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Build a Chatbot with Amazon Lex

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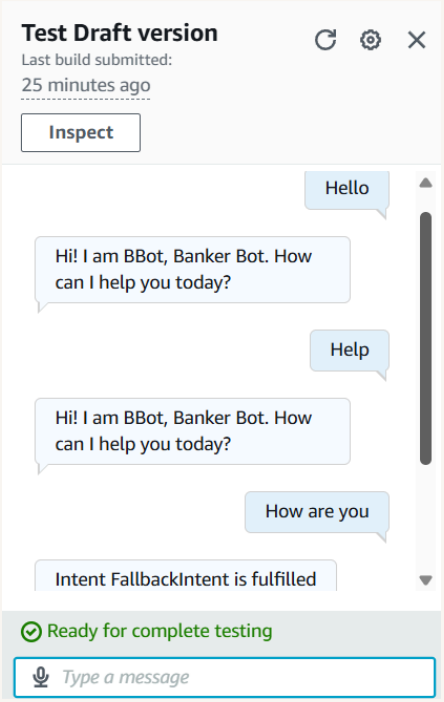


Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a fully managed AI service from AWS that enables developers to build, test, and deploy conversational interfaces, uses the same advanced natural language understanding (NLU) and automatic speech recognition (ASR) technologies.

How I used Amazon Lex in this project

The services I have used are Amazon lex. The Key concepts target are intents utterances, slots, fallback and welcome intents, dialog flow, context managing, nlu, analytics, and building user-friendly, multi-turn conversations.

One thing I didn't expect was...

Amid this entire exercise, the unexpected part was being able to implement a completely functional chatbot without writing a line of code, courtesy of an intuitive visual interface and built-in natural language understanding that Amazon Lex offers.

This project took me...

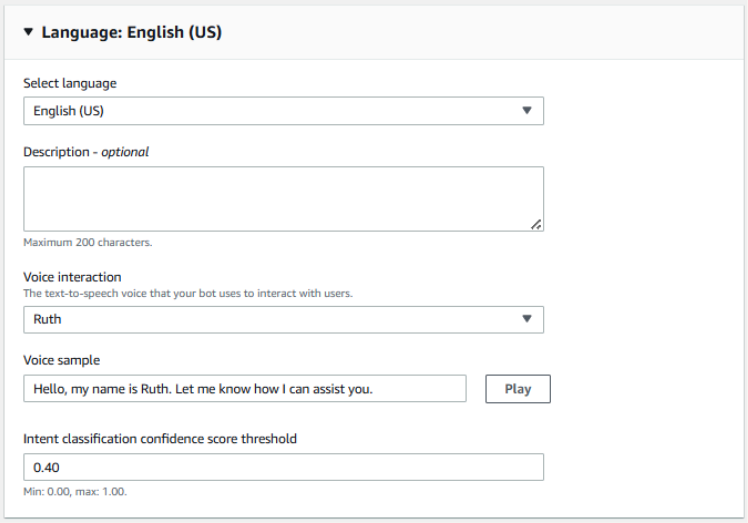
This assignment actually took me about 40 minutes. The difficult one was designing efficacious fallback responses for unexpected user input. It rewarded most in that it allowed the chatbot to come across as more natural in conversing with users.

Setting up a Lex chatbot

I created my chatbot from scratch with Amazon Lex. Setting it up took me mins including customising my fav voice of chatbot in it.

While creating my chatbot, I also created a role with basic permissions becauseAmazon Lex needs the permission to call other AWS services later in this project series I'll be integrating Lex with another service called Lambda!

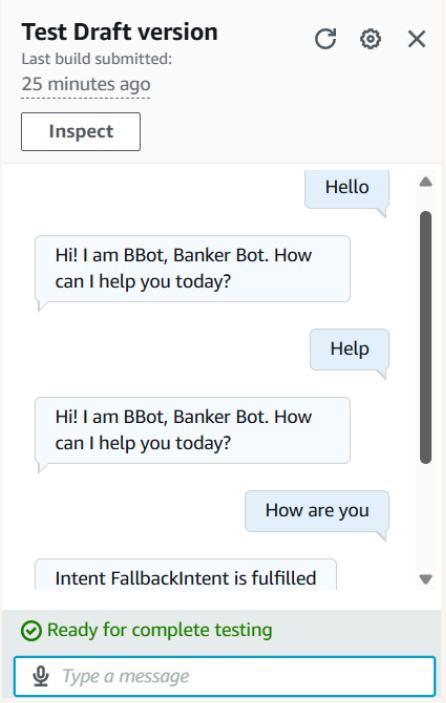
In terms of the intent classification confidence score, I kept the default value of 0.40. This means my robots needs to be at least 40% confident that it understands what the user is asking to be able to give a response. Or it'll throw error message.


Language: English (US)
Select language
English (US)
Description - optional
Maximum 200 characters.
Voice interaction
The text-to-speech voice that your bot uses to interact with users.
Ruth
Voice sample
Hello, my name is Ruth. Let me know how I can assist you.
Play
Intent classification confidence score threshold
0.40
Min: 0.00, max: 1.00.

Intents

Intents are...An intent is what the user is trying to achieve in their conversation with the chatbot. For example, checking a bank account balance; booking a flight; ordering food.

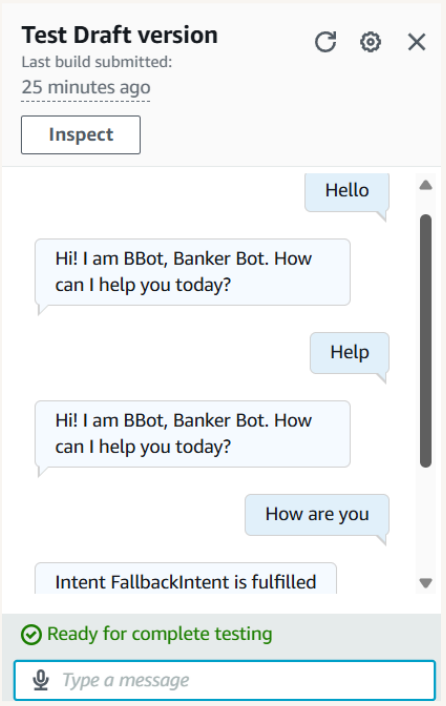
A WelcomeIntent is a special type of intent used in conversational bots and virtual agents to handle the very first interaction with a user. In this case, it would use to greet the user who has valid intent when inquiring the bot.



FallbackIntent

I launched and tested my chatbot, which could respond successfully if I enter "Help", "Hiya" which are not defined in utterances.

My chatbot returned the error message 'Intent FallbackIntent is fulfilled' when I entered"Good Morning" and "How are you". This error message occurred because the intent classificationt confidence score of the messages are below 0.4.



Configuring FallbackIntent

FallbackIntent is a default intent in every chatbot that gets triggered when the bot cannot recognize the user input.

I configured FallbackIntent to ensure the chatbot can handle situations where it doesn't understand or cannot match the user's input to any existing intent. The fallback intent acts as a safety net, providing a user-friendly message.

Variations

To configure FallbackIntent, I add the built-in FallbackIntent and customize the Fallback response to prompt out a user-friendly message.

By adding variations to my FallbackIntent, ensuring that when the bot doesn't understand a user's input, it can respond with different friendly messages instead of repeating the same phrase every time, improving more dynamic and human-like response.