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Build a Chatbot with Amazon Lex

AM

ampahben3@gmail.com

The screenshot shows the Amazon Lex Test Draft version interface. At the top, it displays "Europe (London) ▾" and "Ampah Benjamib ▾". Below that, the title "Test Draft version" and the message "Last build submitted: 5 minutes ago" are shown. A "Inspect" button is available. The main area shows a conversation history:

- User: Help me
- Bot: Hi! I'm Kimberly, the Banking Bot. How can I help you today?
- User: I want to eat
- Bot: Intent FallbackIntent is fulfilled
- User: Whatt??
- Bot: Intent FallbackIntent is fulfilled

At the bottom, a green checkmark indicates "Ready for complete testing". A text input field with a microphone icon and the placeholder "Type a message" is at the bottom.

Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is an AI service for building chatbots and voice assistants. It uses natural language understanding and speech recognition to automate responses, enhance user interactions, and integrate with AWS services etc.....

How I used Amazon Lex in this project

I used Amazon Lex to build BankBot, a chatbot that helps users with banking inquiries by understanding intents like account balance checks, transactions, and support requests. It also triggers FallbackIntent when it can't recognize a request.

One thing I didn't expect in this project was...

I didn't expect how much tweaking the confidence score threshold would need. Setting it too high triggered FallbackIntent too often, while too low caused incorrect intent matches. Finding the right balance took more testing than I thought.

This project took me...

This project took me 45 minutes to complete. I added new intents and refined the FallbackIntent. I focused on improving user interactions, ensuring the chatbot responds accurately, and handling unrecognized inputs more effectively.

Setting up a Lex chatbot

I created my chatbot from scratch with Amazon Lex. Setting it up took me a minute, as I was reading about the Intent classification confidence score threshold and experimenting with my preferred voice interaction.

While creating my chatbot, I also created a role with basic permissions because I'll need to access certain resources like AWS Lambda for processing intents and integrating with other services if need be.

In terms of the intent classification confidence score, I kept it at 0.40. This ensures the AI processes inputs accurately. If the score is too low, it may trigger an error or request clarification.

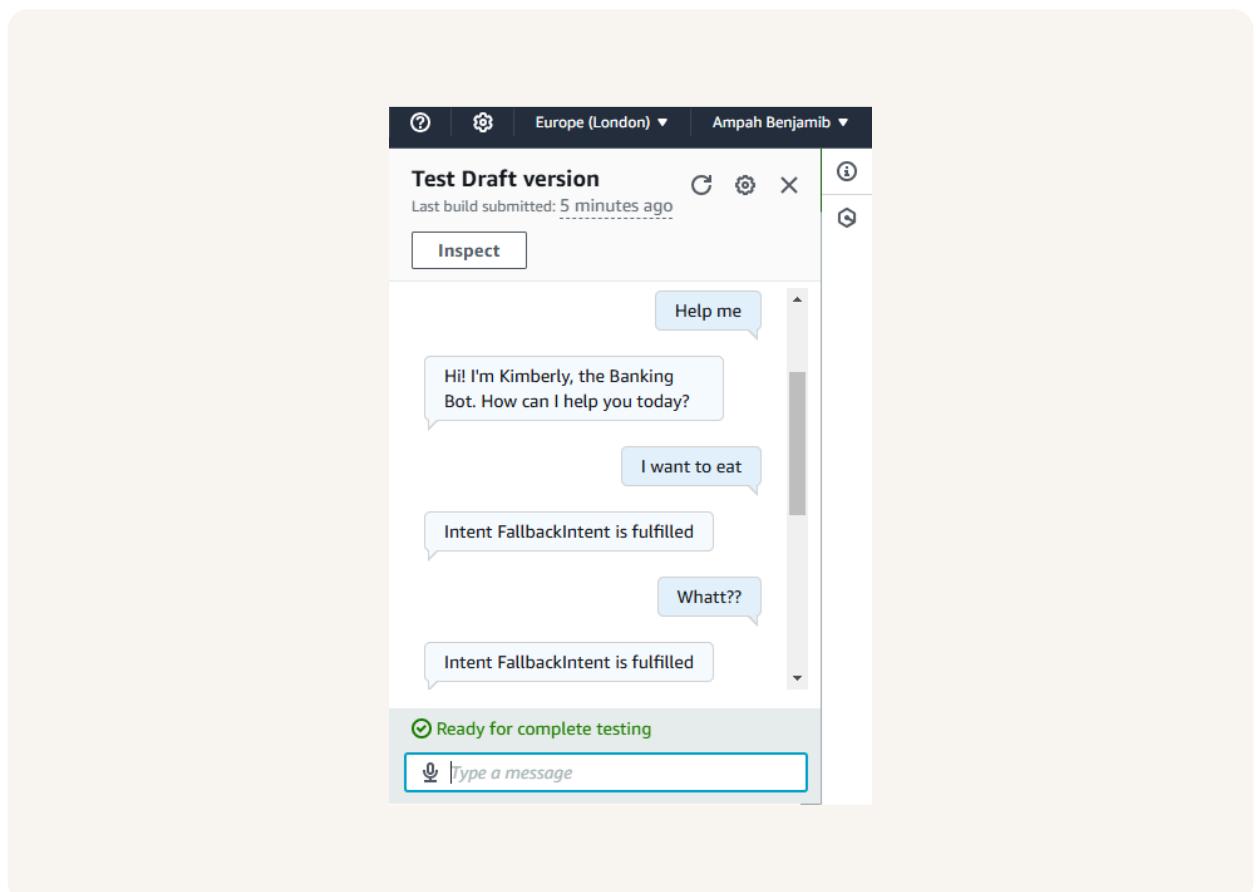
The screenshot shows the 'Step 2: Add languages' section of the Amazon Lex configuration wizard. It includes fields for language selection, a description, voice interaction, a voice sample, and an intent classification confidence score threshold.

▼ Language: English (US)	
Select language	English (US)
Description - optional	(Empty text area)
Voice interaction	The text-to-speech voice that your bot uses to interact with users. Kimberly
Voice sample	Hello, my name is Kimberly. Let me know how I can assist you. <input type="button" value="Play"/>
Intent classification confidence score threshold	0.40 Min: 0.00, max: 1.00

Intents

Intents are the actions or goals a user wants to achieve in a chatbot conversation. They represent the user's intent behind a message, guiding the bot's response.

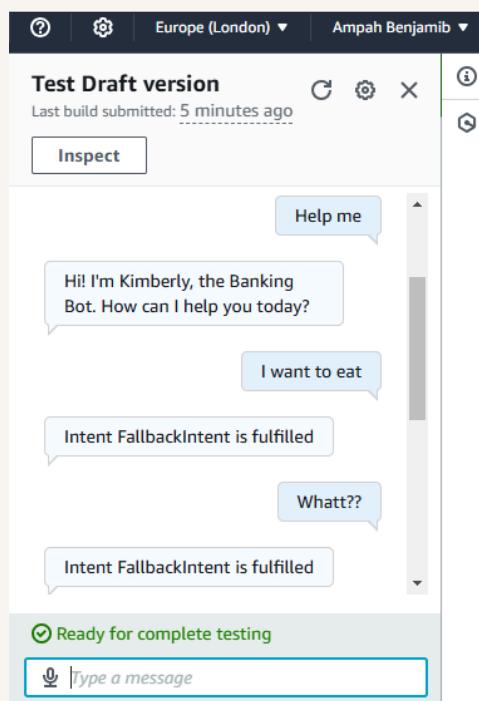
I created my first intent, WelcomeIntent, to greet users and ask how they can help, ensuring a friendly and engaging start to the conversation.



FallbackIntent

I launched and tested my chatbot, which responded successfully to 'Hello,' 'Help me,' or 'Hi, I am Ben.' This worked because I defined these in my intent, and the confidence threshold ensured accurate recognition.

My chatbot returned the error message 'Intent FallbackIntent is fulfilled' when I entered 'Hi, I am Ben. I love banking' or 'How is today?' This error occurred because it couldn't recognize these inputs as part of a defined intent.





AM

ampahben3@gmail.com
NextWork Student

NextWork.org

Configuring FallbackIntent

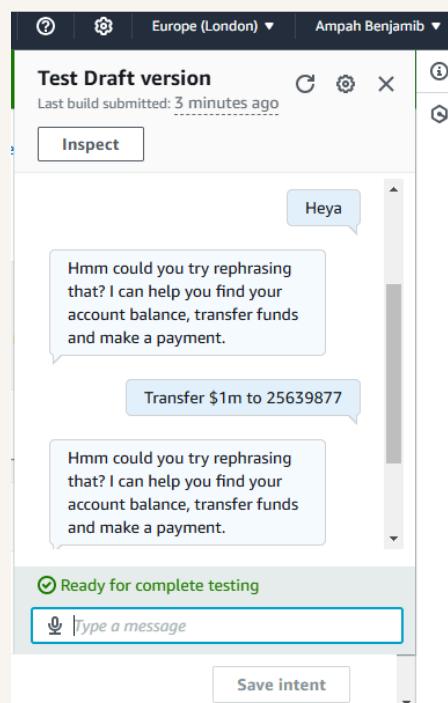
FallbackIntent is a default intent triggered when the confidence score for all defined intents is below 0.4. It acts as an error message, letting the user know the chatbot doesn't understand their input.

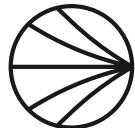
I wanted to configure FallbackIntent because it helps handle unrecognized inputs by providing a default response when the confidence score falls below 0.4. This ensures my chatbot doesn't break but instead guides users with a helpful message.

Variations

To configure FallbackIntent, I clicked on it in the Lex bot panel, edited the closing response, and added variations. This helps my chatbot respond appropriately when it doesn't understand a user's input.

I also added variations! What this means for an end user is that my chatbot can respond in different ways when it doesn't understand their input, making interactions feel more natural and less repetitive.





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