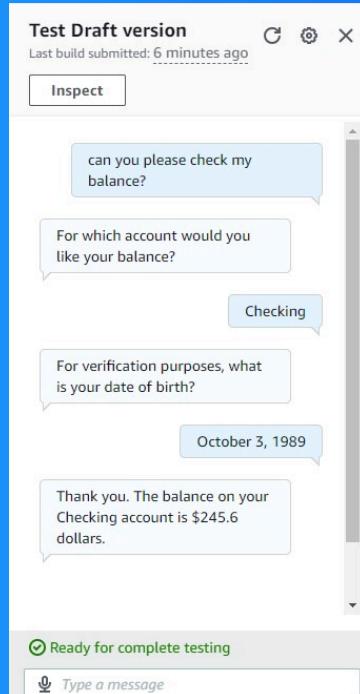




Connect a Chatbot with Lambda



Nikhil Bhan



Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a service that allows users to develop chatbot applications that are capable of understanding and responding to human language, whether it's voice or text

How I used Amazon Lex in this project

I used Amazon Lex to develop a chatbot that would process inputs from a user by using a Lambda function; this function would use a Code Hook to work in the conversation session to provide account balance details to the user

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

I wasn't expecting how easy it is to use an AWS Lambda function; I can now appreciate the possibilities of what can be done with functions

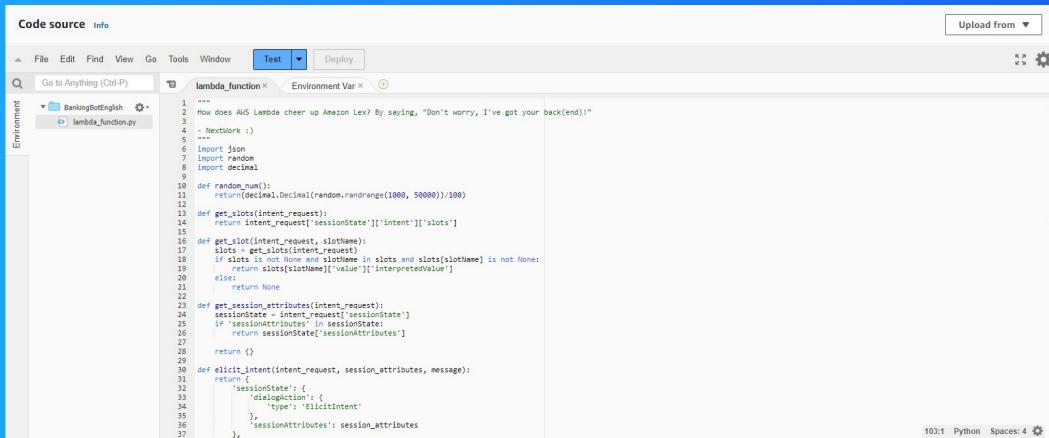
This project took me...

This project took me an hour, which includes about 10 to 15 minutes to write up my documentation

AWS Lambda Functions

AWS Lambda is a service that runs your code without the need to provision or manage any servers; Lambda will run your code when it's needed and it can scale automatically. Make sure to provide your code in a language that Lambda supports

In this project, I created a Lambda function to help my chatbot provide information on the account balance to the requesting user



The screenshot shows the AWS Lambda Code source editor interface. The window title is "lambda_function". The code editor displays the following Python script:

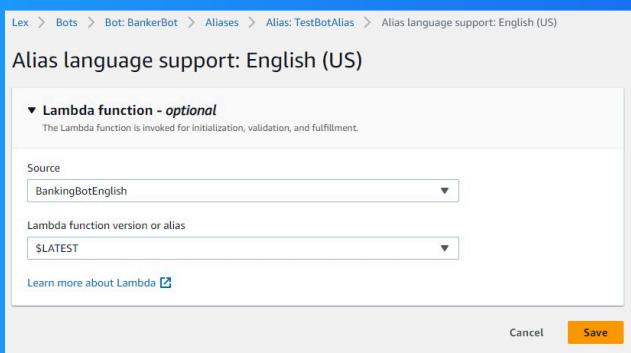
```
1 """
2 How does AWS Lambda cheer up Amazon Lex? By saying, "Don't worry, I've got your back(end)!"
3 - Nextwork :)
4 """
5 import json
6 import random
7 import decimal
8
9 def random_num():
10     return decimal.Decimal(random.randrange(1000, 50000))/100
11
12 def get_slots(intent_request):
13     return intent_request['sessionState']['intent']['slots']
14
15 def get_slot(intent_request, slotName):
16     slots = get_slots(intent_request)
17     if slotName in slots and slotName in slots and slots[slotName] is not None:
18         return slots[slotName]['value']['interpretedValue']
19     else:
20         return None
21
22 def get_session_attributes(intent_request):
23     sessionState = intent_request['sessionState']
24     if 'sessionAttributes' in sessionState:
25         return sessionState['sessionAttributes']
26     else:
27         return {}
28
29 def elicit(intent_request, session_attributes, message):
30     return {
31         'sessionState': {
32             'dialogAction': {
33                 'type': 'ElicitIntent'
34             },
35             'sessionAttributes': session_attributes
36         },
37     }
```

Chatbot Alias

An alias is a pointer that is attached to a specific version of a chatbot. AWS services, customer applications and other resources can connect to this alias instead of being individually updated to the chatbot version, which saves time for developers

TestBotAlias is the default version of the chatbot; this alias is used for development and testing. Think of this alias as your safe zone where you can ensure that your chatbot functions properly before making any changes

To connect Lambda with my BankerBot, I visited my bot's TestBotAlias and clicked the English language, which brought up the Lambda function menu; I selected my BankingBotEnglish function for the Source and left the Lambda Function version as \$LATEST

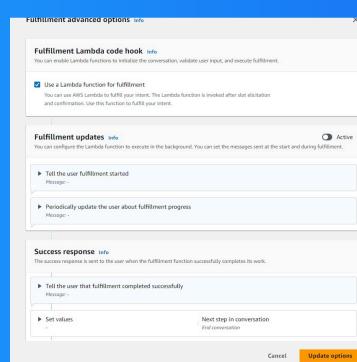


Code Hooks

A code hook is a piece of code that helps connect the chatbot to custom Lambda functions. These functions perform specific tasks that are complex, which make the chatbot smarter for a more intuitive user experience

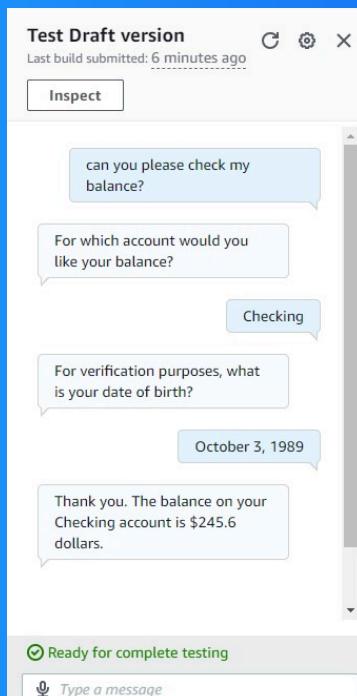
Even though I already connected my Lambda function with my chatbot's alias, I had to use code hooks because they can execute functions during certain phases of the chatbot session, such as initializing the conversation and validating user input

I could find code hooks at my chatbot's intent; it was in the Advanced Options under the Fulfillment area. There's a checkbox where I enabled 'Use a Lambda Function for Fulfillment' under the Fulfillment Lambda Code Hook



The final result!

I've set up my chatbot to trigger Lambda and return a random dollar figure after the user requests the balance on their bank account and specifies their date of birth as verification





NextWork.org

Everyone should be in a job they love.

Check out nextwork.org for
more projects

