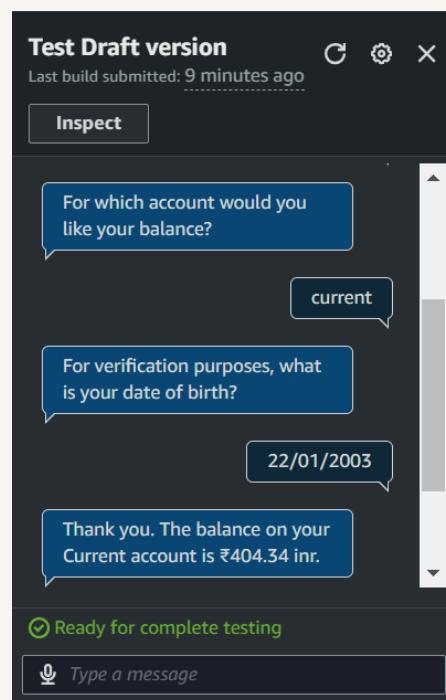


Connect Amazon Lex with Lambda

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Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a conversational AI service that builds chatbots using NLU and ASR. It automates interactions, integrates with AWS services, scales efficiently, and supports multiple platforms.

How I used Amazon Lex in this project

I used Amazon Lex in today's project to build SmartBanker, a chatbot that understands user queries, captures slot values, and retrieves account balances.

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

One thing I didn't expect in this project was that AWS Lambda allows running custom code seamlessly without managing servers. I initially thought a separate backend was needed, but Lambda integration with SmartBanker made handling user queries easier

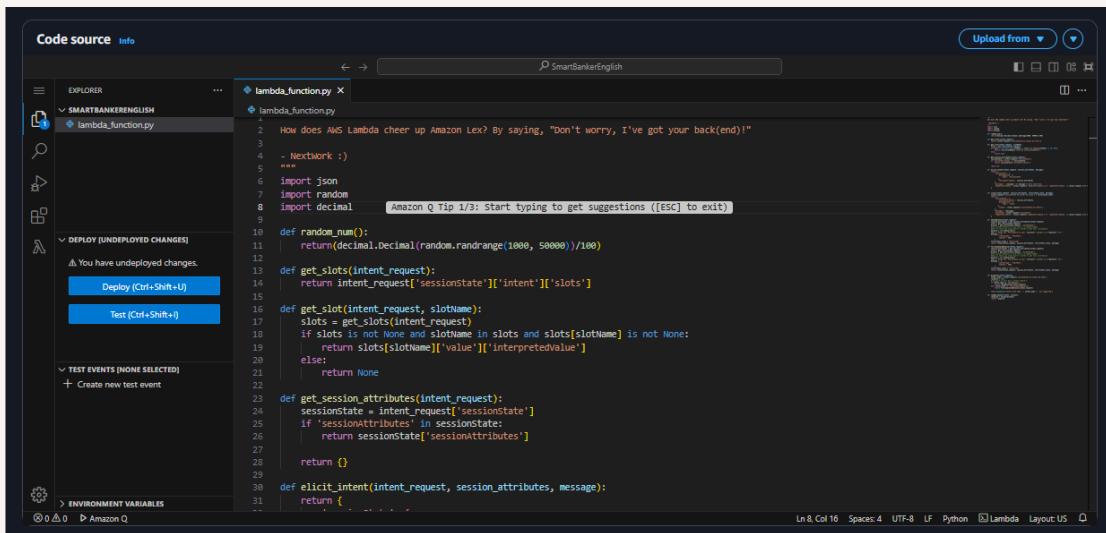
This project took me...

This project took me approximately 2 hours to complete. Most of the time was spent designing SmartBanker's intents, configuring slots, refining utterances, and integrating AWS Lambda to ensure smooth, accurate, and efficient responses.

AWS Lambda Functions

AWS Lambda is a serverless computing service that runs code in response to events without requiring server management. It automatically executes functions on demand, and integrates with AWS services.

This AWS Lambda function processes Amazon Lex chatbot requests, specifically handling CheckBalance and FollowupCheckBalance intents. It extracts user-provided account types, generates a random balance, and responds with the balance information.



The screenshot shows the AWS Lambda Code source editor interface. The left sidebar displays the project structure under 'EXPLORER' with a file named 'lambda_function.py'. The main area shows the Python code for the Lambda function:

```
1 How does AWS Lambda cheer up Amazon Lex? By saying, "Don't worry, I've got your back(end)!"\n2\n3 - Nextwork :)\n4\n5\n6 import json\n7 import random\n8 import decimal\n9\n10 def random_num():\n11     return(decimal.Decimal(random.randrange(1000, 5000))/100)\n12\n13 def get_slots(intent_request):\n14     return intent_request['sessionState']['intent']['slots']\n15\n16 def get_slot(intent_request, slotname):\n17     slots = get_slots(intent_request)\n18     if slots is not None and slotname in slots and slots[slotname] is not None:\n19         return slots[slotname]['value']['interpretedValue']\n20     else:\n21         return None\n22\n23 def get_session_attributes(intent_request):\n24     sessionstate = intent_request['sessionState']\n25     if 'sessionAttributes' in sessionstate:\n26         return sessionState['sessionAttributes']\n27\n28     return {}\n29\n30 def elicit_intent(intent_request, session_attributes, message):\n31     return {
```

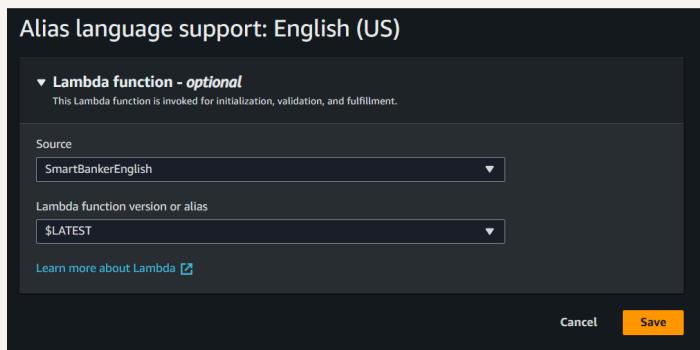
At the bottom of the editor, there are tabs for 'Lambda' and 'Layout: US'.

Chatbot Alias

An alias is a pointer to a specific version of an Amazon Lex bot, allowing you to manage different bot versions without modifying the original.

TestBotAlias is a predefined alias in Amazon Lex used for testing and validating bot functionality before deployment.

To connect Lambda with my BankerBot, I visited my bot's TestBotAlias and linked my AWS Lambda function under the code hooks section. I enabled the function for both dialog initialization and fulfillment, ensuring seamless intent handling.

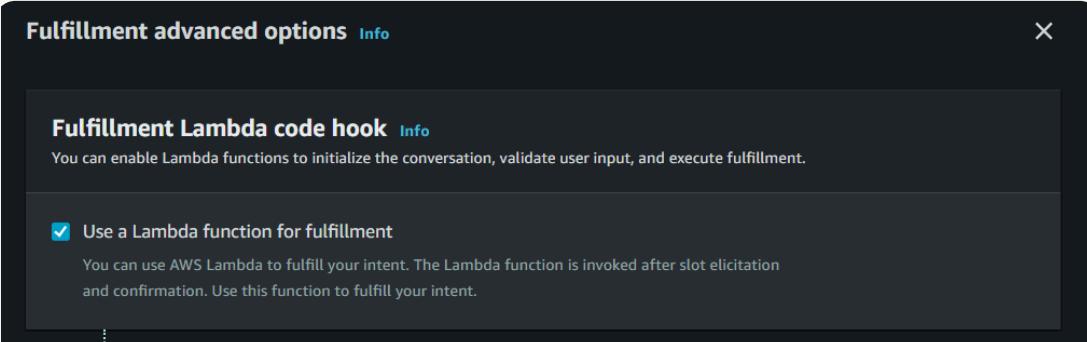


Code Hooks

A code hook is a function in Amazon Lex that connects to AWS Lambda to execute custom logic during a conversation.

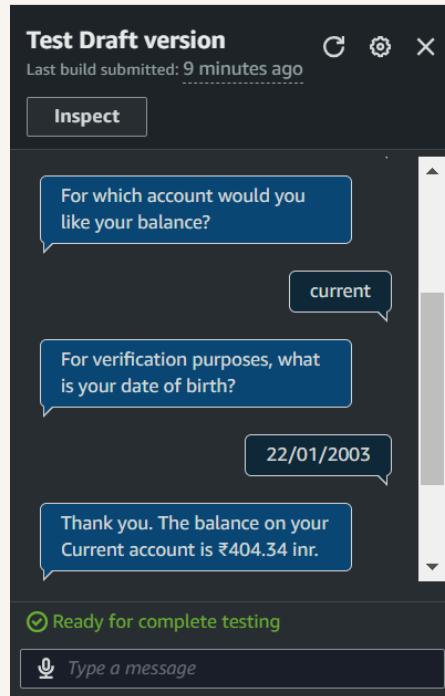
Even though I already connected my Lambda function with my chatbot's alias, I had to use code hooks because they allow SmartBanker to process user inputs dynamically, validate slot values, and generate real-time responses.

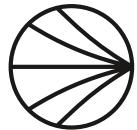
I could find code hooks at the AWS Lex console under my bot's TestBotAlias settings. I configured them in the code hooks section by enabling Lambda for dialog code hooks and fulfillment code hooks, allowing bot to process user inputs dynamically.



The final result!

I've set up my chatbot to trigger Lambda and return a random INR figure when the user asks for their balance and provides the account type. Lambda processes the request, generates a balance, and sends a dynamic response through SmartBanker.





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