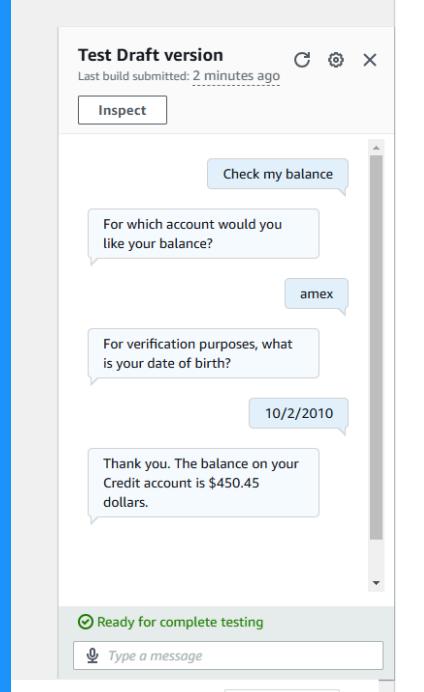




Connect a Chatbot with Lambda



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Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is an artificial intelligence (AI) service that allows developers to create conversational interfaces for applications using voice and text.

How I used Amazon Lex in this project

I used Amazon Lex to build BankerBot, integrating an AWS Lambda function that runs a Python script to generate bank account balances when users ask. The Lambda function processes requests and returns balance data, making the chatbot interactive.

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

One key thing I was able to pay attention to in this project was the Python script that I deployed in the text editor. The format of scripts/codes is very essential and often makes deployments unsuccessful until corrected.

This project took me...

I spent about 60 minutes completing this project successfully.



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AWS Lambda Functions

AWS Lambda is a service that lets you run code in the cloud without needing to manage any computers/servers - Lambda will manage them for you.

In this project, I created a Lambda function to generate a random number on the fly whenever a user asks for their balance.

The screenshot shows the AWS Lambda console interface. On the left, the 'EXPLORER' sidebar displays a project named 'BANKINGBOTENGLISH' with a single file 'lambda_function.py'. The main area is a code editor for 'lambda_function.py' containing the following Python code:

```
 1 import json
 2 import random
 3 import decimal
 4
 5 def random_num():
 6     return decimal.Decimal(random.randrange(1000, 50000))/100
 7
 8 def get_slots(intent_request):
 9     return intent_request['sessionState']['intent']['slots']
10
11 def get_slot(intent_request, slotName):
12     slots = get_slots(intent_request)
13     if slotName is not None and slotName in slots and slots[slotName] is not None:
14         return slots[slotName]['value']['interpretedValue']
15     else:
16         return None
17
18 def get_session_attributes(intent_request):
19     sessionState = intent_request['sessionState']
20     if 'sessionAttributes' in sessionState:
21         return sessionState['sessionAttributes']
22
23 def elicit_intent(intent_request, session_attributes, message):
24     return {}
25
26
27
28
29
30
31
```

The code defines several functions: `random_num`, `get_slots`, `get_slot`, `get_session_attributes`, and `elicit_intent`. The `get_slot` function retrieves a specific slot value from the intent request's session state. The `get_session_attributes` function retrieves the session attributes from the intent request's session state. The `elicit_intent` function is a placeholder for returning an elicitation message.

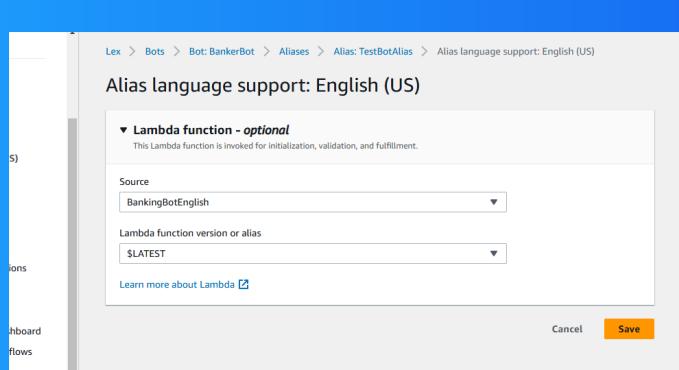


Chatbot Alias

An alias is a pointer for a specific version of your bot. So when connecting Lex with other AWS services or your custom applications, those external resources will connect to an alias, which will point to the specific version of your bot that

TestBotAlias is a default version of the bot that is made for testing or development.

To connect Lambda with my BankerBot, I visited my bot's TestBotAlias and connected the Lambda function to BankerBot. I headed back to the Amazon Lex console. I selected BankerBot. On the left-hand menu, I chose Aliases.





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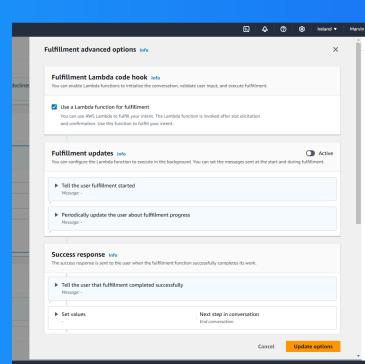
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Code Hooks

A code hook is a function that helps to connect the chatbot to custom Lambda functions for doing specific tasks during a conversation. They're used to handle more complex actions that the basic chatbot setup can't do on its own.

Even though I already connected my Lambda function with my chatbot's alias, I had to use code hooks because they make the chatbots smarter and more useful by allowing them to perform extra steps seamlessly during chats.

I could find code hooks at the CheckBalance intent. On the successful fulfillment bubble, I chose Advanced options then, under the Fulfilment Lambda code hook panel, I checked the checkbox next to Use a Lambda function for fulfillment.



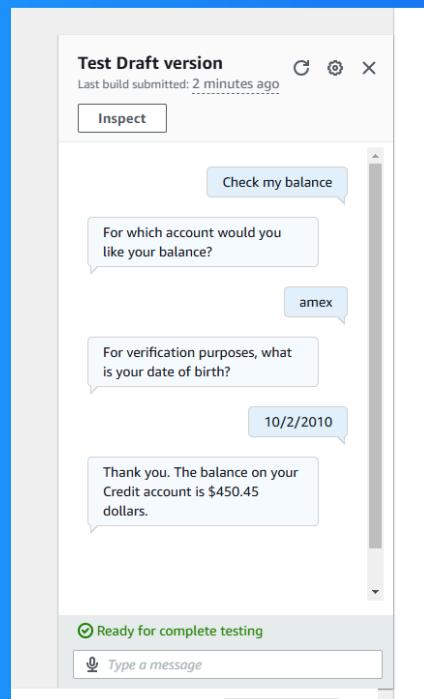


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The final result!

I've set up my chatbot to trigger Lambda and return a random dollar figure when a user asks about their account balance to the chatbot, Lex will ask the Lambda function to run this code, which will pick a random number to pretend it's the balance.





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