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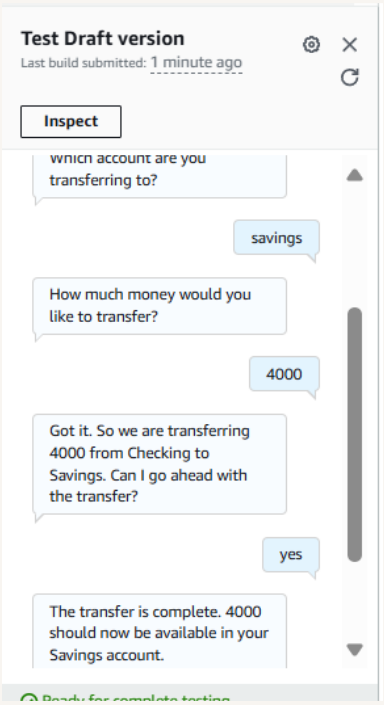
Build a Chatbot with Multiple Slots

Dineshraj Dhanapathy



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Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is an AWS service for building AI chatbots using NLP. It enables voice and text interactions, automates responses, integrates with AWS, and helps create smart, scalable conversational interfaces.

How I used Amazon Lex in this project

I used Amazon Lex with CloudFormation to automate chatbot deployment. The template defined intents, slots, and permissions, ensuring a quick, consistent setup without manual configuration.

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

I used Amazon Lex's visual builder to design the TransferFunds intent, making setup easier. Then, I deployed it using CloudFormation, automating slot creation, permissions, and conversation flow.

This project took me...

This project took me a few hours, including setting up Amazon Lex with the visual builder, creating the TransferFunds intent, and deploying it using CloudFormation, plus testing and troubleshooting.

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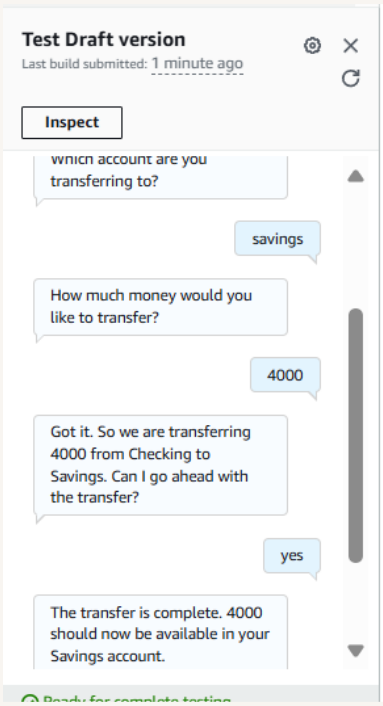
TransferFunds

An intent I created for my chatbot was TransferFunds, which allows users to transfer money between accounts by collecting details like sender account, target account, and amount before processing.



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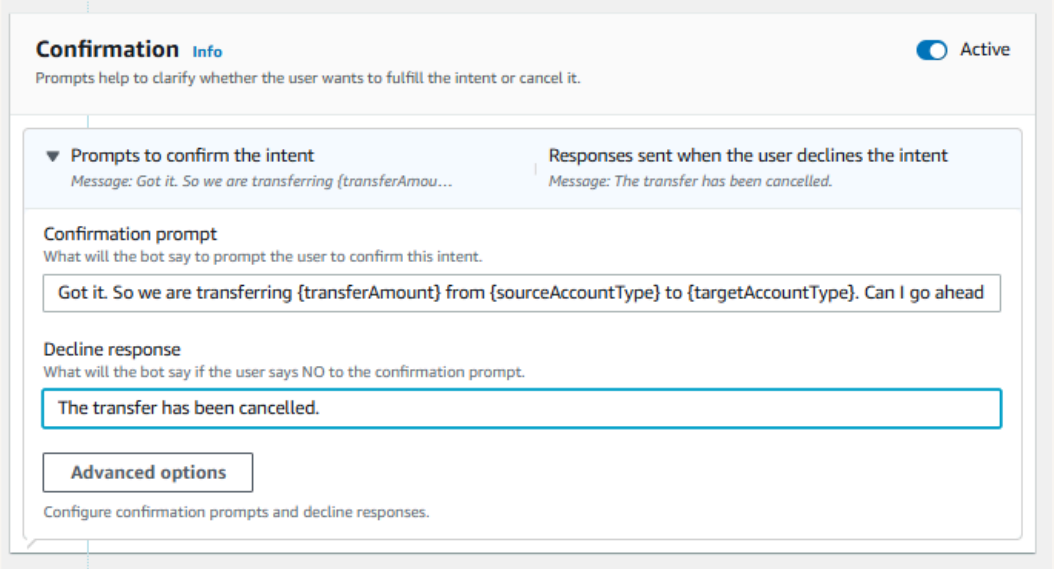
Using multiple slots

For this intent, I had to use the same slot type twice. This is because both the sender and target accounts require the same data format, ensuring the chatbot correctly identifies each account separately.

I also learned how to create confirmation prompts, which are messages that repeat user details for confirmation before executing an action, ensuring accuracy and allowing users to cancel if needed.



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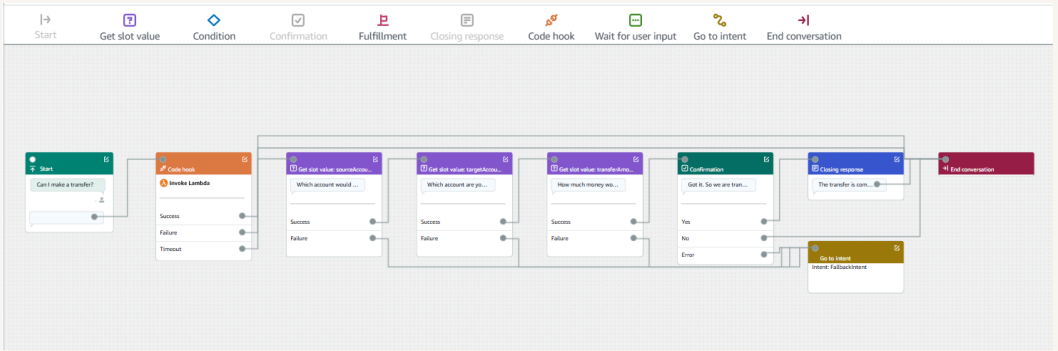
Exploring Lex features

Lex also has a special conversation flow feature that manages dialogue dynamically, allowing the bot to prompt for missing info, confirm details, and handle context-aware interactions smoothly.

You could also set up your intent using a visual builder! A visual builder lets you design conversation flows with a drag-and-drop interface, making it easier to manage intents, slots, and prompts.



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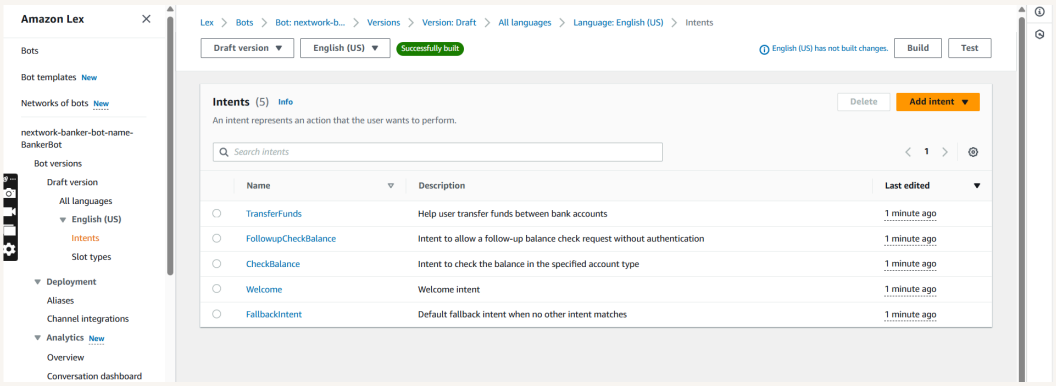
AWS CloudFormation

AWS CloudFormation is a service that helps automate infrastructure deployment using code. It manages AWS resources through templates, ensuring consistent, repeatable setups for scalable cloud environments.

I used CloudFormation to automate the setup of my Amazon Lex chatbot, defining intents, slot types, and permissions in a template, ensuring quick deployment and consistency across environments.



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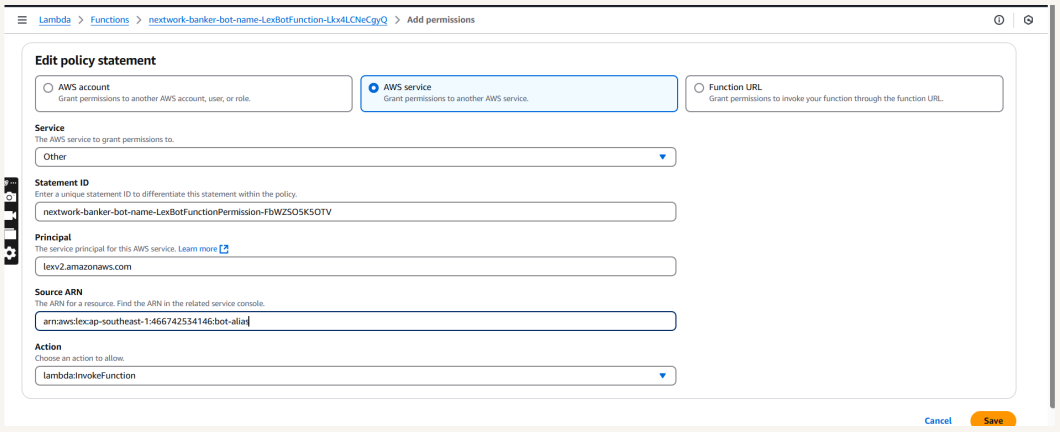
The final result!

Re-building my bot with CloudFormation took me less time than manual setup since the template automated resource creation, but debugging and refining configurations added extra time to the process.

There was an error after I deployed my bot! The error was missing permissions for Lex to access required AWS services. I fixed this by updating the IAM role in my CloudFormation template and redeploying.



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