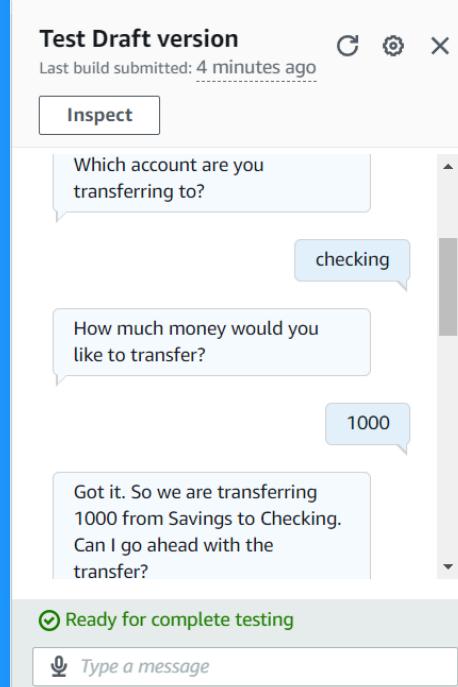




Build a Chatbot with Multiple Slots



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Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a service provided by AWS that enables developers to build conversational interfaces using voice and text. It is developer friendly and provides ease in automating customer interactions without the need for large support teams.

How I used Amazon Lex in this project

In today's project I used Amazon Lex to deploy the entire Banker bot using CloudFormation Stack.

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

I didn't expect that the entire Bot along with all of its configuration and lambda functions would be created using automation with the help of AWS CloudFormation.

This project took me...

I completed this project in an hour.

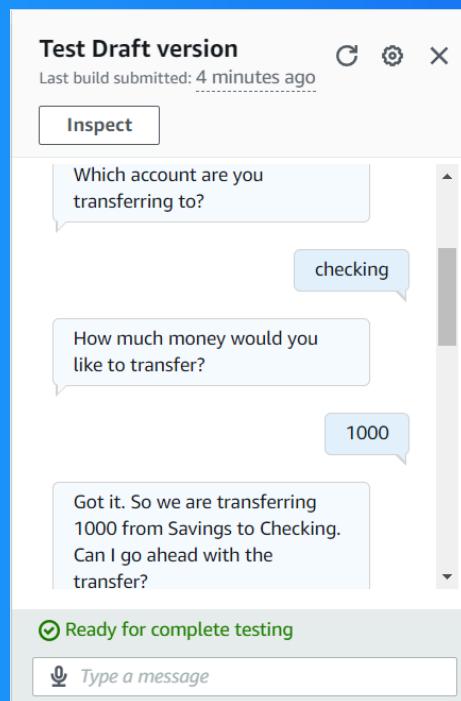
AL

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TransferFunds

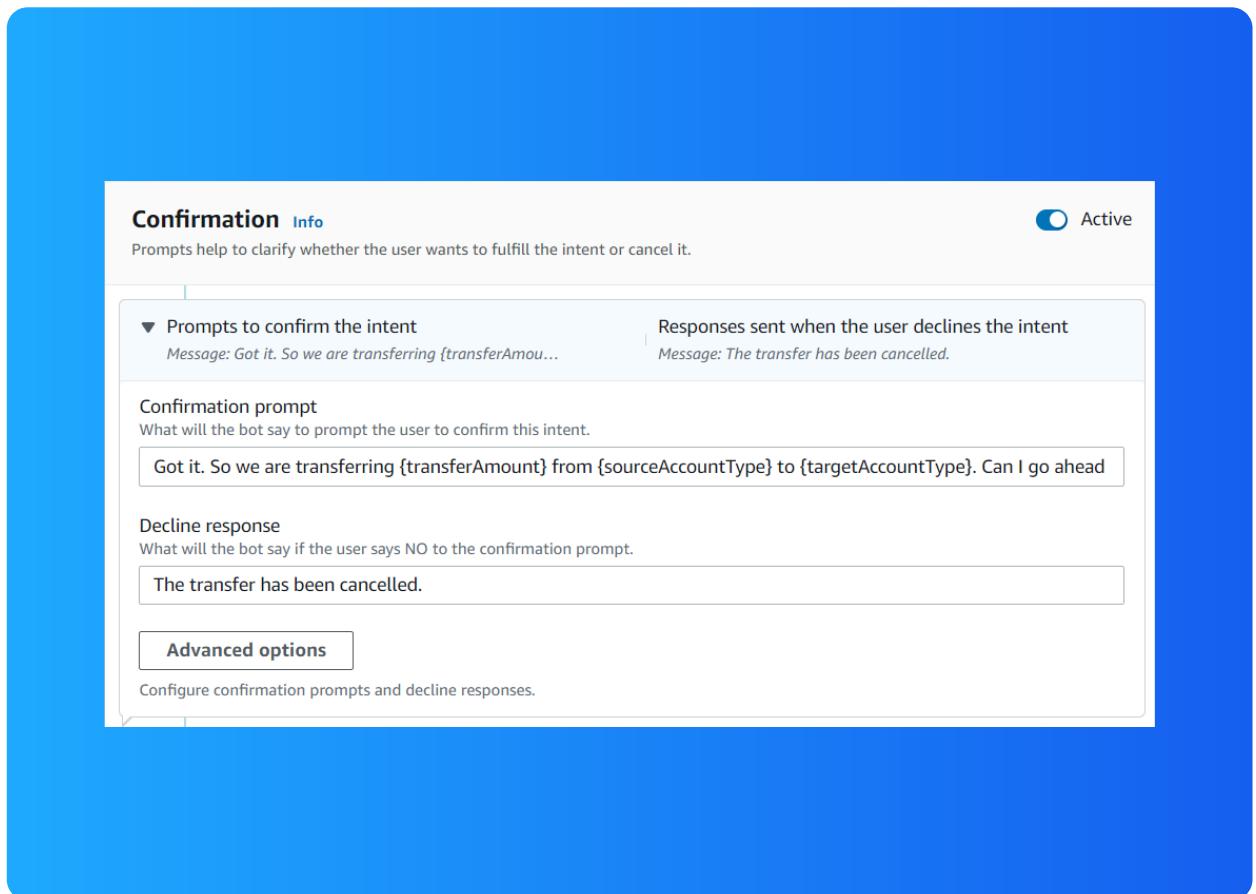
An intent I created for my chatbot was TransferFunds, which can transfer money between accounts.



Using multiple slots

For this intent, I had to use the same slot type twice. This is because the source and target accounts are categorised as account types.

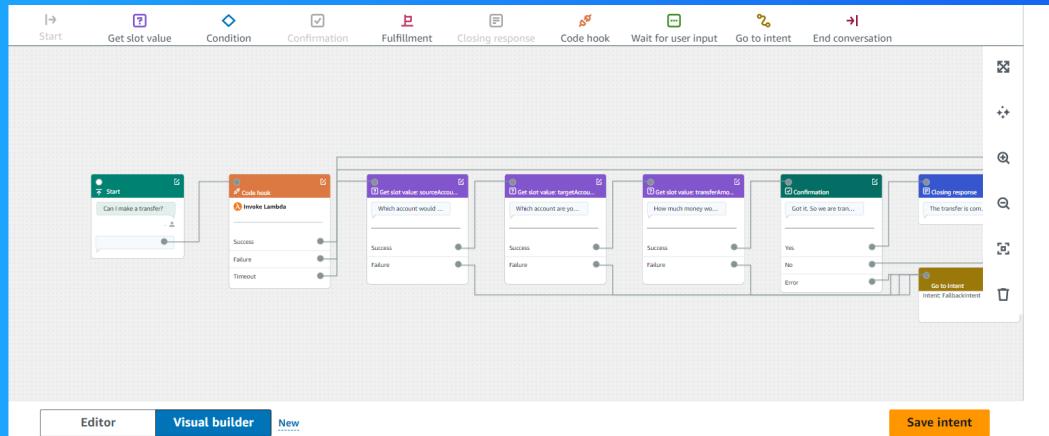
I also learnt how to create confirmation prompts, which are used to repeat back the information for the user to confirm.



Exploring Lex features

Lex also has a special conversation flow feature that shows every step in a conversation in a logical and chronological order. This flow will update as and when the intents are edited.

You could also set up your intent using a visual builder! A visual builder is used to build and visualise an intent from scratch.



AWS CloudFormation

AWS CloudFormation is an infrastructure as code service meaning a file that describes all the resources that are needed and their dependencies as code. This can be then used as a template to manage the entire sack of resources.

I used CloudFormation to deploy my Banker chatbot.

Intents (5) Info		
An intent represents an action that the user wants to perform.		
<input type="text"/> Search intents (1)		
	Name	Description
	Last edited	
<input type="radio"/>	TransferFunds	Help user transfer funds between bank accounts
<input type="radio"/>	FollowupCheckBalance	Intent to allow a follow-up balance check request without authentication
<input type="radio"/>	CheckBalance	Intent to check the balance in the specified account type
<input type="radio"/>	Welcome	Welcome intent
<input type="radio"/>	FallbackIntent	Default fallback intent when no other intent matches

The final result!

Re-building my bot with CloudFormation took me 5 minutes.

There was an error after I deployed my bot! The error was "Access denied while invoking Lambda function". I fixed this by add a custom Resource-based policy statement that gave my chatbot aliases access to my new Lambda function.

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

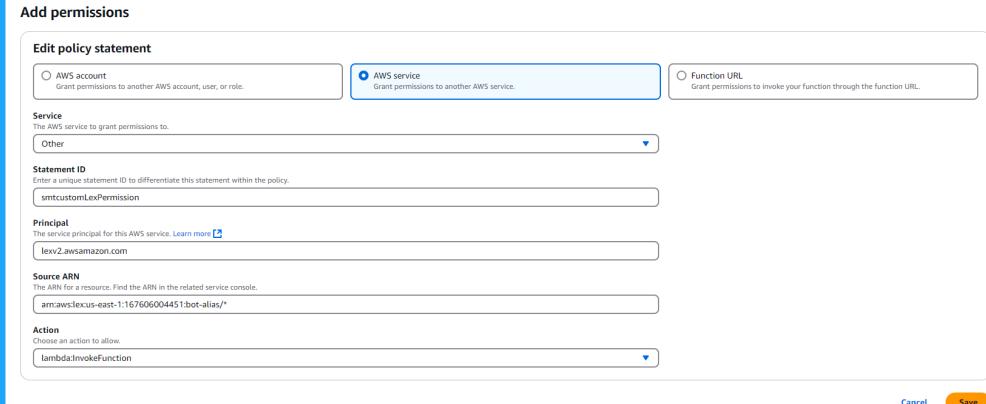
Statement ID
Enter a unique statement ID to differentiate this statement within the policy.
smtcustomLexPermission

Principal
The service principal for this AWS service. Learn more [\[?\]](#)
lexv2.amazonaws.com

Source ARN
The ARN for a resource. Find the ARN in the related service console.
arn:aws:lexus-east-1:167606004451:bot-alias/*

Action
Choose an action to allow.
lambda:InvokeFunction

Cancel Save





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