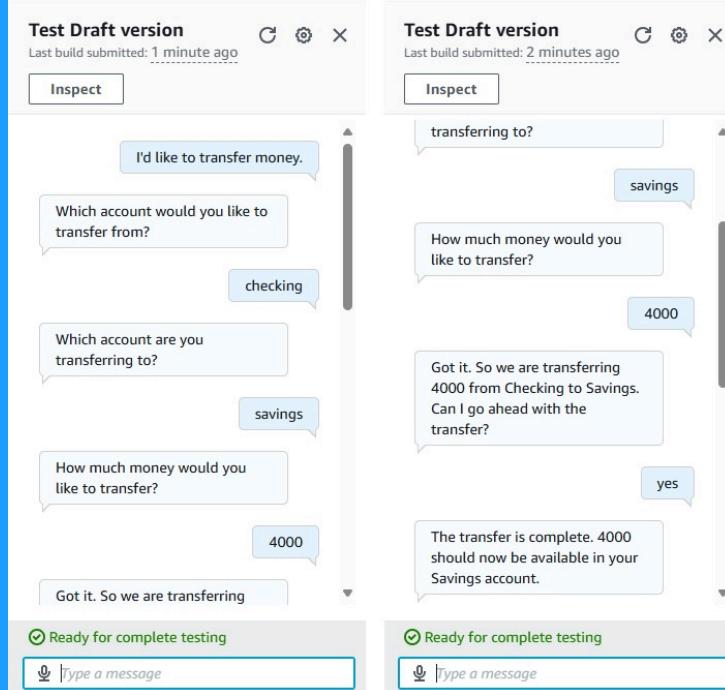




Build a Chatbot with Multiple Slots



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Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a service for building chatbots using voice and text. It allows the creation of conversational interfaces that understand natural language, helping automate tasks like customer service, making user interactions more efficient.

How I used Amazon Lex in this project

I used Amazon Lex to configure new intents for transferring funds between bank accounts, setting up slots for source and target account types, and integrating confirmation prompts.

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

I didn't expect to encounter an access permissions issue when invoking Lambda functions from Lex, which required troubleshooting.

This project took me...

The project took me about 1 hours to complete, including troubleshooting permissions.

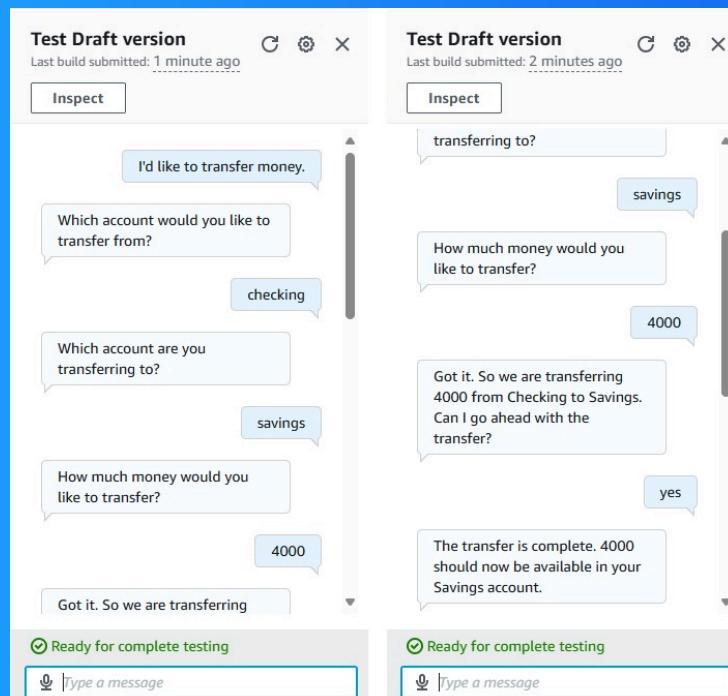


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TransferFunds

An intent I created for my chatbot was TransferFunds, which helps users transfer funds between different bank accounts by specifying source and target accounts and the amount to transfer.



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Using multiple slots

For this intent, I had to use the same slot type twice because both the source and target account types share the same accountType slot for selecting accounts.

I also learned how to create confirmation prompts, which are used to confirm user actions before the chatbot processes them, ensuring accuracy.

Confirmation Info Active

Prompts help to clarify whether the user wants to fulfill the intent or cancel it.

Prompts to confirm the intent
Message: Got it. So we are transferring {transferAmou... Responses sent when the user declines the intent
Message: The transfer has been cancelled.

Confirmation prompt
What will the bot say to prompt the user to confirm this intent.
Got it. So we are transferring {transferAmount} from {sourceAccountType} to {targetAccountType}. Can I go ahead

Decline response
What will the bot say if the user says NO to the confirmation prompt.
The transfer has been cancelled.

Advanced options
Configure confirmation prompts and decline responses.



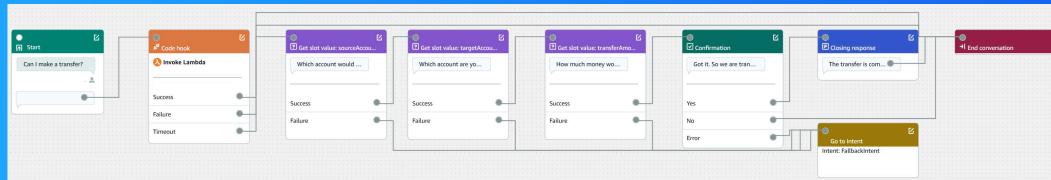
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Exploring Lex features

Lex has a conversation flow feature that allows users to define the sequence of prompts, actions, and responses in a clear visual format. This makes it easier to manage the interactions between the bot and the user.

You could also set up your intent using a visual builder! A visual builder offers an intuitive drag-and-drop interface that simplifies creating and organizing different components in your chatbot's workflow.





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AWS CloudFormation

AWS CloudFormation is a service that allows you to model and set up your AWS resources using a template. It automates the provisioning and management of resources like Amazon Lex, Lambda, and more.

I used CloudFormation to automate the creation and setup of my chatbot, including the intents, Lambda functions, and roles, saving time and ensuring consistent deployment.

Name	Description	Last edited
TransferFunds	Help user transfer funds between bank accounts	1 minute ago
FollowupCheckBalance	Intent to allow a follow-up balance check request without authentication	1 minute ago
CheckBalance	Intent to check the balance in the specified account type	1 minute ago
Welcome	Welcome intent	1 minute ago
FallbackIntent	Default fallback intent when no other intent matches	1 minute ago



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The final result!

Re-building my bot with CloudFormation took me around 15 minutes, as the stack creation process automatically configured all resources.

There was an error after I deployed my bot! The error was an "Access Denied" issue when invoking the Lambda function. I fixed this by adding the necessary permissions for the Lex bot to invoke the Lambda function.

Lambda > Functions > BankingBotEnglish > Add permissions

Add permissions

Edit policy statement

AWS account
Grant permissions to another AWS account, user, or role.

AWS service
Grant permissions to another AWS service.

Function URL
Grant permissions to invoke your function through the function URL.

Service
The AWS service to grant permissions to.
Other

Statement ID
Enter a unique statement ID to differentiate this statement within the policy.
my-custom-permission-amazonlexchatbot

Principal
The service principal for this AWS service. [Learn more](#)
lex2.amazonaws.com

Source ARN
The ARN for a resource. Find the ARN in the related service console.
arn:aws:lambda:us-east-1:466438891091:function:BankingBotEnglish from arn:aws:le:

Action
Choose an action to allow.
lambda:InvokeFunction

Cancel **Save**



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