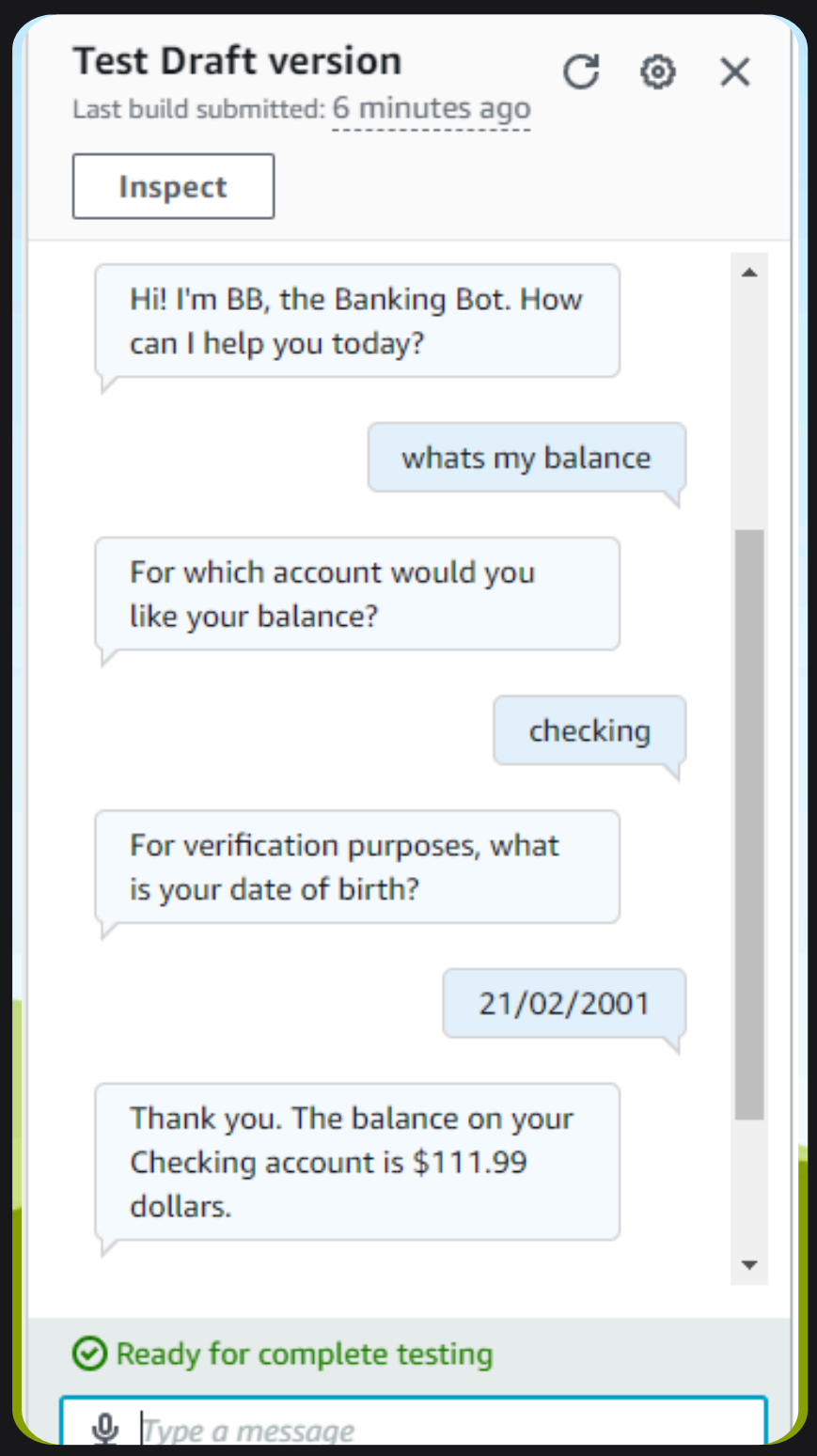
NEXTWORK

How I connected my chatbot with AWS Lambda!



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What is Amazon Lex?

What it does:

- **Helps you build voice and text chatbots in minutes.**

Why it's useful:

- It uses AI/ ML capabilities to classify user intents and understand intents that are beyond what I' ve programmed.

How I'm using it in today's project:

- In this project I' m using Amazon Lex to create BankerBot, a chatbot that will now not only have natural conversational speech recognition, but is also set up for checking your account balance. I connected two services, so Amazon Lex can call out to AWS Lambda to return a user's balance figure.

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Using AWS Lamba

- **AWS Lambda** is an AWS service that helps you to run code without having to manage servers.

- In this project, a Lambda function was created to generate the user's bank balance. In this example, a random figure was generated, however in the real world the Lambda function can be used to extract the user's bank balance from a database. The Amazon Lex chatbot, on its own, would not be able to generate a bank balance. That's why this connection to AWS Lambda is crucial!

A peek into the Python code I uploaded into AWS Lambda!

```python
def CheckBalance(intent_request):
    session_attributes = get_session_attributes(intent_request)
    slots = get_slots(intent_request)
    account = get_slot(intent_request, 'accountType')
    #The account balance in this case is a random number
    #Here is where you could query a system to get this information
    balance = str(random_num())
    text = "Thank you. The balance on your "+account+" account is $"+balance+" dollars."
    message =  {
            'contentType': 'PlainText',
            'content': text
        }
    fulfillment_state = "Fulfilled"
    return close(intent_request, session_attributes, fulfillment_state, message)
```

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Connecting Lambda with Lex

There were two steps to connecting the Lambda function with my chatbot:

Step 1

- To connect Lambda with my chatbot alias, I visited the Alias page of my chatbot and connected my TestBotAlias (my chatbot's default alias, made for development/ testing) with the latest version of the AWS Lambda function defined.

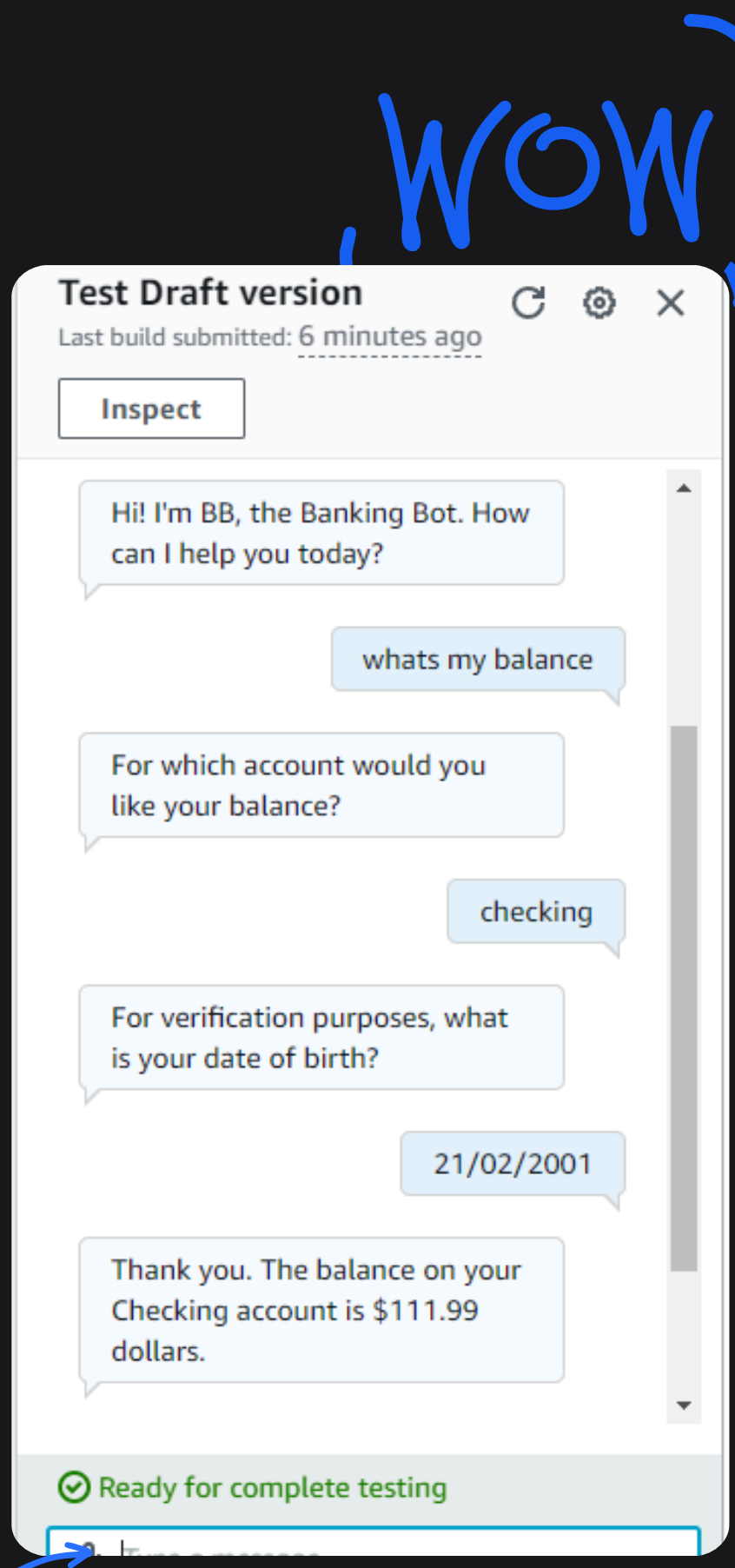
Step 2

- Another intent setting to configure is **code hooks**.

- A code hook is a piece of code that can be connected to my chatbot to perform functions/ actions that my chatbot cannot do alone/ by default.

- In this project, I had to use code hooks because the chatbot is not able to calculate/ return a bank balance figure on its own.

After connecting Lambda with my Lex bot, my chatbot could immediately start returning specific bank balance figures. The AWS Lambda function would generate a random number each time.



My chatbot now returns a bank balance number thanks to Lambda!

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My Key Learnings

01

AWS Lambda is a serverless computing service that lets you run code without provisioning or managing servers, charging only for the compute time consumed.

02

When do you need to connect Amazon Lex with AWS Lambda?
We connect our 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 or making decisions based on past conversations.

03

How do you connect Amazon Lex with AWS Lambda?
Code hooks connect Amazon Lex with AWS Lambda. It allows us to integrate custom logic at various stages of the conversation, providing dynamic responses and interactions based on user input and other conditions.

04

From this project, I realized how powerful and efficient it can be to integrate different cloud services to build applications. Connecting Amazon Lex with AWS Lambda using code hooks demonstrated how serverless architecture can make creating dynamic and responsive chatbots easier.

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Final thoughts...

- This project took me 40 minutes to complete.
- Delete EVERYTHING at the end! Let's keep this project free :)
- One thing that really amazed me was how custom responses and interactions, made my chatbot much more versatile and powerful than I initially imagined.
- In the next phase of this project, we're enhancing BankerBot's memory with context carryover! My BankerBot will remember key details like the user's birthday during a session for a smoother experience 🎂

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Thanks NextWork for the free project guide!

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