This guide will walk you through creating a React app with Amplify CLI and setting up a Lambda trigger for a DynamoDB table that creates an EC2 instance and runs a script.

**Prerequisites**

* Node.js and npm installed
* AWS account
* AWS CLI installed and configured
* Amplify CLI installed

**1. Create a new React app**

To create a new React app, run the following command:

npx create-react-app my-app

Replace my-app with the name of your app.

**2. Install Amplify CLI**

To install Amplify CLI, run the following command:

npm install -g @aws-amplify/cli

Refer [1].

**3. Configure Amplify**

To configure Amplify, navigate to your project directory and run the following command:

amplify configure

Follow the prompts to set up your Amplify project. Refer [1].

**4. Add Authentication**

To add authentication to your app, run the following command:

amplify add auth

Follow the prompts to set up your authentication configuration. Refer [2].

**5. Add S3 Bucket**

To add an S3 bucket to your app, run the following command:

amplify add storage

Choose Amazon S3 as the storage service, and follow the prompts to set up your S3 bucket. Refer [3].

**7. Add DynamoDB**

To add a DynamoDB table to your app, run the following command:

amplify add api

Choose GraphQL as the API type, and follow the prompts to set up your API. In the API configuration, select "Yes" when asked if you want to configure additional settings. From there, you can select "Amazon DynamoDB" as the data source and create a new table. Refer[4]

8. Create IAM Role for EC2 Instance

Create an IAM role for your EC2 instance to access the resources it needs. The Lambda function will send shell commands to the EC2 instance . Follow the steps in the demo video to create the IAM role.

9. Add Lambda Trigger to DynamoDB

To add a Lambda trigger to your DynamoDB table, navigate to the table in the AWS Management Console and select the "Exports and streams" tab. From there, click on the "Create trigger" button and select "Lambda function" as the trigger type. Choose the Lambda function you have created, set any desired filter conditions, and click "Create".

10. Configure Lambda Function

Configure your Lambda function to download a script from the S3 bucket, run that script, and then terminate the EC2 instance. Set the necessary IAM policies for your Lambda function to access the resources it needs to run. The policies required for lambda function to work can be referred from the demo video.

Note – [Drive Link](https://drive.google.com/drive/folders/1J8VbQl6bI1WeJufpthBY0LuNPkAVxA3m?usp=share_link)(Has below mentioned codes)

file\_upload.zip – Contains react application code

script.sh – The script that the ec2 instance runs

lambda\_ddb.py – Lambda trigger code

If further information is required feel free to reach out to me. Will be looking forward to our next meeting :D

Thank you.

References –

1. <https://docs.amplify.aws/cli/start/install/>
2. <https://docs.amplify.aws/lib/auth/getting-started/q/platform/js/>
3. <https://docs.amplify.aws/lib/storage/getting-started/q/platform/js/>
4. <https://docs.amplify.aws/lib/graphqlapi/getting-started/q/platform/js/#configure-your-application>
5. <https://boto3.amazonaws.com/v1/documentation/api/latest/guide/dynamodb.html>
6. <https://boto3.amazonaws.com/v1/documentation/api/latest/guide/ec2-example-managing-instances.html>
7. <https://blog.knoldus.com/how-to-create-ec2-instance-using-python3-with-boto3/>
8. <https://stackoverflow.com/questions/34028219/how-to-execute-commands-on-an-ec2-instance-using-boto3>