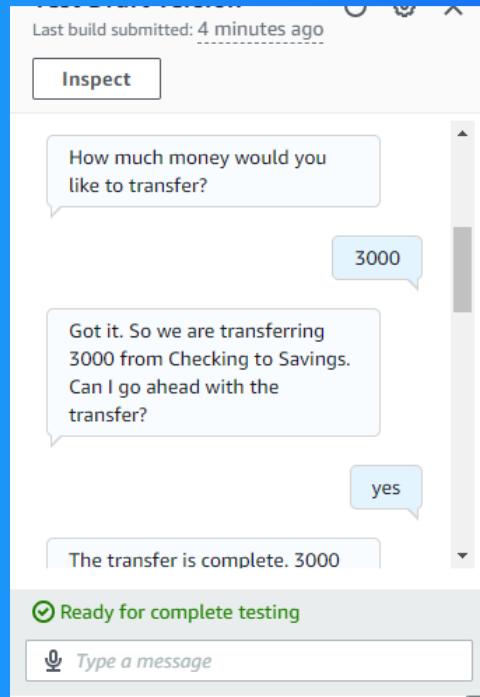




# Build a Chatbot with Multiple Slots



Roshan Thomas





# Introducing Today's Project!

## What is Amazon Lex?

It is a tool that lets you build chatbots and voice assistants. It's useful because it makes creating smart, conversational interfaces easy, perfect for tasks like customer service and making reservations, without needing advanced coding skills.

## How I used Amazon Lex in this project

I used Amazon Lex to build a chatbot with multiple slots, allowing it to capture various pieces of user input efficiently

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

How seamlessly we can upload the bot handled the queries, greatly enhancing user interaction. Another aspect was how easy and quickly we can deploy a bot using CloudFormation.

## This project took me...

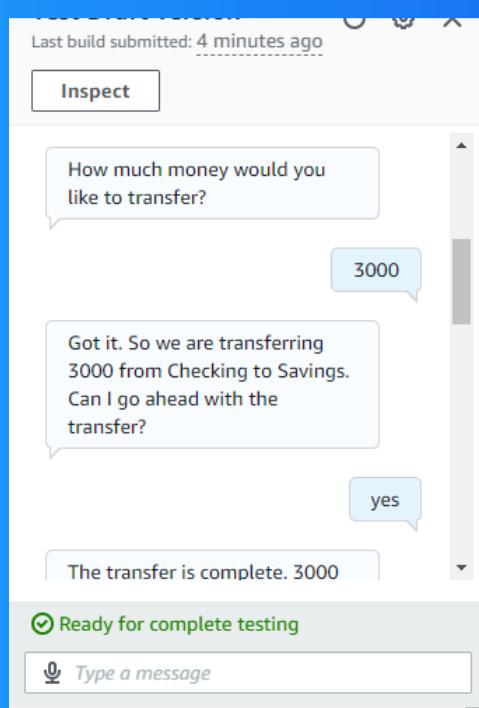
30 mins

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# TransferFunds

An intent I created for my chatbot was TransferFunds, which will help transfer funds between bank accounts.



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# Using multiple slots

For this intent, I had to use the same slot type twice. This is because I'm transferring funds between account types, its important we differentiate them with clear slot names.

I also learnt how to create confirmation prompts, which are fun ways for the bot to repeat information back for the user to confirm, like "Are you sure you want to do x?" If confirmed, the bot fulfills the intent; if declined, it responds accordingly

▼ Prompts to confirm the intent  
*Message: Got it. So we are transferring {transferAmou...*

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.

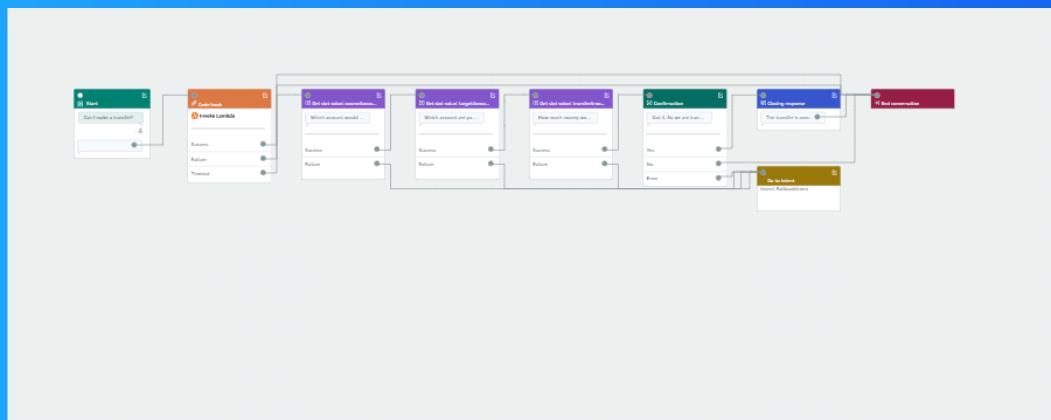
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# Exploring Lex features

Lex also has a special conversation flow feature that manages dialogue, keeping track of context & ensuring smooth, natural interactions. It handles branching paths and maintains relevant information, making conversations more efficient.

You could also set up your intent using a visual builder! A visual builder provides a drag-and-drop interface to design conversation flows, making it easy to visualize and configure intents, slots, and responses without writing code.



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# AWS CloudFormation

AWS CloudFormation is a service that lets you magically build and manage AWS resources with templates. It's like having a blueprint for your cloud setup, automating everything so you don't have to!

I learned how to deploy the entire BankerBot using single CloudFormation stack.

Intents (5) <a href="#">Info</a>		
An intent represents an action that the user wants to perform.		
<input type="text"/> <a href="#">Search intents</a>		
Name	Description	Last edited
TransferFunds	Help user transfer funds between bank accounts	3 minutes ago
FollowupCheckBalance	Intent to allow a follow-up balance check request without authentication	3 minutes ago
CheckBalance	Intent to check the balance in the specified account type	3 minutes ago
Welcome	Welcome intent	3 minutes ago
FallbackIntent	Default fallback intent when no other intent matches	3 minutes ago

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# The final result!

Re-building my bot with CloudFormation took me 5-10 mins

There was an error after I deployed my bot! The error was denied access I fixed this by creating a new Resource-based policy statement in the permissions tab in 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.  
my-custom-permission-amazonlexchatbot

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:lex:ap-southeast-1:992382753428:bot-alias/\*

Action  
Choose an action to allow.  
lambda:InvokeFunction

Cancel Save



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