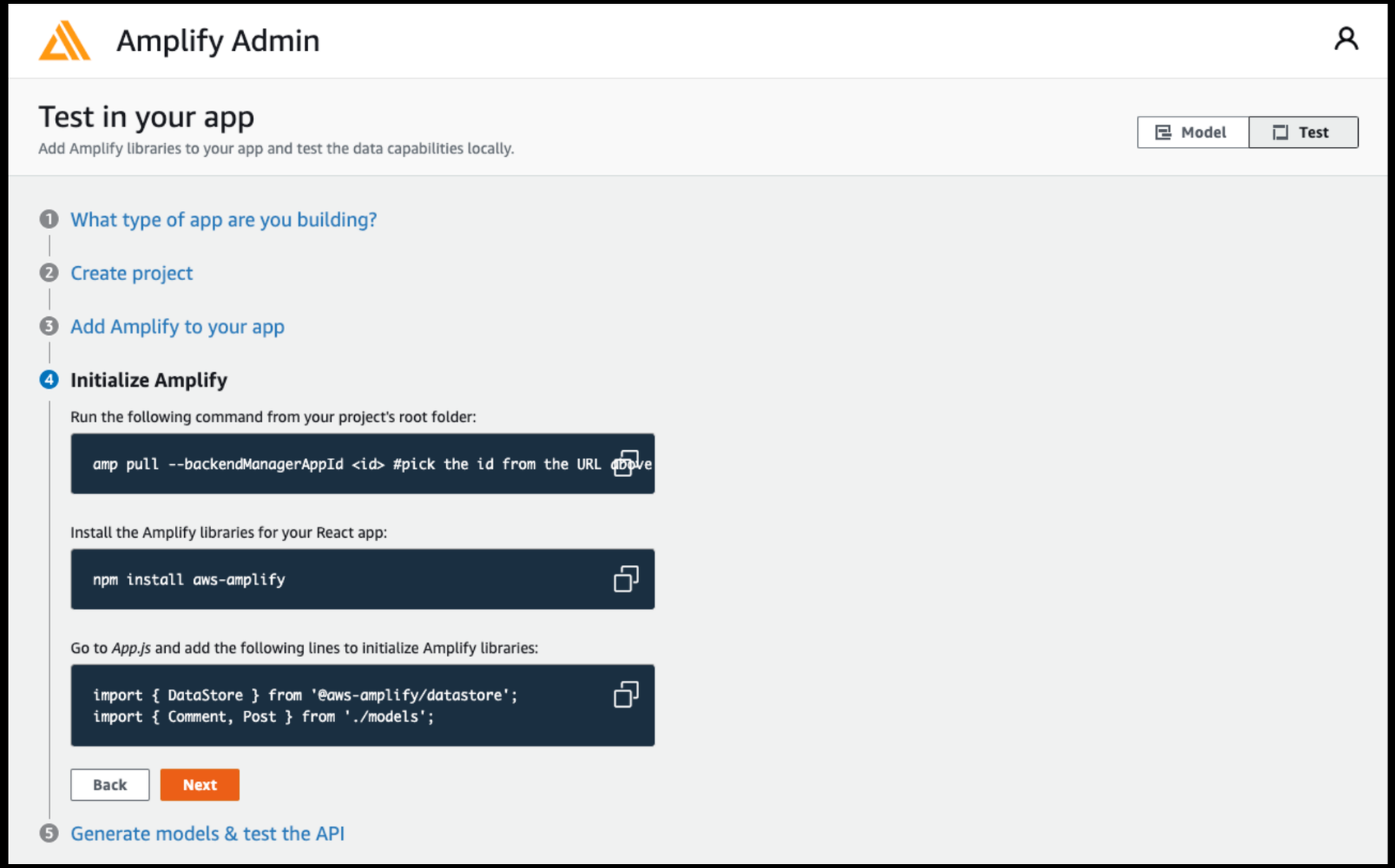
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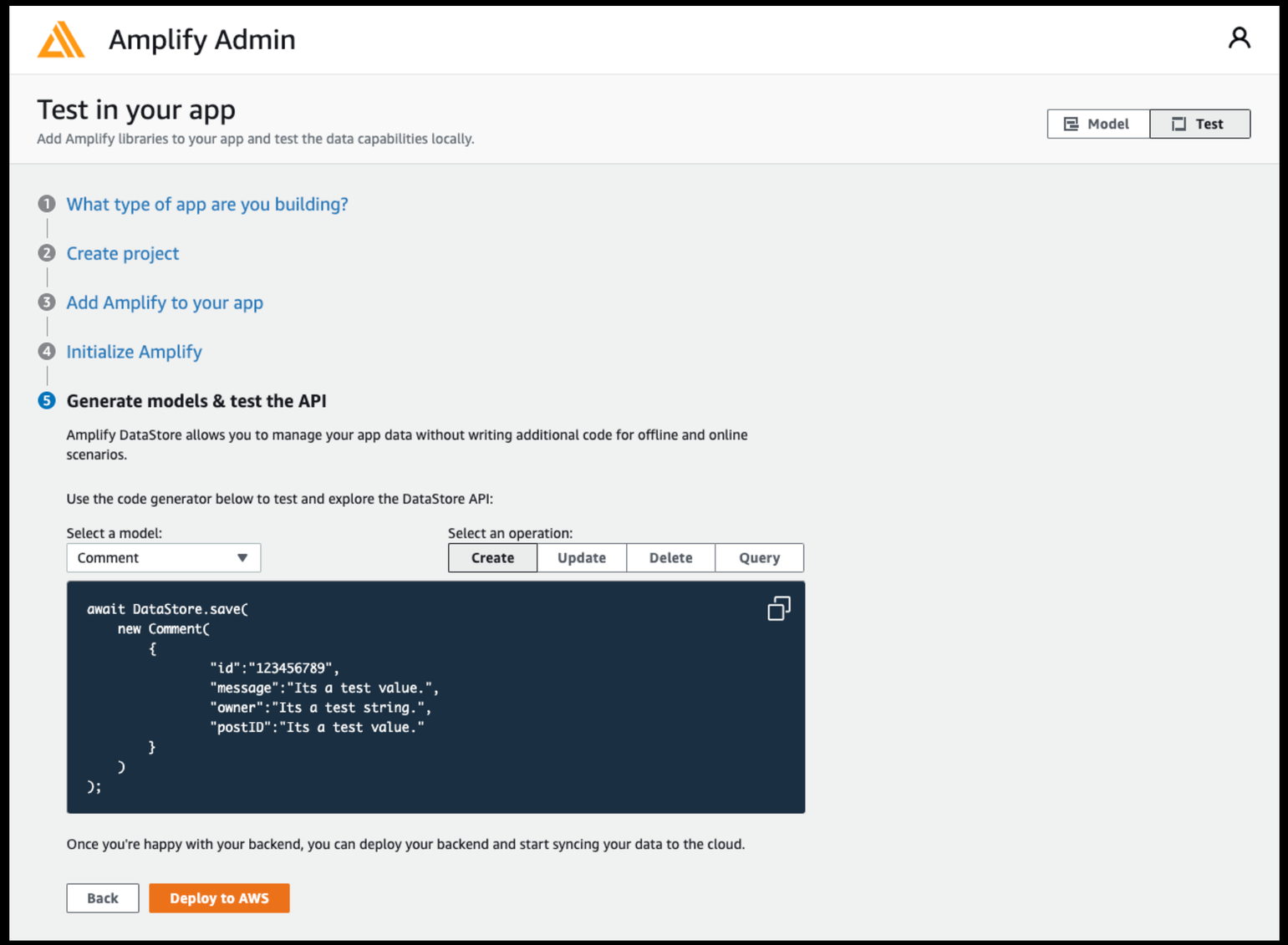
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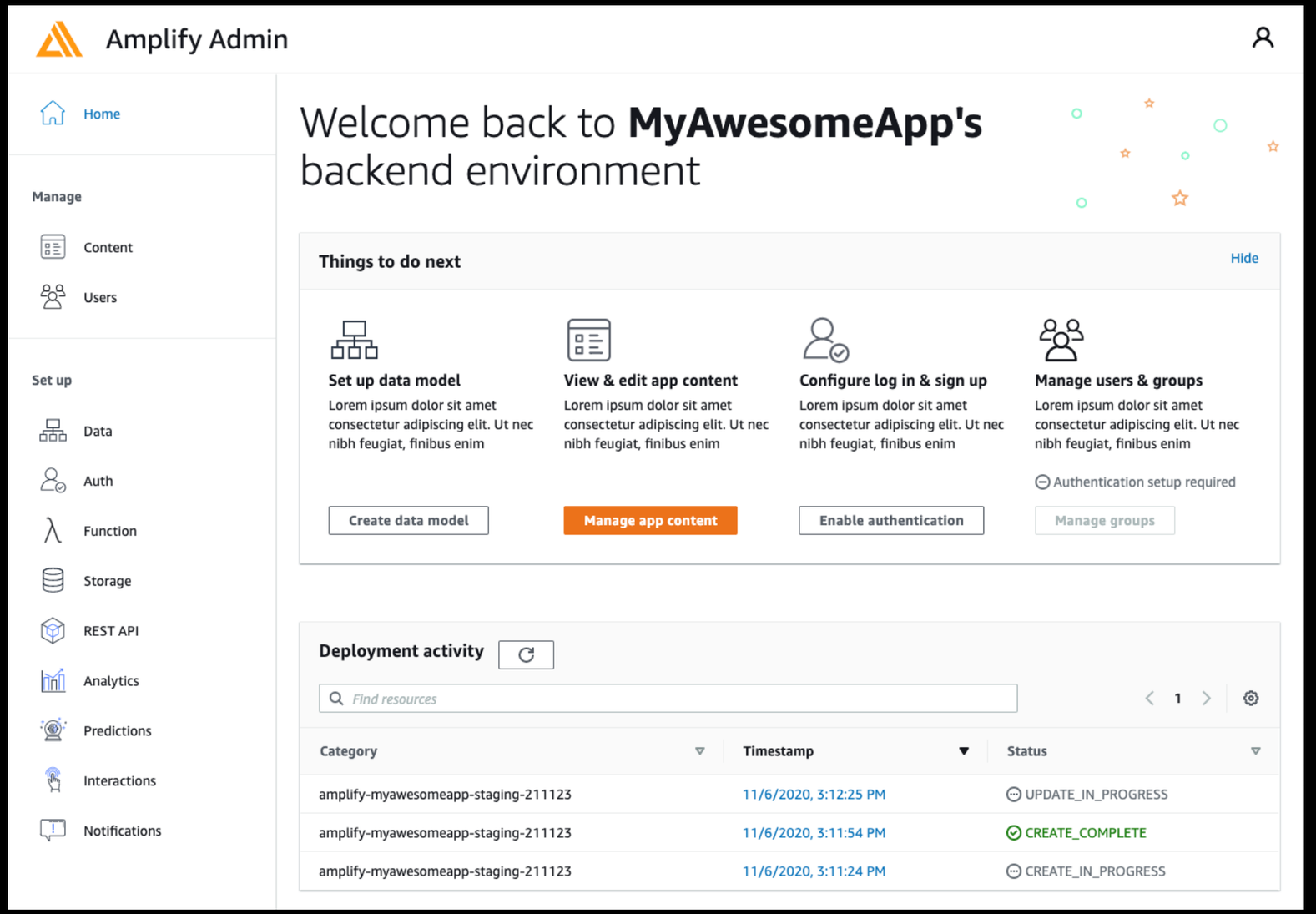
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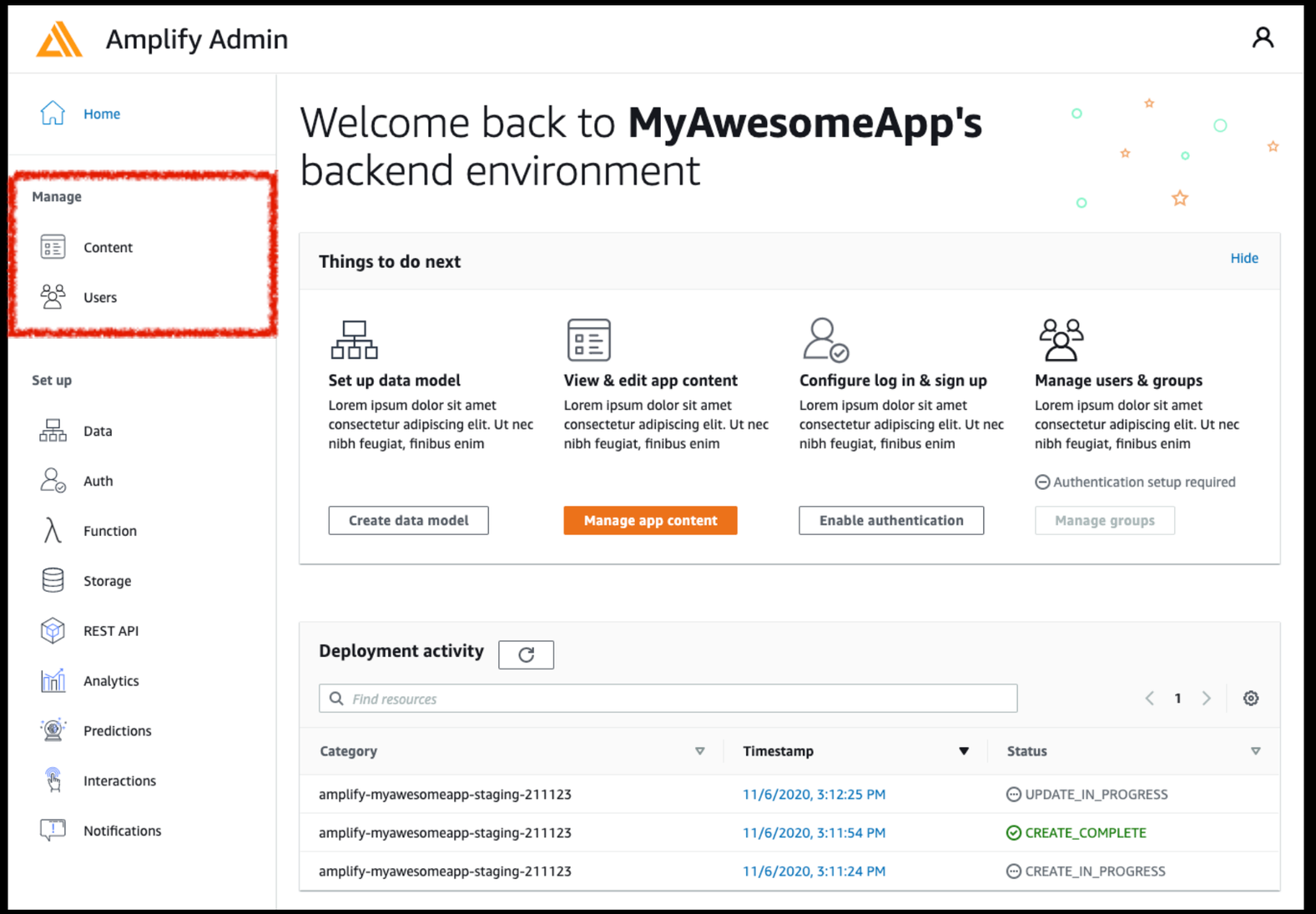
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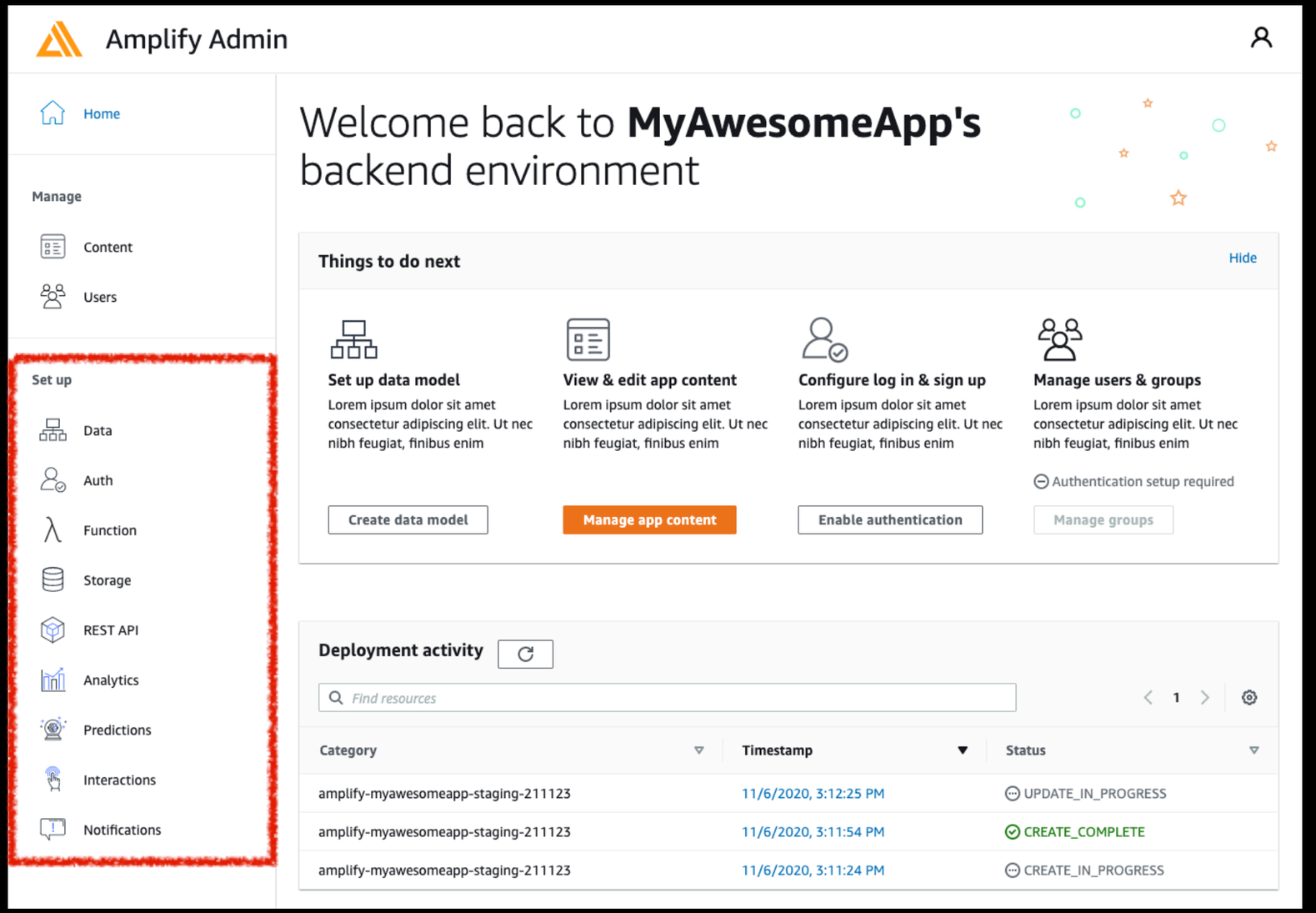
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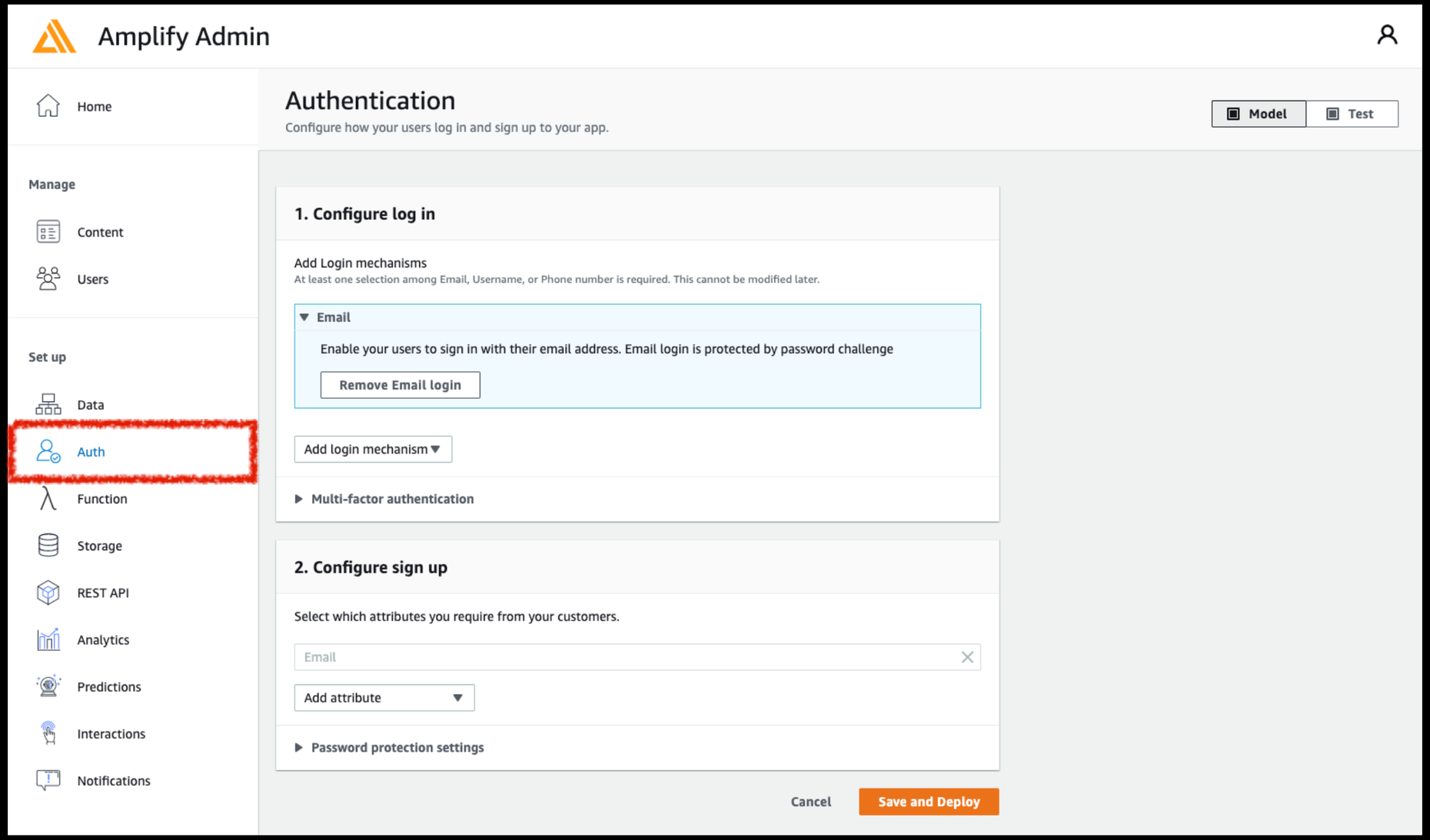
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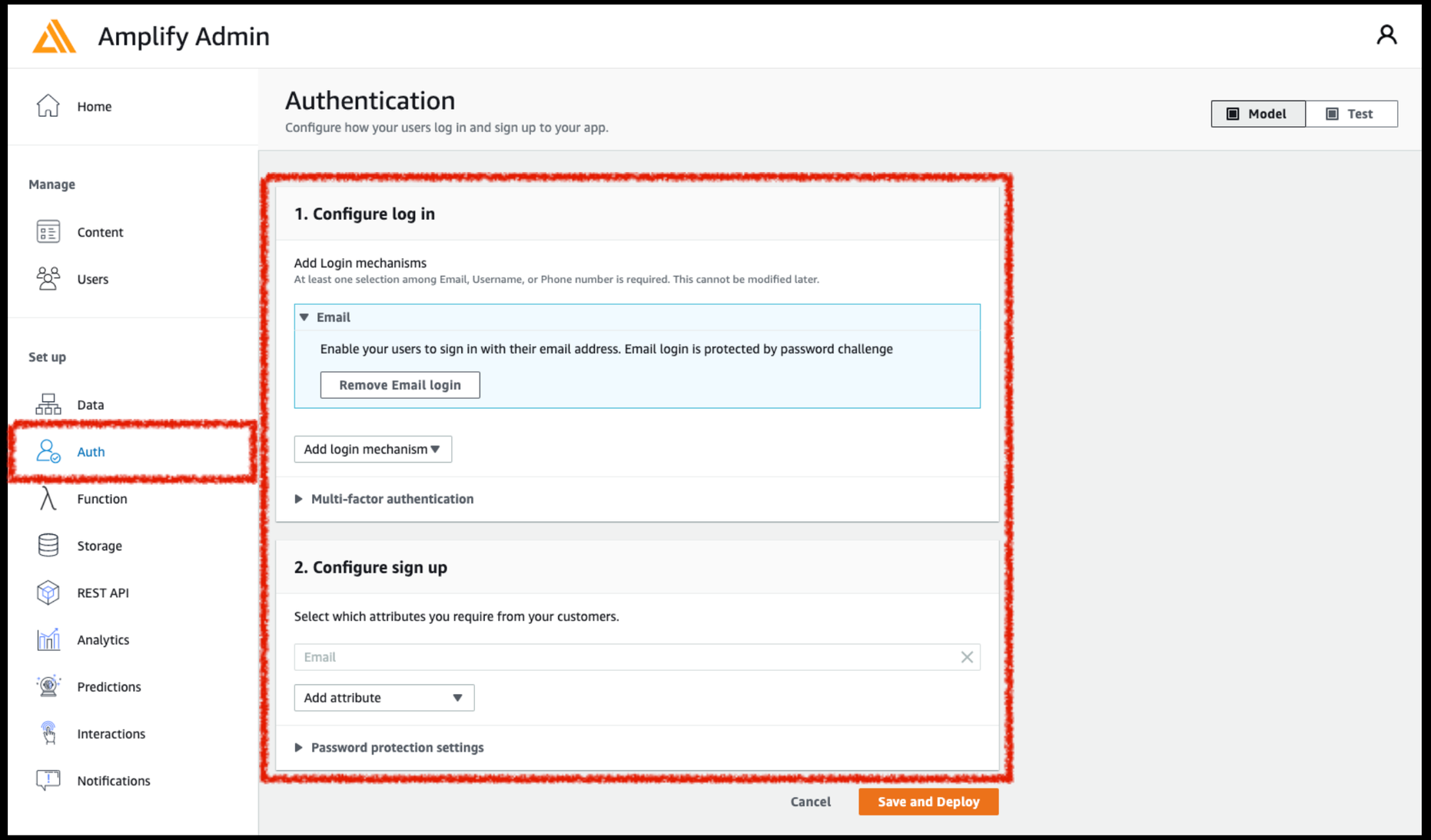
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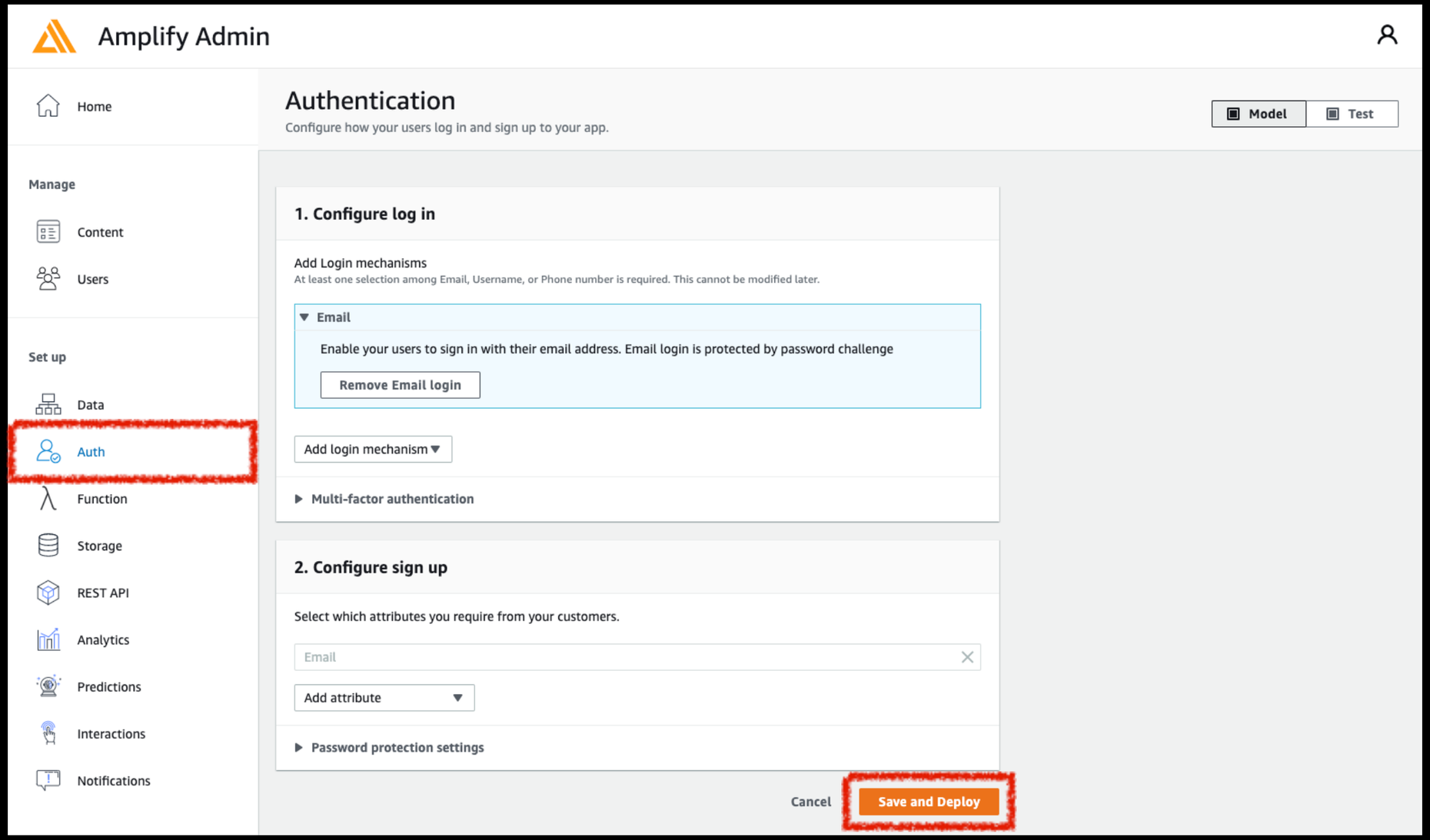
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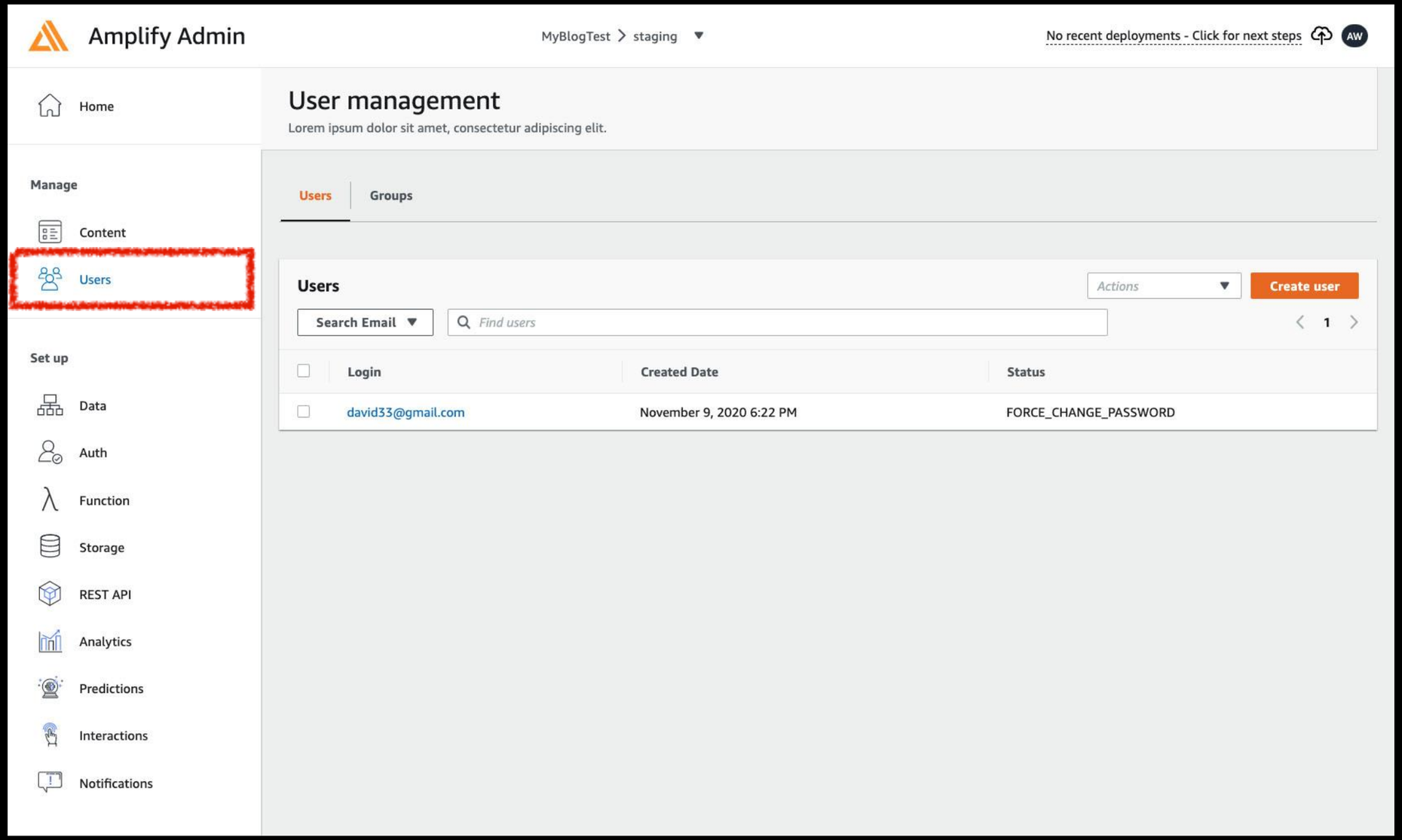
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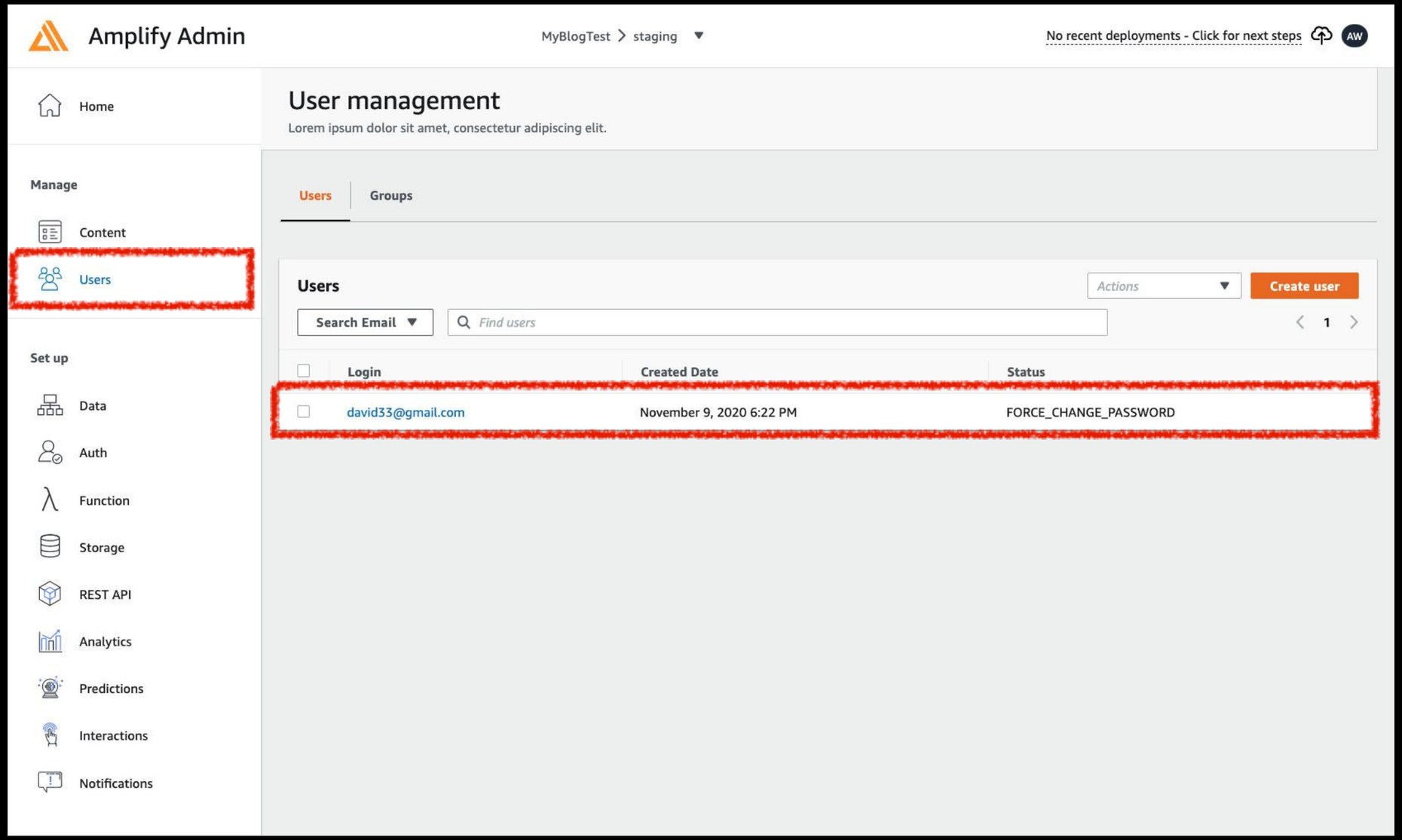
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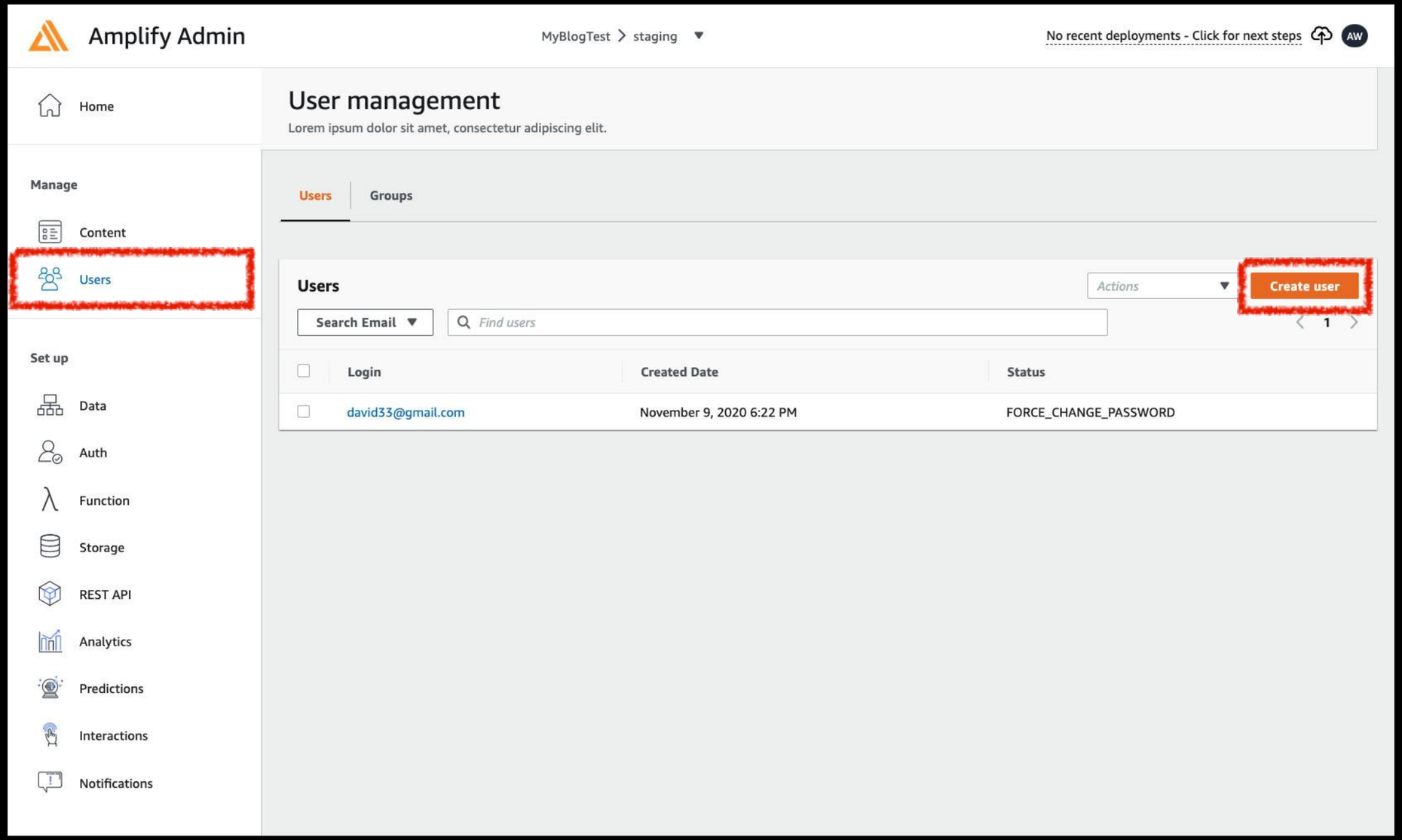
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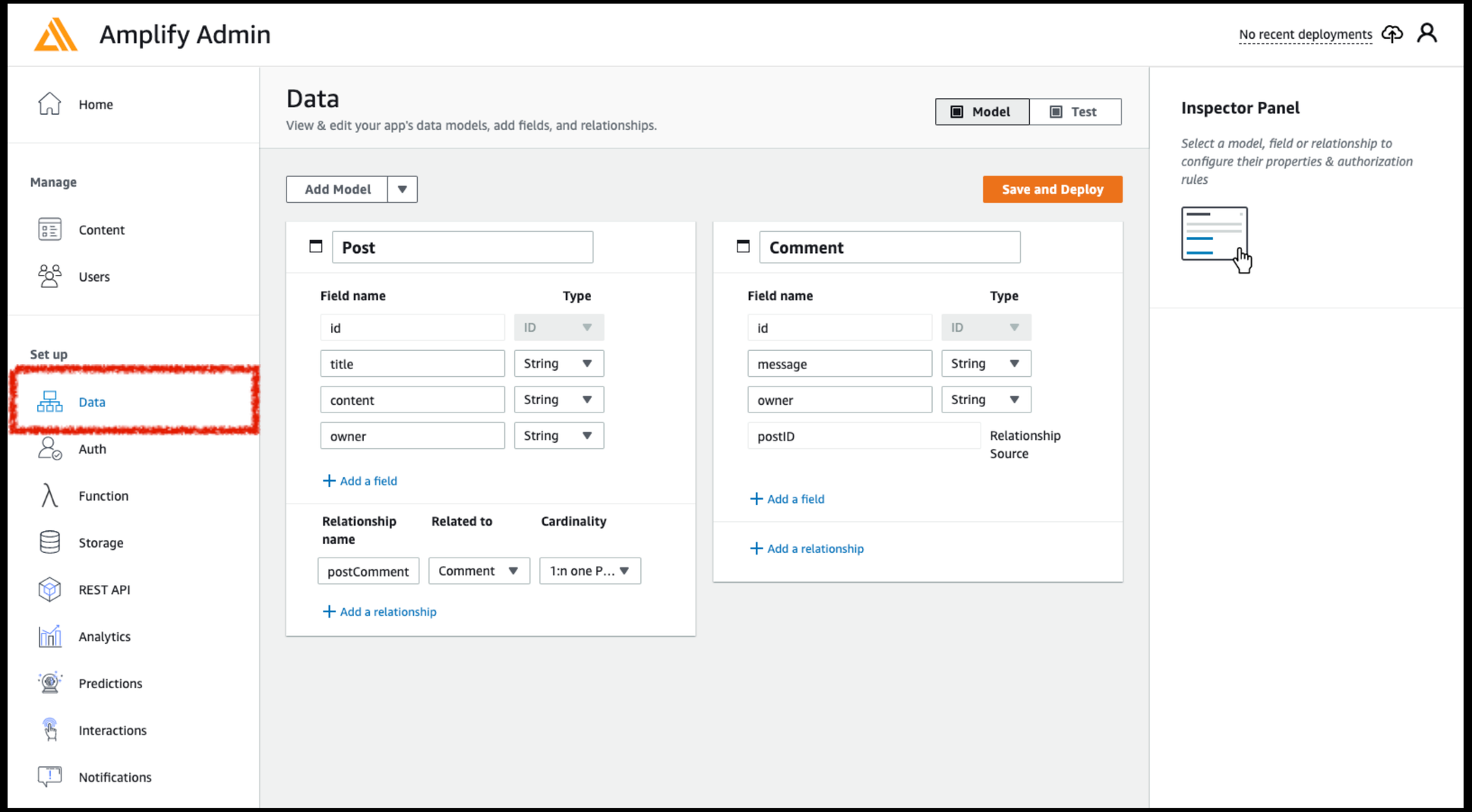
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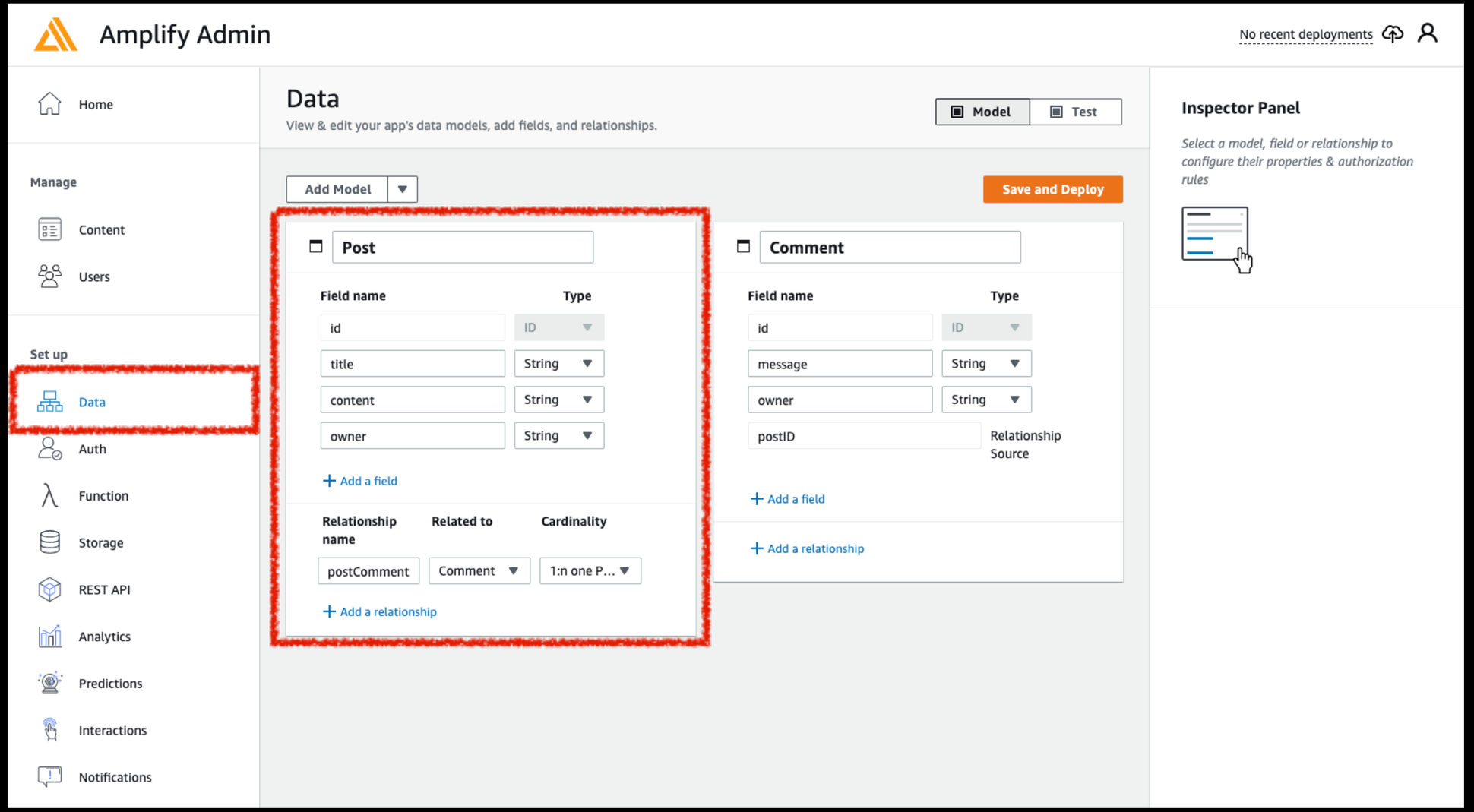
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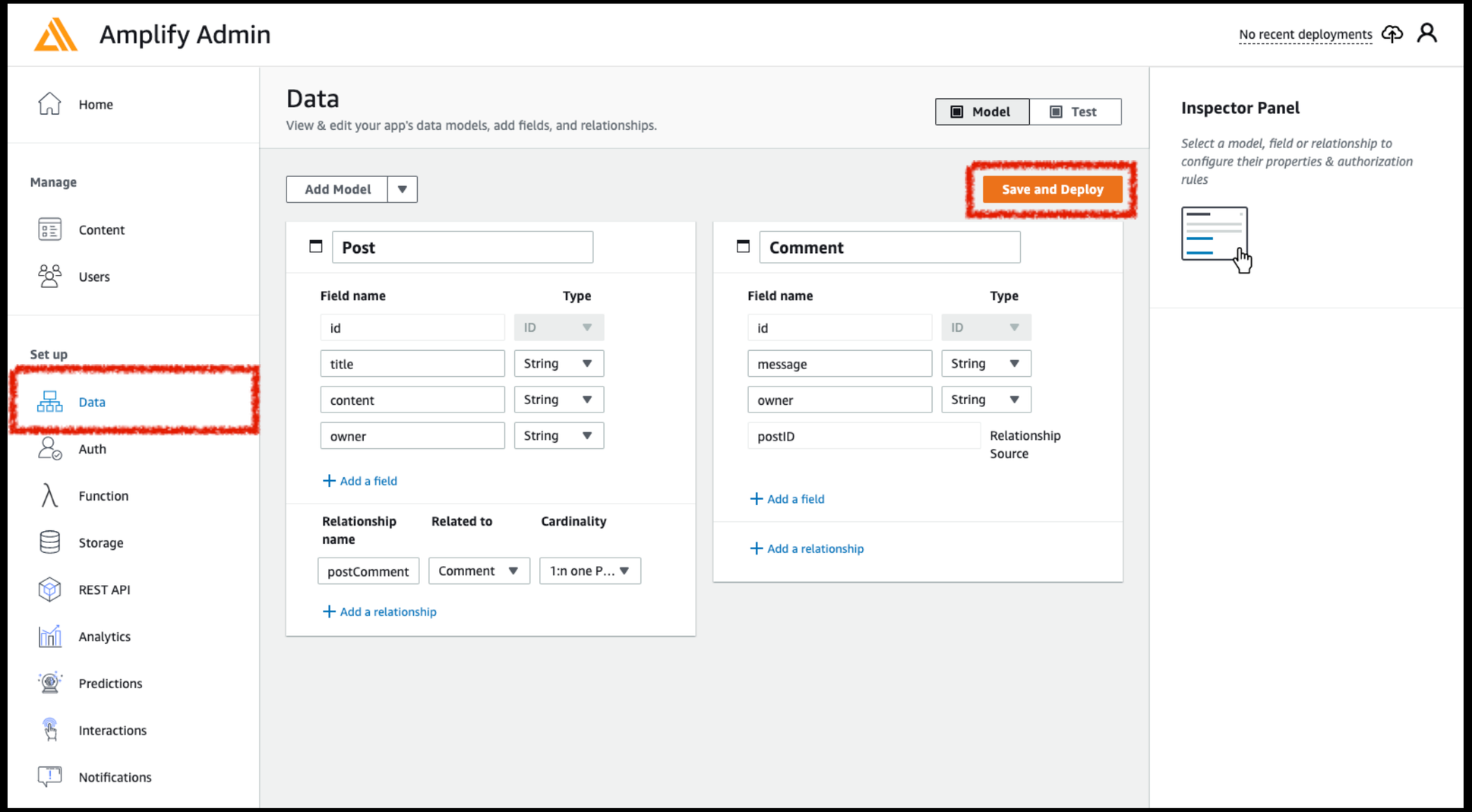
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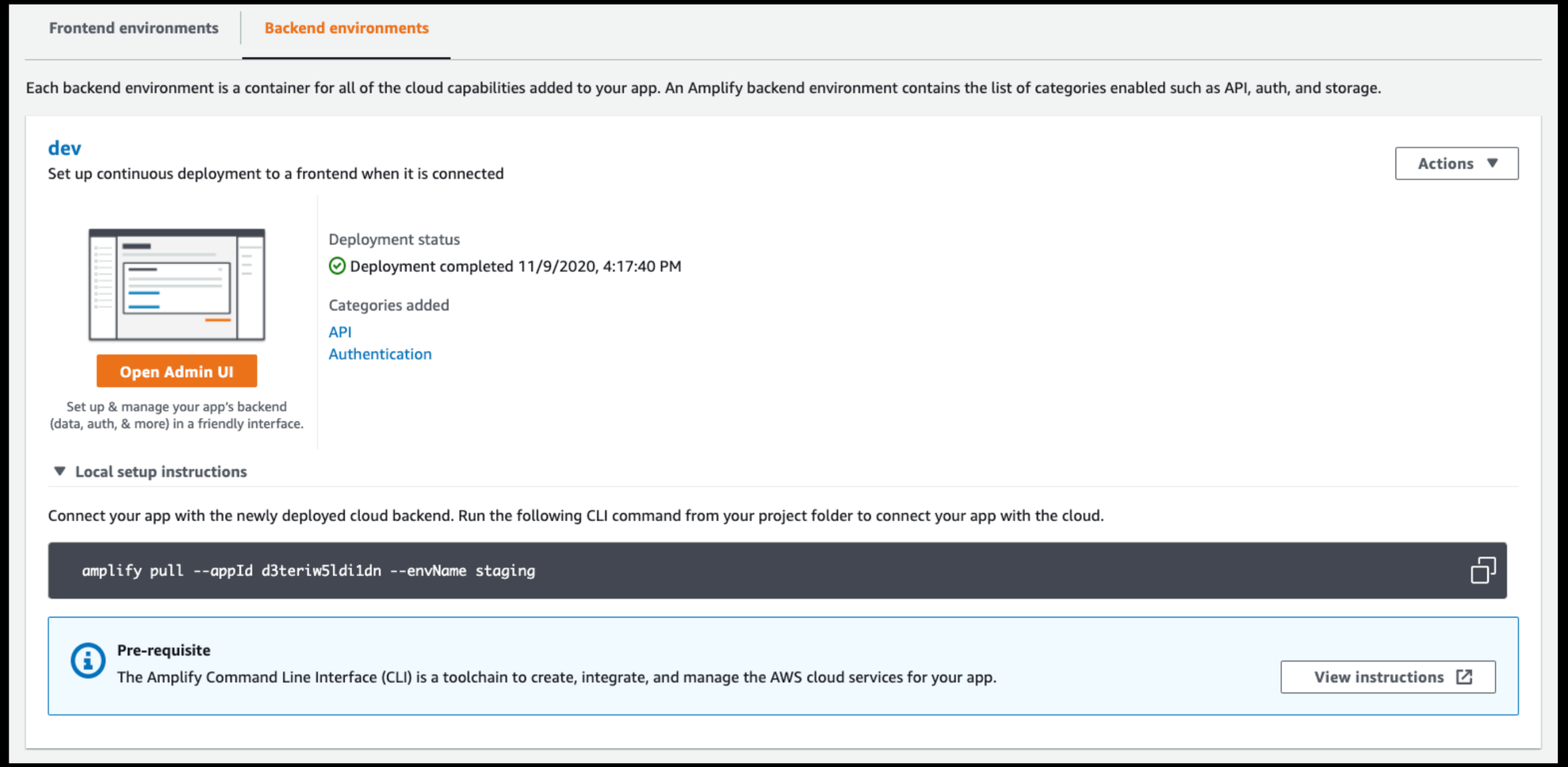
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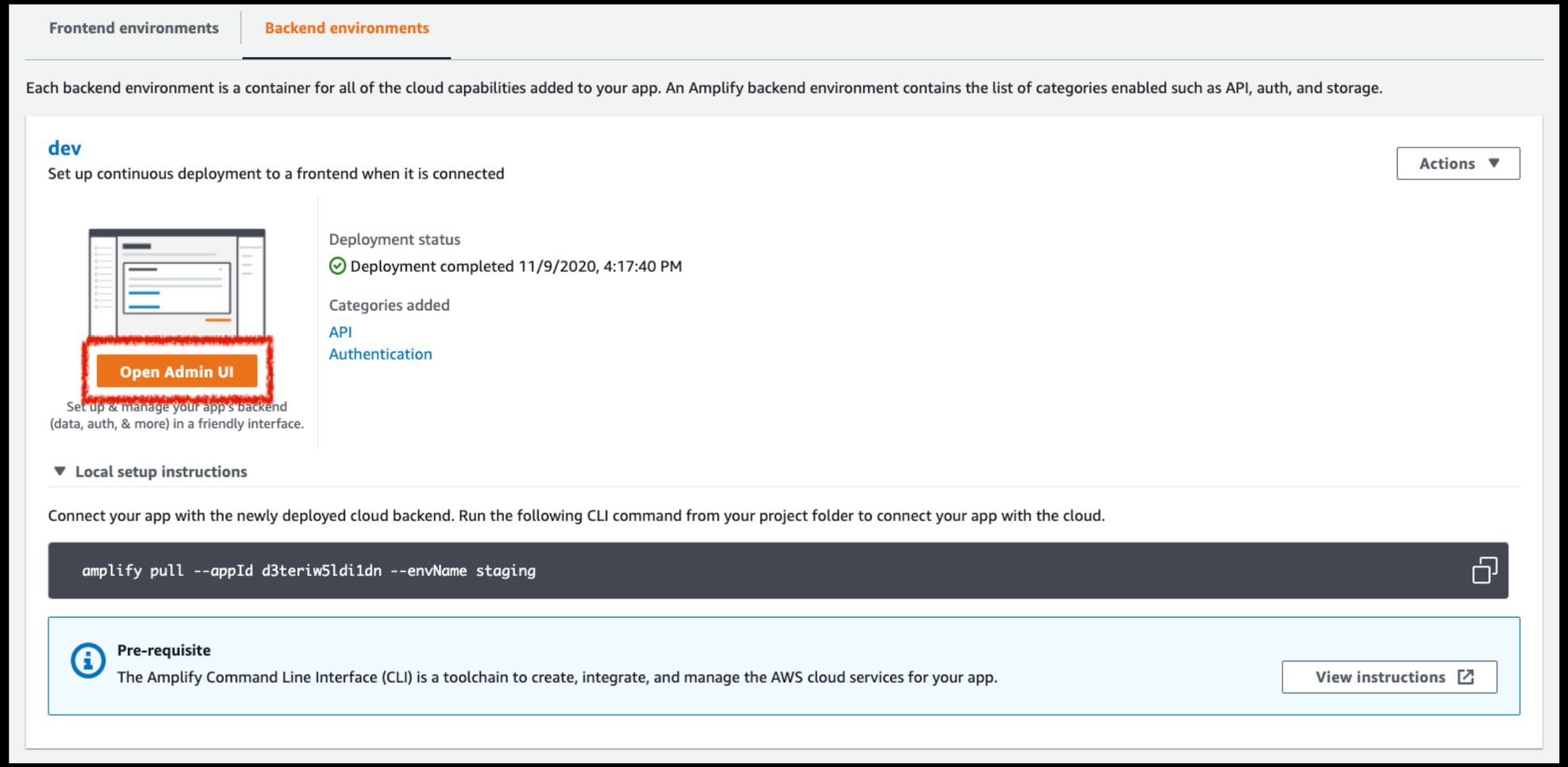
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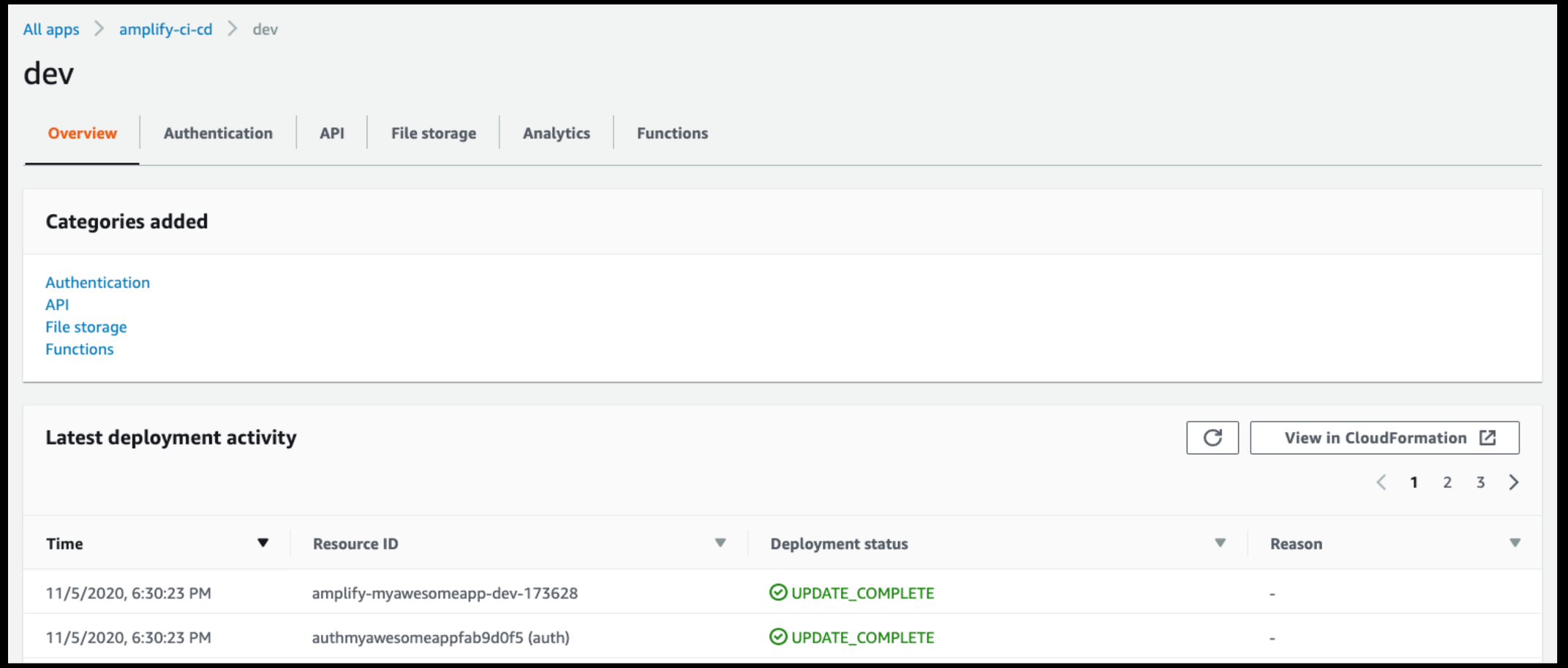
Amplify Console

BACKEND MANAGEMENT



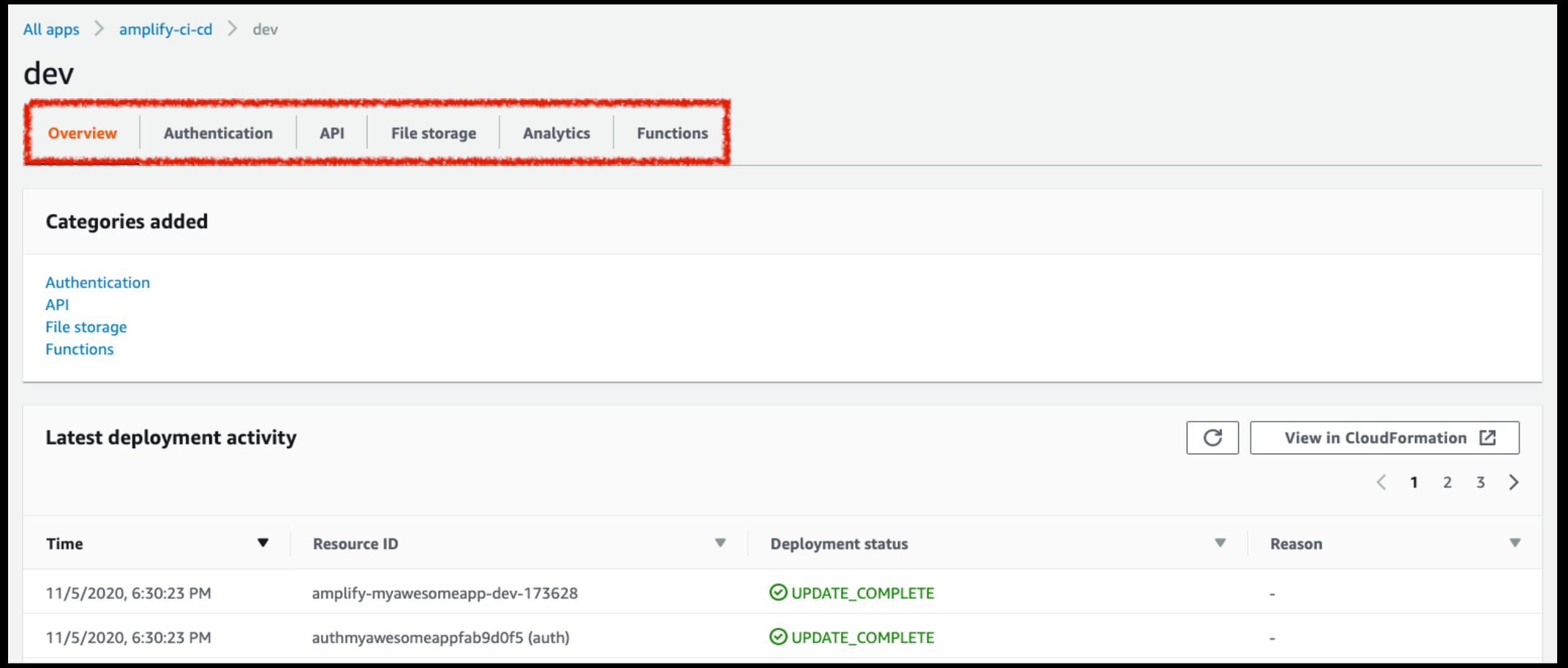
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BACKEND MANAGEMENT



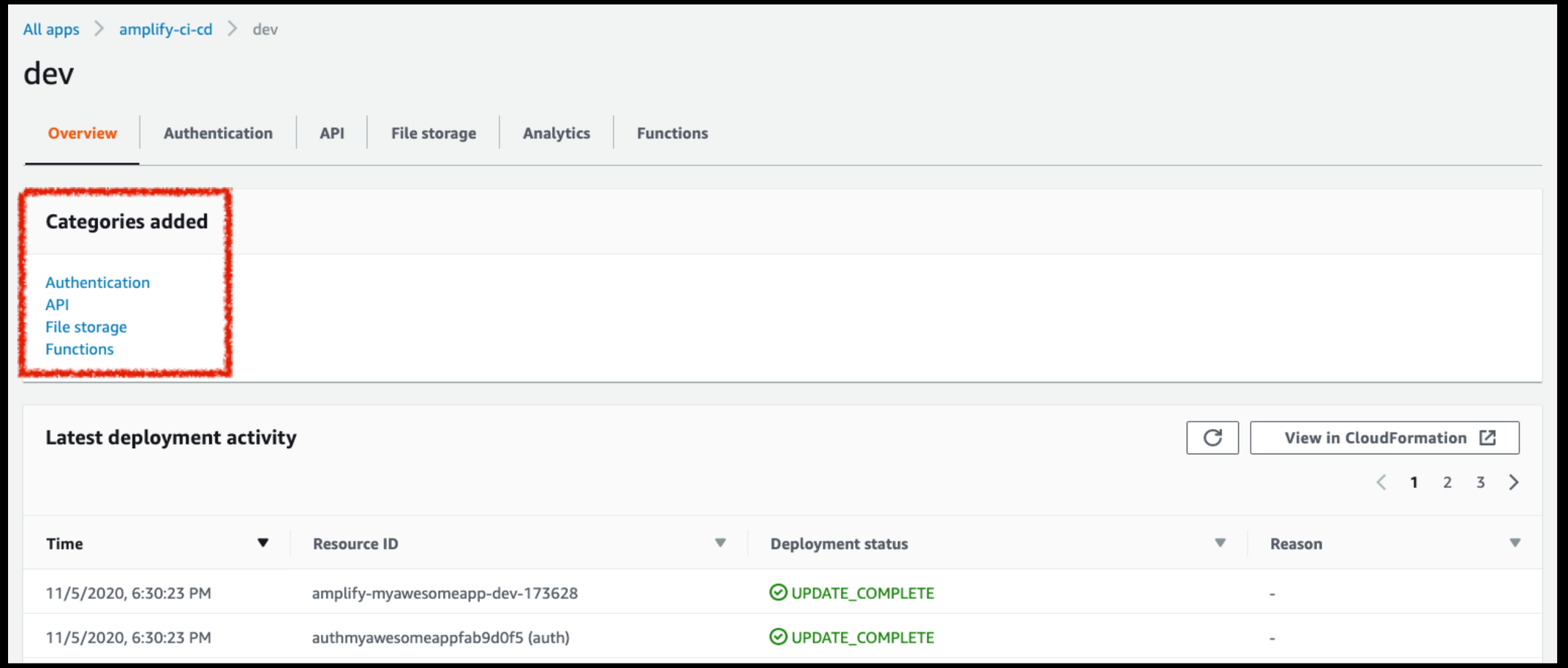
Amplify Console

BACKEND MANAGEMENT



Amplify Console

BACKEND MANAGEMENT



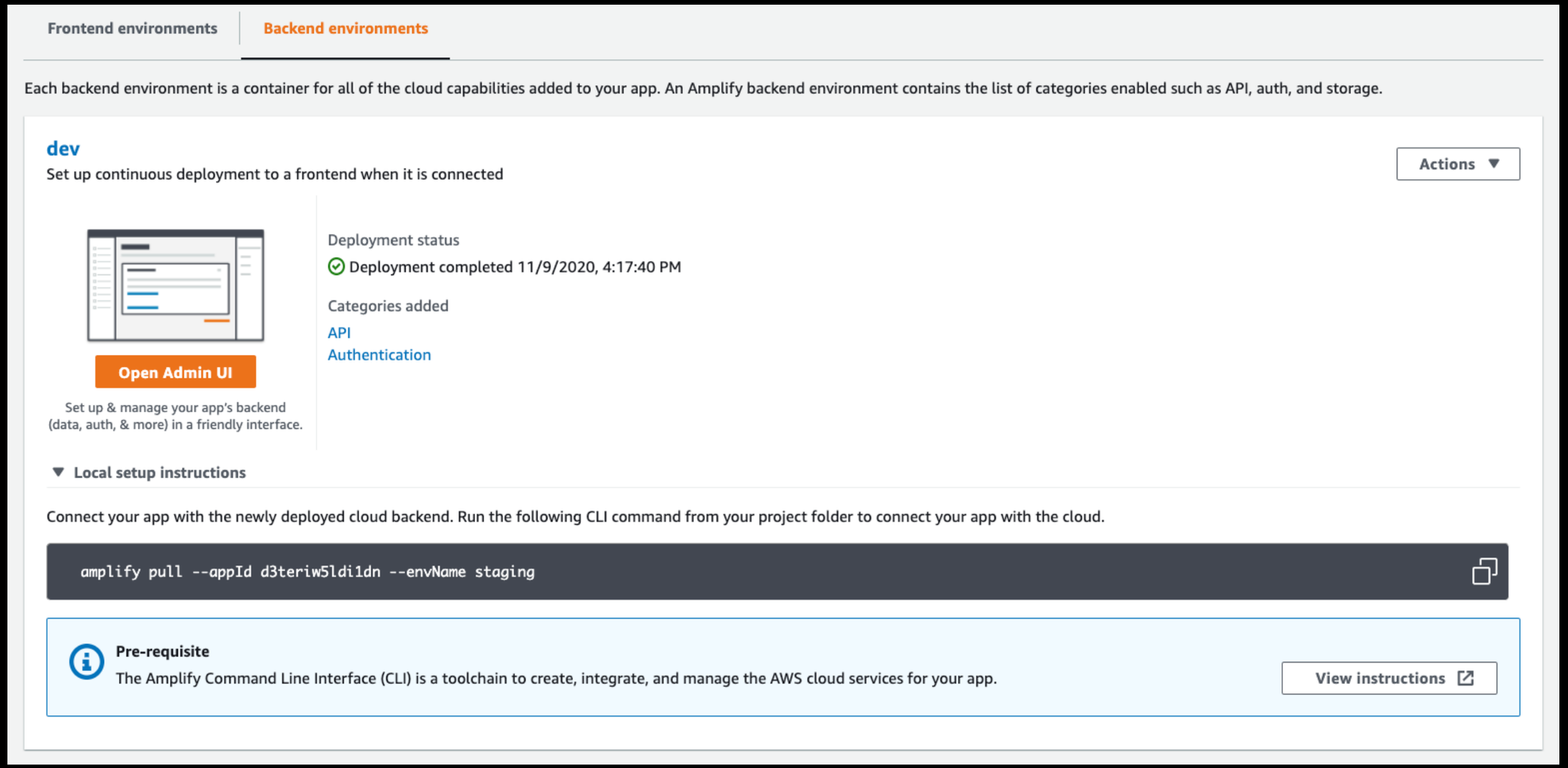
CLI Integration



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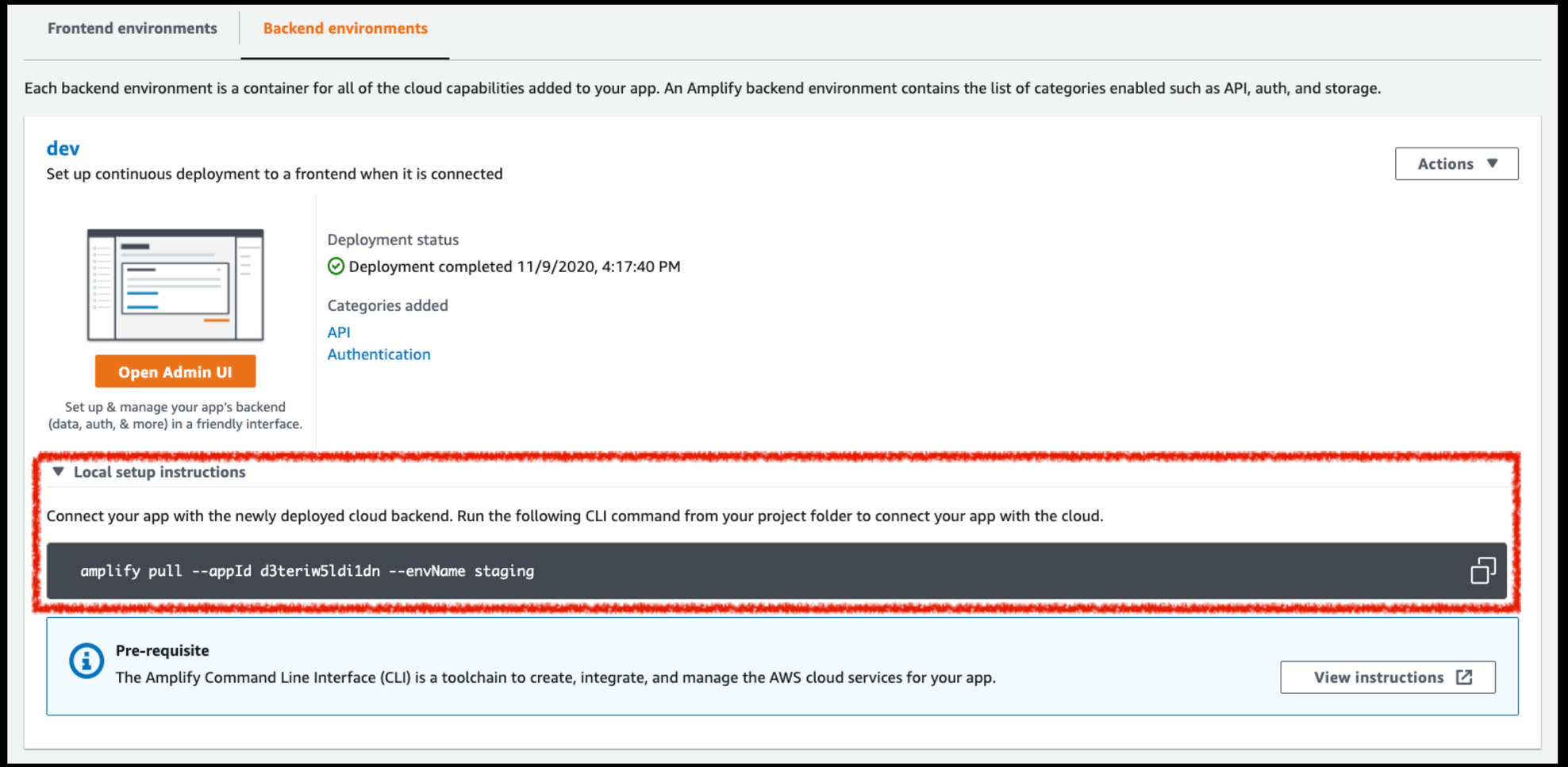
Amplify Console

CLI INTEGRATION



Amplify Console

CLI INTEGRATION



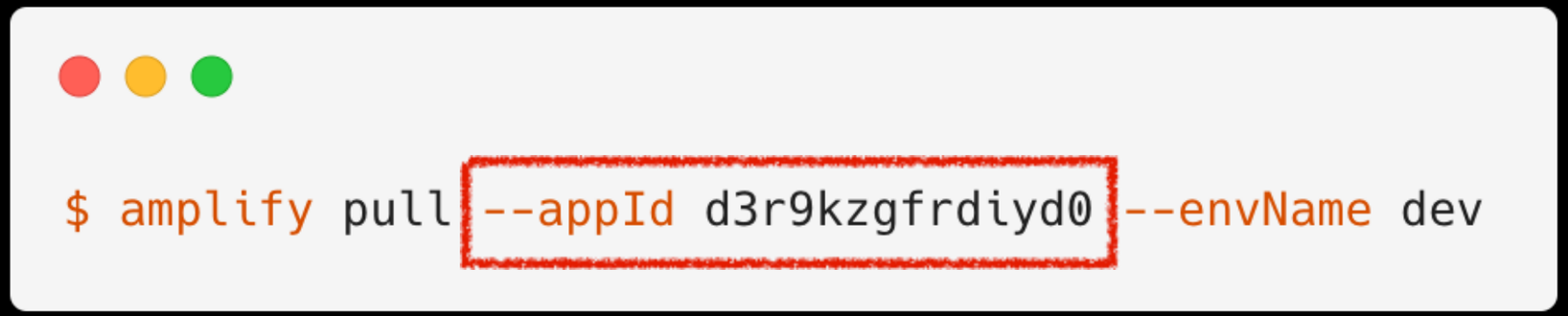
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CLI INTEGRATION



Amplify Console

CLI INTEGRATION



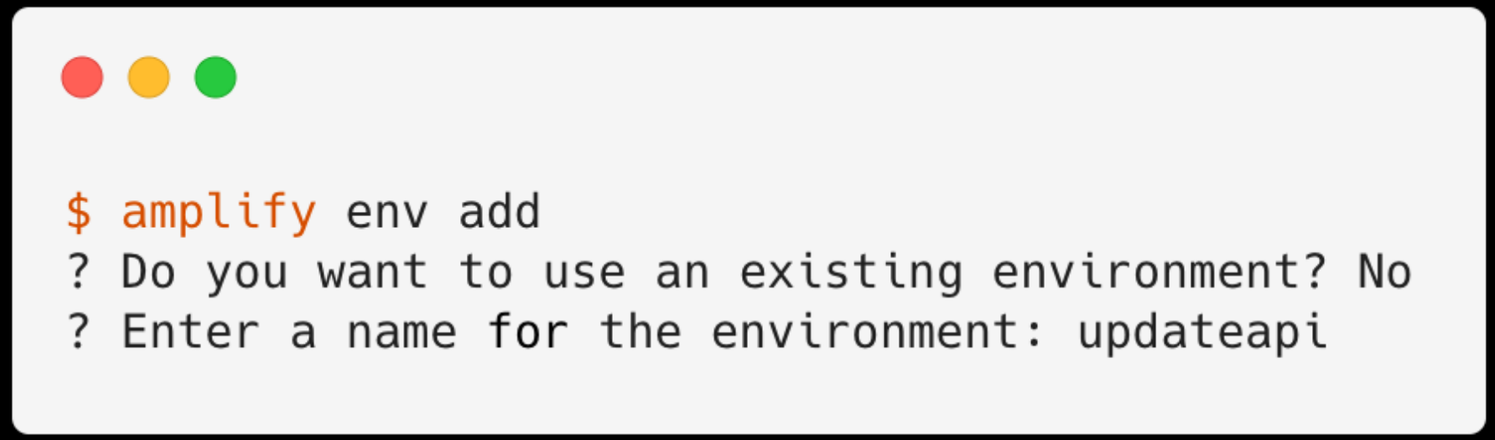
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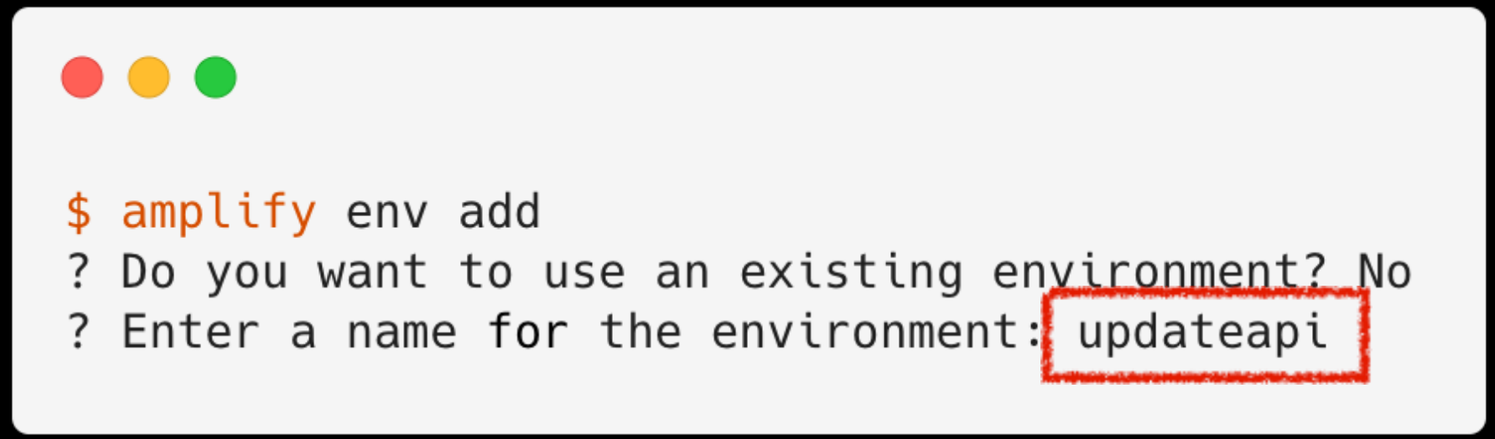
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CLI INTEGRATION



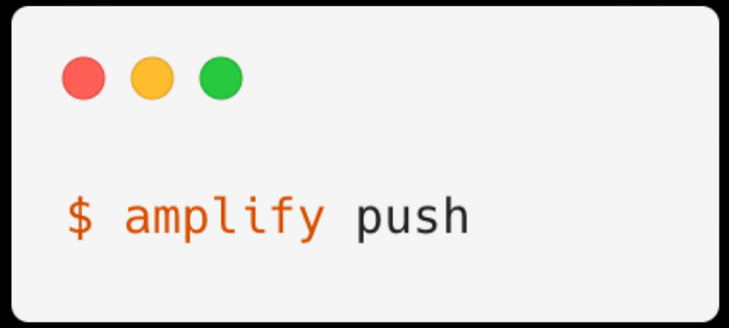
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CLI INTEGRATION



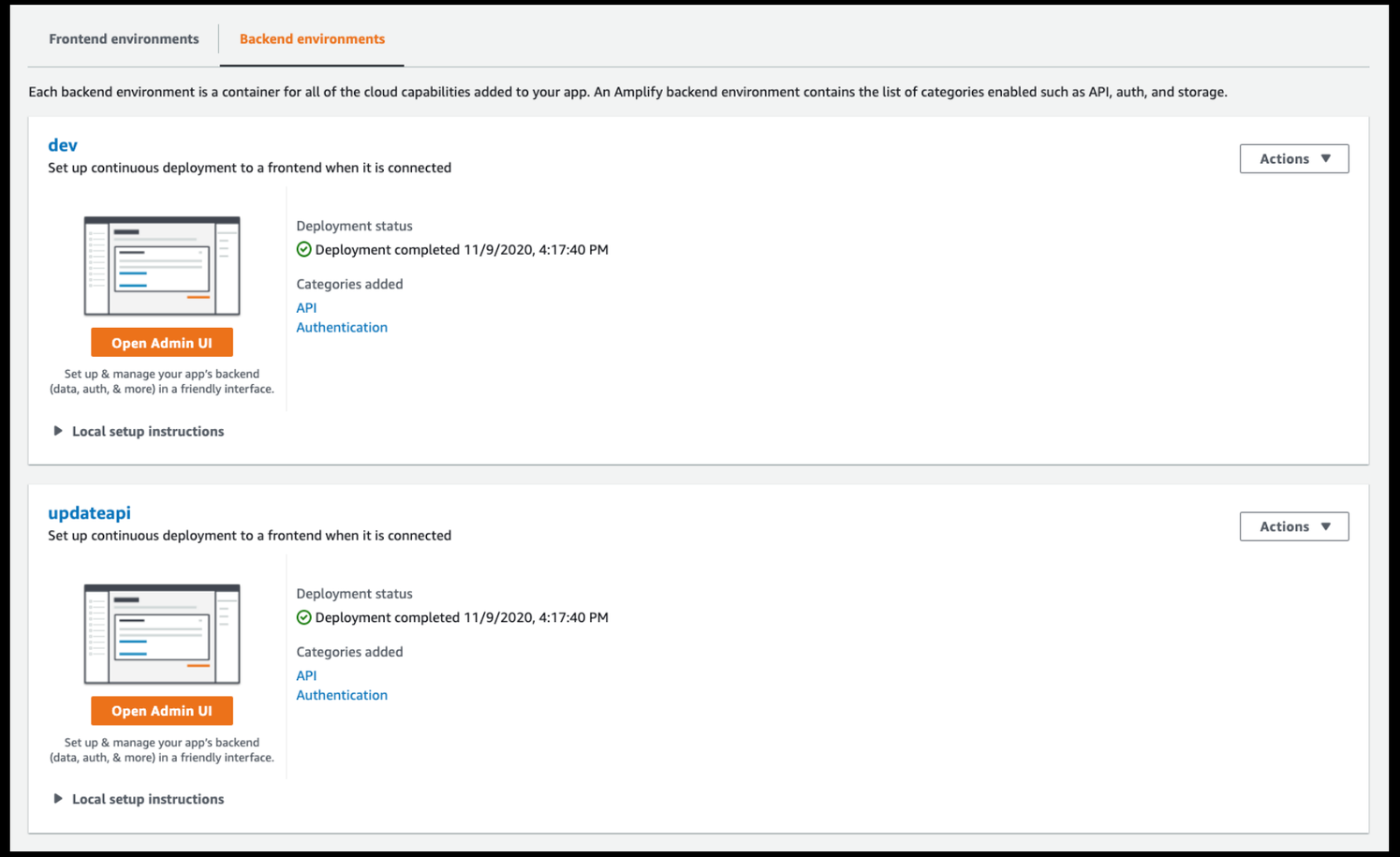
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CLI INTEGRATION



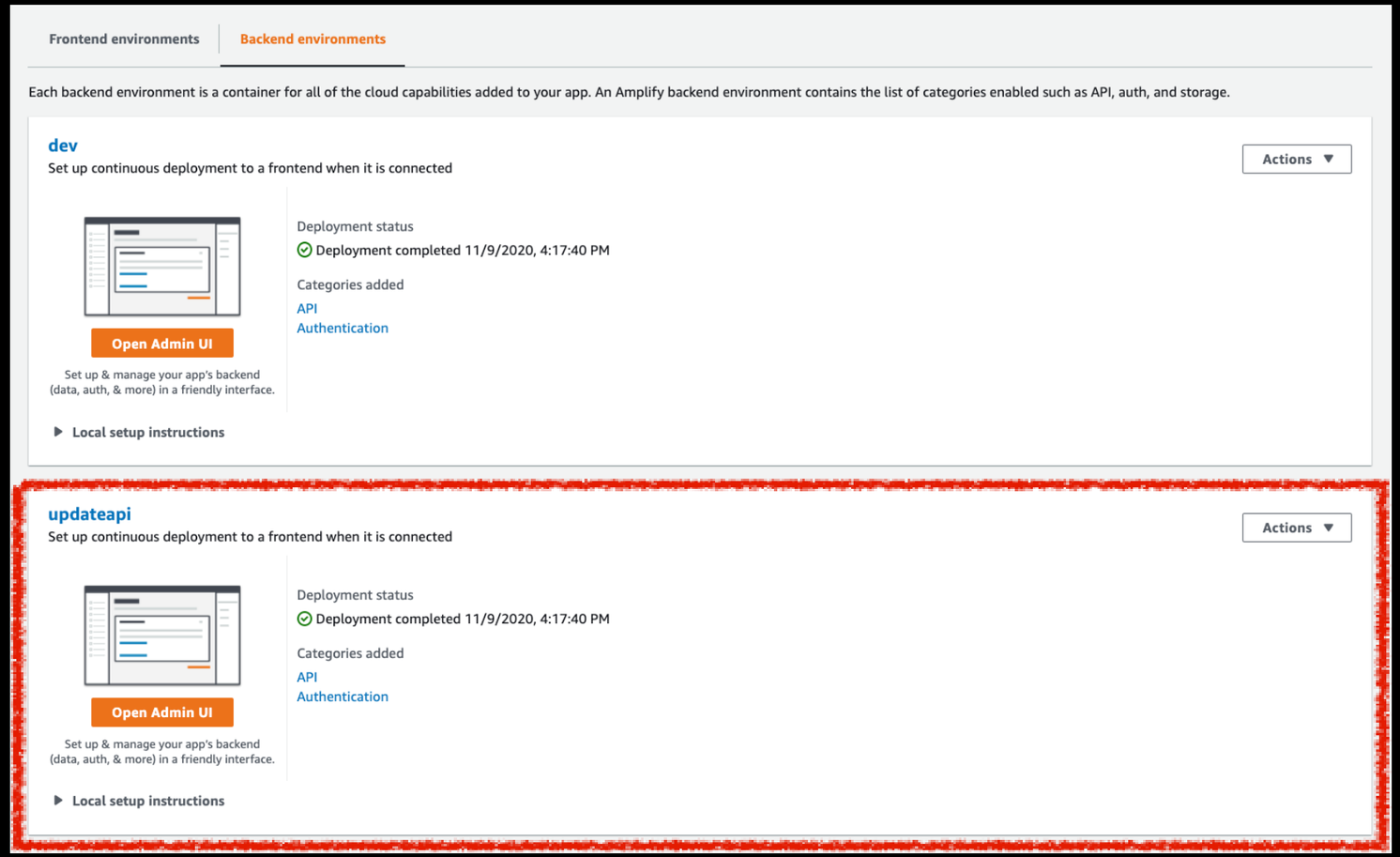
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CLI INTEGRATION



Amplify Console

CLI INTEGRATION



App Settings and Management

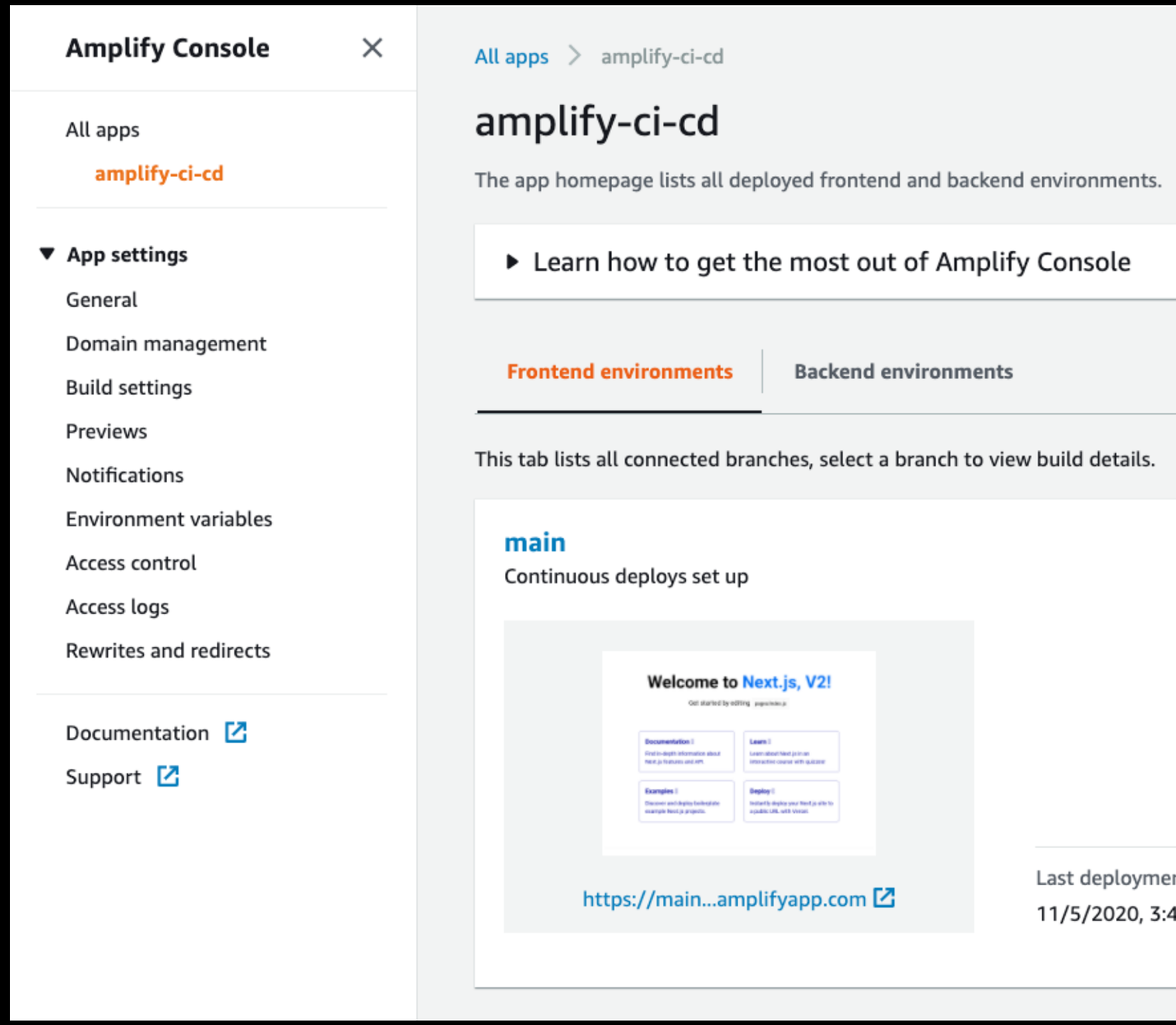


AWS re:Invent

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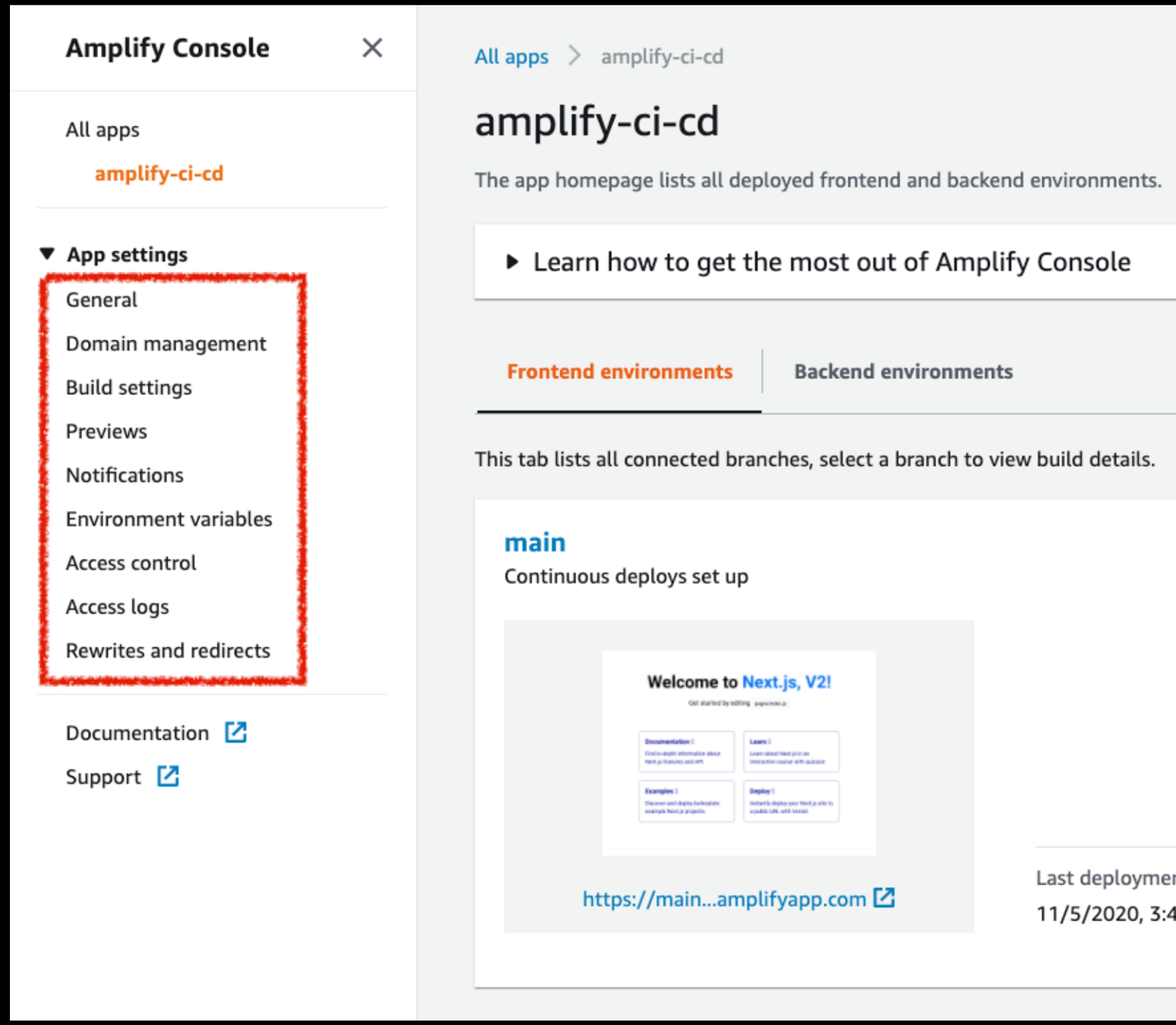
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APP SETTINGS AND MANAGEMENT



Amplify Console

APP SETTINGS AND MANAGEMENT



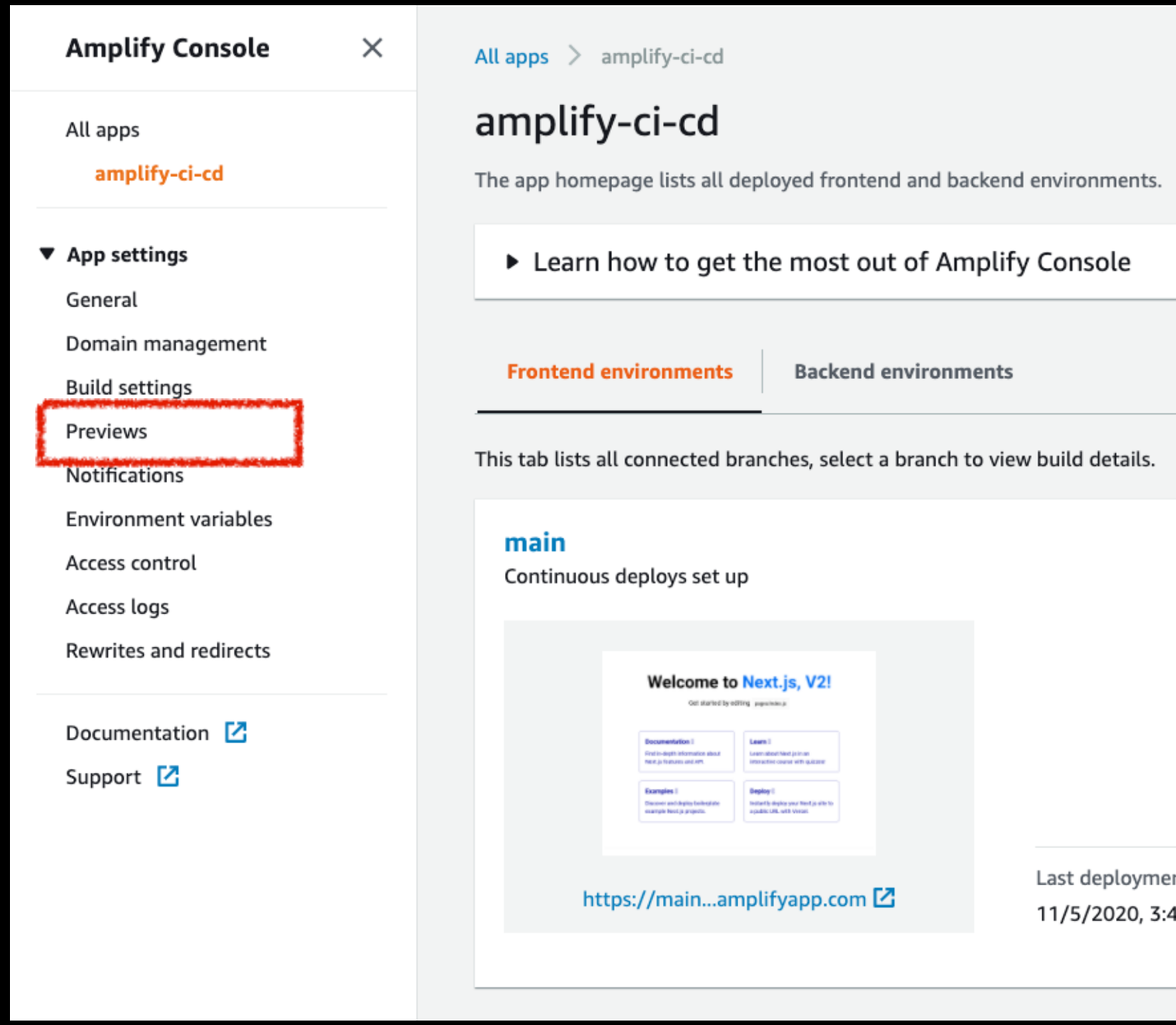


Amplify Console

PR Previews

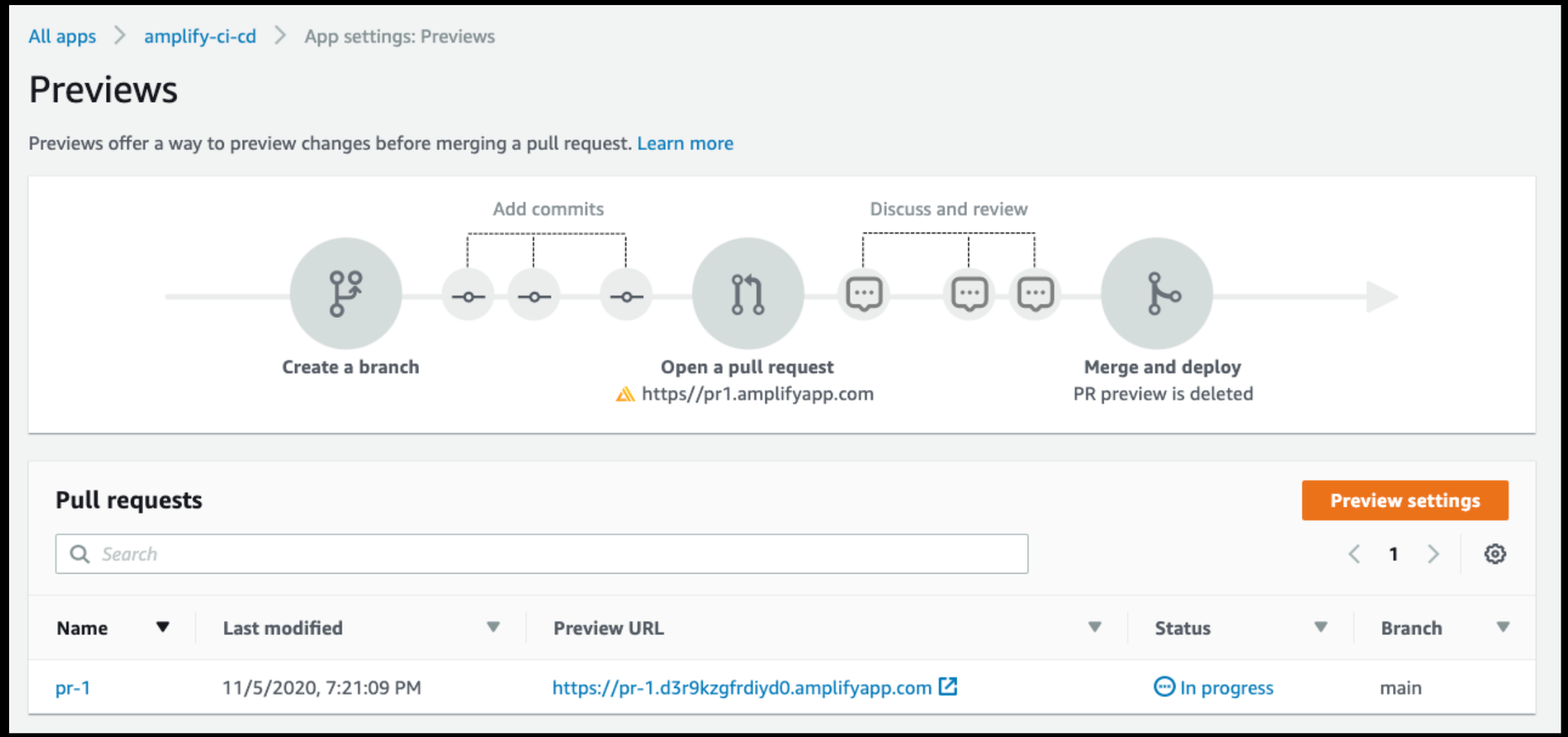
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PR PREVIEWS



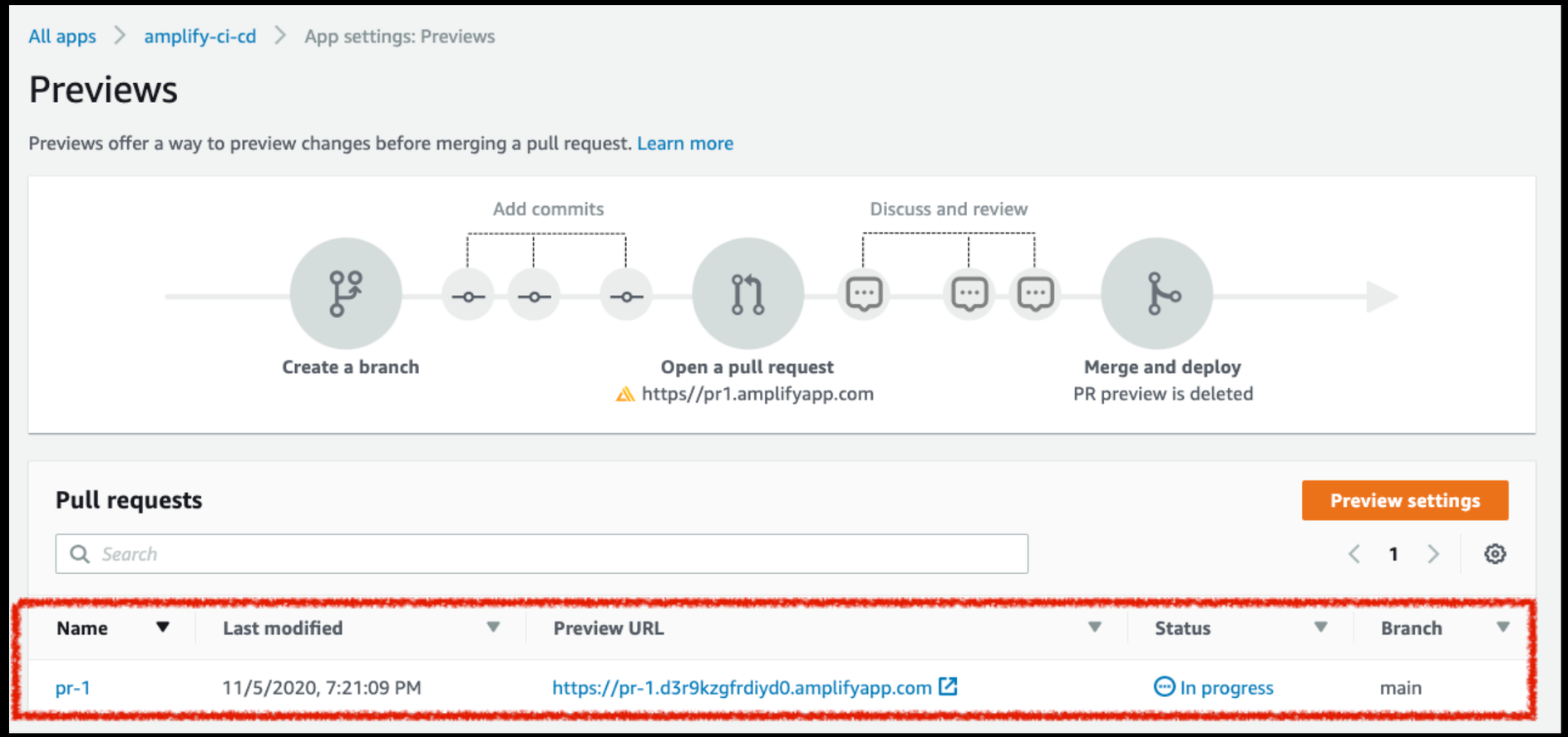
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PR PREVIEWS



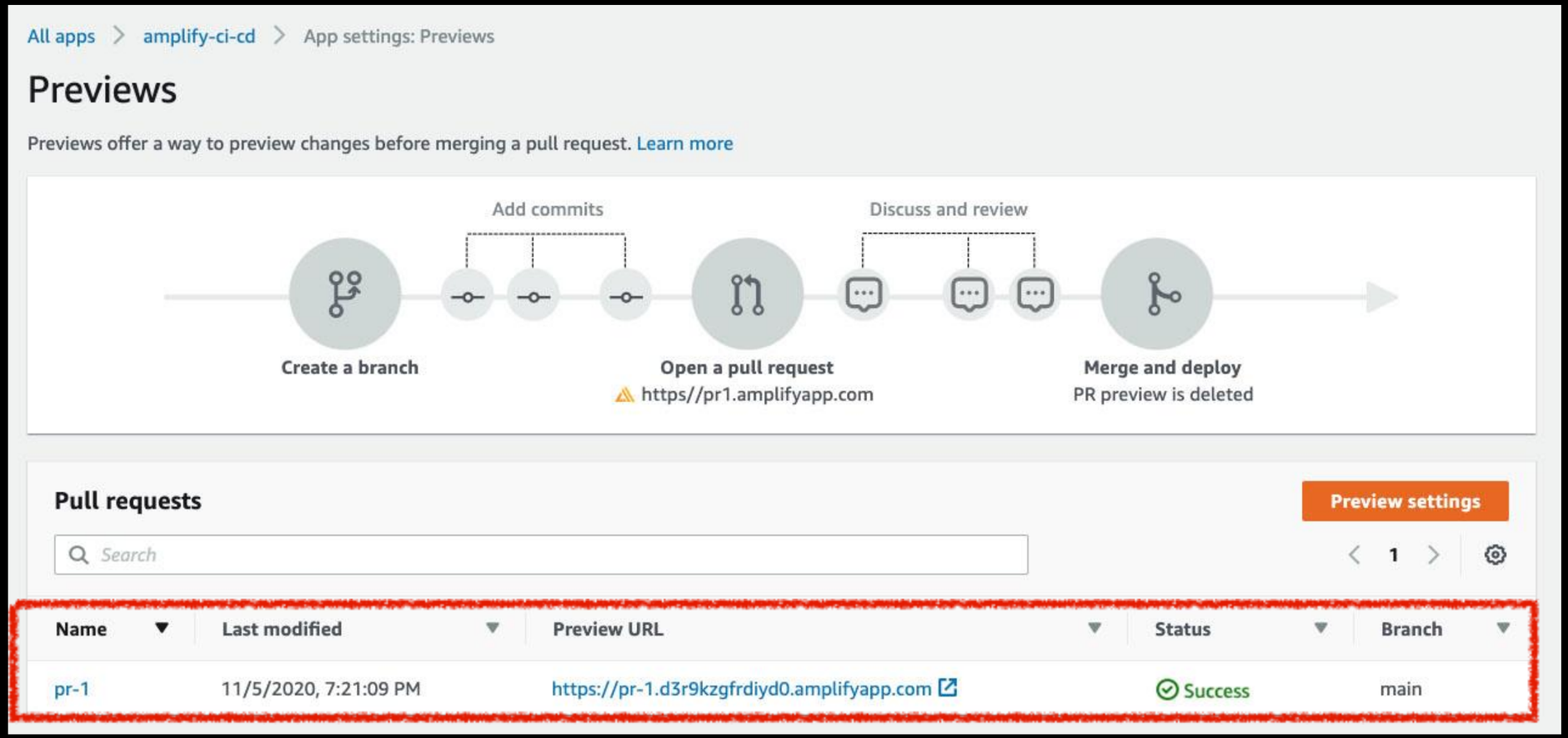
Amplify Console

PR PREVIEWS



Amplify Console

PR PREVIEWS



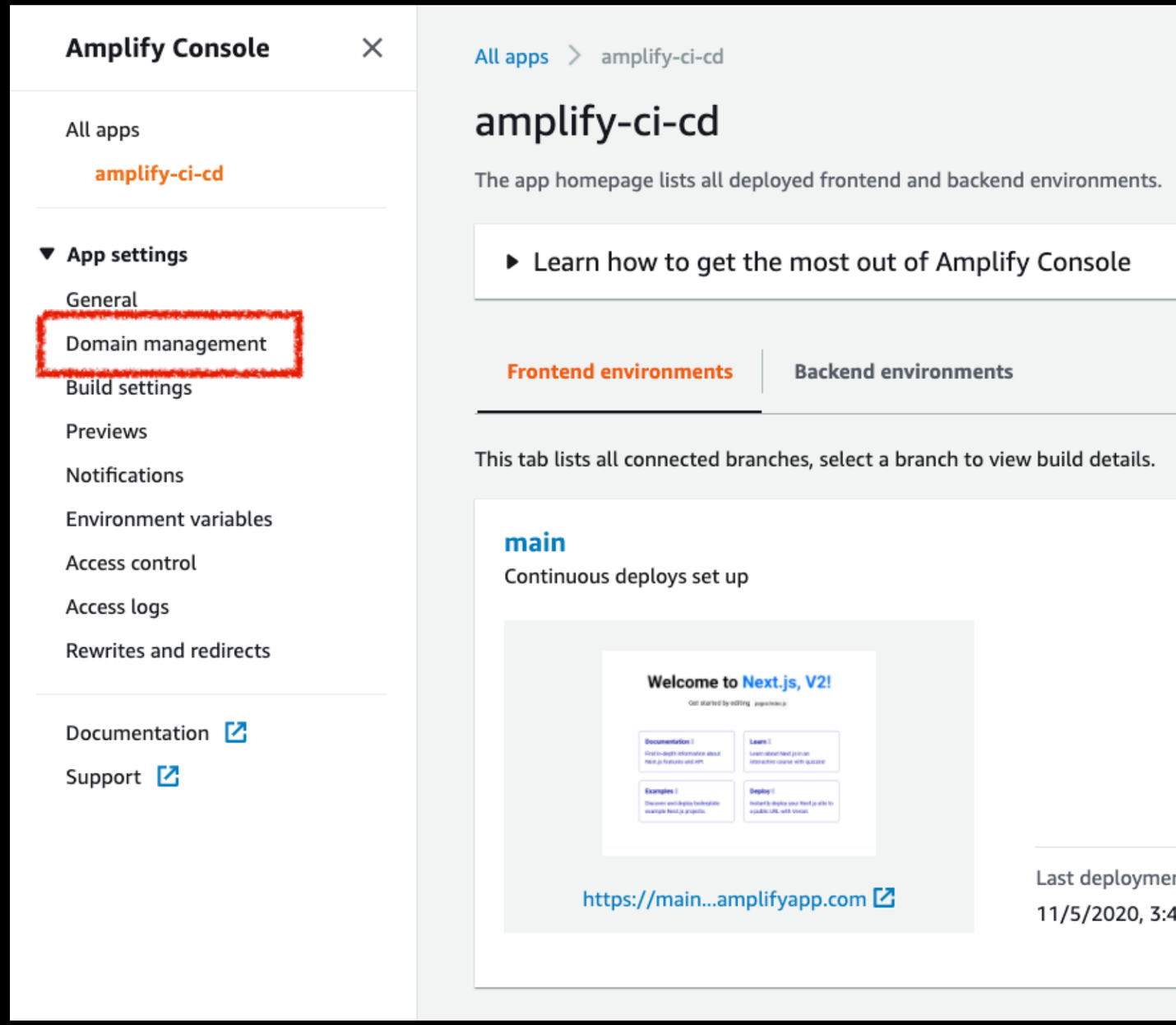


Amplify Console

Domain Management

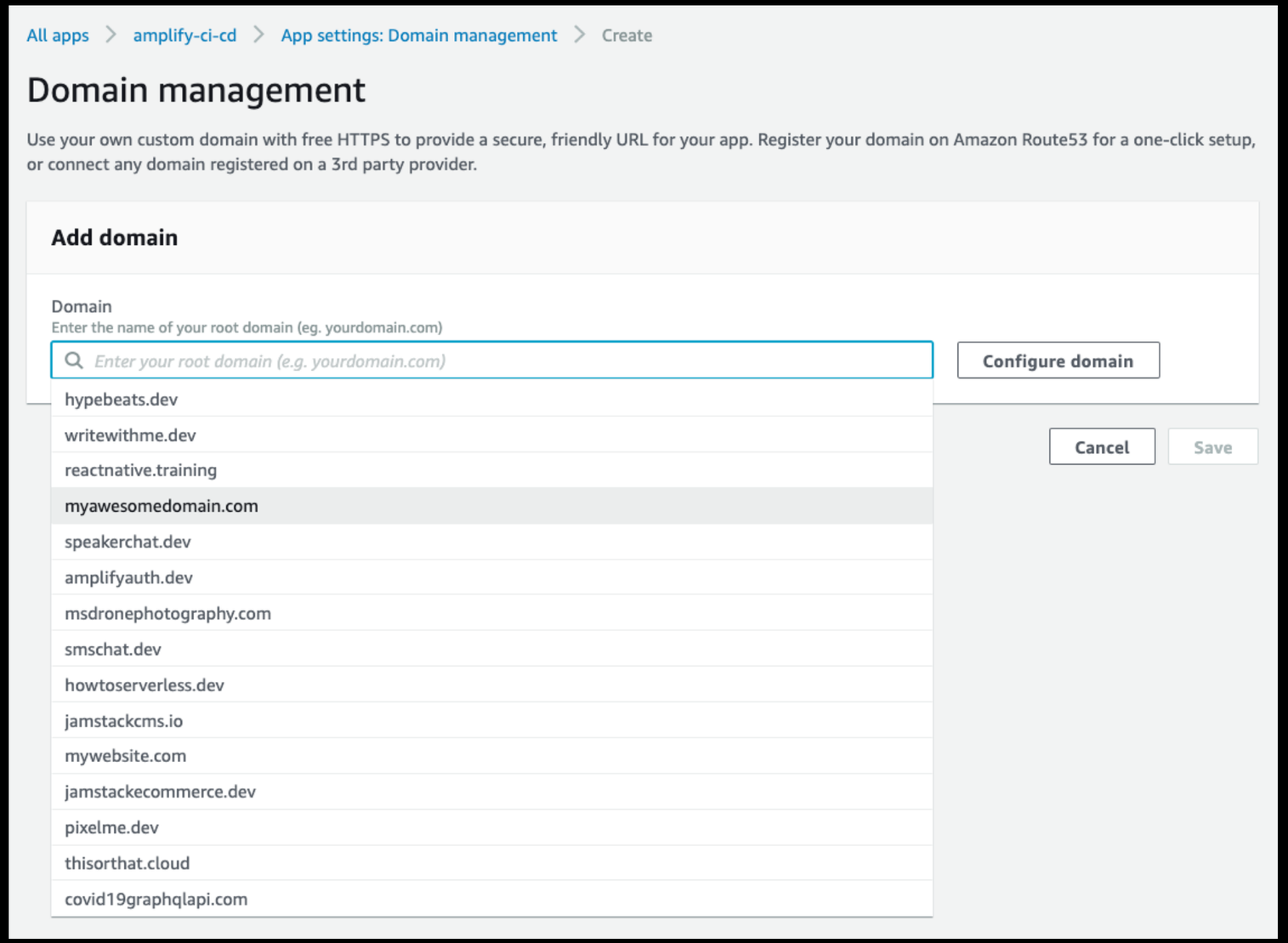
Amplify Console

DOMAIN MANAGEMENT



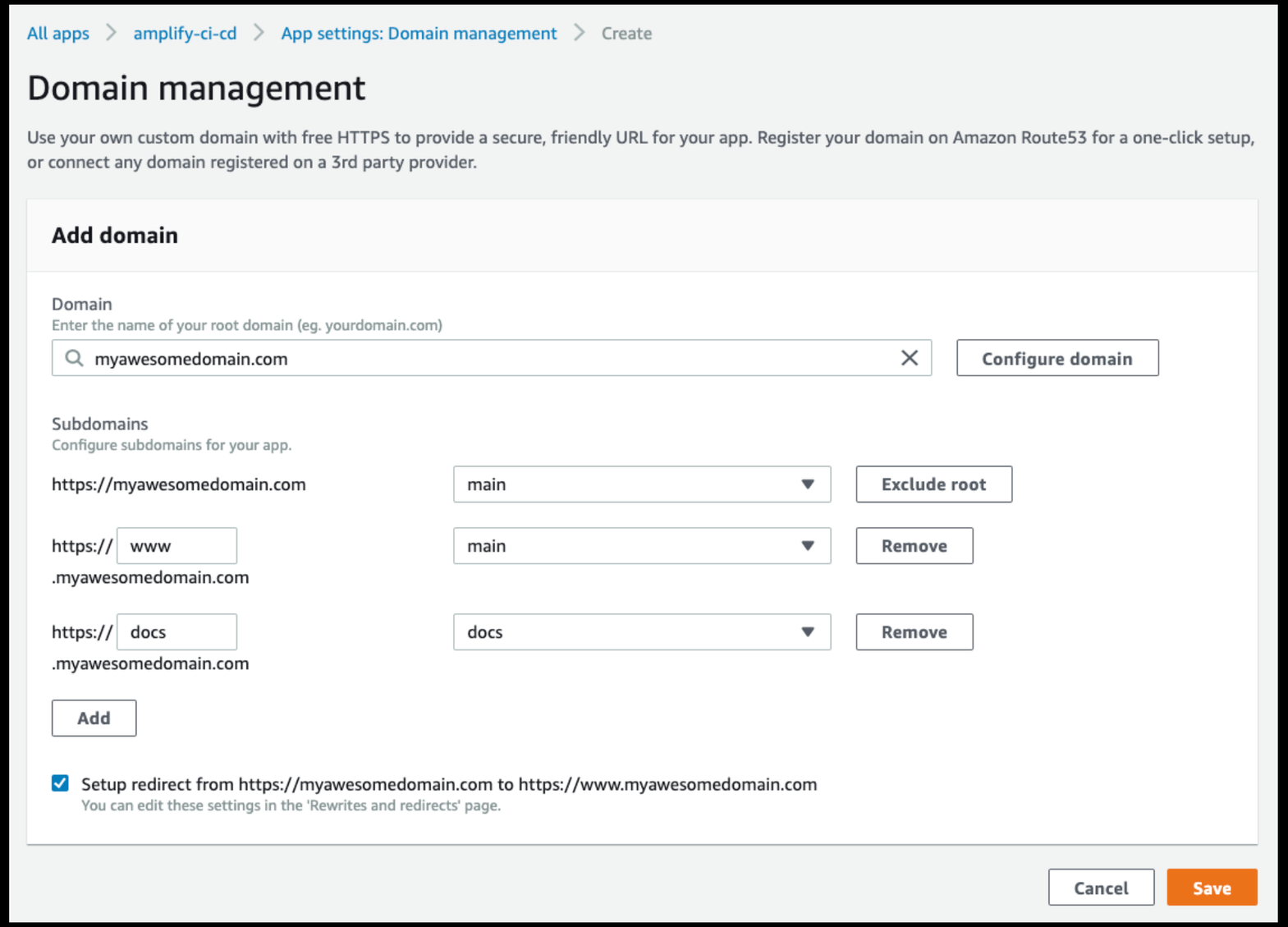
Amplify Console

DOMAIN MANAGEMENT



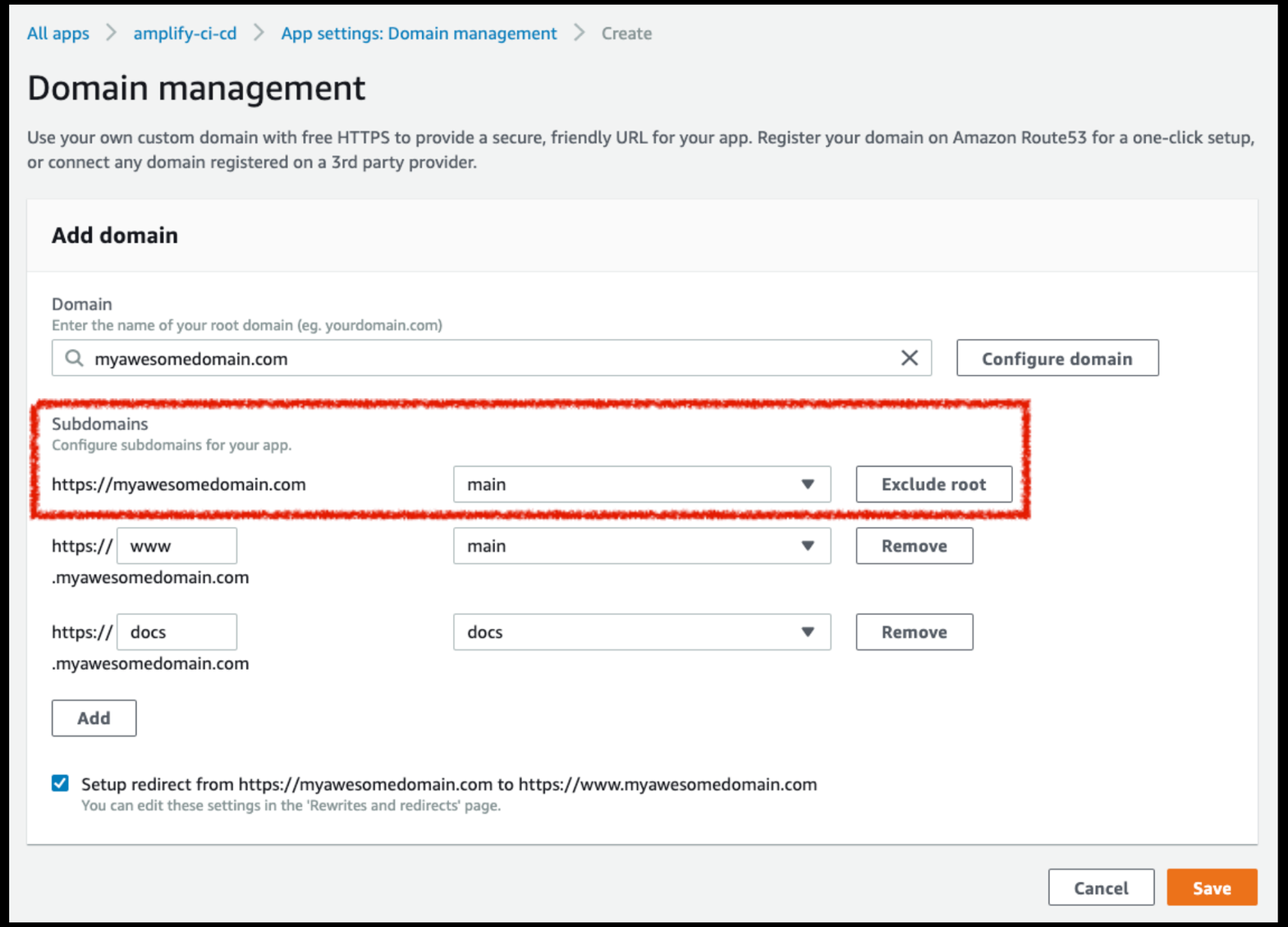
Amplify Console

DOMAIN MANAGEMENT



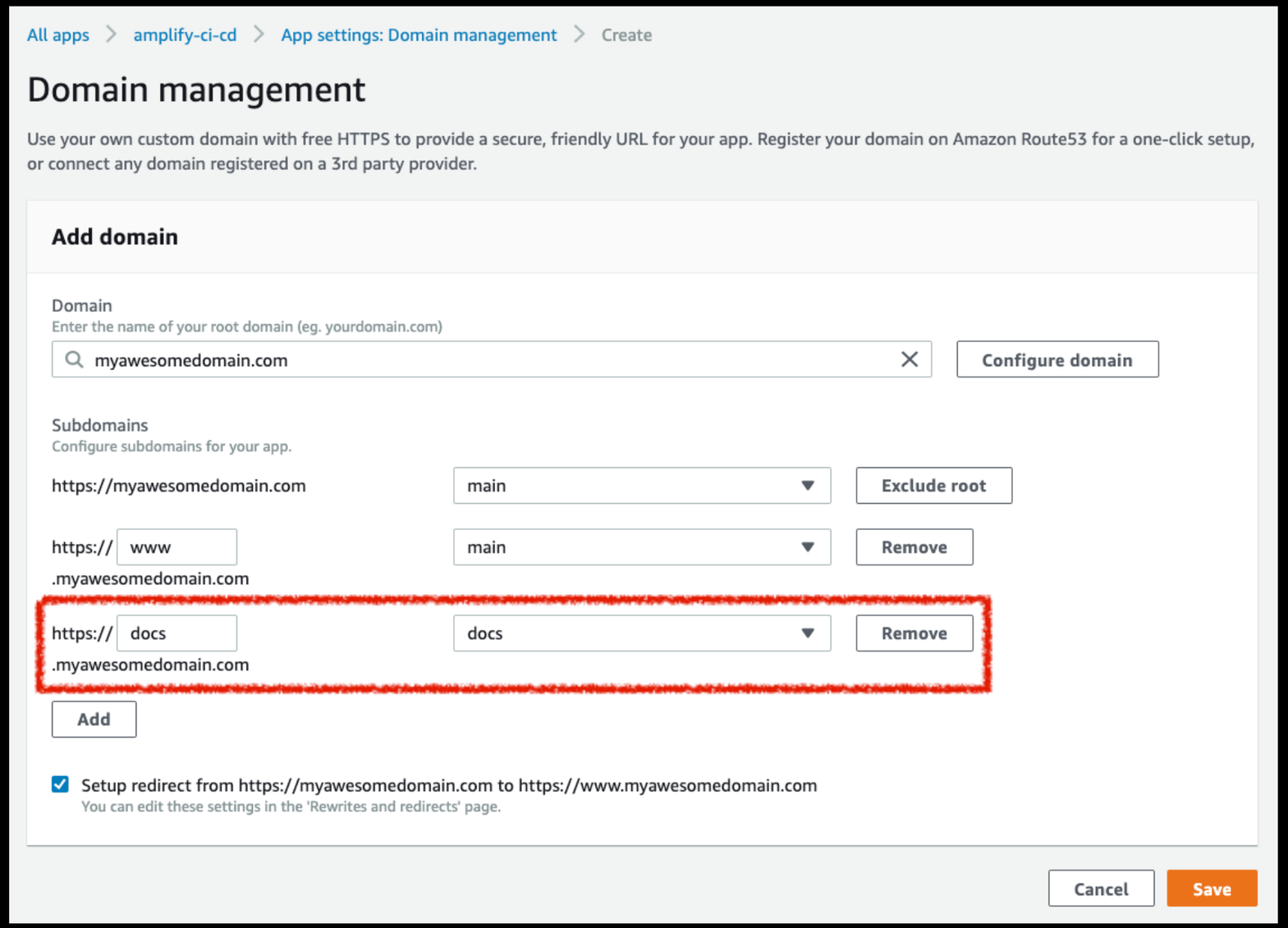
Amplify Console

DOMAIN MANAGEMENT



Amplify Console

DOMAIN MANAGEMENT



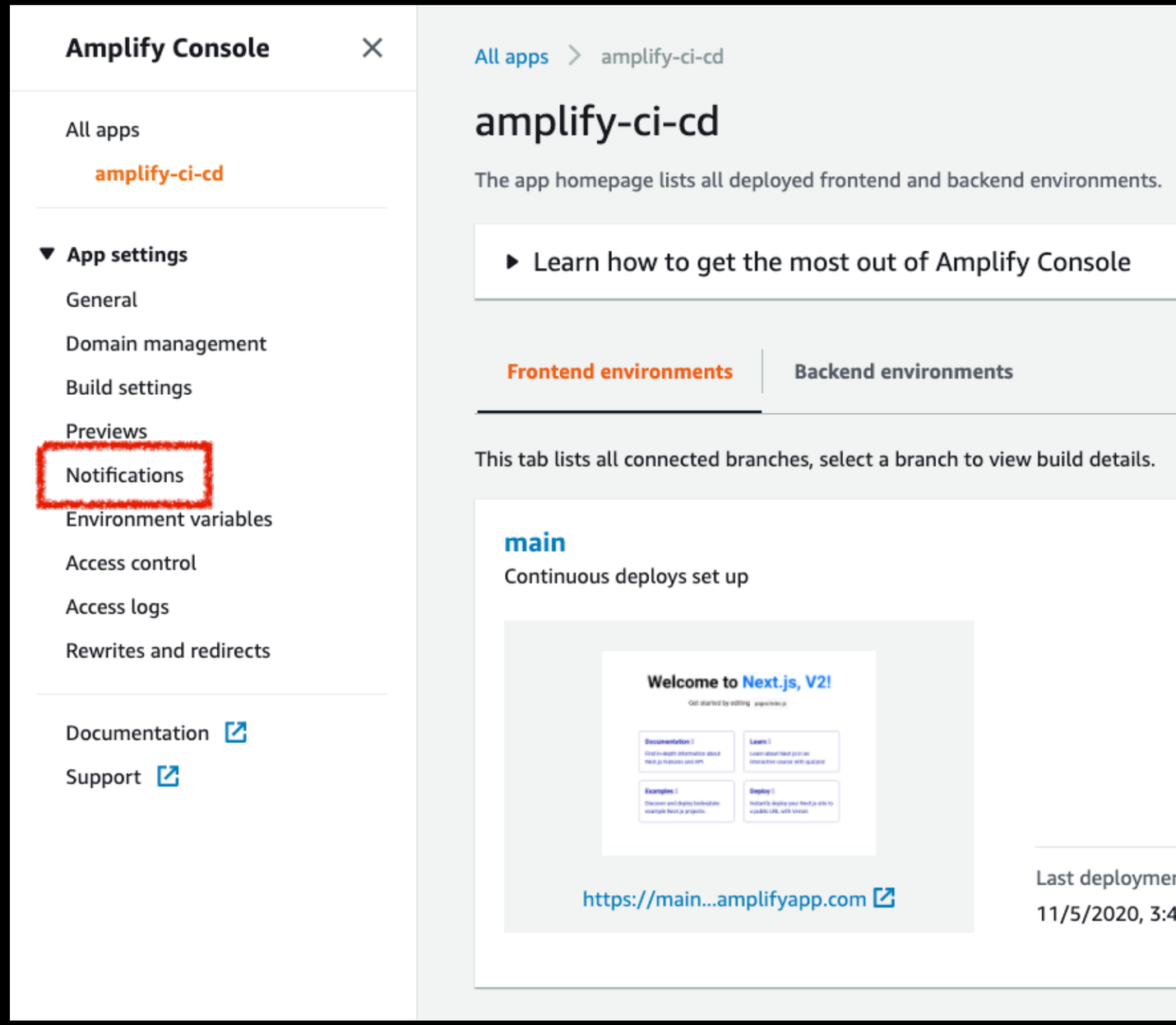


Amplify Console

Build notifications

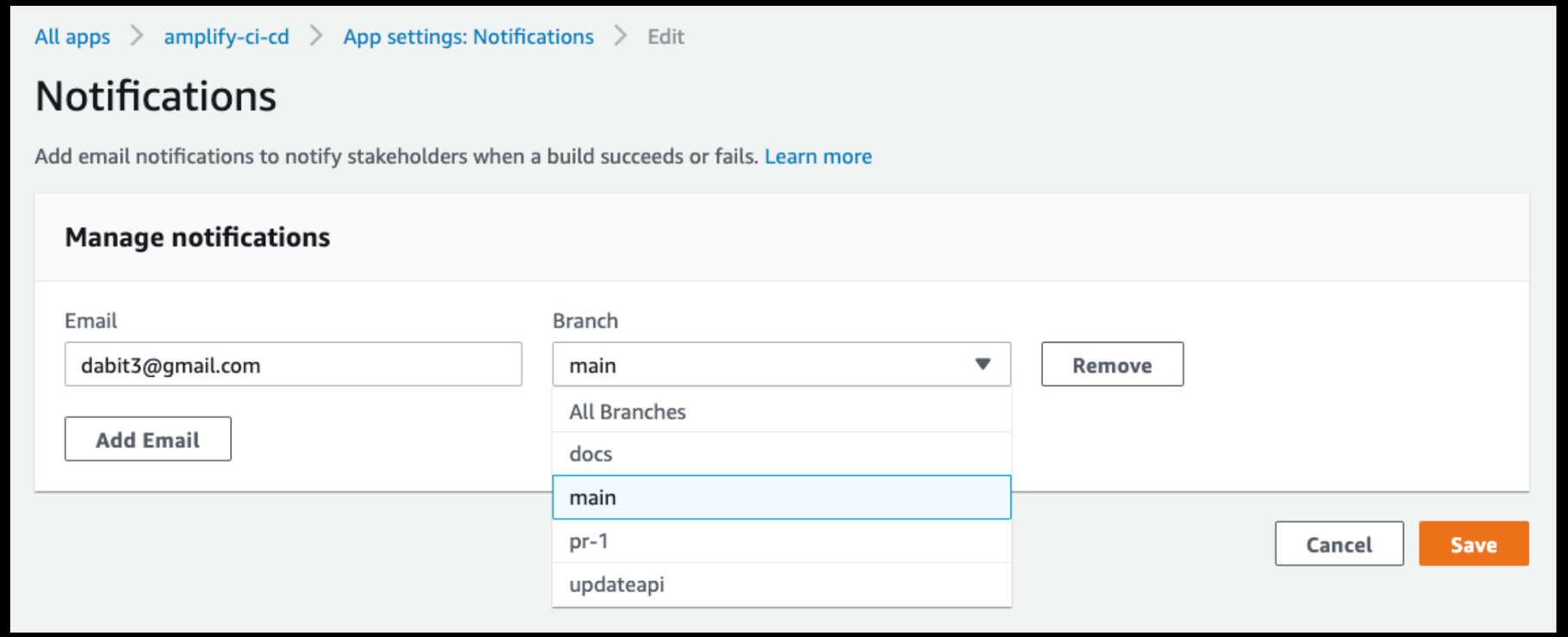
Amplify Console

BUILD NOTIFICATIONS



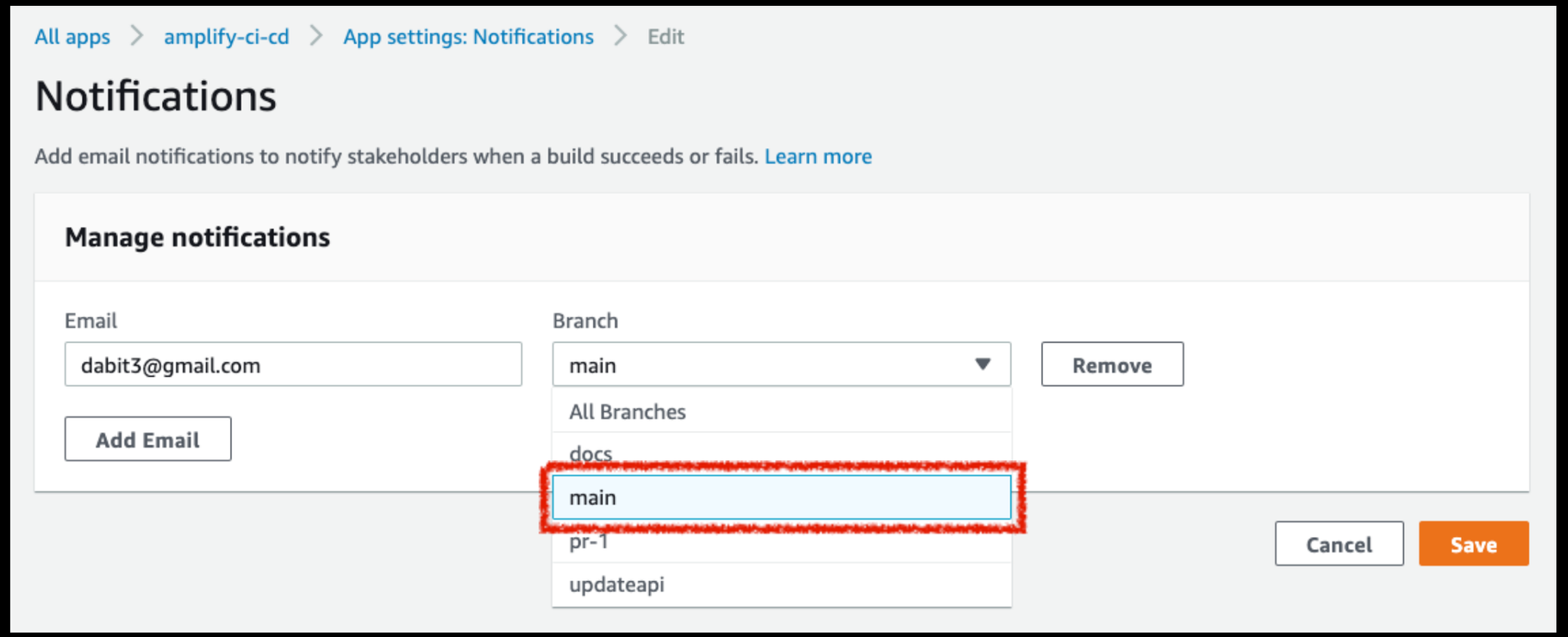
Amplify Console

BUILD NOTIFICATIONS



Amplify Console

BUILD NOTIFICATIONS



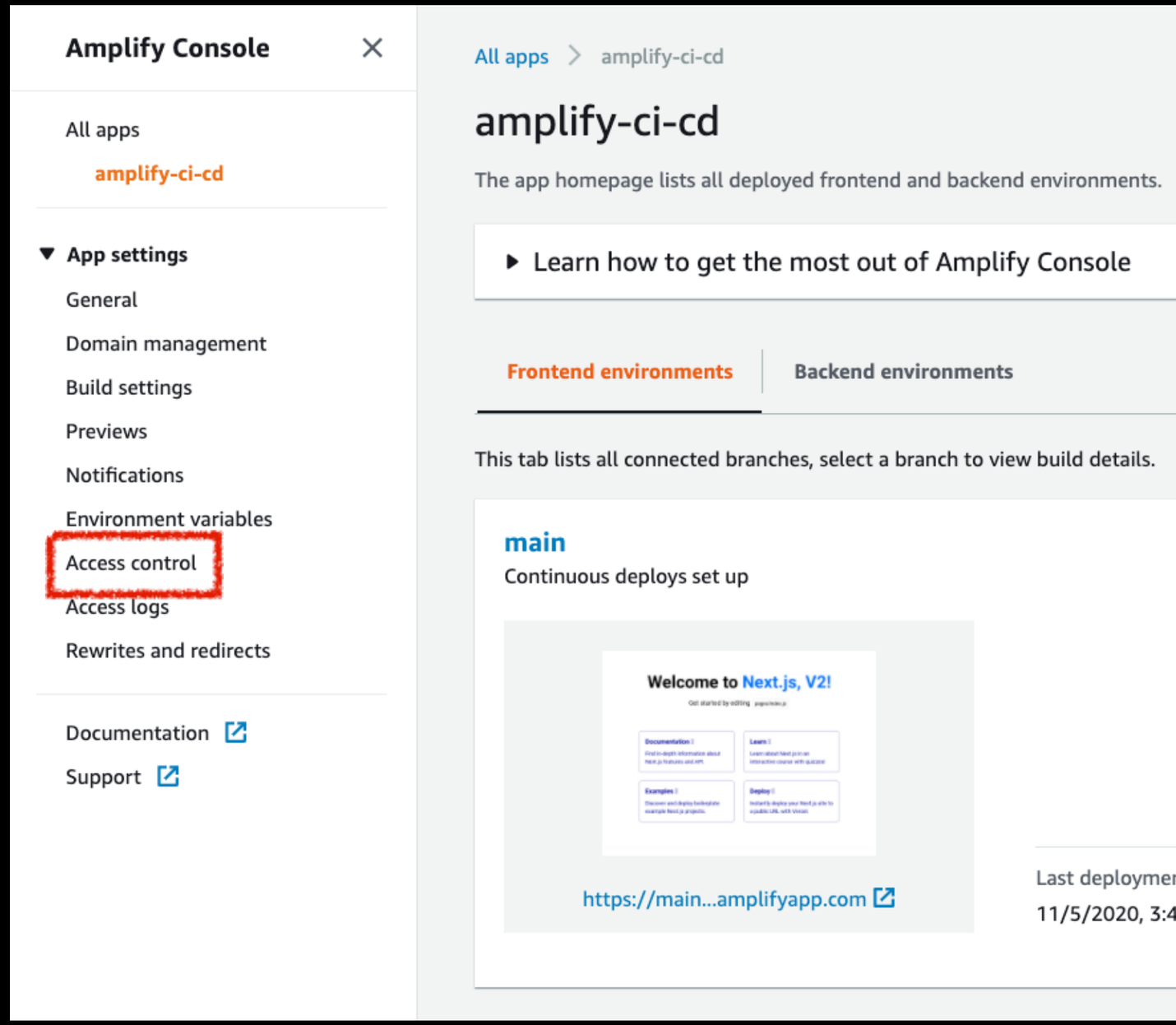


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Access control

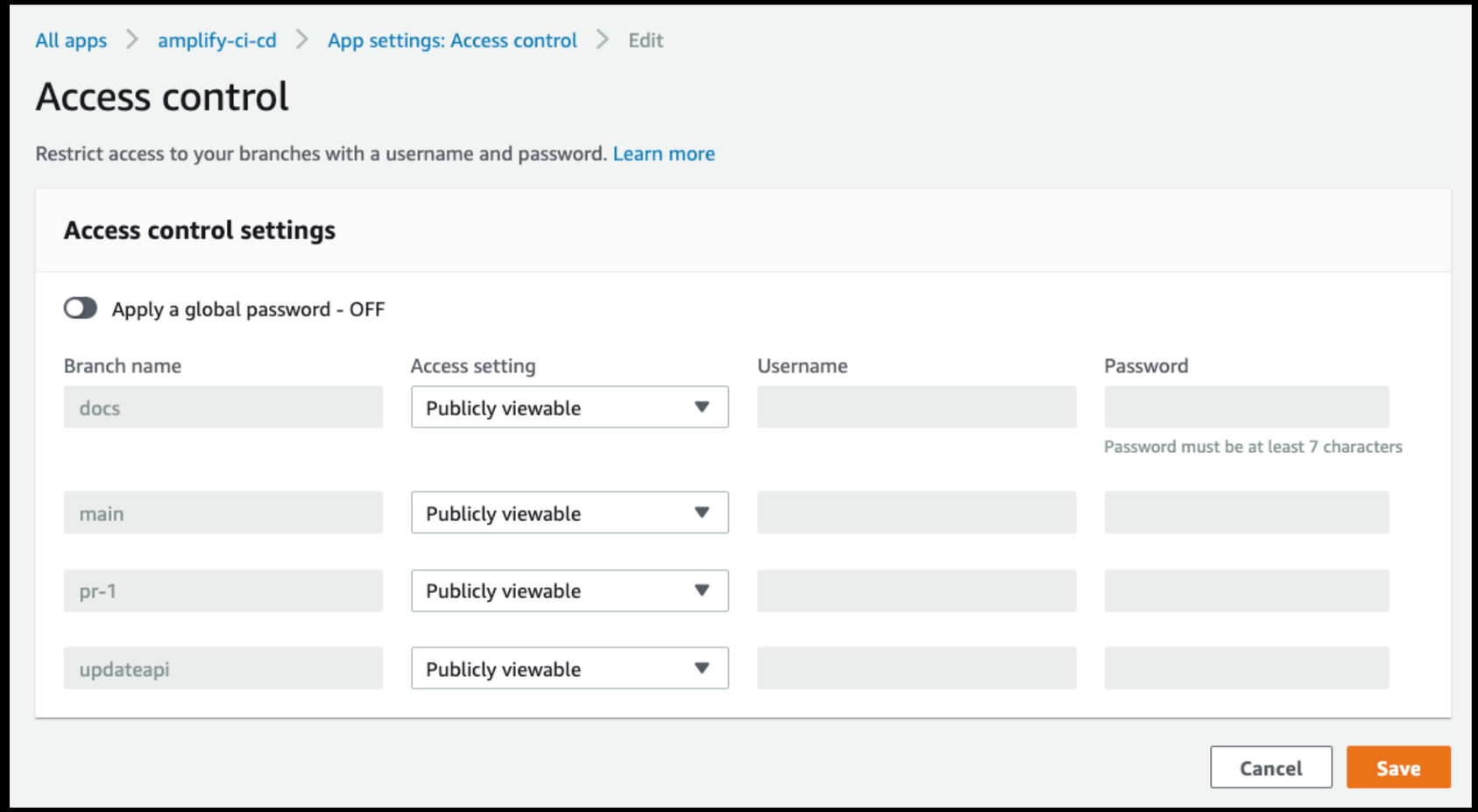
Amplify Console

ACCESS CONTROL



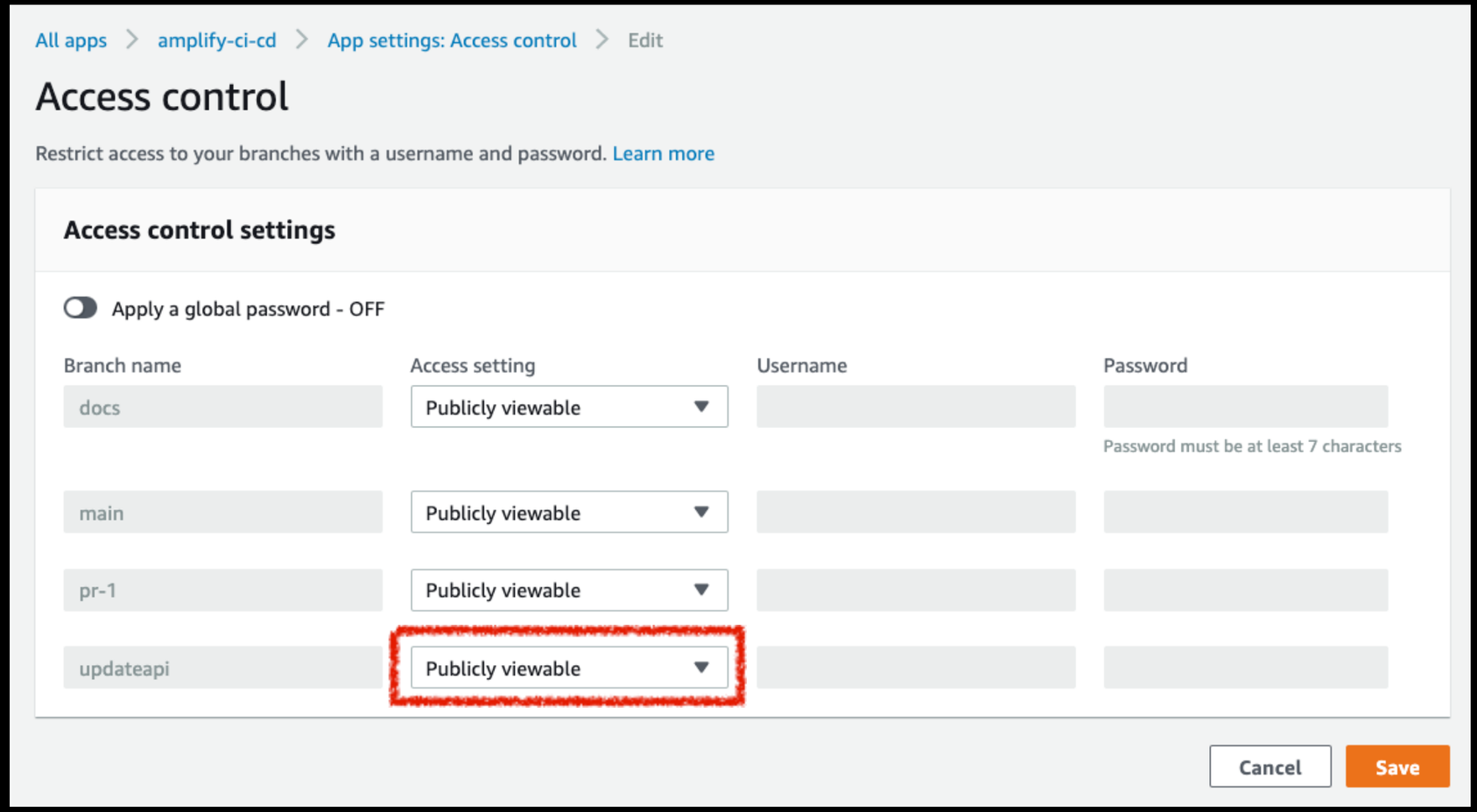
Amplify Console

ACCESS CONTROL



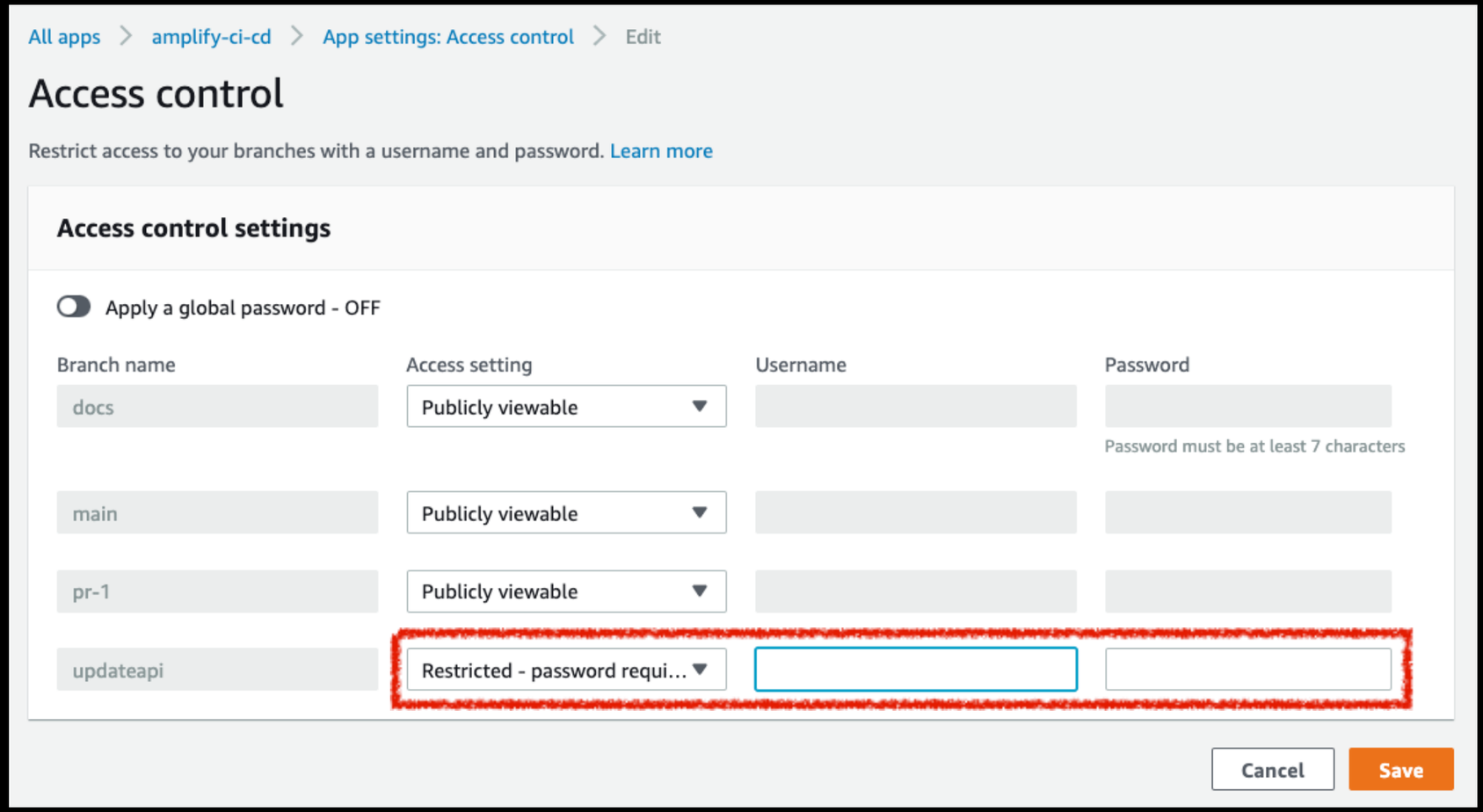
Amplify Console

ACCESS CONTROL



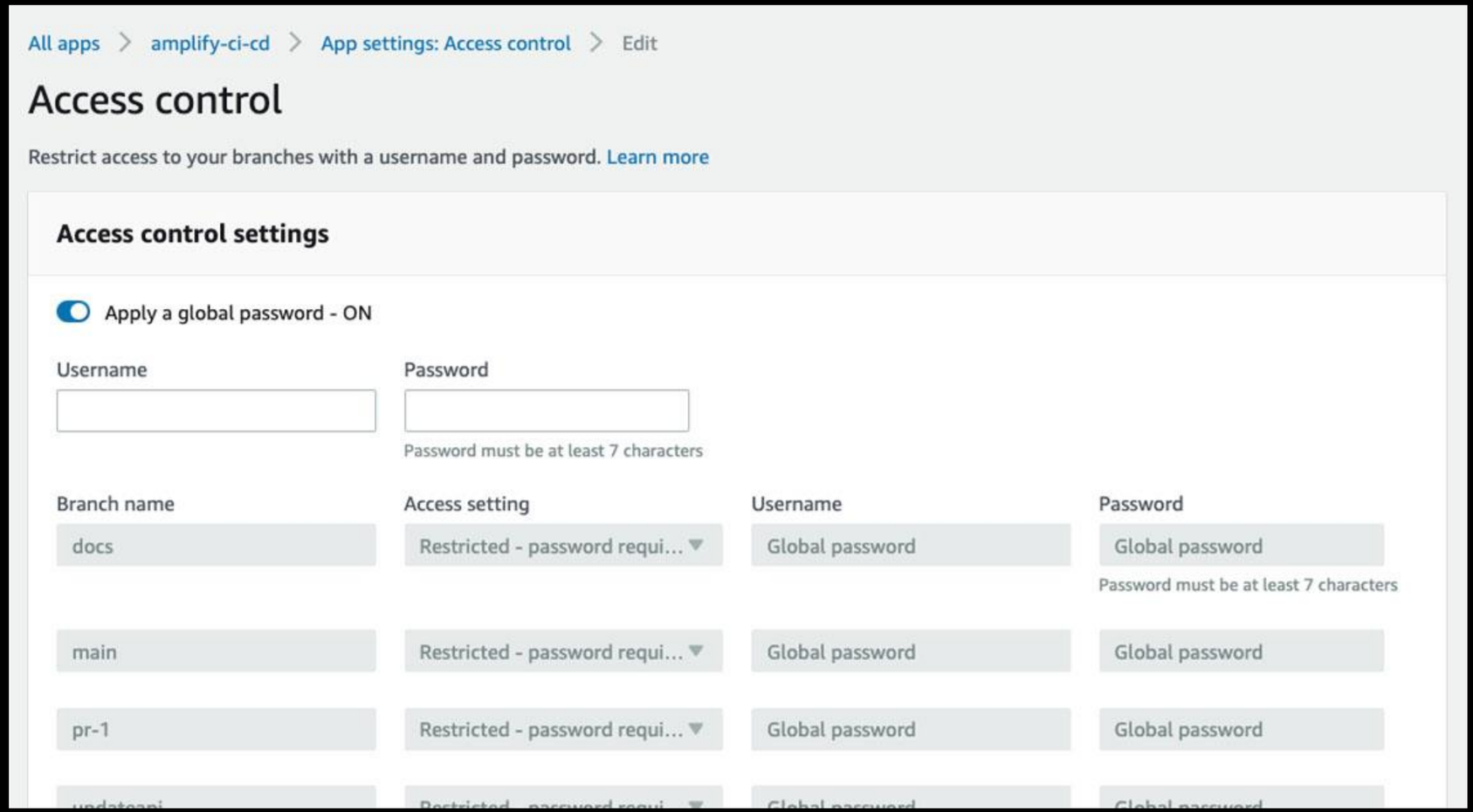
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ACCESS CONTROL



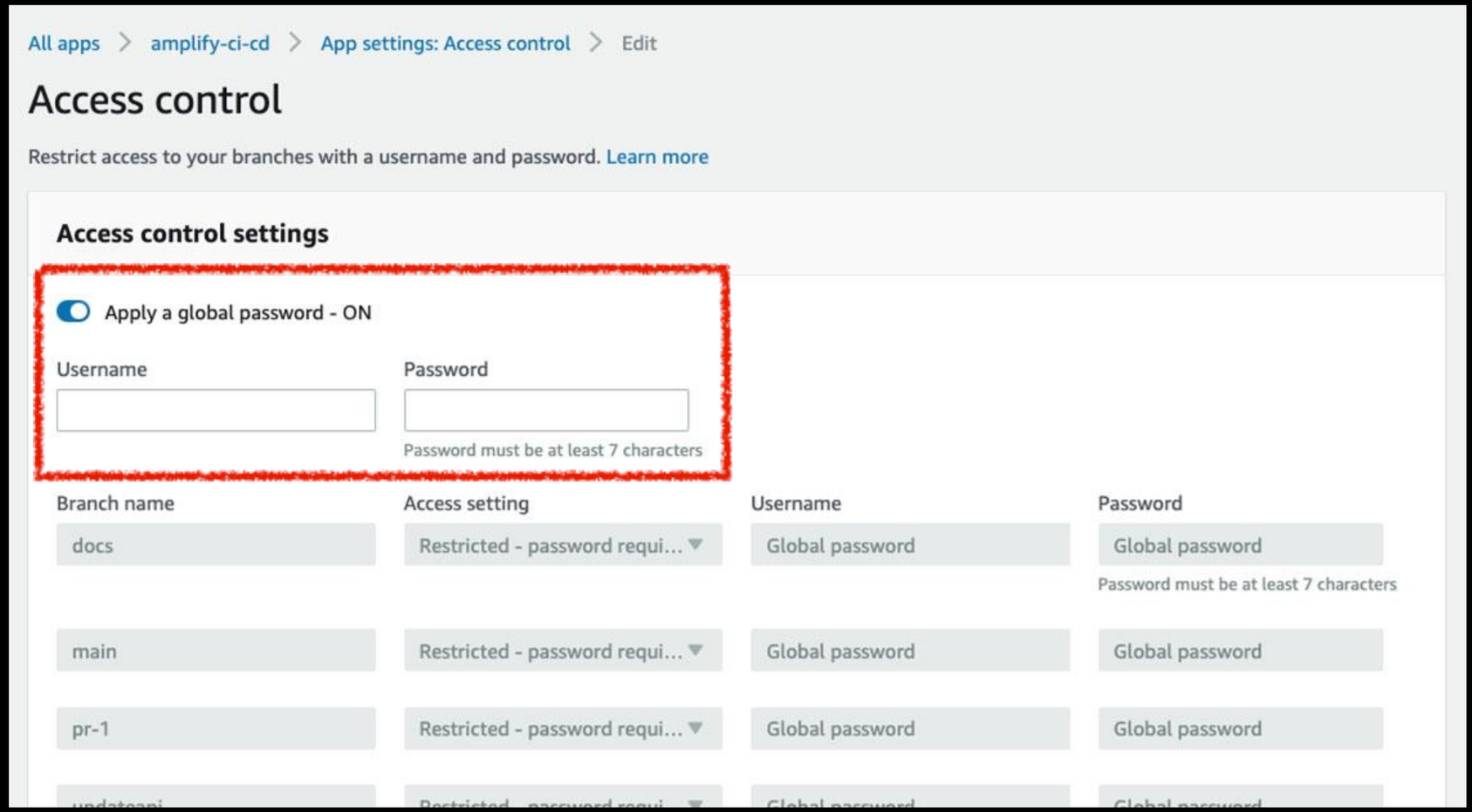
Amplify Console

ACCESS CONTROL



Amplify Console

ACCESS CONTROL



Amplify resources

Website: aws.amazon.com/amplify/console/

Console: console.aws.amazon.com/amplify/home

Blog: aws.amazon.com/amplify/blog/

More resources: aws.amazon.com/amplify/resources/

The team

- Who am I?
  - Sumin Kang
    Associate Director of Engineering

- The growth team
  - Mandate
  - Day to day



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The problem

- About 1 in 10 experiments succeed
- Unsuccessful experiments leave dead code behind
- Iterating quickly becomes untenable



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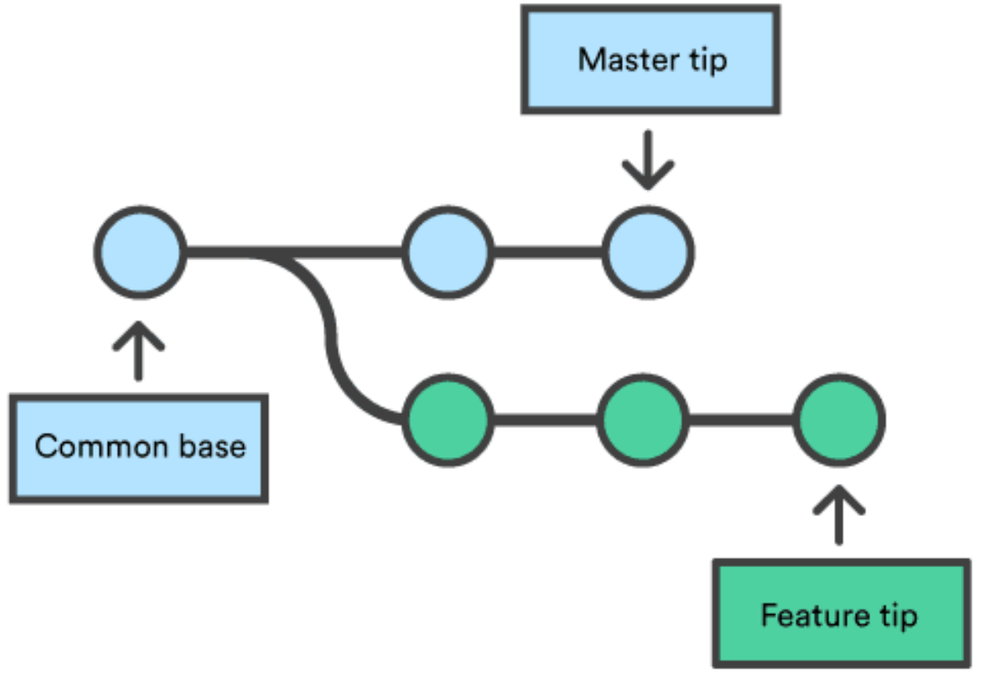
"What if we could use Git to manage the different variations of our experiments?"



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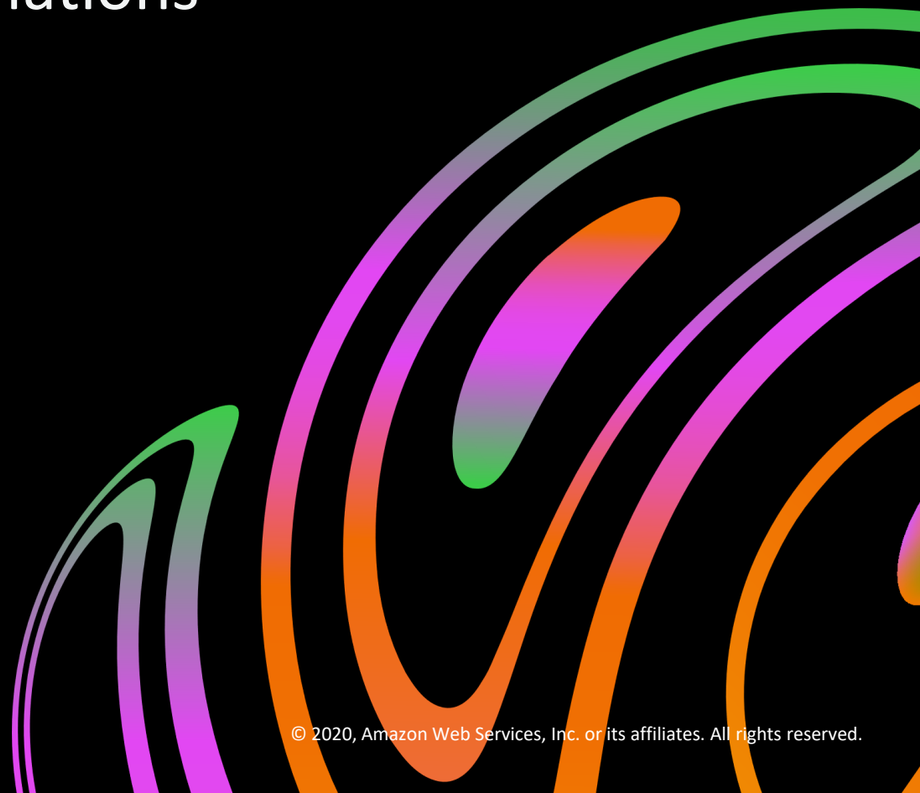
Utilizing Git to manage experiment variations

- Main branch contains our “baseline” experience
- New variations are branches pulled off the main branch
- All active variations are combined at build time
- Users are shown different components based on assigned variation



High-level system overview

- A way for non-technical product managers to start and stop experiments
- A way to combine and deploy our experimental variations
- A way to assign users to different variations

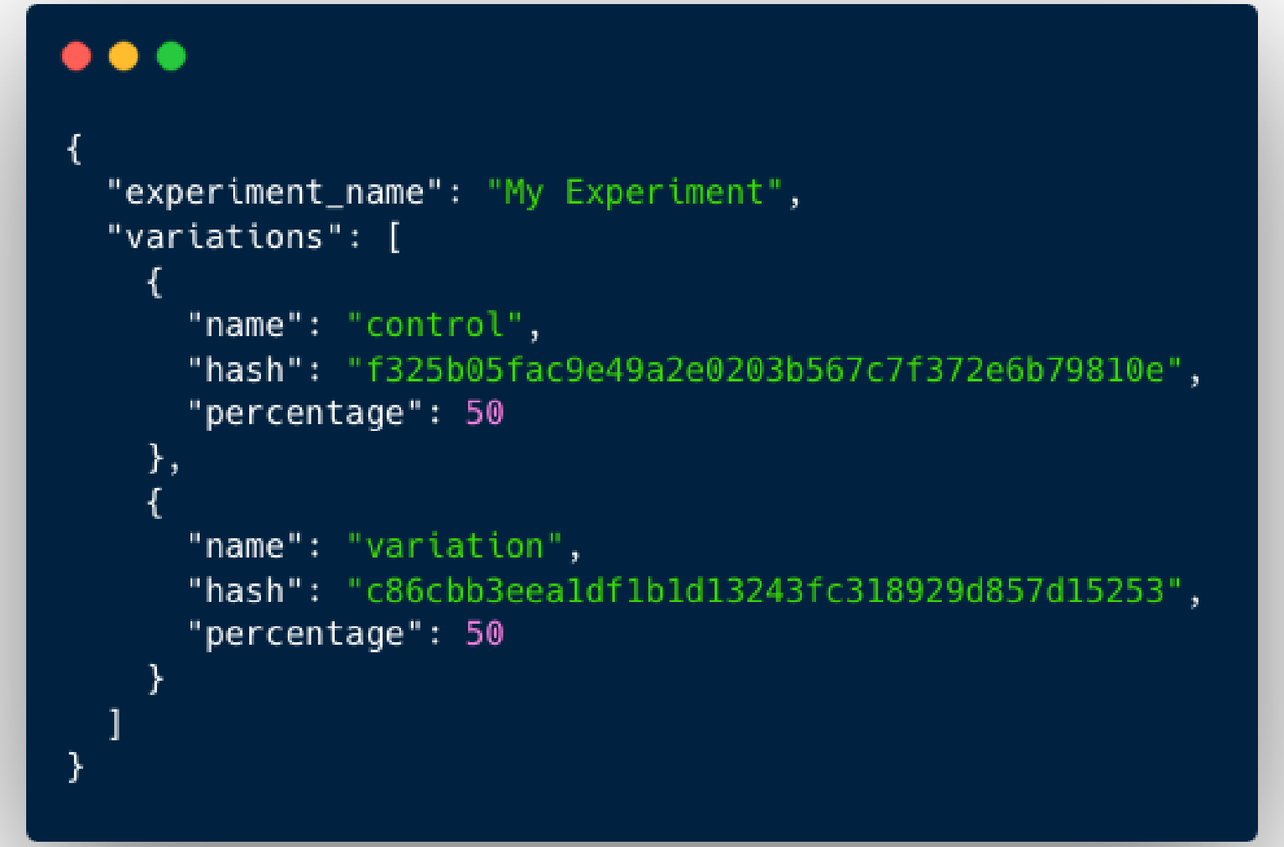


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Utilizing Git to manage experiment variations

Experiments are defined quite simply.

- Experiment name
- Variations
  - Variation name
  - Git commit hash
  - Percentage traffic



Experiment orchestration system

Two features:

- Assemble our experiment JSON definition
- Deploy experiments



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Using Amplify Console

- Continuous integration and continuous deployment
- Pull request preview
- Webhooks
- Less time managing infrastructure



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Outcome

- Increased our experiment velocity by about 50%
- No more experimental technical debt in our front end
- Merging in winning code is as simple as opening a pull request and merging



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Thank you!



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