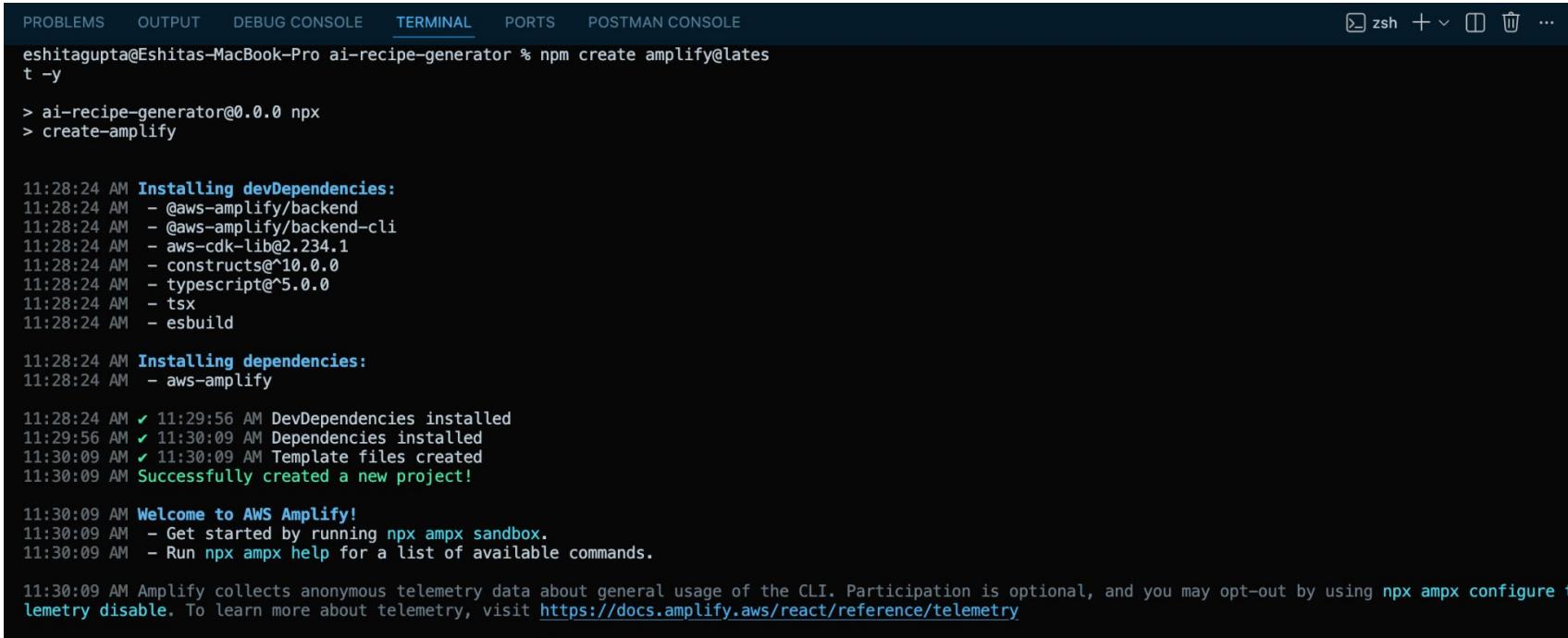


# Building a serverless App using GenAI

AWS Amplify, Cognito, Lambda, Appsync, Bedrock

# After creating a react app as usual, added amplify dependency in my app. This adds a serverless backend.



The screenshot shows a terminal window with the following content:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE zsh + □ └ ...  
eshitagupta@Eshitash-MacBook-Pro ai-recipe-generator % npm create amplify@latest  
t -y  
  
> ai-recipe-generator@0.0.0 npx  
> create-amplify  
  
11:28:24 AM Installing devDependencies:  
11:28:24 AM   - @aws-amplify/backend  
11:28:24 AM   - @aws-amplify/backend-cli  
11:28:24 AM   - aws-cdk-lib@2.234.1  
11:28:24 AM   - constructs@^10.0.0  
11:28:24 AM   - typescript@^5.0.0  
11:28:24 AM   - tsx  
11:28:24 AM   - esbuild  
  
11:28:24 AM Installing dependencies:  
11:28:24 AM   - aws-amplify  
  
11:28:24 AM ✓ 11:29:56 AM DevDependencies installed  
11:29:56 AM ✓ 11:30:09 AM Dependencies installed  
11:30:09 AM ✓ 11:30:09 AM Template files created  
11:30:09 AM Successfully created a new project!  
  
11:30:09 AM Welcome to AWS Amplify!  
11:30:09 AM   - Get started by running npx ampx sandbox.  
11:30:09 AM   - Run npx ampx help for a list of available commands.  
  
11:30:09 AM Amplify collects anonymous telemetry data about general usage of the CLI. Participation is optional, and you may opt-out by using npx ampx configure telemetry disable. To learn more about telemetry, visit https://docs.amplify.aws/react/reference/telemetry
```

# This shows the folder structure after the command is done.

The screenshot displays a file explorer window with the following folder structure:

- AI-RECIPE-GENERATOR
  - amplify
    - auth
    - data
    - backend.ts
    - package.json
    - tsconfig.json
  - node\_modules
  - public
  - src
  - .gitignore
  - eslint.config.js
  - index.html
  - package-lock.json
  - package.json
  - README.md
  - tsconfig.app.json
  - tsconfig.json
  - tsconfig.node.json
  - vite.config.ts

# Linking the repository with AWS amplify on management console

The screenshot shows the AWS Amplify Management Console interface for creating a new app. The top navigation bar includes the AWS logo, a search bar, and account information for Eshita (6336-9771-1385) in United States (N. Virginia). The main area displays a step-by-step wizard:

- Step 1: Choose source code provider** (Completed)
- Step 2: Add repository and branch** (Completed)
- Step 3: App settings** (Completed)
- Step 4: Review** (In progress)

**App settings** (Completed):

- App name: ai-recipe-generator
- Frontend build command: npm run build
- Framework: None

**Advanced settings** (In progress):

- Build instance type: Standard  
8 GiB Memory | 4 vCPUs | 128 GB Disk Space
- Build image: Using default image
- Keep cookies in cache key: Not enabled
- Live package updates: Enabled
- Environment variables: None
- Server-Side Rendering (SSR) deployment: Disabled

At the bottom right are buttons for **Cancel**, **Previous**, and **Save and deploy**.

This is authentication layer, powered by AWS cognito through amplify, this sends user a code on email to login.

```
amplify > auth > TS resource.ts > ...
1 import { defineAuth } from "@aws-amplify/backend";
2
3 export const auth = defineAuth({
4   loginWith: {
5     email: {
6       verificationEmailStyle: "CODE",
7       verificationEmailSubject: "Welcome to the AI-Powered Recipe Generator!",
8       verificationEmailBody: (createCode) =>
9         `Use this code to confirm your account: ${createCode()}`,
10      },
11    },
12  });
|
```

# Error

This is where i came across a hurdle, as using AWS on local machine was still very new to me.

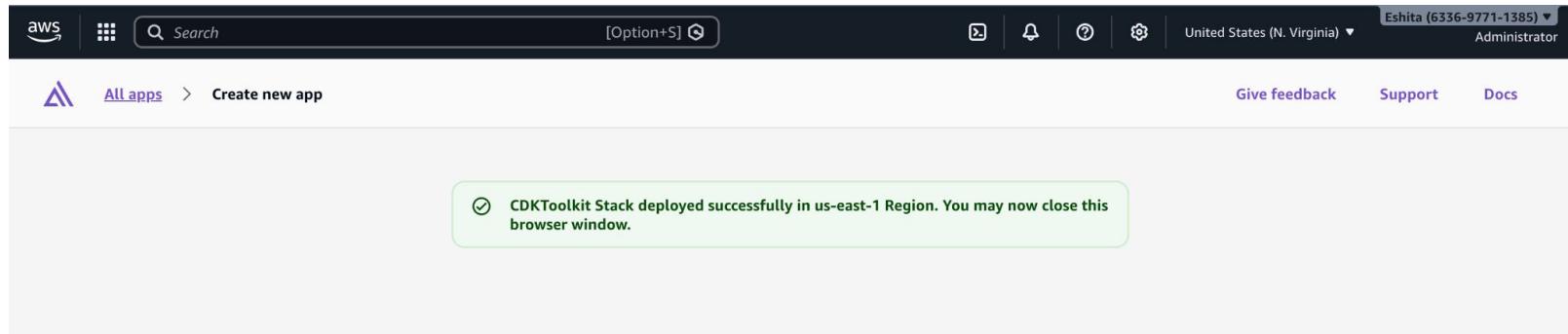
1. I connected to aws by adding my IAM access key and secret key.
2. Used command npm ampx configure profile.
3. Aws configure sso
4. Eventually bootstrapped the AWS application.( next page)

```
eshitagupta@Eshitas-MacBook-Pro ~ % npx ampx sandbox
[SSMCredentialsError] UnrecognizedClientException: The security token included in the request is invalid.
  └─ Caused by: [UnrecognizedClientException] The security token included in the request is invalid.
Resolution: Make sure your AWS credentials are set up correctly and have permissions to call this operation.

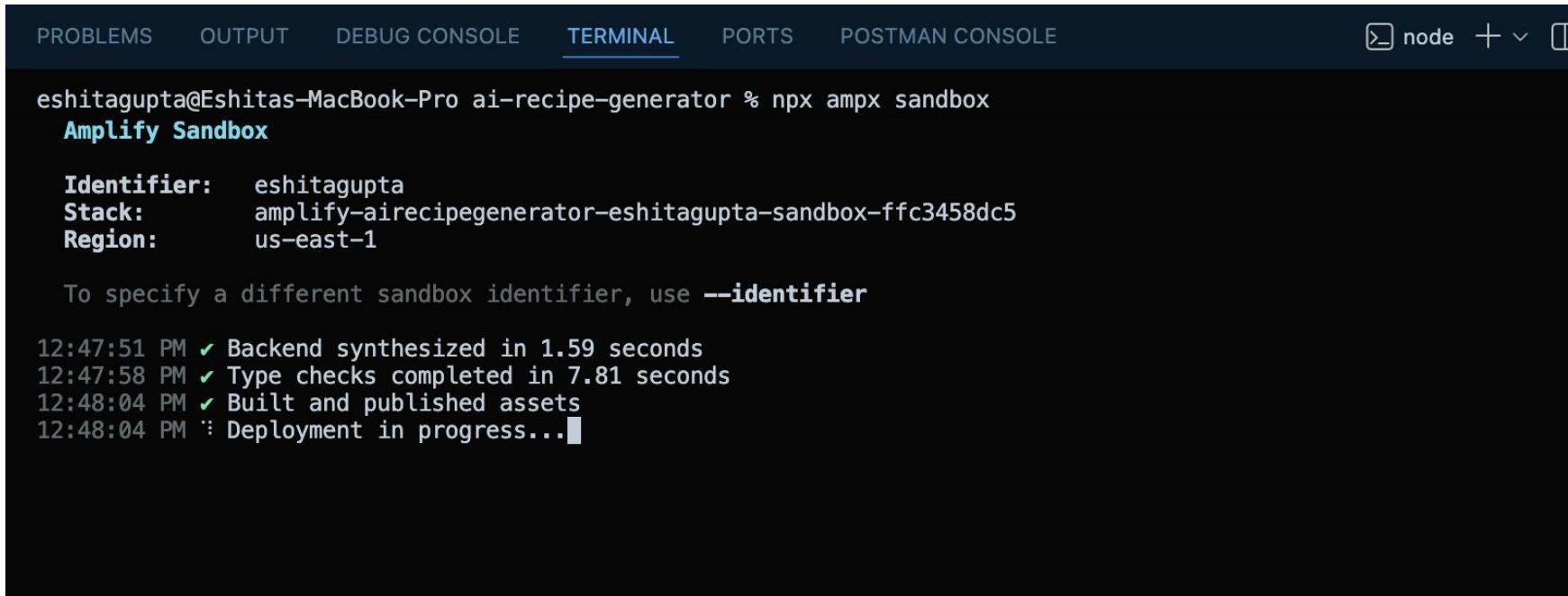
eshitagupta@Eshitas-MacBook-Pro ~ % npx ampx configure profile
Profile 'default' already exists!
Follow the instructions at https://docs.amplify.aws/gen2/start/account-setup/
to configure Amplify IAM user and credentials.

❖ eshitagupta@Eshitas-MacBook-Pro ~ % aws configure sso
SSO session name (Recommended): amplify-admin
SSO start URL [None]: █
```

# This is after bootstrapping was done



# Now, i could run the sandbox command.



The screenshot shows the VS Code interface with the 'TERMINAL' tab selected. The terminal window displays the output of running the 'npx ampx sandbox' command. The output includes details about the Amplify Sandbox, such as Identifier, Stack, and Region, and provides instructions for specifying a different identifier. It also lists the progress of the deployment, including Backend synthesis, Type checks, and Asset building, followed by a message indicating Deployment is in progress.

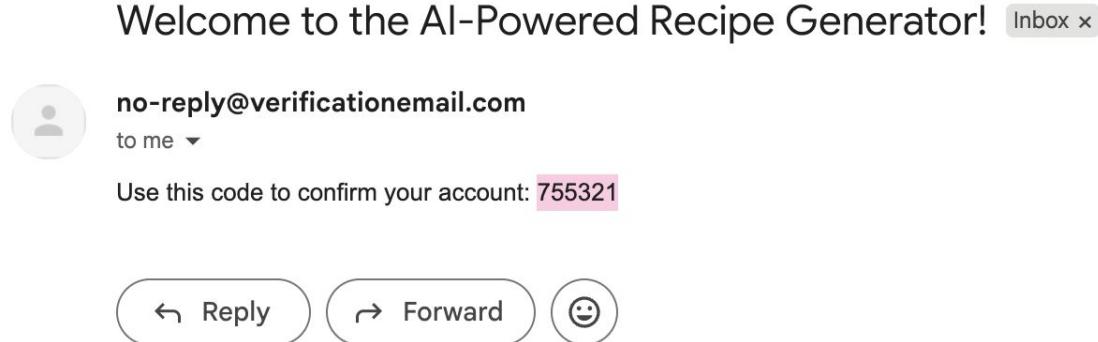
```
eshitagupta@Eshitash-MacBook-Pro ai-recipe-generator % npx ampx sandbox
Amplify Sandbox

Identifier: eshitagupta
Stack: amplify-airecipegenerator-eshitagupta-sandbox-ffc3458dc5
Region: us-east-1

To specify a different sandbox identifier, use --identifier

12:47:51 PM ✓ Backend synthesized in 1.59 seconds
12:47:58 PM ✓ Type checks completed in 7.81 seconds
12:48:04 PM ✓ Built and published assets
12:48:04 PM ⏳ Deployment in progress... █
```

# Which made the app running, Authenticator runs first.



# Authenticator in action

**We Emailed You**

Your code is on the way. To log in, enter the code we emailed to l\*\*\*@g\*\*\*. It may take a minute to arrive.

Confirmation Code

**Confirm**

**Resend Code**

# Inside the react app, powered by AWS Amplify

## Meet Your Personal Recipe AI

Simply type a few ingredients using the format ingredient1, ingredient2, etc., and Recipe AI will generate an all-new recipe on demand...

banana, peanut butter, dates, oats

Generate



# AWS bedrock runs under the hood to give us a recipe.

**Meet Your Personal  
Recipe AI**

Simply type a few ingredients using the format ingredient1, ingredient2, etc., and Recipe AI will generate an all-new recipe on demand...

banana, peanut butter, dates, oats

Generate

With those ingredients, you can make a delicious no-bake energy bites or energy balls recipe! Here's a suggestion:

**Banana Peanut Butter Energy Bites**

**Ingredients:**

- 1 cup old-fashioned oats
- 1/2 cup pitted dates (about 8-10 dates)
- 1/2 cup creamy peanut butter
- 1 ripe banana, mashed
- 1/4 cup honey or maple syrup (optional, for added sweetness)
- 1/2 tsp vanilla extract
- 1/4 tsp ground cinnamon
- Pinch of salt

**Instructions:**

1. In a food processor, pulse the oats until they resemble a coarse flour. Transfer to a mixing bowl.
2. Add the pitted dates to the food processor and pulse until they form a sticky paste.
3. In the mixing bowl with the oats, add the date paste, peanut butter, mashed banana, honey/maple syrup (if using), vanilla extract, cinnamon, and salt. Mix until well combined.
4. Using your hands, roll the mixture into small balls, about 1-inch in diameter.
5. Optionally, you can roll the balls in additional oats, shredded coconut, or cocoa powder for extra texture and flavor.
6. Place the energy bites on a parchment-lined baking sheet or plate and refrigerate for at least 30 minutes to firm up before serving.

These energy bites are perfect for a healthy snack or a quick energy boost. They're packed with fiber, protein, and natural sweetness from the dates and banana. Enjoy!