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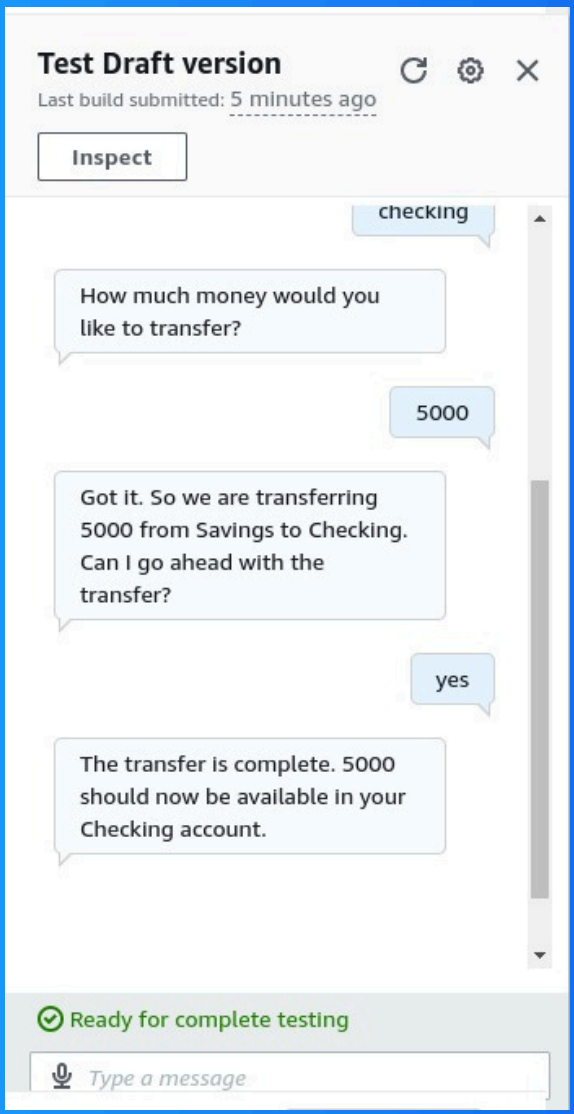
Build a Chatbot with Multiple Slots

Hassan Gachoka



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Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a fully managed service for building conversational interfaces using voice and text. It simplifies creating chatbots and virtual assistants, integrating with AWS services to enable scalable and intelligent interactions.

How I used Amazon Lex in this project

In today's project, I used Amazon Lex to create a chatbot for managing account-related tasks, such as checking balances and transferring funds. Lex's natural language processing helped the bot understand and respond to user queries effectively.

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

One thing I didn't expect in this project was configuring multiple slot types for different account types in the TransferFunds intent. It required careful planning to ensure smooth interaction between the account types and user inputs.

This project took me...

This project took me one and a half hours to complete, including setting up intents, troubleshooting, and deploying the bot. Most of the time was spent configuring slot types and ensuring proper integration with AWS CloudFormation.

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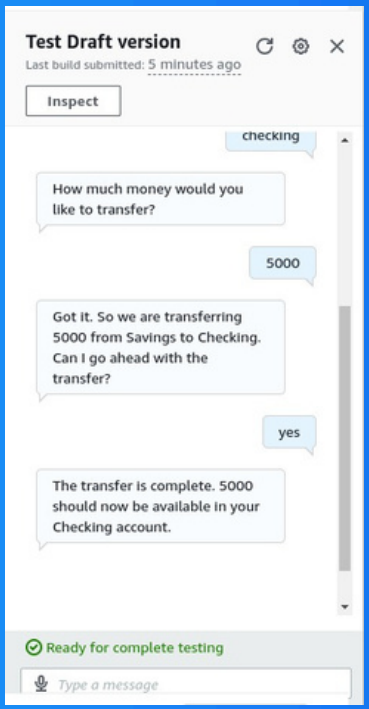
TransferFunds

An intent I created for my chatbot was TransferFunds, which lets users transfer money between accounts. It uses three slots: sourceAccountType and destinationAccountType, and transferAmount, making fund transfers smooth and efficient.



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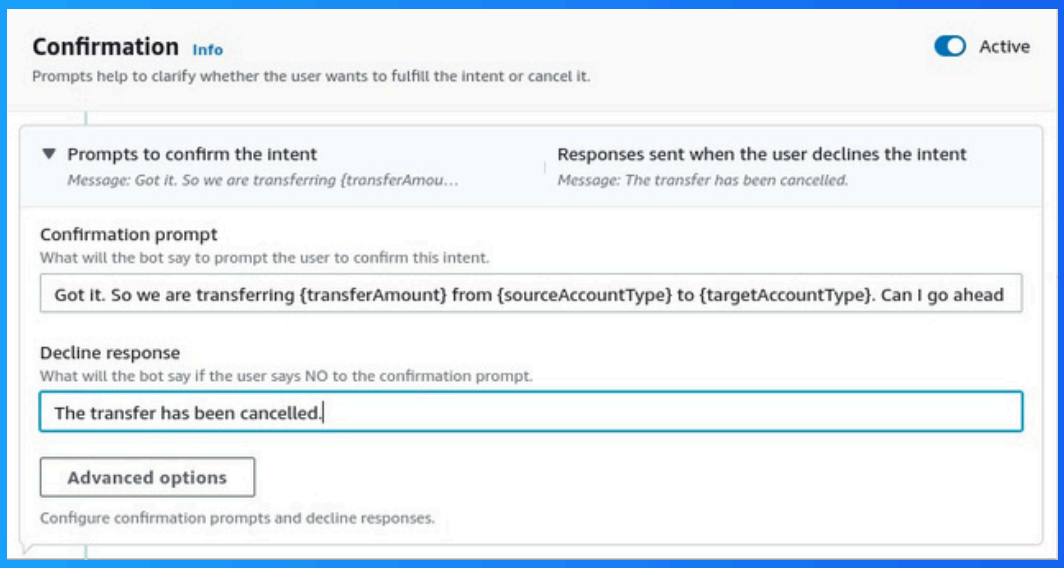
Using multiple slots

For this intent, I had to use the same slot type twice. This is because both the source and destination accounts use the slot type "accountType." It ensures the chatbot correctly identifies and differentiates the two accounts for transfers.

I also learned how to create confirmation prompts, which are messages that verify a user's intent before action is taken. They ensure accuracy by asking for confirmation, like “Do you want to transfer $50 from savings to checking?”



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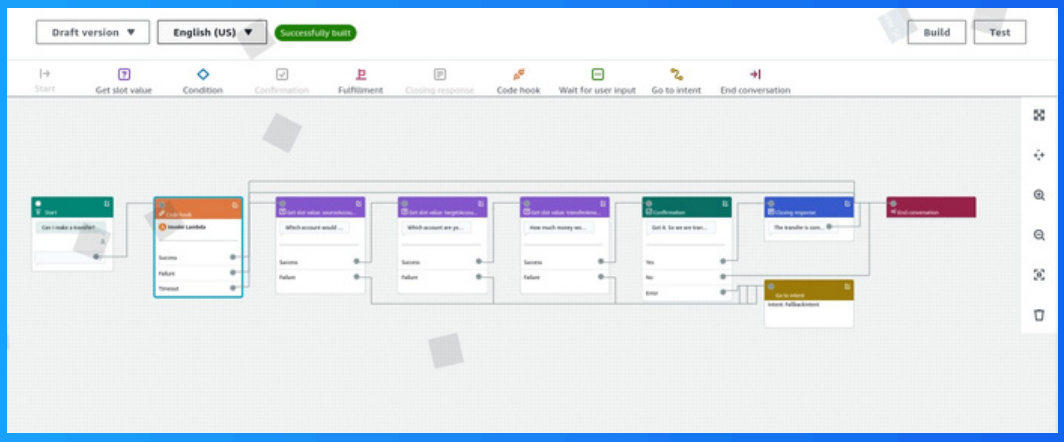
Exploring Lex features

Lex also has a special conversation flow feature that visually maps out the interactions between the user and the chatbot. It helps design, review, and refine dialog paths, making it easier to ensure smooth and intuitive user experiences.

You could set up your intent using a visual builder! It simplifies chatbot design by letting you drag and drop elements, making it easy to visualize user interactions, set up intents, and manage conversation flows in an intuitive way.



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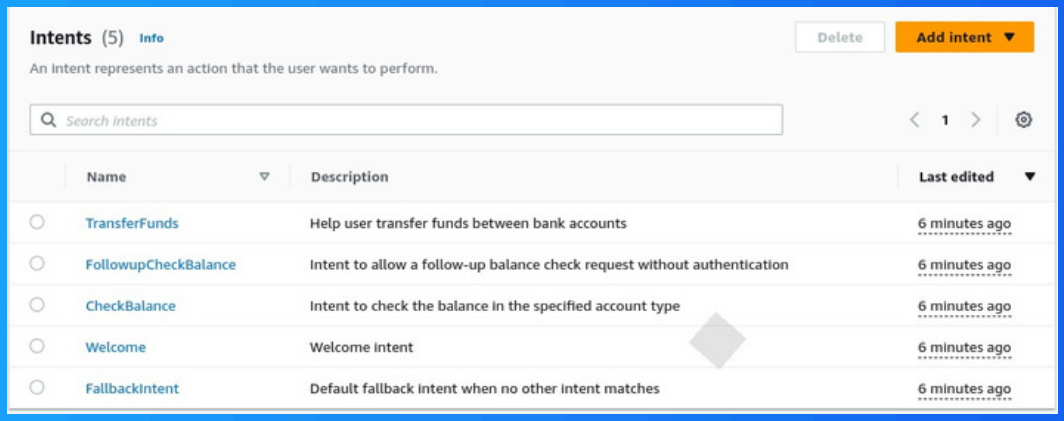
AWS CloudFormation

AWS CloudFormation is a service that automates resource provisioning by allowing you to define infrastructure as code using templates. It simplifies deployment, ensures consistency, and supports rollback for seamless management of AWS resources.

I used CloudFormation to automate the deployment of AWS resources for my chatbot project, including Lex bots and integrations. It ensured consistency and simplified managing resources, saving time and reducing manual errors in setup.



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The final result!

Re-building my bot with CloudFormation took me like seven minutes to set up the resources and configurations properly. Once the template was in place, the deployment was much faster and more efficient compared to manual setup.

There was an error after I deployed my bot! The error was related to missing IAM role permissions for certain resources. I fixed this by reviewing the CloudFormation template, adding the correct permissions, and testing again.