

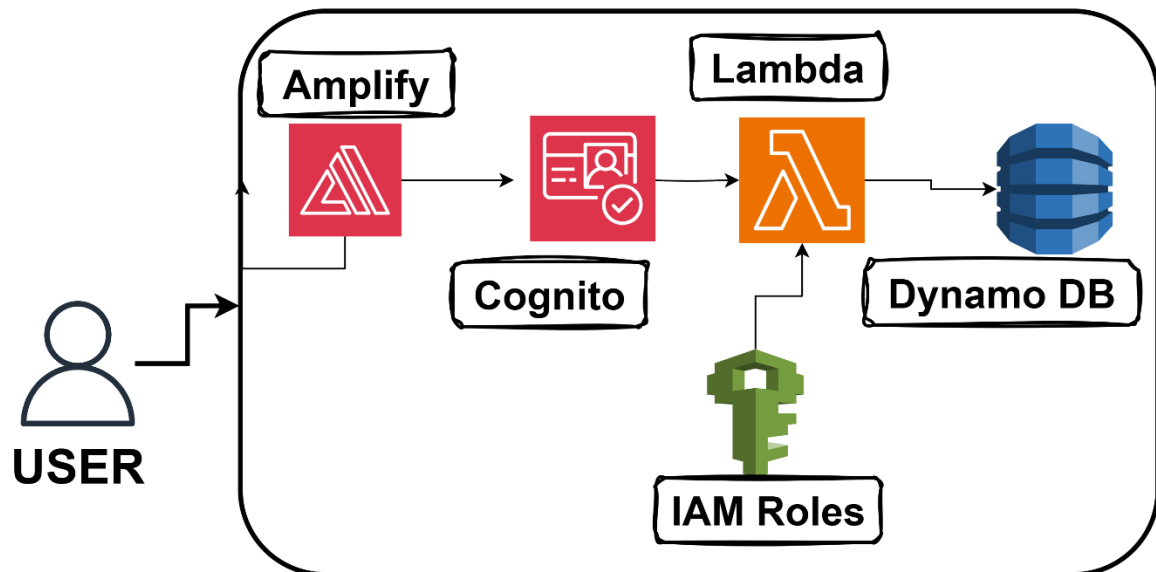
Cognito Email Verification Flow

This project delivers a fully serverless user authentication and email verification flow using **Amazon Cognito**, enabling users to register with their email, receive a verification code, and confirm their identity. Upon successful verification, email data is processed and stored using an **AWS Lambda** function and **Amazon DynamoDB**. The entire solution is deployed with **AWS Amplify**, integrated into a **CI/CD pipeline through GitHub** for automated deployments. This cloud-native architecture showcases secure, scalable identity management and event-driven backend processing while following best practices in serverless development, version control, and continuous delivery

2. Technologies Used

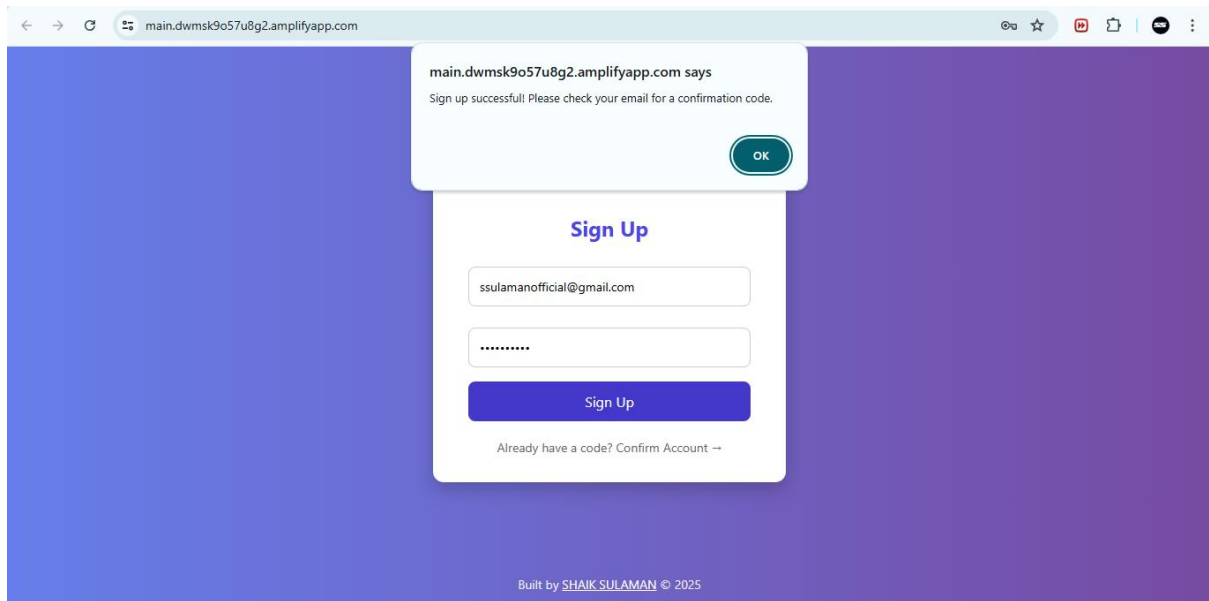
Technology	Purpose
Amazon Cognito	User sign-up, authentication, and email verification management
AWS Lambda	Serverless backend function to process and store user email data
Amazon DynamoDB	NoSQL database for storing verified user emails securely
AWS Amplify	Hosting, deployment, and CI/CD pipeline connected to GitHub
GitHub	Source code repository and version control, triggers Amplify builds

Architecture

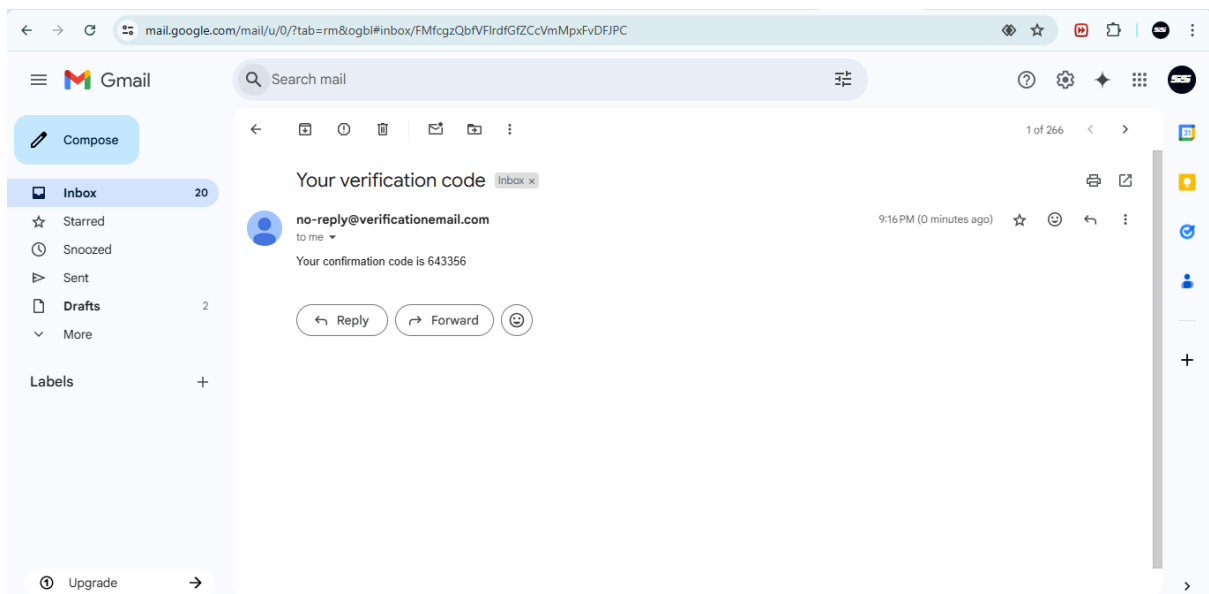


RESULT:-

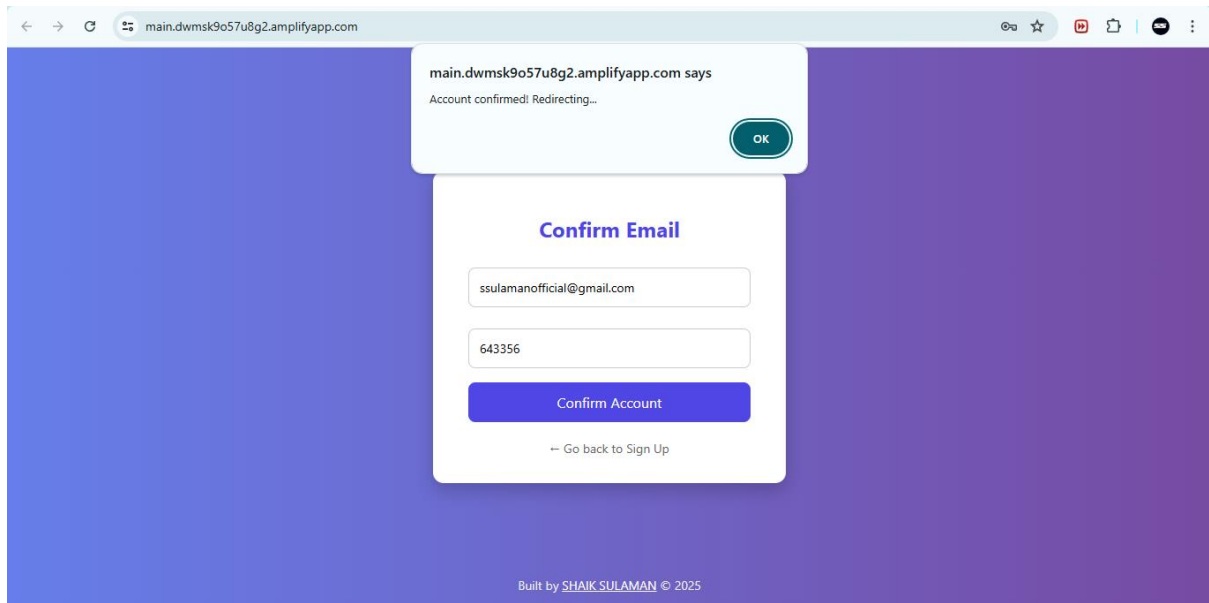
1) Frontend sign up with password complexity



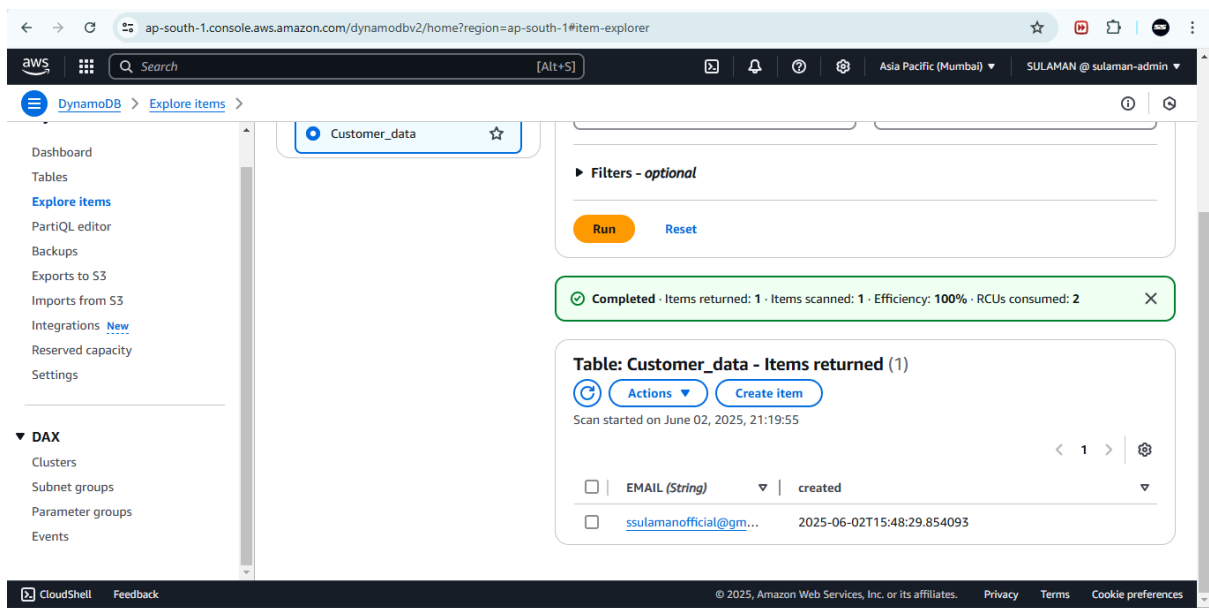
2) OTP received



3) Validation & redirection

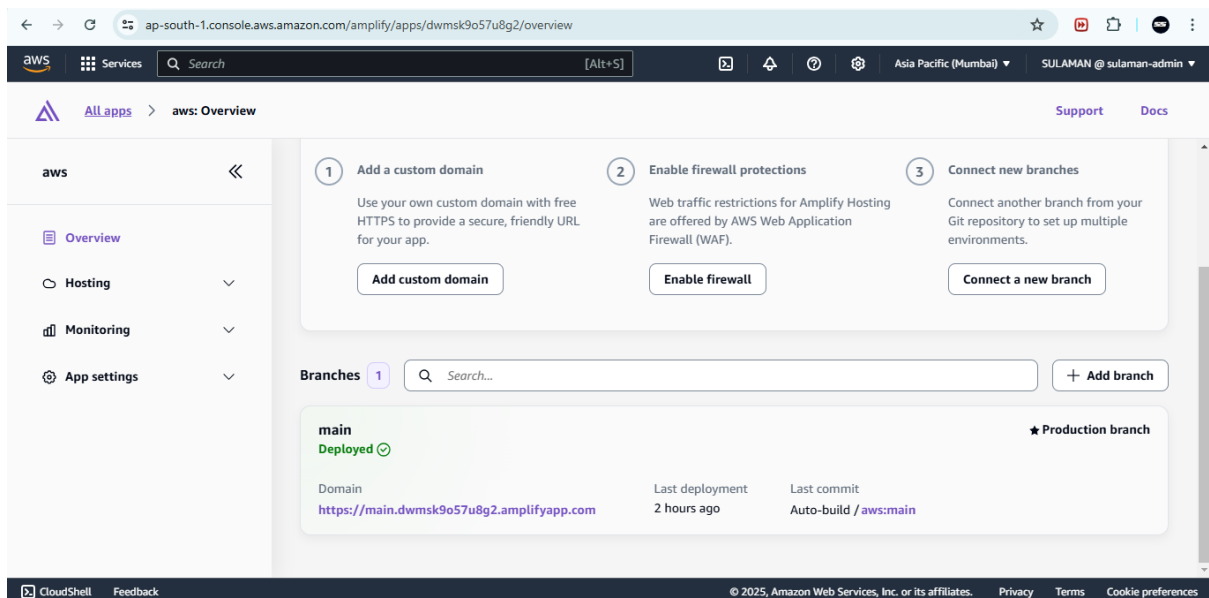
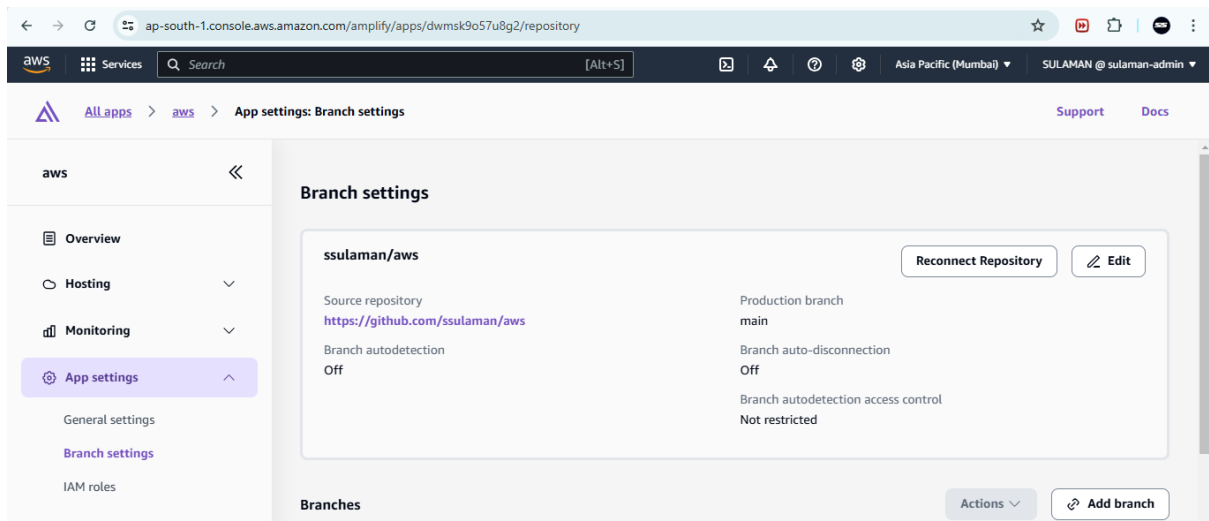


4) Emails stored in Dynamo DB



1) AWS Amplify

Amplify app connected to GitHub for continuous integration and deployment. Any changes pushed to the connected branch automatically trigger a build and deployment pipeline.



2)AWS Cognito

Amazon Cognito User Pool configuration showing user identification settings and app client details used for authentication in the web app & lambda post confirmation

The screenshot shows the Amazon Cognito console interface. The left sidebar contains navigation links for Amazon Cognito, User pools, User pool - rjn8uz, and Users. The main content area is titled 'Users' and shows a list of two users. The first user is 'fayaye1936@eduh...' with email 'fayaye1936@edu...' and status 'Enabled'. The second user is 'ssulamanofficial@g...' with email 'ssulamanofficial...' and status 'Enabled'. Both users have 'Confirmed' status. The 'Import users' section is also visible, showing a search bar and a 'Create import job' button.

User name	Email address	Email verified	Confirmation status	Status
<input type="radio"/> fayaye1936@eduh...	fayaye1936@edu...	Yes	Confirmed	Enabled
<input type="radio"/> ssulamanofficial@g...	ssulamanofficial...	Yes	Confirmed	Enabled

The screenshot shows the Amazon Cognito console interface. The left sidebar contains navigation links for Amazon Cognito, User pools, User pool - rjn8uz, and Extensions. The main content area is titled 'Extensions' and shows a list of one Lambda trigger. The trigger is 'Post confirmation Lambda trigger' with the attached Lambda function 'store_data_into_db' and trigger event version '-'. The 'Add Lambda trigger' button is visible.

Lambda triggers	Attached Lambda function	Trigger event version
<input type="radio"/> Post confirmation Lambda trigger	store_data_into_db	-

3)AWS Lambda

AWS Lambda function responsible for processing verified email submissions and writing them to the DynamoDB table.

The screenshot shows the AWS Lambda console for the function 'store_data_into_db' in the 'ap-south-1' region. The 'Function overview' tab is active, displaying a diagram of the function with a 'store_data_into_db' icon and a 'Layers' section with '(0)' layers. Buttons for 'Add trigger' and 'Add destination' are visible. The 'Description' section shows the function was last modified '2 hours ago' and provides the 'Function ARN' as 'arn:aws:lambda:ap-south-1:623595292727:function:store_data_into_db'. The 'Function URL' is also listed. The right sidebar contains a 'Tutorials' section with a link to 'Create a simple web app' and a 'Start tutorial' button.

The screenshot shows the AWS Lambda console for the function 'store_data_into_db' in the 'ap-south-1' region, specifically the 'Configuration' tab. The 'Permissions' section is expanded, showing a 'Resource summary' for 'Amazon CloudWatch Logs'. The summary lists two resources: 'vs:logs:ap-south-1:623595292727:*' and 'vs:logs:ap-south-1:623595292727:log-group:/aws/lambda/store_data_into_db:*'. The 'Actions' column shows 'Allow: logs:CreateLogGroup' and 'Allow: logs:CreateLogStream' and 'Allow: logs:PutLogEvents'. The right sidebar contains a 'Tutorials' section with a link to 'Create a simple web app' and a 'Start tutorial' button.

4)Dynamo DB

DynamoDB item view displaying stored user emails submitted post-verification via the Lambda function.

