

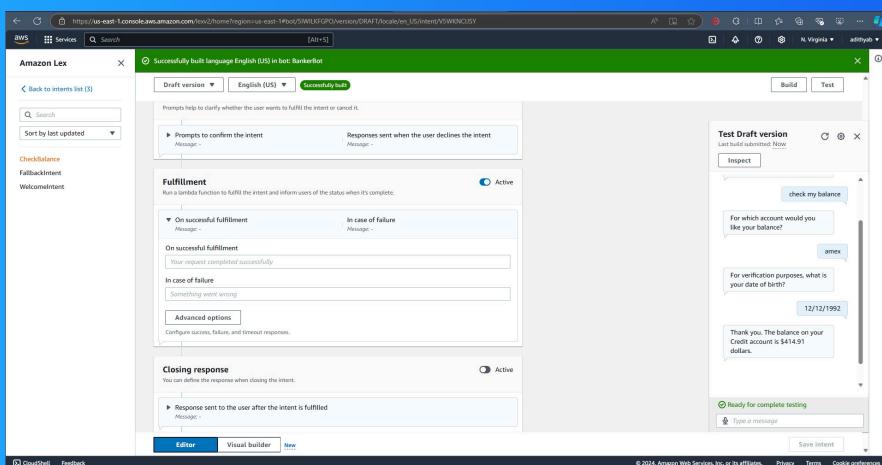


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Connect a Chatbot with Lambda



Adithya Bellamkonda





Adithya Bellamkonda
NextWork Student

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Introducing Today's Project!

What is Amazon Lex?

AWS Lambda is a serverless compute service that lets you run code in response to events without provisioning or managing servers. It automatically scales and manages the underlying infrastructure, allowing you to focus on writing and deploying your a

How I used Amazon Lex in this project

I built a banker bot with Amazon Lex in 30 minutes, setting up intents and custom slots. I used AWS Lambda for backend processing, returning random dollar figures for balance inquiries.

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

One thing I didn't expect in this project was how quickly and seamlessly I could set up and customize the banker bot using Amazon Lex.

This project took me...

This project took me about 30 minutes in total.



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NextWork Student

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AWS Lambda Functions

AWS Lambda is a serverless compute service that lets you run code in response to events without provisioning or managing servers. It automatically scales and manages the underlying infrastructure, allowing you to focus on writing and deploying apps.

In this project, I created a Lambda function to handle backend processing for the banker bot, enabling it to perform tasks such as retrieving account information, processing transactions, and interacting with databases in response to user queries.

The screenshot shows the AWS Lambda function editor interface. A green success message at the top states "Successfully updated the function BankingBotEnglish." The main area displays the "Code source" tab with Python code for the "lambda_function" handler. The code handles various intents and sessions, including generating random numbers, getting slot values, and eliciting new intent requests. On the right side, there's a sidebar titled "Create a simple web app" with a "Start tutorial" button. The bottom status bar indicates "97:20 Python Spaces: 4".

```
1 import json
2 import random
3 import decimal
4
5 def get_random():
6     return decimal.Decimal(random.randrange(1000, 50000))/100
7
8 def get_slots(intent_request):
9     return intent_request['sessionState']['slots']
10
11 def get_slot(intent_request, slotName):
12     slots = intent_request['slots']
13     if slots 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     else:
23         return {}
24
25 def elicit_intent(intent_request, session_attributes, message):
26     return {
27         'sessionAttributes': session_attributes,
28         'dialogAction': {
29             'type': 'ElicitIntent',
30             'message': message
31         },
32         'messages': [{}]
33     }
34     if 'requestAttributes' in intent_request['requestAttributes']:
35         return elicit_intent(intent_request['requestAttributes'])
36     else:
37         return elicit_intent(intent_request)
```



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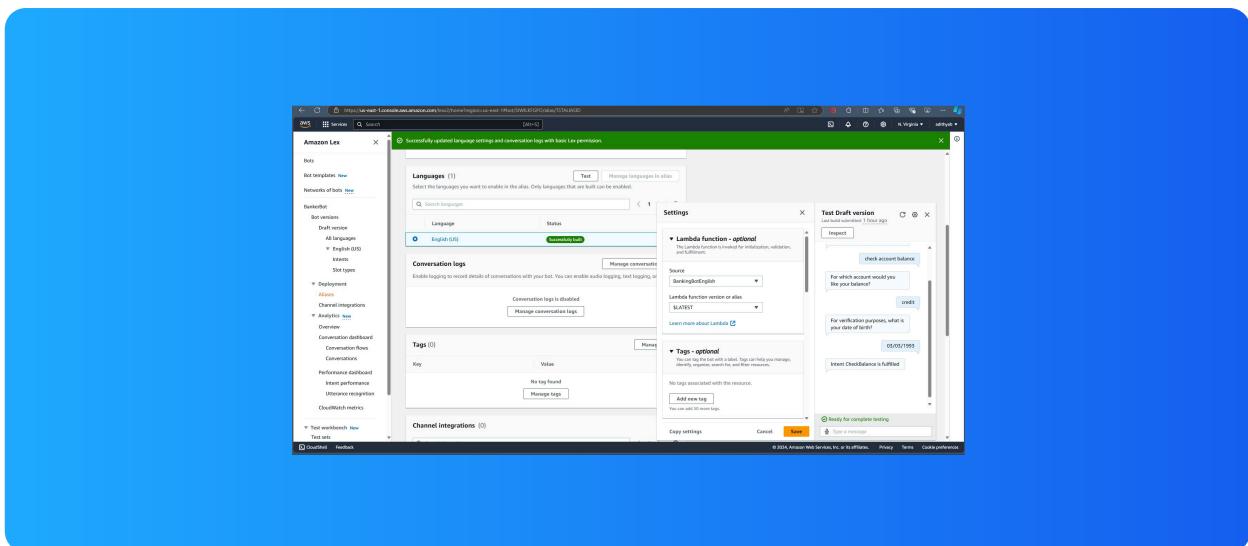
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Chatbot Alias

An alias is a pointer to a specific version of a Lambda function, allowing you to manage and deploy different versions of your function easily. It simplifies the process of directing traffic to specific function versions for testing or production.

TestBotAlias is an alias I created for my Lambda function, allowing me to direct traffic to a specific version of the function for testing purposes without affecting the production environment.

To connect Lambda with my BankerBot, I visited my bot's TestBotAlias and configured it to trigger the appropriate Lambda function, enabling the bot to process user requests and retrieve necessary data seamlessly.





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NextWork Student

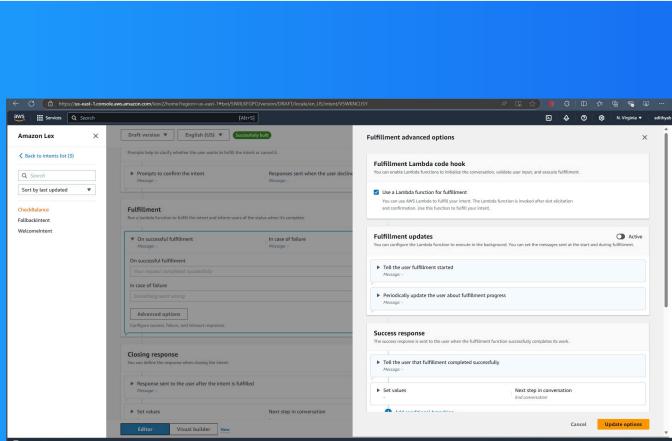
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Code Hooks

Code hooks help you connect your 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, like checking data from a database.

Even though I already connected my Lambda function with my chatbot's alias, I had to use code hooks because they allow for additional processing and customization of the responses, enabling me to implement specific logic or validation steps.

I could find code hooks at the configuration settings of my Amazon Lex bot, where I could specify the Lambda function to be invoked during the dialog management process for both pre- and post-processing tasks.





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NextWork Student

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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 or requests a transaction amount, enhancing the bot's interactivity and user experience.

The screenshot shows the AWS Lambda function configuration interface. At the top, it displays the function name 'BankerBot' and the ARN 'arn:aws:lambda:us-east-1:1#bot/SWILKKGPO/version/DRAFT/lambda/en_US/intent/V5WKNCJ5Y'. Below this, the 'Environment' tab is selected, showing environment variables like 'AWS_LAMBDA_FUNCTION_NAME=BankerBot', 'AWS_LAMBDA_FUNCTION_MEMORY_SIZE=128', and 'AWS_LAMBDA_FUNCTION_TIMEOUT=3'. The 'Code' tab is also visible. On the right side, there is a preview window showing a sample interaction with the bot:

```
check my balance
For which account would you like your balance?
amex
For verification purposes, what is your date of birth?
12/12/1992
Thank you. The balance on your Credit account is $414.91 dollars.
```



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