

# Creating and Integrating an Amazon Lex Bot for Dental Appointments

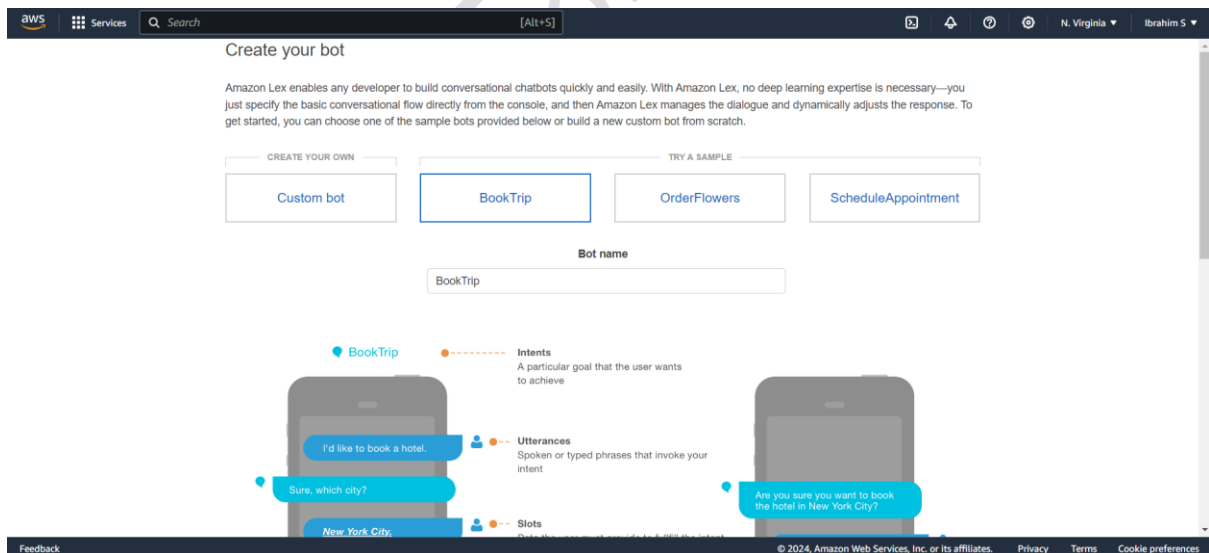
## Overview

1. Create and test the bot using Amazon Lex.
2. Create and configure an AWS Lambda function.
3. Integrate the bot with the Lambda function.
4. Deploy the bot as a static website using Amazon S3.

## Steps

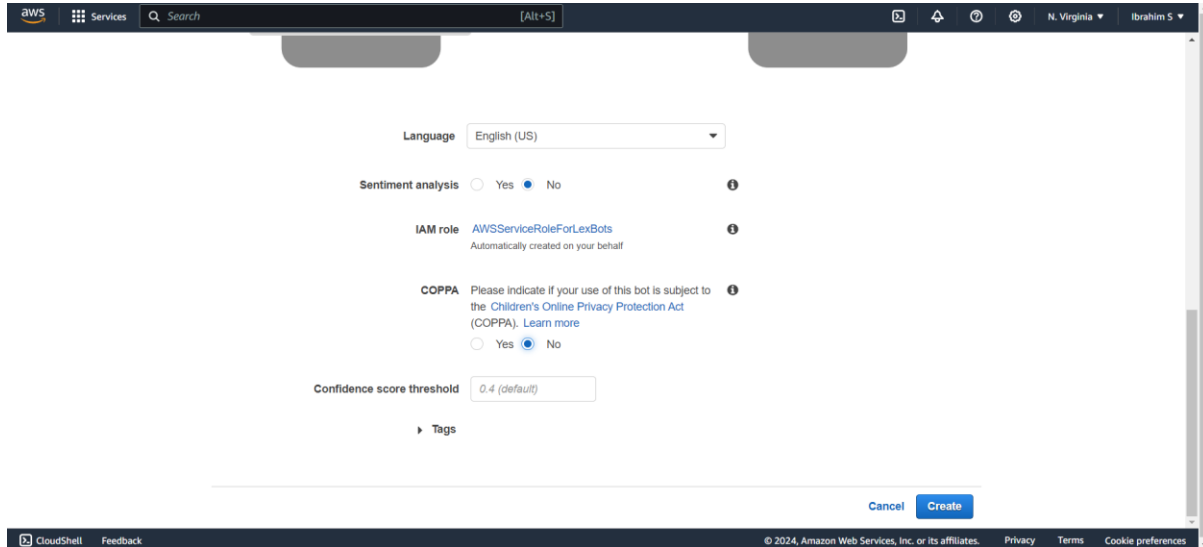
### I. Create and Test the Bot

1. Navigate to Amazon Lex Console
  - Use Version 1 (V1) of Amazon Lex.
2. Select Blueprint
  - Use the `schedule appointment` blueprint.



### 3. Configure Basic Settings

- Configure the bot with necessary settings.



The screenshot shows the AWS Lex console configuration page for a new bot. The interface includes a top navigation bar with the AWS logo, 'Services' link, a search bar, and user information. The main content area contains the following settings:

- Language:** A dropdown menu set to 'English (US)'.
- Sentiment analysis:** Radio buttons for 'Yes' and 'No', with 'No' selected.
- IAM role:** A link to 'AWSServiceRoleForLexBots' with the text 'Automatically created on your behalf'.
- COPPA:** A section titled 'Please indicate if your use of this bot is subject to the Children's Online Privacy Protection Act (COPPA). Learn more' with radio buttons for 'Yes' and 'No', where 'No' is selected.
- Confidence score threshold:** A text input field containing '0.4 (default)'.
- Tags:** A link to expand the tags section.

At the bottom right of the configuration area are 'Cancel' and 'Create' buttons. The footer of the console shows 'CloudShell', 'Feedback', copyright information for 2024, and links for 'Privacy', 'Terms', and 'Cookie preferences'.

### 4. Understand Key Features

- Sample Utterances: Phrases that invoke the intent.
- Lambda Initialization and Validation: Business logic to validate user input.
- Context: Carries information from one intent to another.
- Output Tags: Set the output context for intents.

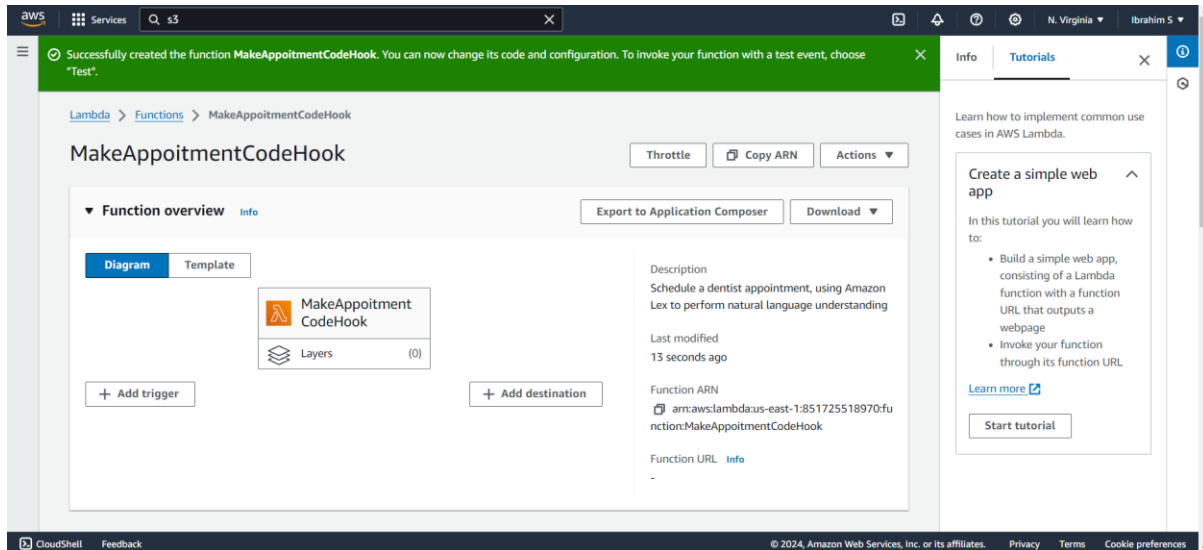
### 5. Build and Test the Bot

- Test the pre-built bot to understand its functionality.

## II. Create and Configure an AWS Lambda Function

### 1. Create a Lambda Function

- Use the `make an appointment with Lex` blueprint.
- Name the function and create an IAM role (e.g., `myLexRole`).

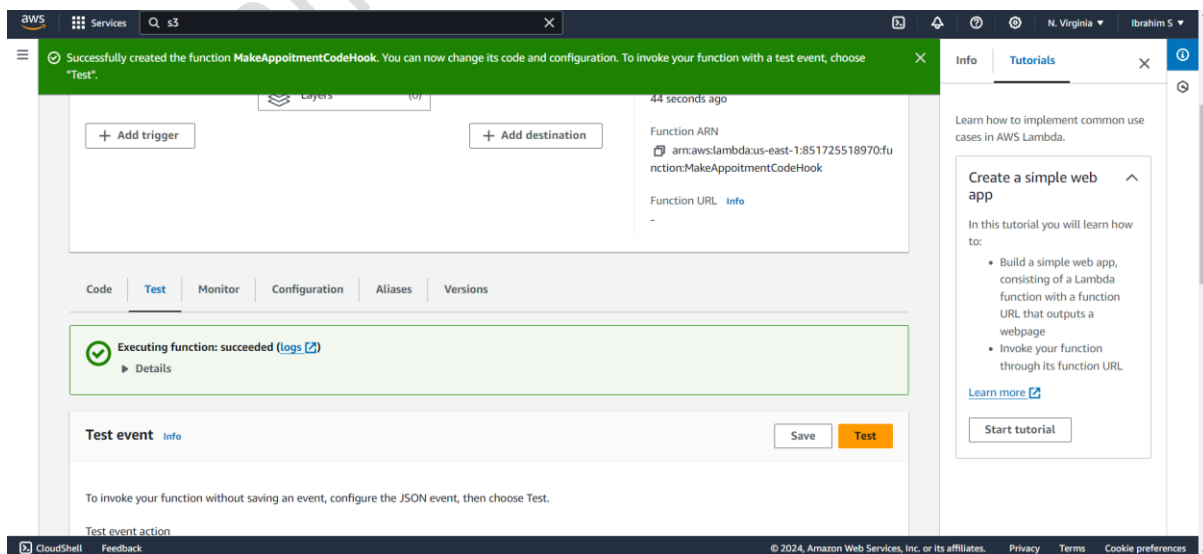


### 2. Automate Prompts

- The Lambda function automates prompts that were previously provided manually.

### 3. Test the Function

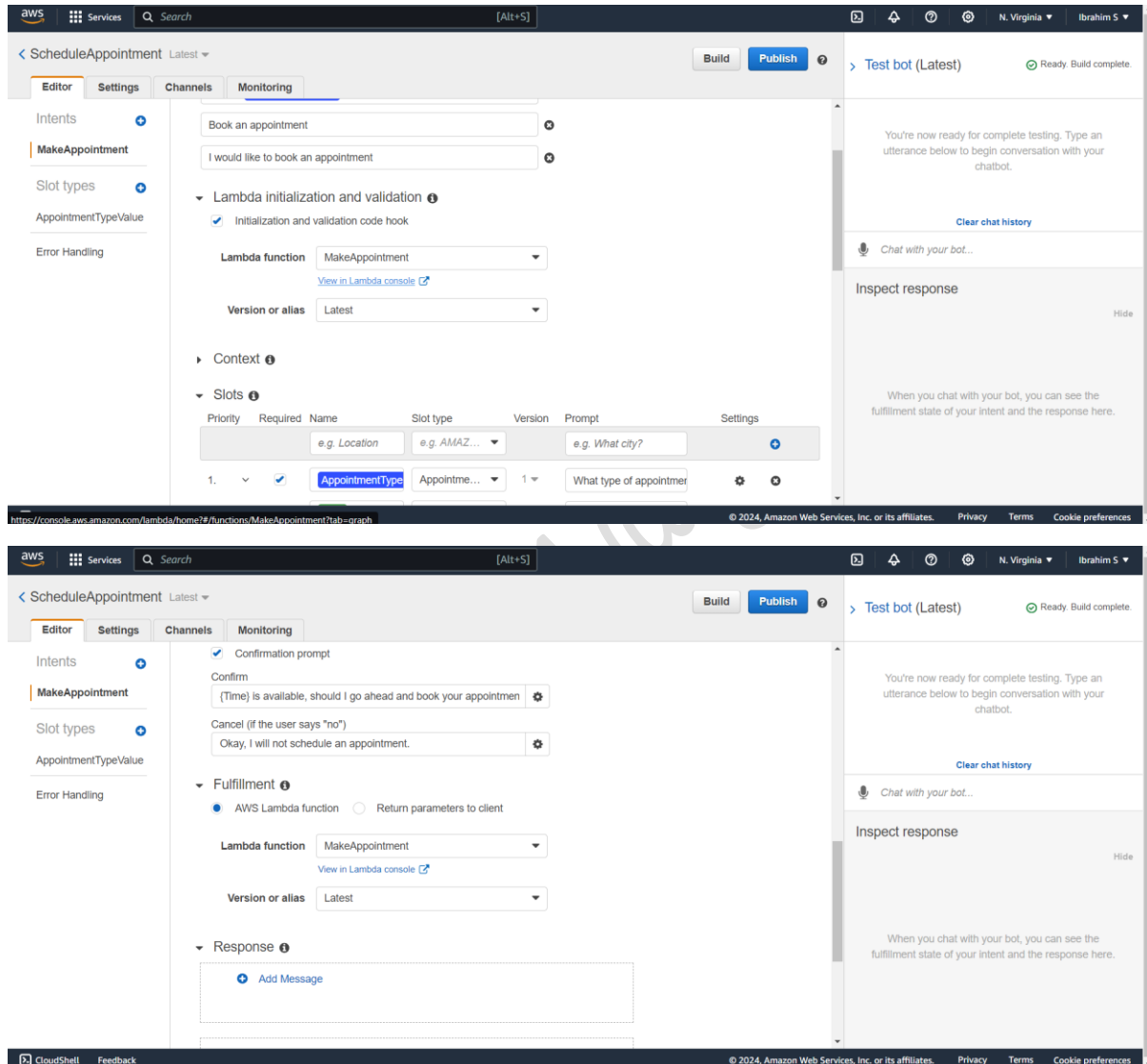
- Ensure the function executes successfully.



### III. Integrate Lambda Function with Amazon Lex Bot

#### 1. Link Lambda Function to Lex Bot

- In Amazon Lex console, set the Lambda function as the code hook for initialization and fulfilment.
- Save the changes and rebuild the bot.



## 2. Test the Integrated Bot

- Confirm the bot now uses the Lambda function to provide options and schedule appointments automatically.

The screenshot displays the AWS Lambda console interface for the 'ScheduleAppointment' function. The 'Editor' tab is active, showing the 'MakeAppointment' function configuration. The 'Sample utterances' section lists three examples: 'e.g. I would like to book a flight.', 'Book a [AppointmentType]', and 'Book an appointment'. The 'Lambda initialization and validation' section is checked, and the 'Lambda function' is set to 'MakeAppointment'. The 'Version or alias' is set to 'Latest'. The 'Test bot' interface on the right shows a chat window with the message 'What type of appointment would you like to schedule?' and three buttons: 'cleaning (30 min)', 'root canal (60 ...)', and 'whitening (30 ...)'.

aws Services Search [Alt+S] N. Virginia ibrahim 5

< ScheduleAppointment Latest Build Publish

Editor Settings Channels Monitoring

Intents +

MakeAppointment

Slot types +

AppointmentTypeValue

Error Handling

MakeAppointment Latest

Sample utterances

e.g. I would like to book a flight.

Book a [AppointmentType]

Book an appointment

I would like to book an appointment

Lambda initialization and validation

☒ Initialization and validation code hook

Lambda function MakeAppointment

View in Lambda console

Version or alias Latest

Context

Test bot (Latest) Ready Build complete.

appointment

What type of appointment would you like to schedule?

Specify Appointment Type

What type of appointment would you like ...

cleaning (30 min)

root canal (60 ...)

whitening (30 ...)

Clear chat history

Chat with your bot...

Inspect response

Dialog State: ElicitSlot

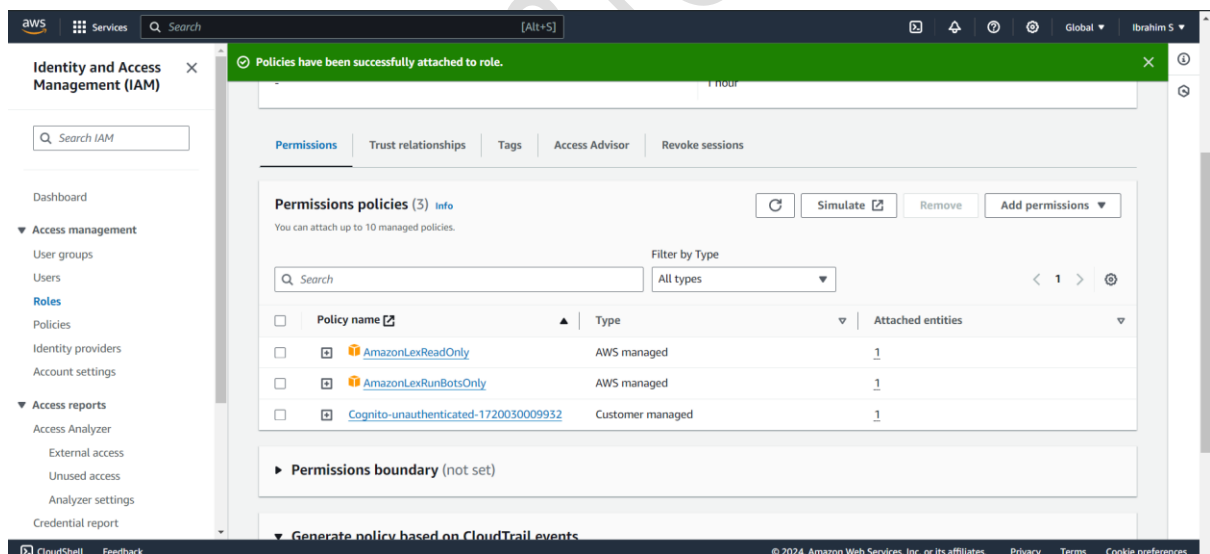
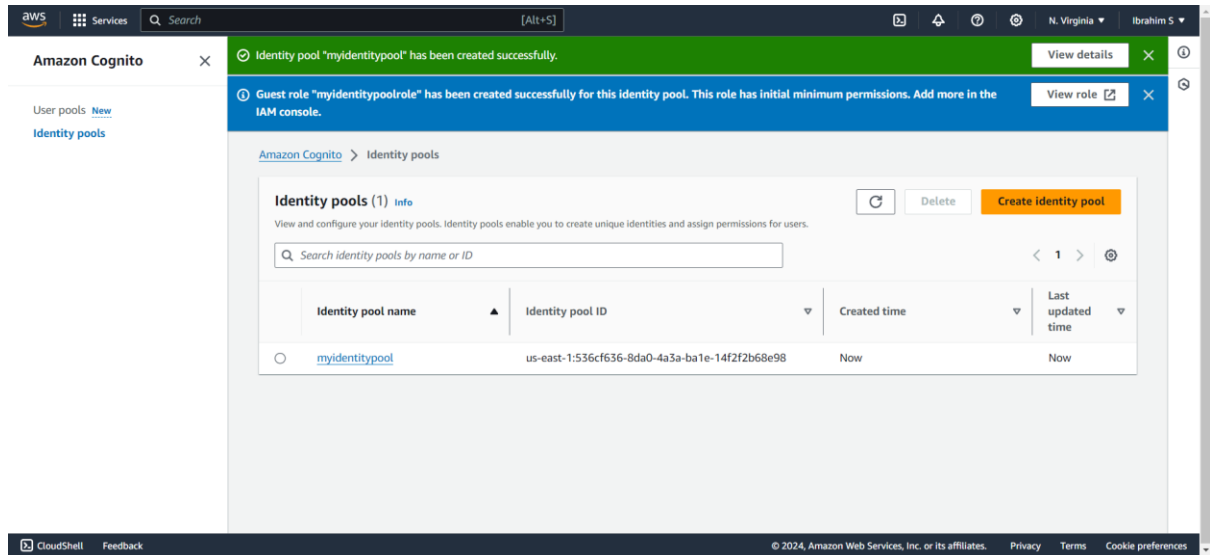
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## IV. Deploy as a Static Website using Amazon S3

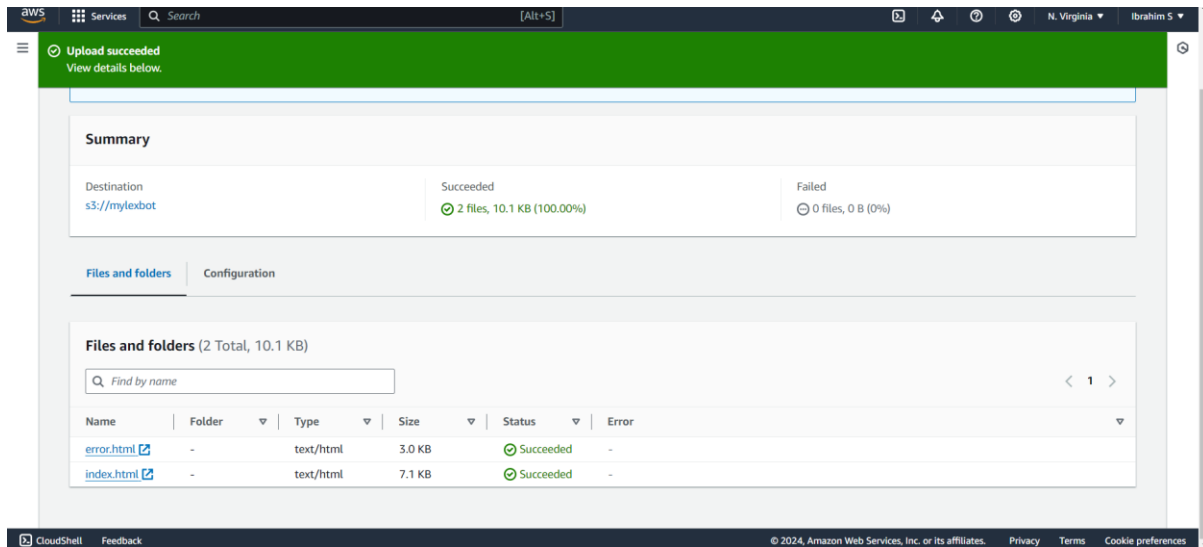
### 1. Set Up Amazon Cognito for Authentication

- Create an identity pool with guest access.
- Configure an IAM role with necessary permissions (`AmazonLexReadOnly` and `AmazonLexRunBotsOnly`).



## 2. Create an S3 Bucket

- Name the bucket and configure it for static website hosting.
- Upload `index.html` and `error.html`.

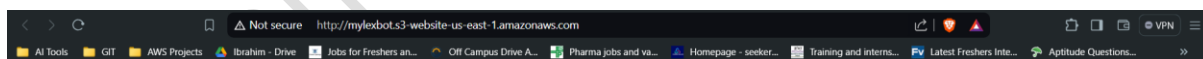


## 3. Configure Bucket Policy

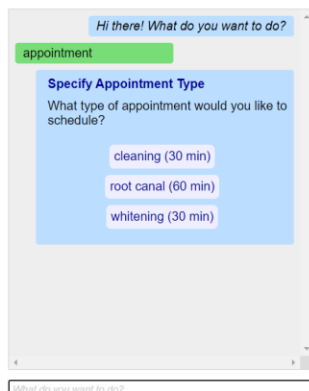
- Allow public read access to the objects in the bucket.

## 4. Host and Test the Static Website

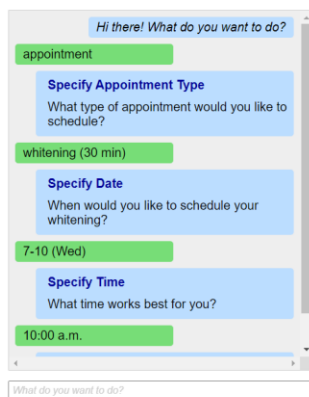
- Enable static website hosting in the bucket properties.
- Add bucket policy and specify `index.html` and `error.html` files.
- Access the static website via the provided URL and test the bot.



## Amazon Lex - Appointment BOT



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## Conclusion

- Created an Amazon Lex Bot
- Configured and integrated a Lambda function
- Hosted the bot on Amazon S3 as a static website