LEROY OMABOE

Congratulations on finishing NextWork's Amazon Lex series. You're building serious momentum on your learning journey.

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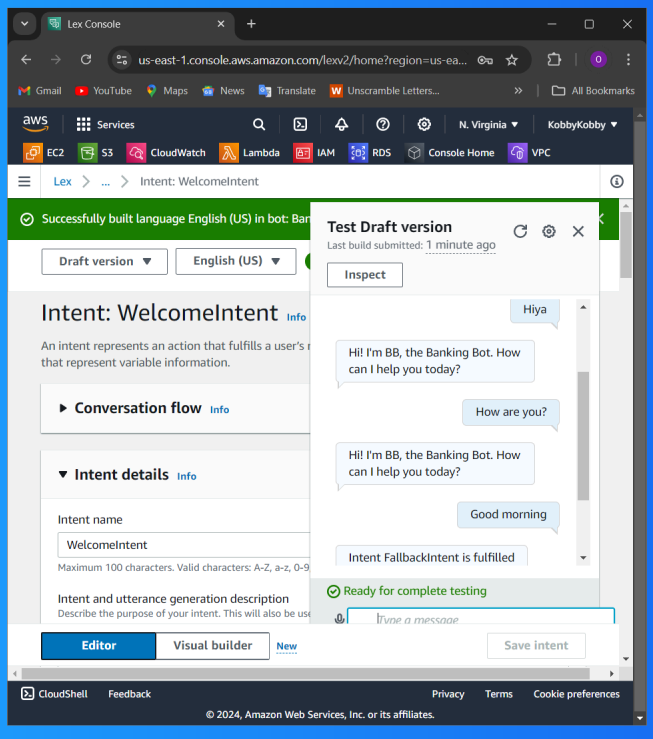
Build a Chatbot with Amazon Lex

Omaboe Leroy



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Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a service provided by AWS that enables the development of conversational interfaces using voice and text

How I used Amazon Lex in this project

I used Amazon Lex to create chatbot

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

The fallBackIntent error

This project took me...

5 minutes

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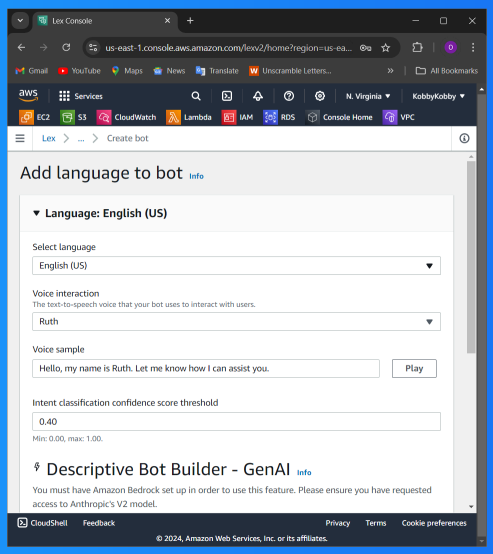
Setting up a Lex chatbot

I created my chatbot from scratch with Amazon Lex. Setting it up took me less 5 minutes

While creating my chatbot, I also created a role with basic permissions because I want the chat bot to have permissions to call other AWS services as and when needed on my behalf like AWS Lambda

In terms of the intent classification confidence score, I kept the default value of 0.40. This means that the chatbot need to be at least 40% sure that it understands the users intent, question or task and an error is thrown below 40% or 0.4 .



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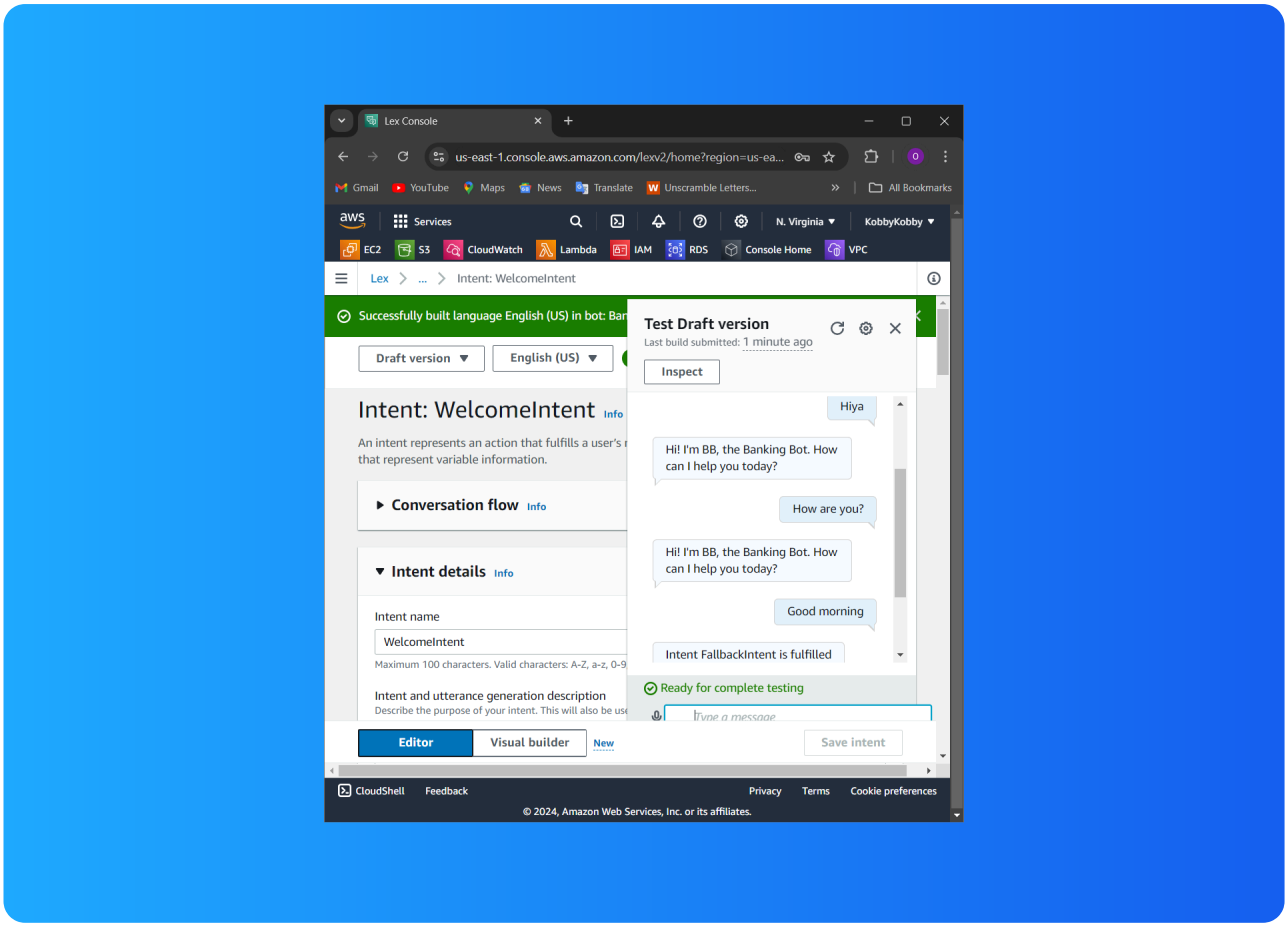
Intents

Intents are what the user is trying to achieve in their conversation with the chatbot

I created my first intent, WelcomeIntent, to welcome the user when they say greet



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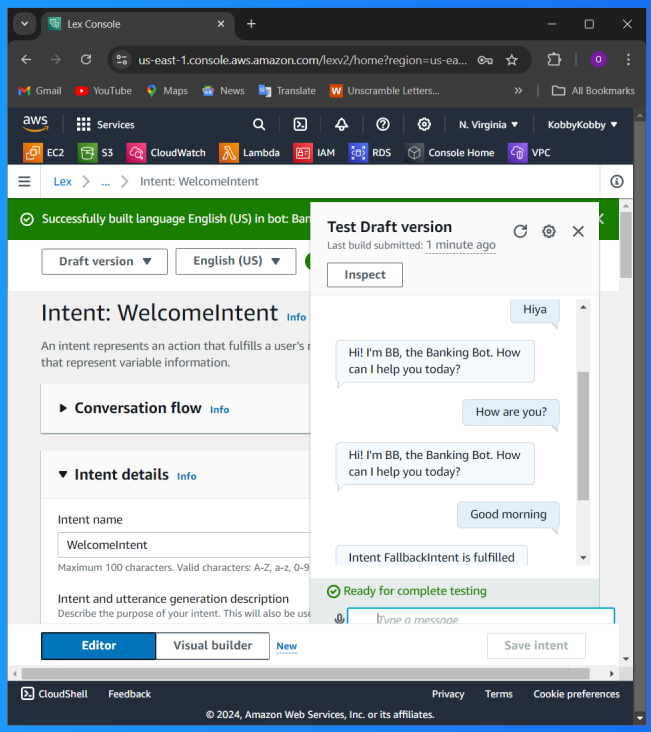
FallbackIntent

I launched and tested my chatbot, which could respond successfully if I enter hi, hello , i need help , Can you help me

My chatbot returned the error message `Intent FallbackIntent is fulfilled` when I entered... This error message occurred because Amazon Lex doesn't quite recognize my utterances



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Configuring FallbackIntent

FallbackIntent is a default intent in every chatbot that gets triggered when the confidence score is below 0.4 or 40%

I wanted to configure FallbackIntent because I wanted custom error message that the chatbot will use to tell the user it doesn't understand their input

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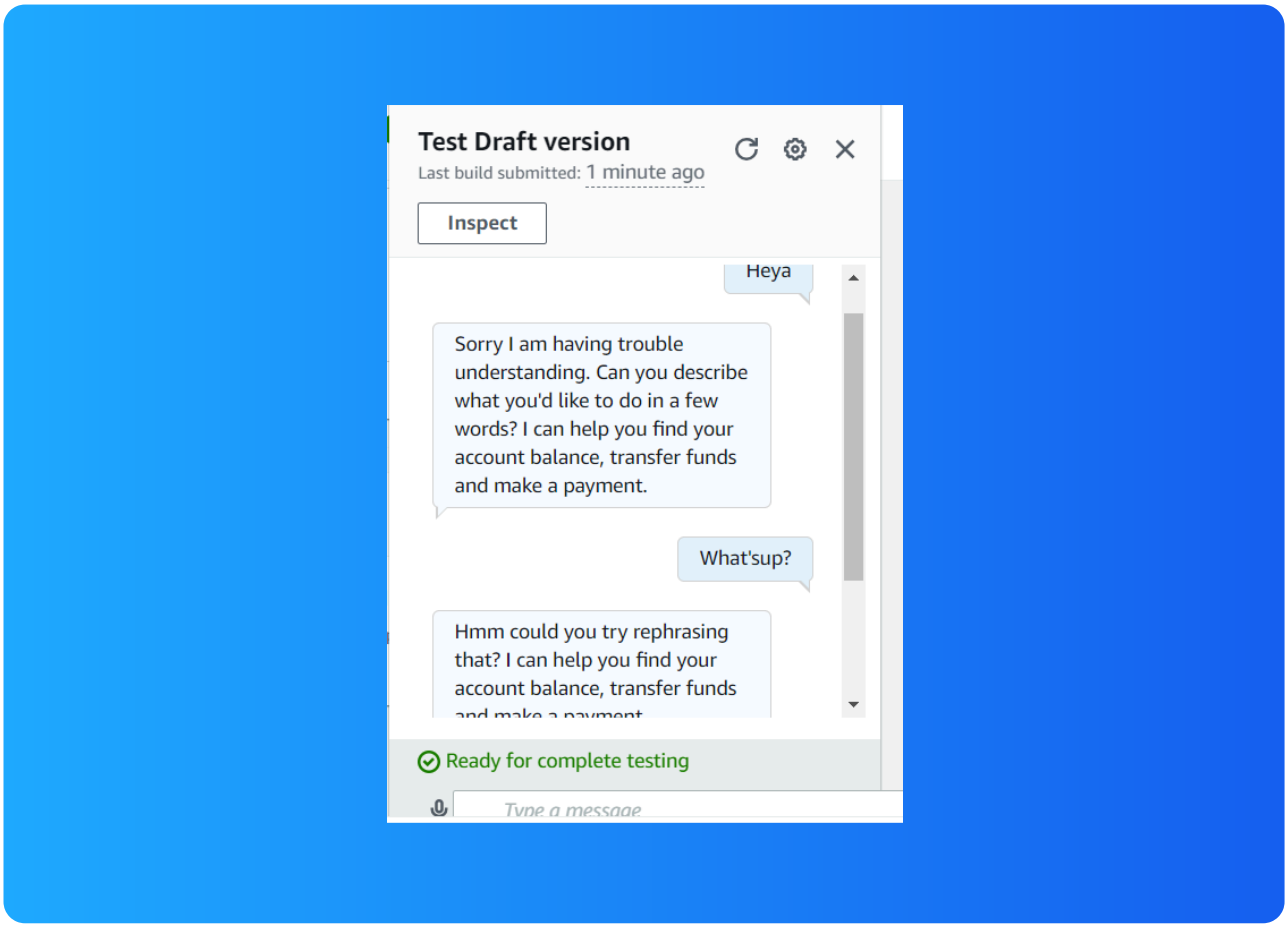
Variations

To configure FallbackIntent, I selected Closing Responses in the FallbackIntent, Expanded the 'Response sent to the user after the intent is fulfilled' buddle, and typed a custom message in the field.

I also added variations! What this means for an end user is they are literally variations of the same message to give a dynamic range of response to the user



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Build a Chatbot with Custom Slots

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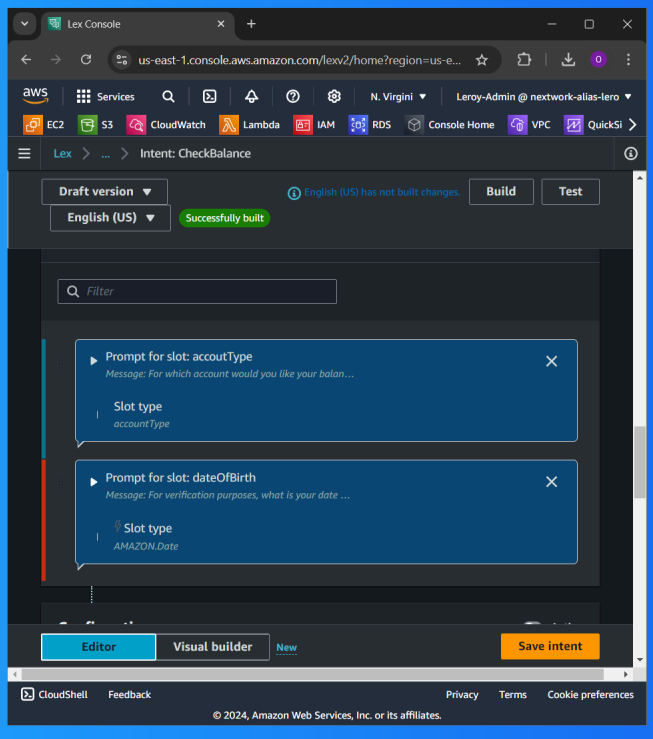

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Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a service provided by AWS that enables the development of conversational interfaces using voice and text

How I used Amazon Lex in this project

I used Amazon Lex to create custom slots and new intents to modify and check for slot values in conversations .

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

I didn't expect to discover new AWS resources as fun as Lex

This project took me...

This project took me 40 minutes

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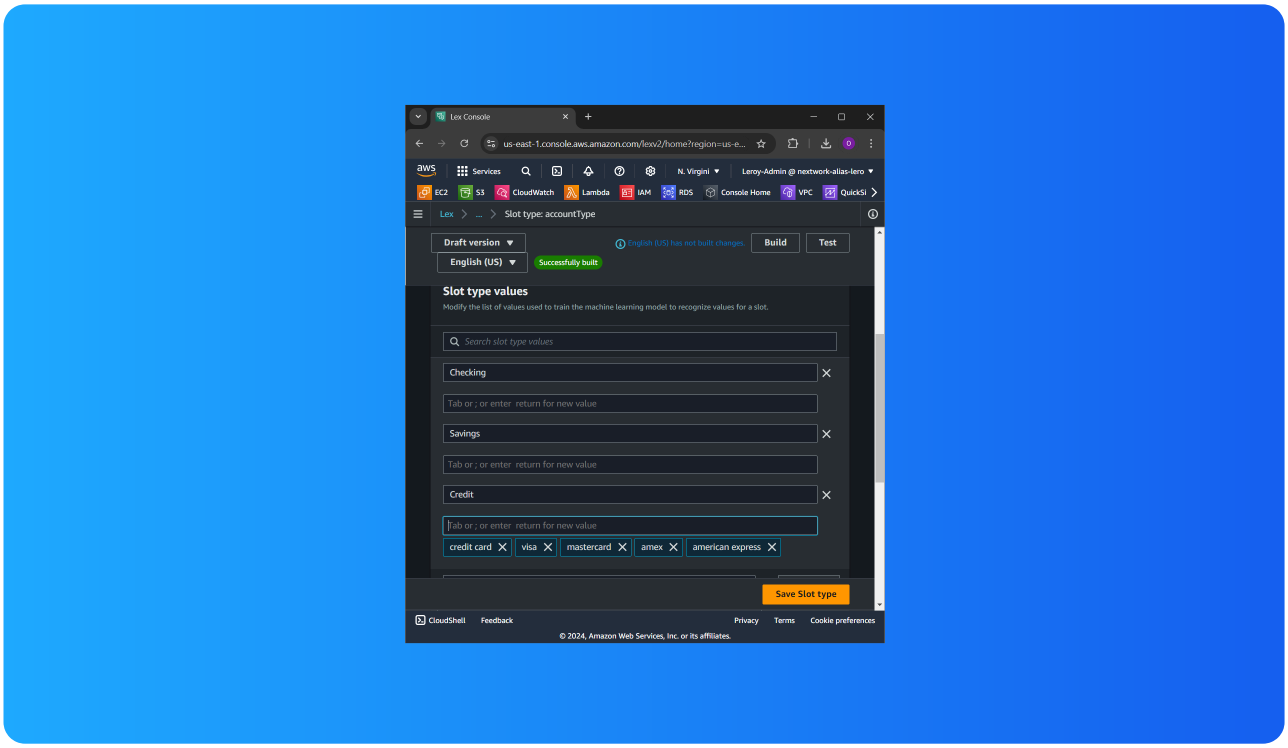
Slots

Slots are pieces of information that a chatbot needs to complete a user's request. Think of them as blanks that need to be filled in a form.

In this project, I created a custom slot type to level up the chatbot with account types so it can easily complete user requests

This slot type has restricted slot values, which means that only the values that you specify will count as a valid accountType



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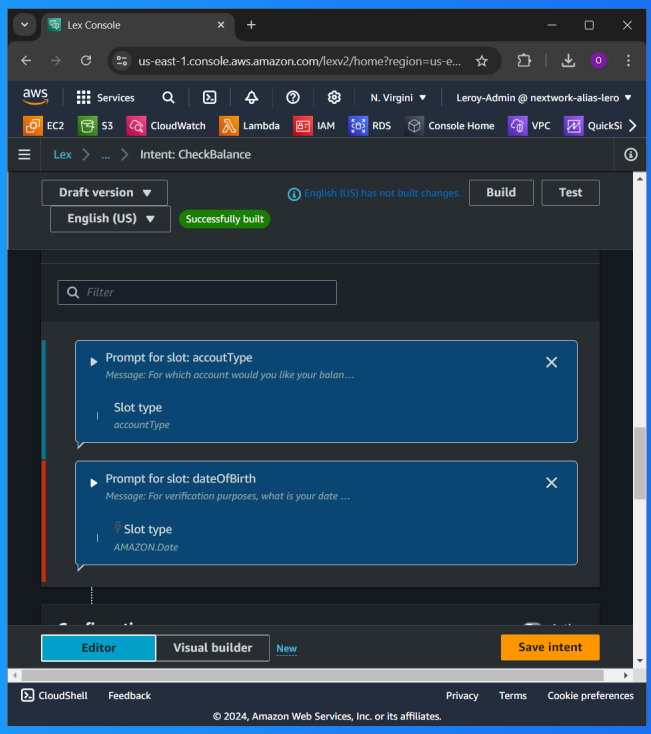
Connecting slots with intents

I associated my custom slot with CheckBalance, which lets the chatbot know what the user intends to do(when the user requests to check the balance in their account)



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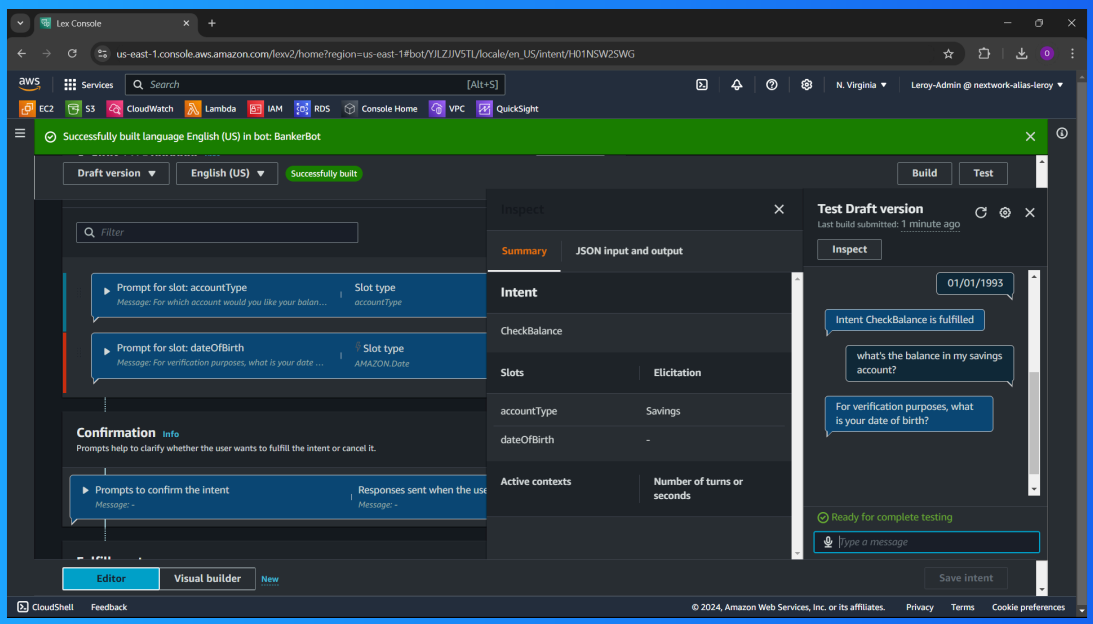
Slot values in utterances

I included slot values in some of the utterances (i.e. user inputs) by adding slot types to the CheckBalance intent. For example, I added slot types such as accountType and dateOfBirth for CheckBalance utterances

By adding custom slots in utterances the chatbot doesn't have to keep asking the user for the type of account he or she wants to check



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Connect a Chatbot with Lambda

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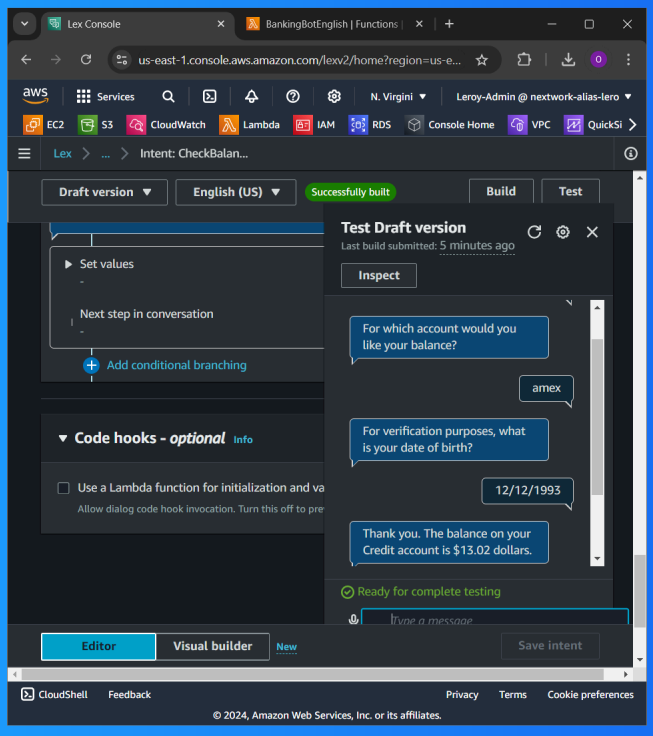

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Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a service provided by AWS that enables the development of conversational interfaces using voice and text

How I used Amazon Lex in this project

I used Amazon Lex in today's project to set up a Lambda function, integrate the lambda function with my chatbot's alias and use code hooks in an intent.

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

I didn't expect how fun learning new AWS Services would be

This project took me...

This project took me 40 minutes to finish

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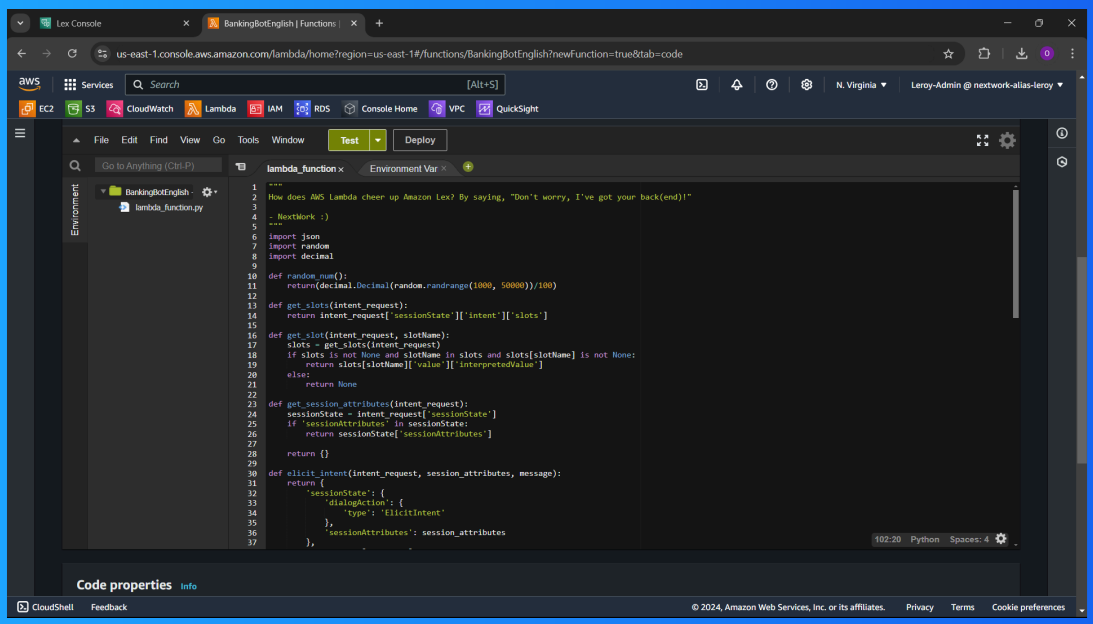
AWS Lambda Functions

AWS Lambda is a service that lets you run code without provisioning or managing servers

In this project, I created a Lambda function to randomly pick a number as an account balance and pass the number to Lex who will then pass the number to the user who requested for their account balance



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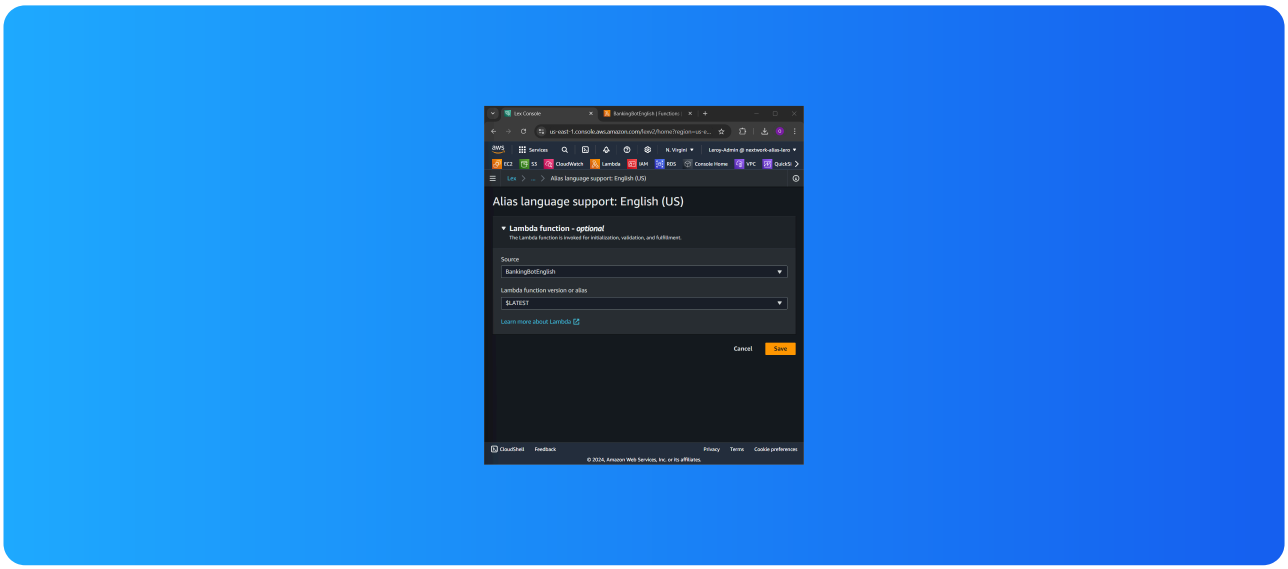
Chatbot Alias

An alias is a pointer for a specific version of your chatbot

TextBotAlias is the playground version of your bot that you'll use to make sure everything works smoothly before rolling out changes!

To connect Lambda with my BankerBot, I visited my bot's TestBotAlias and selected English(US) under languages and chose my lambda function name(BankingBotEnglish)



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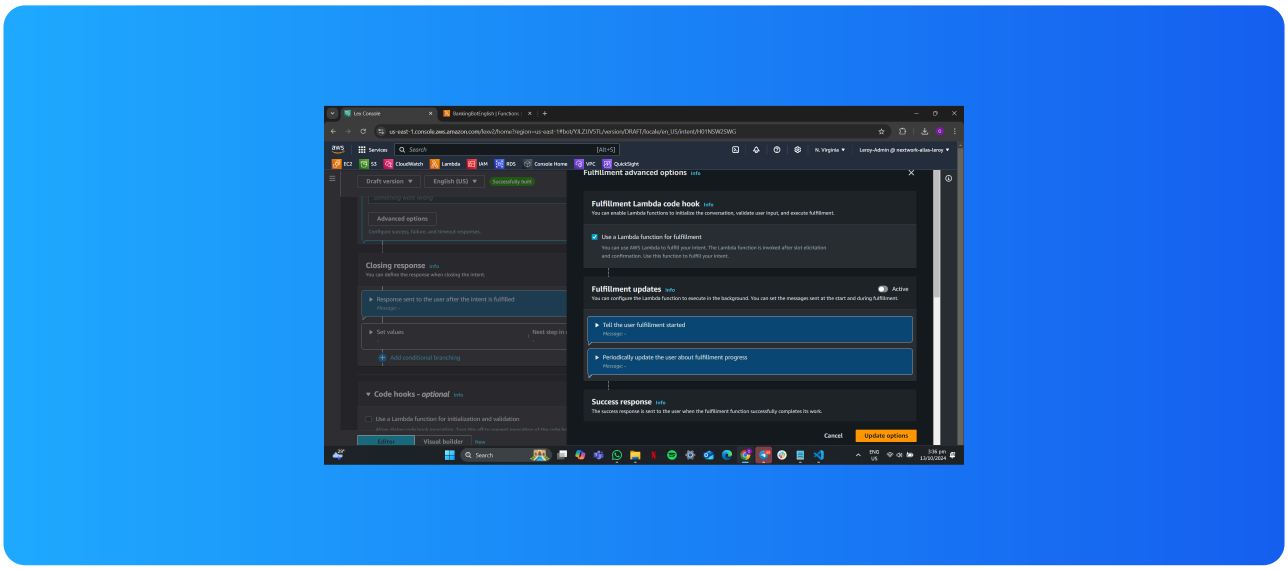
Code Hooks

A code hook helps you connect your chatbot to custom Lambda functions for doing specific tasks during a conversation.They're used to handle

Even though I already connected my Lambda function with my chatbot's alias, I had to use code hooks because it helps the chatbot perform more complex actions

I could find code hooks at the Fulfilment Lambda Code Hooks panel



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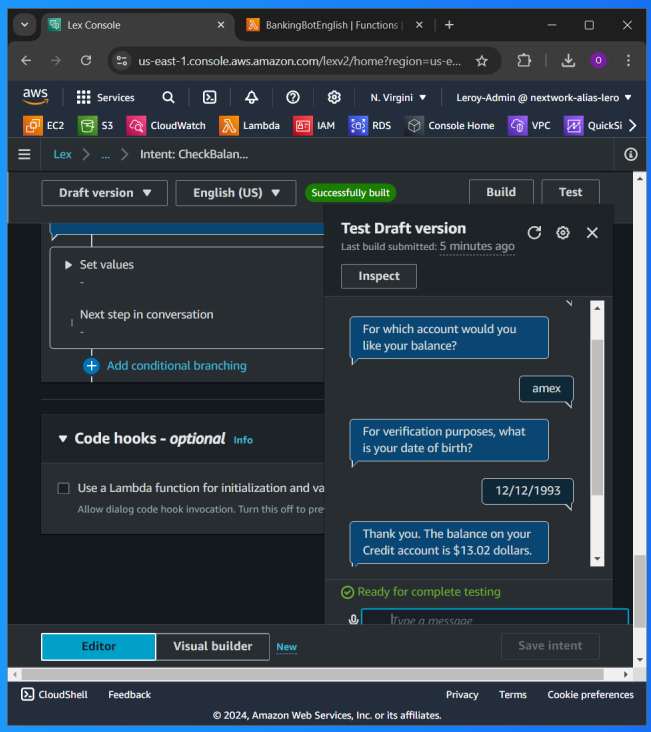
The final result!

'I've set up my chatbot to trigger Lambda and return a random dollar figure when a user requests to check their account balance



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Save User Info with your Chatbot

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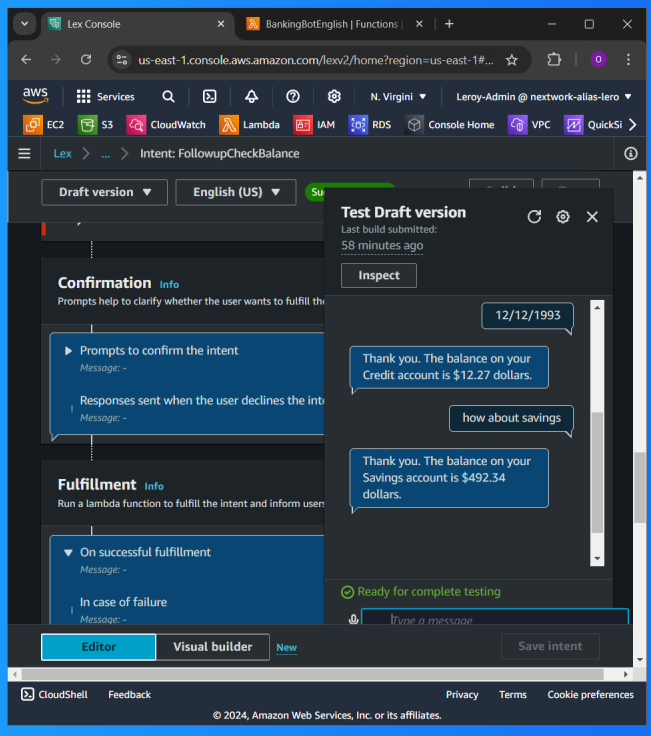

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Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a service provided by AWS that enables the development of conversational interfaces using voice and text

How I used Amazon Lex in this project

I used Amazon Lex to Save user information in an output context tag Set up a FollowupCheckBalance intent Enable context carryover to FollowupCheckBalance.

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

I didn't expect how fun learning new AWS Services would be

This project took me...

This project took me 40 minutes to complete.

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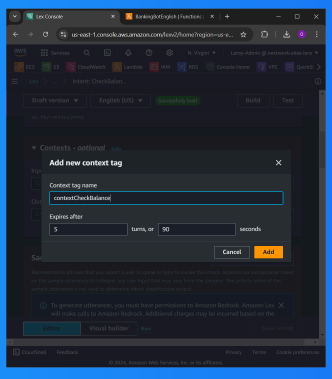
Context Tags

Context tags in Amazon Lex are used to store and check for specific information across different parts of a conversation

There are two types of context tags: Input context tags and Output context tag

I created a context tag called contextCheckBalance. This context tag was created in the intent CheckBalance. This tag stored certain details after an intent is finished, so other parts of the conversation can use this stored information later



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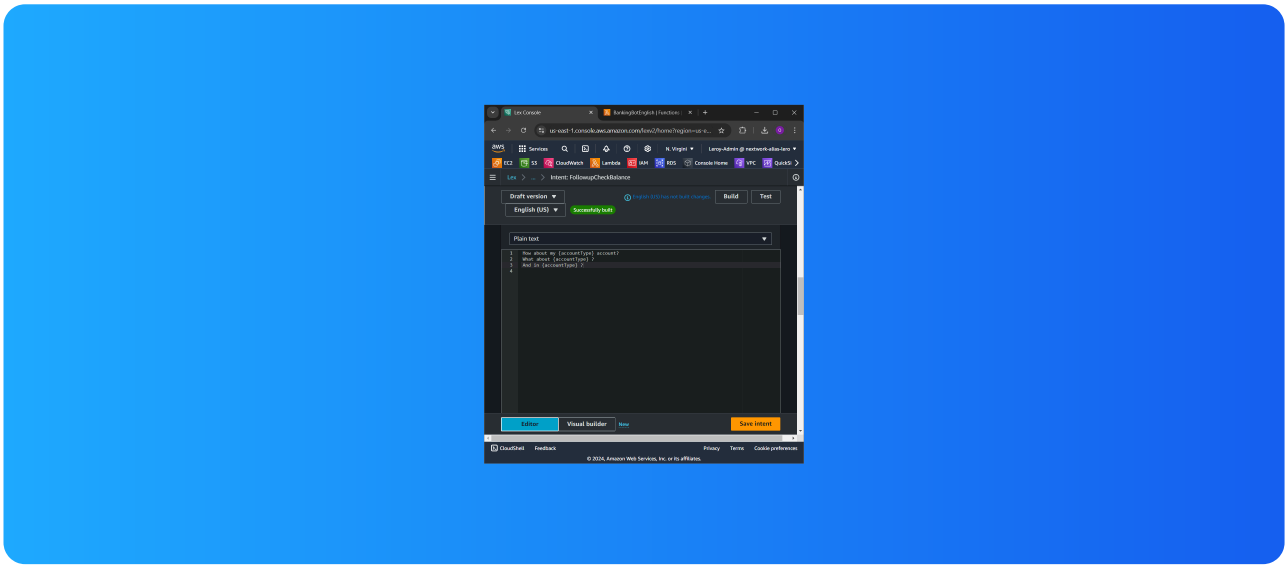
FollowUpCheckBalance

I created a new intent called FollowupCheckBalance. The purpose of this intent is to followup on the CheckBalance Intent

This intent is connected to the previous intent I made, CheckBalance, because it is a works when the user requests a follow up or asks a follow up question about their account balance



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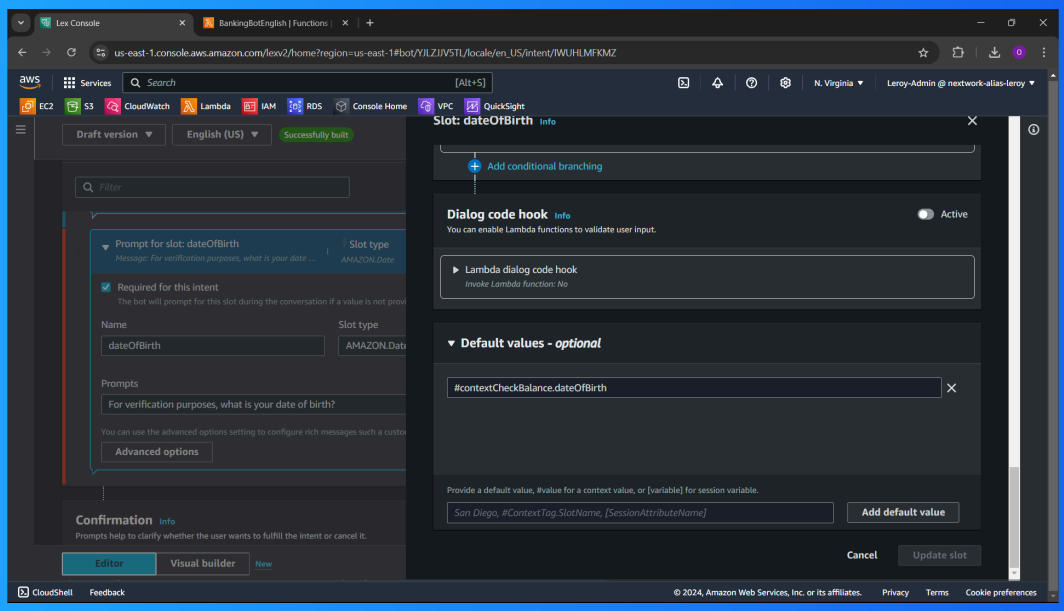
Input Context Tag

I created an input context, contextCheckBalance, that should have the value of date of birth in CheckBalance



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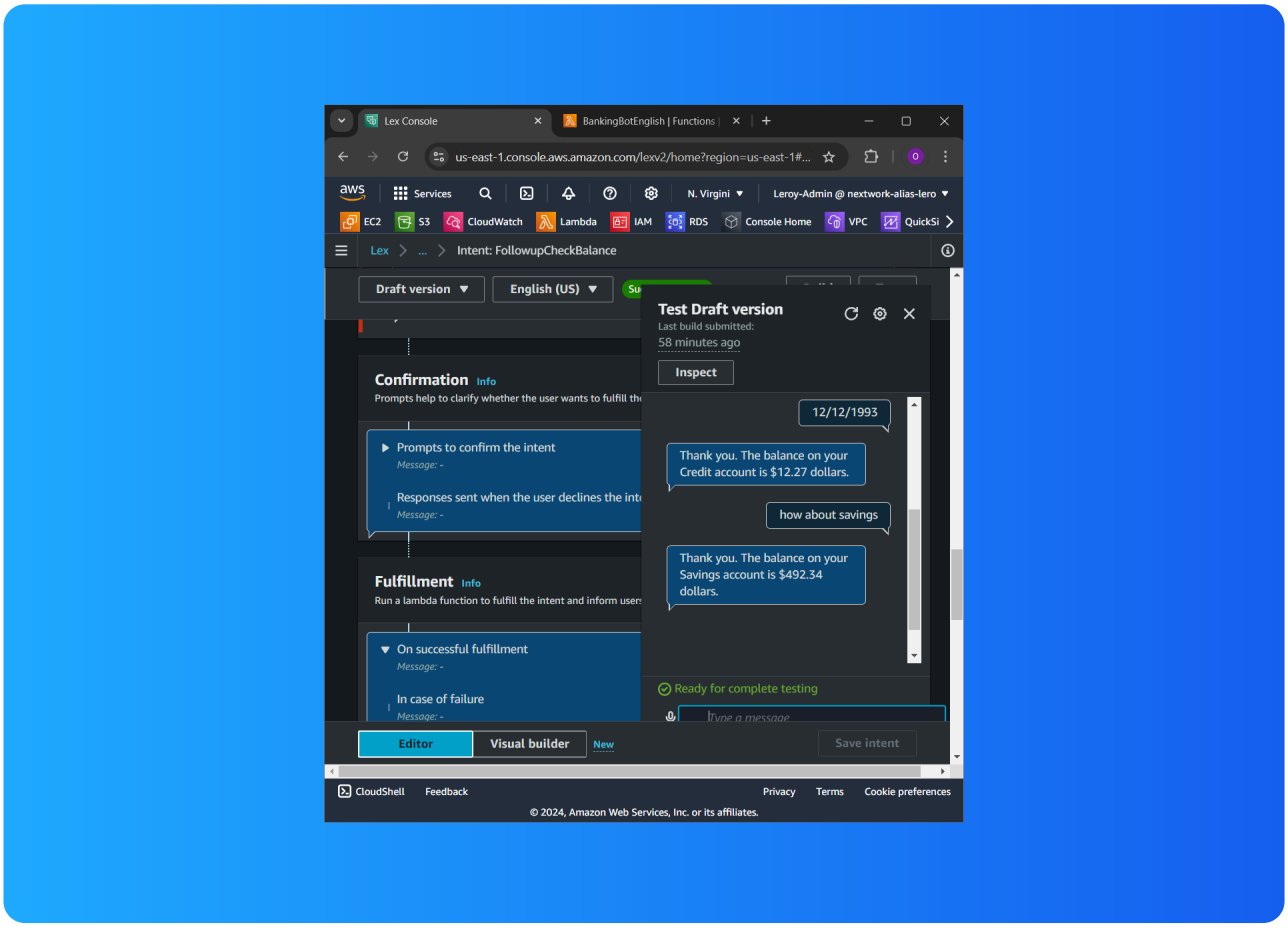
The final result!

To see the context tags and the follow up in intent in action, I asked the chatbot for the account balance of amex checking account and followed up with the a question for savings account balance of the same amex account

If I had gone straight to trying to trigger FollowUpCheckBalance without setting up any context the chatbot will respond with a fallbackIntent



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Build a Chatbot with Multiple Slots

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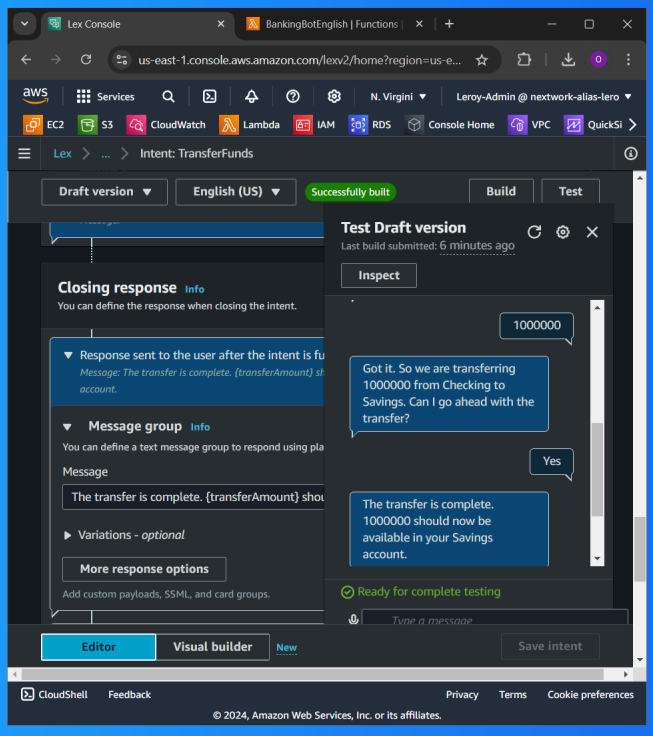

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Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a service provided by AWS that enables the development of conversational interfaces using voice and text

How I used Amazon Lex in this project

In today's project I Configure multiple slots with a shared slot type Implement a confirmation prompt Use the conversation flow and visual builder Automate bot deployment with CloudFormation

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

I didn't expect how fun learning new AWS Services would be

This project took me...

This project took me 40 minutes to complete

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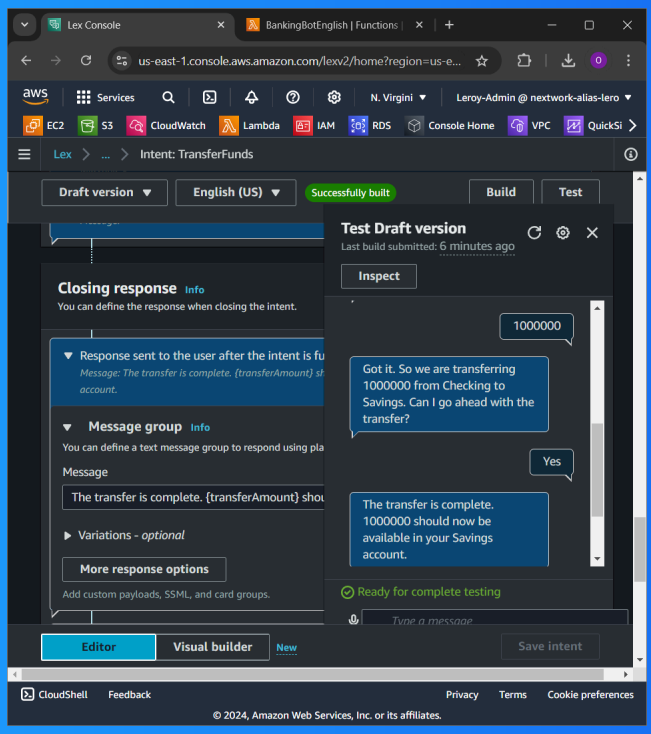
TransferFunds

An intent I created for my chatbot was TransferFunds, which will trigger when the user requests to transfer funds from one account to another



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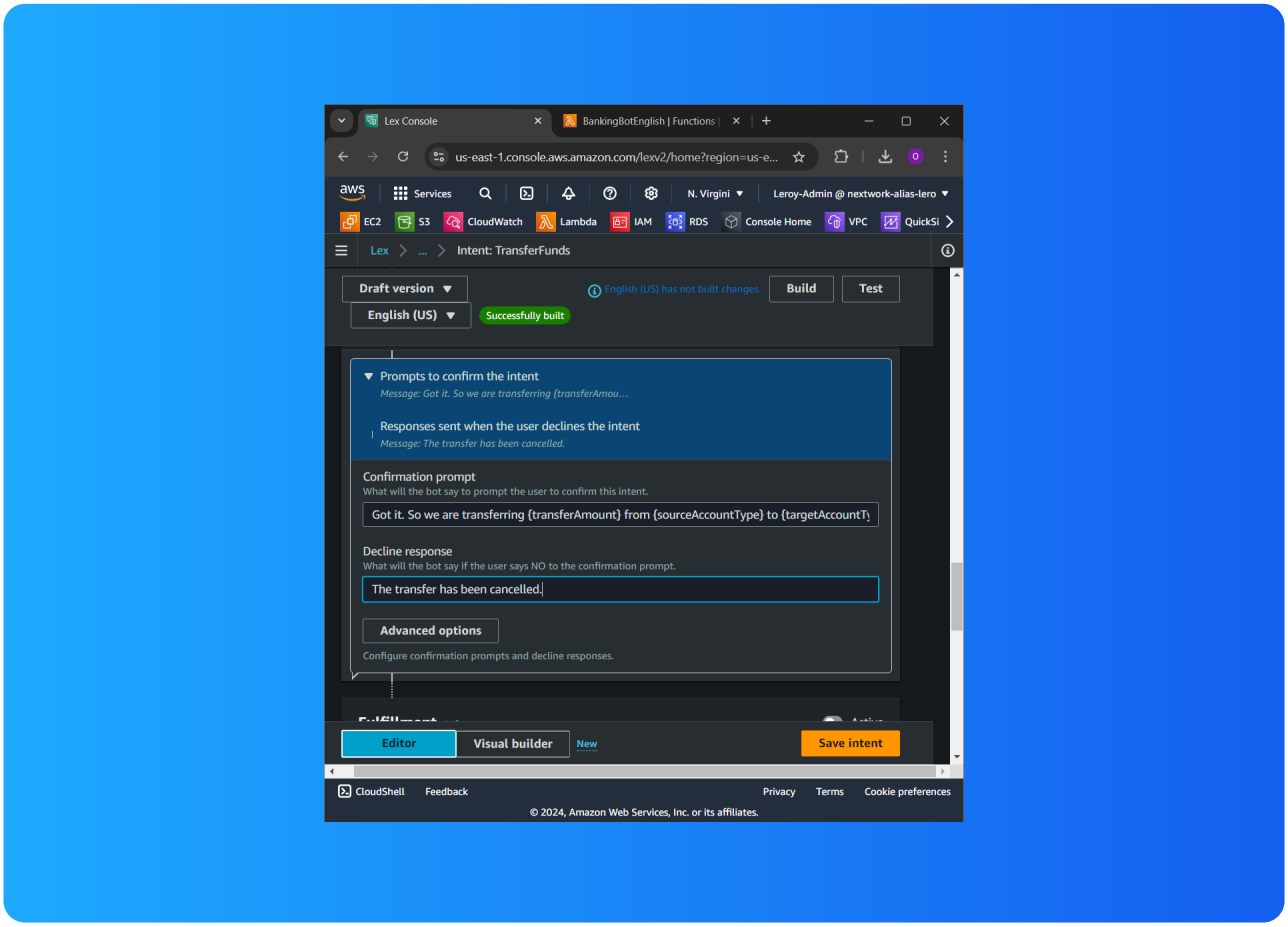
Using multiple slots

For this intent, I had to use the same slot type twice. This is because one intent can have multiple slot types. With this I will have to use unique slot names so I can easily identify their differences

I also learnt how to create confirmation prompts, which typically repeat back information for the user to confirm. e.g. "Are you sure you want to do x?" If the user confirms the intent, the bot fulfills the intent or sends a failed response message.



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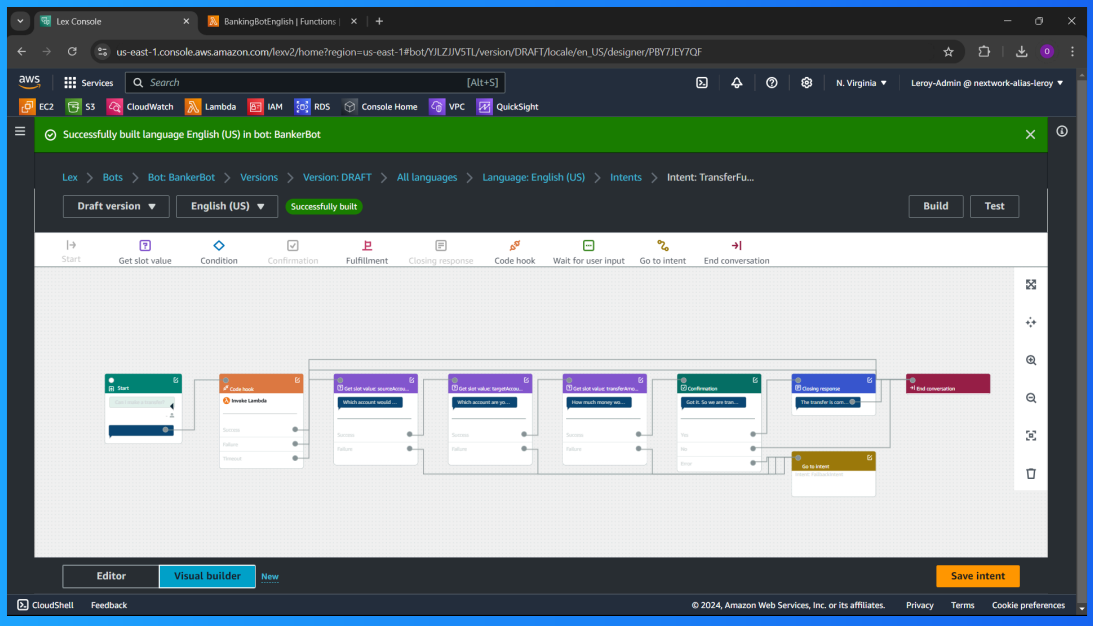
Exploring Lex features

Lex also has a special conversation flow feature that updates you as you continue editing this intent. You'll also see some blank 'ghost like' responses. These are recommendations for what you could add to your Intent set up and they're clickable.

You could also set up your intent using a visual builder! A visual builder represents the intents you will be building in a visual perspective



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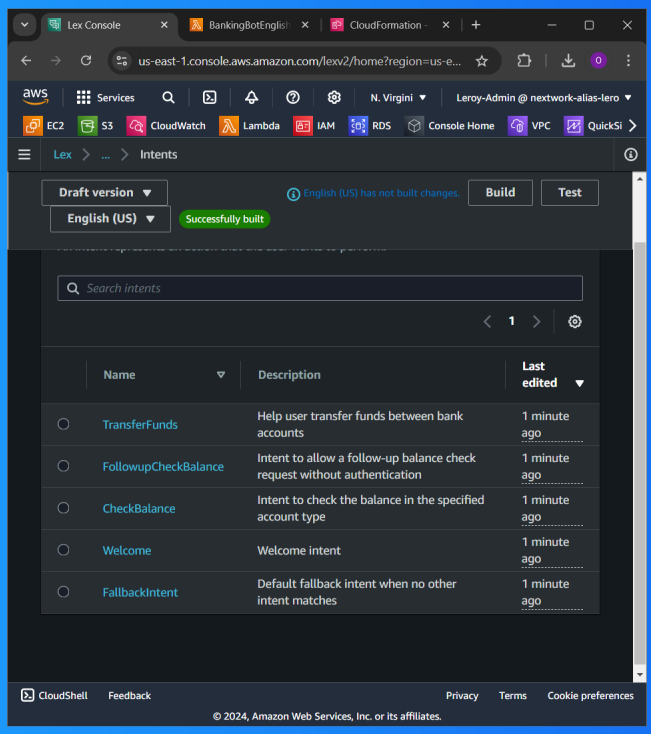
AWS CloudFormation

AWS CloudFormation is a service that gives you an easy way to create and set up AWS resources

I used CloudFormation to describes all the resources you want to create and their dependencies as code



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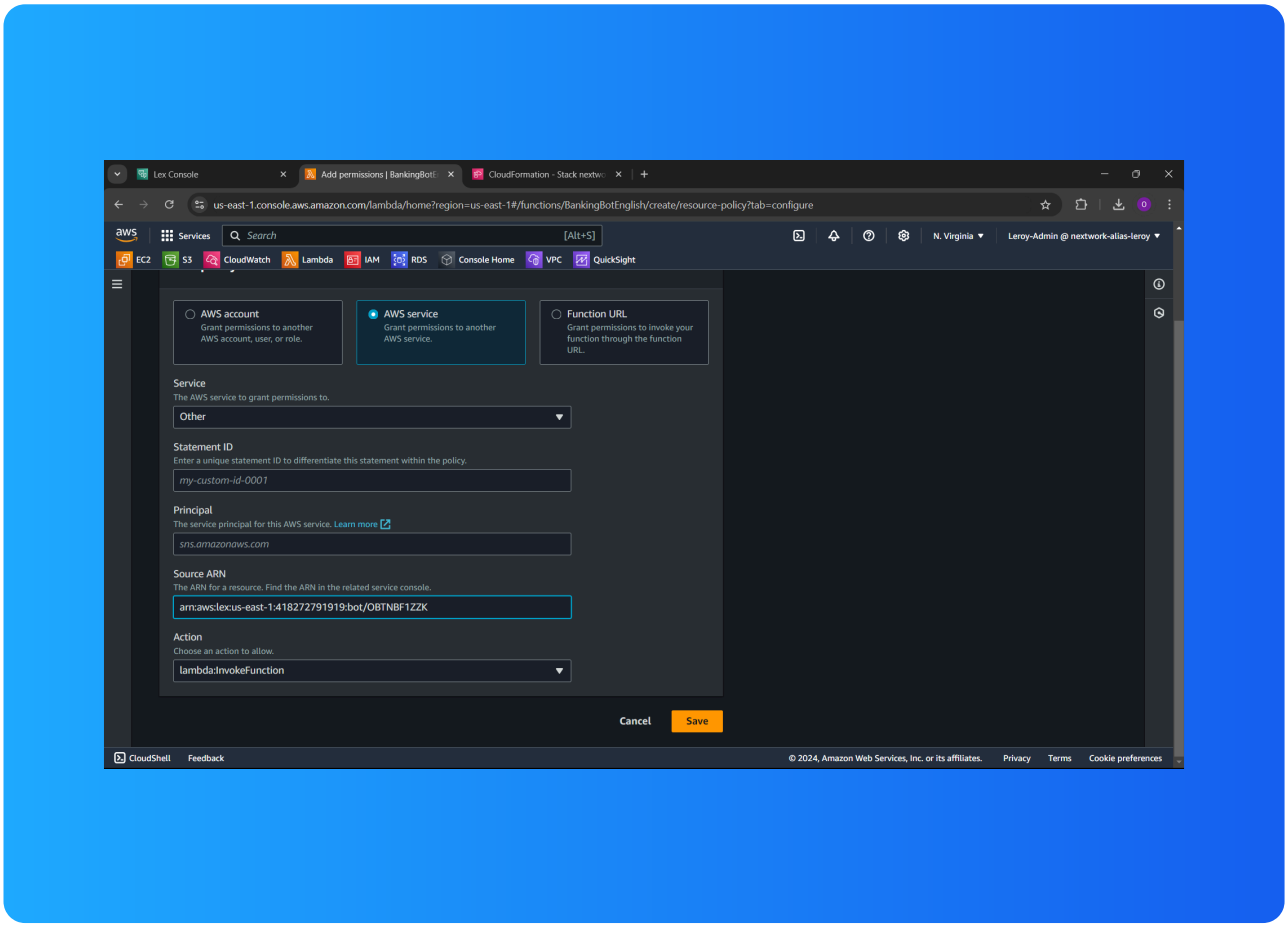
The final result!

'Re-building my bot with CloudFormation took me wayyyy less time than I did using Amazon Lex

There was an error after I deployed my bot! The error was IntentCheckBalance is fulfiled. I fixed this by creating a lambda function and redirecting my version 1 alias to connect with that new lambda function instead



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