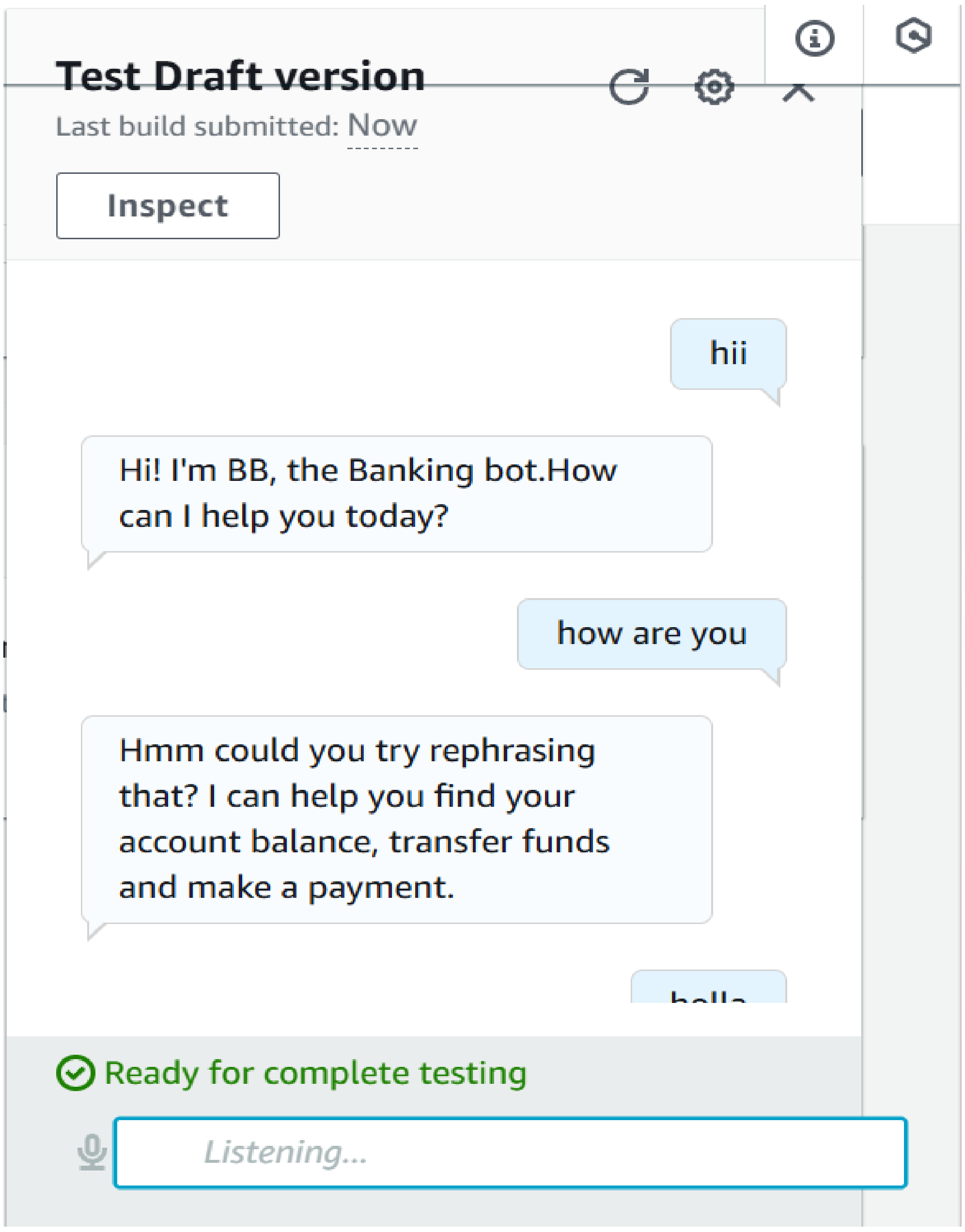
Anujan.G

Build a Chatbot with Amazon Lex



hii

Hi! I'm BB, the Banking bot.How can I help you today?

how are you

Hmm could you try rephrasing that? I can help you find your account balance, transfer funds and make a payment.

Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a fully-managed artificial intelligence (AI) service provided by AWS. It is used for building conversational and interactive chatbots and virtual assistants. The service offers advanced natural language models to design, build, test, and deploy AI chatbots and voice bots in applications.

How I used Amazon Lex in this project

I used Amazon Lex in this project to create a practical chatbot, Banker Bot, that can help your imaginary bank's customers check their account balance and transfer money between accounts

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

As always once again I was stunned and astonished by the power of cloud and AWS. These services make me feel the advancement of cloud.

This project took me...

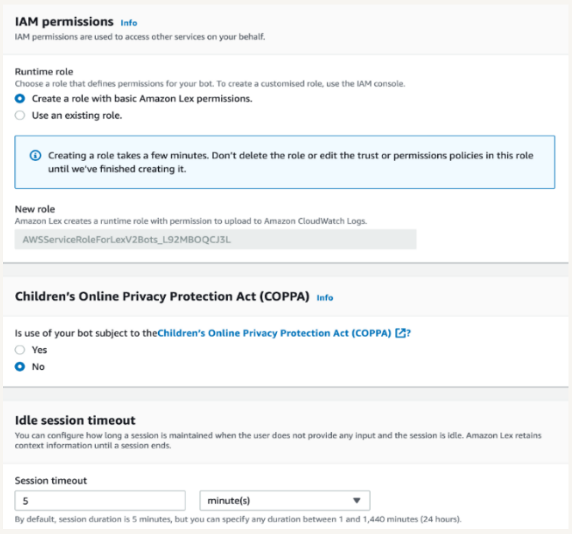
Due to the efficiency of Amazon lex. It become so easy and took me less than 20 mins to build this beginner model.

Setting up a Lex chatbot

I created my chatbot from scratch with Amazon Lex. Setting it up took me only 20 mins for the basic part to be build.

While creating my chatbot, I also created a role with basic permissions because Amazon Lex needs the permission to call other AWS services on our behalf because later in this project series, I will be integrating Lex with another service called Lambda.

In terms of the intent classification confidence score, I kept the default value of 0.40. Setting this to 0.4 means that this chatbot needs to be at least 40% confident that it understands what the user is asking to be able to give a response.



IAM permissions Info
IAM permissions are used to access other services on your behalf.

Runtime role
Choose a role that defines permissions for your bot. To create a customised role, use the IAM console.
[✓ Create a role with basic Amazon Lex permissions.] Use an existing role.

Creating a role takes a few minutes. Don't delete the role or edit the trust or permissions policies in this role until we've finished creating it.

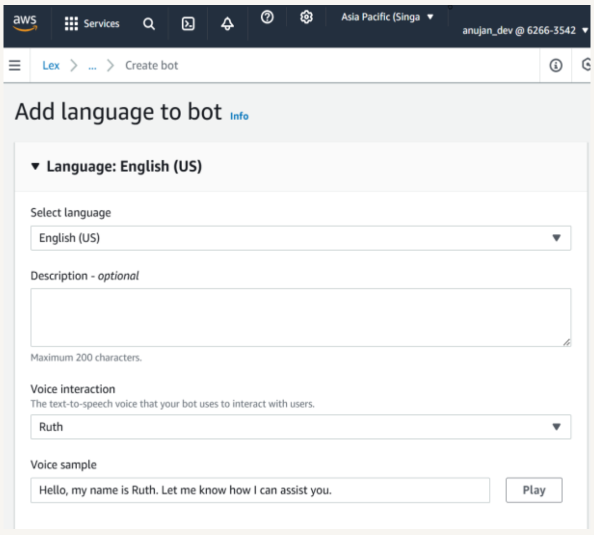
New role
Amazon Lex creates a runtime role with permission to upload to Amazon CloudWatch Logs.
AWSServiceRoleForLexV2Bots_L92MBOQCJ3L

Children's Online Privacy Protection Act (COPPA) Info

Is use of your bot subject to theChildren's Online Privacy Protection Act (COPPA)?
Yes [✓ No]

Idle session timeout
You can configure how long a session is maintained when the user does not provide any input and the session is idle. Amazon Lex retains context information until a session ends.

Session timeout
5 minute(s)
By default, session duration is 5 minutes, but you can specify any duration between 1 and 1,440 minutes (24 hours).



Add language to bot Info

Language: English (US)

Select language
English (US)

Description - *optional*

Maximum 200 characters.

Voice interaction
The text-to-speech voice that your bot uses to interact with users.
Ruth

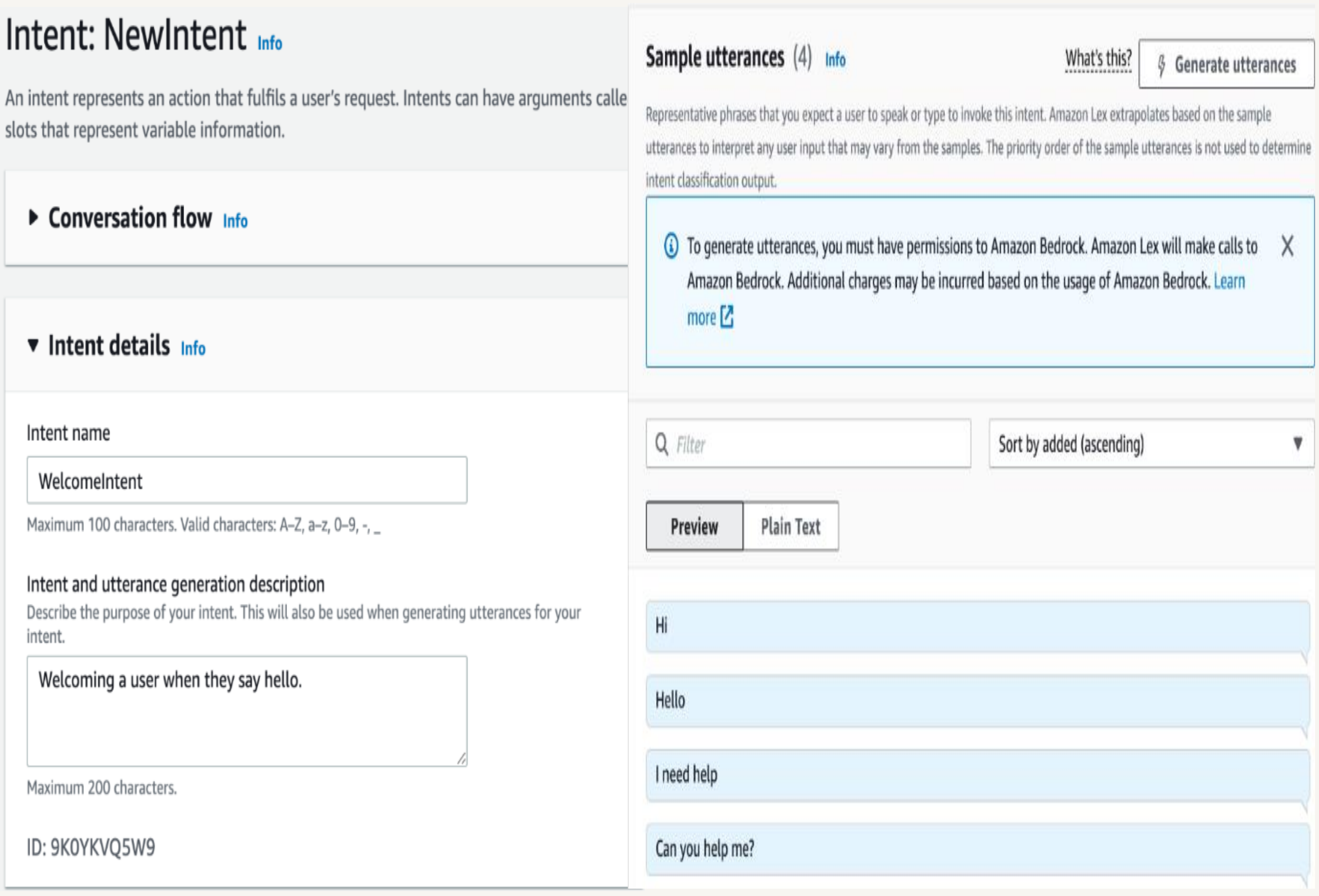
Voice sample
Hello, my name is Ruth. Let me know how I can assist you.
Play

Intents

Intents are what the user is trying to achieve in their conversation with the chatbot. For example: checking a bank account balance, booking a flight, ordering food.

If we set up different intents, one single chatbot can manage a bunch of requests that are usually related to each other.

I created my first intent, WelcomeIntent, to add basic utterance to the chatbot.



Intent: NewIntent Info

An intent represents an action that fulfils a user's request. Intents can have arguments calle slots that represent variable information.

▸ Conversation flow Info

▾ Intent details Info

Intent name

WelcomeIntent

Maximum 100 characters. Valid characters: A–Z, a–z, 0–9, -, _

Intent and utterance generation description

Describe the purpose of your intent. This will also be used when generating utterances for your intent.

Welcoming a user when they say hello.

Maximum 200 characters.

ID: 9K0YKVQ5W9

Sample utterances (4) Info

What's this? Generate utterances

Representative phrases that you expect a user to speak or type to invoke this intent. Amazon Lex extrapolates based on the sample utterances to interpret any user input that may vary from the samples. The priority order of the sample utterances is not used to determine intent classification output.

To generate utterances, you must have permissions to Amazon Bedrock. Amazon Lex will make calls to Amazon Bedrock. Additional charges may be incurred based on the usage of Amazon Bedrock. Learn more

Filter

Sort by added (ascending)

Preview | Plain Text

Hi

Hello

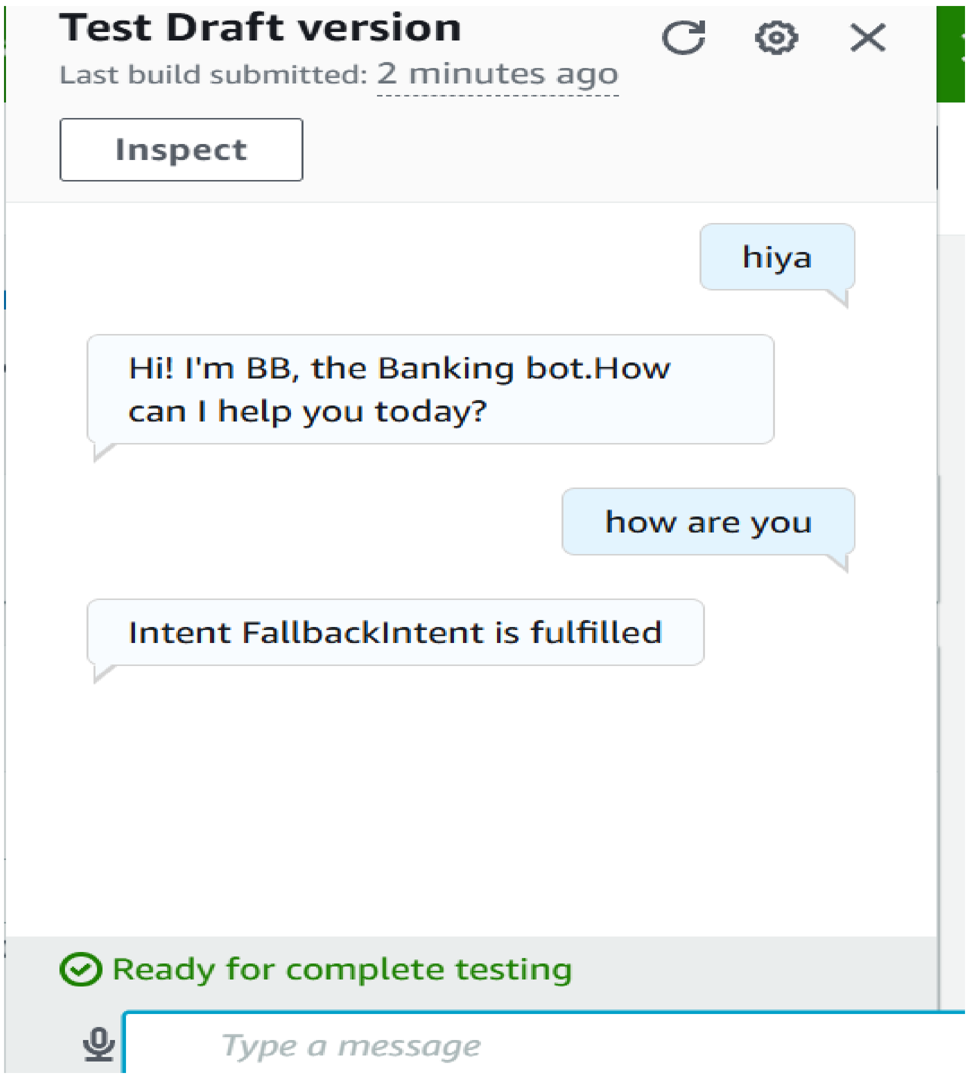
I need help

Can you help me?

FallbackIntent

I launched and tested my chatbot, which could respond successfully if I enter things relevant to the intent. Example: hiya.

But it throws "Intent FallbackIntent is fulfilled' message as replay when I entered message that it can't understand. Example: how are you.
This error message occurred because our chatbot has a confidence score below 40% for the intent I defined (in this case, it's just the Welcome Intent for now), the Fallback Intent is triggered.


Test Draft version
Last build submitted: 2 minutes ago

hiya

Hi! I'm BB, the Banking bot.How can I help you today?

how are you

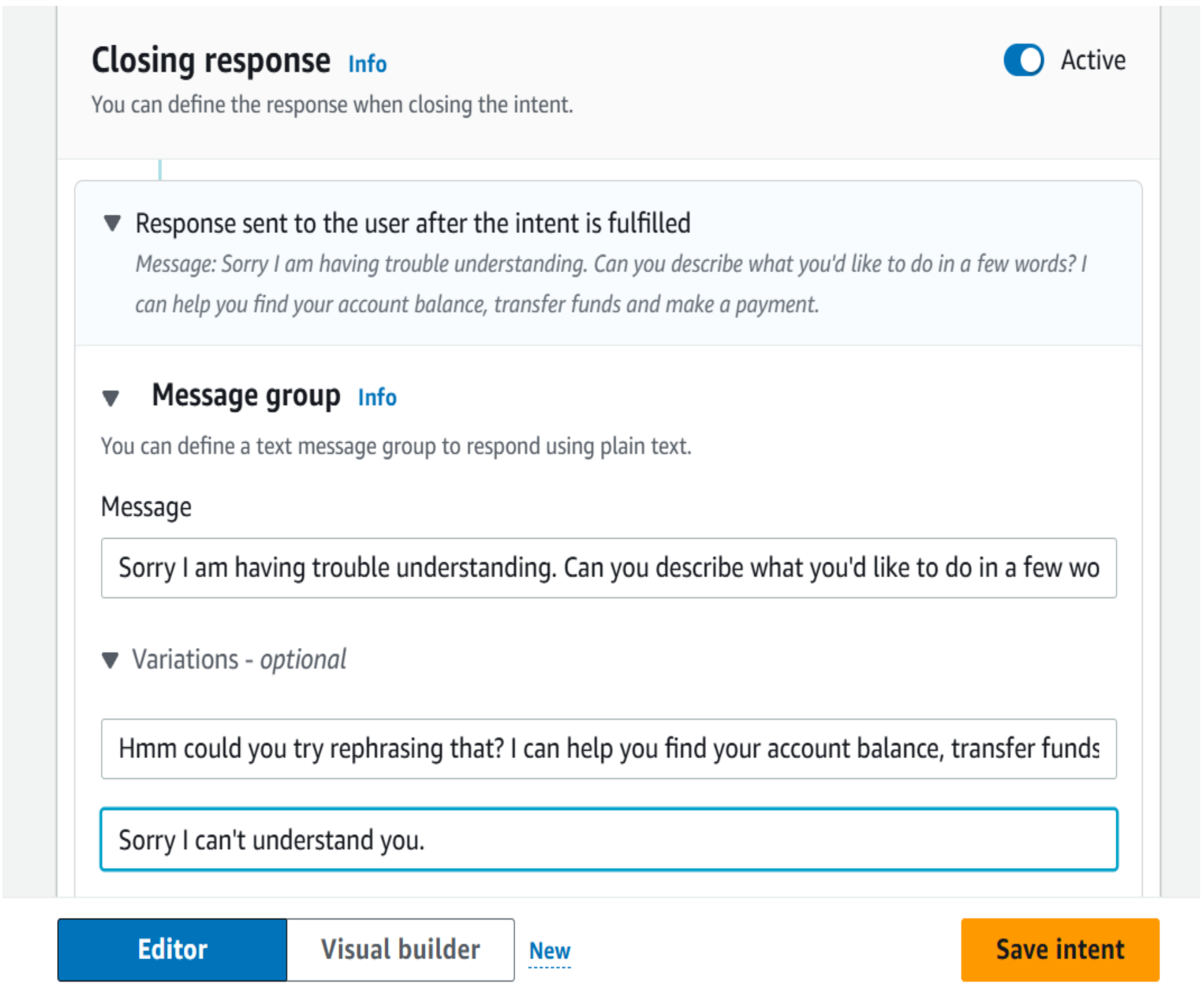
Intent FallbackIntent is fulfilled

Ready for complete testing

Configuring FallbackIntent

I wanted to configure FallbackIntent because the default Fallback Intent message can be a little confusing.

By configuring FallbackIntent I can re-phrase that message so it's clearer to the user that the chatbot doesn't understand the user's request.



Closing response Info

Active

You can define the response when closing the intent.

▼ Response sent to the user after the intent is fulfilled

Message: Sorry I am having trouble understanding. Can you describe what you'd like to do in a few words? I can help you find your account balance, transfer funds and make a payment.

▼ Message group Info

You can define a text message group to respond using plain text.

Message

Sorry I am having trouble understanding. Can you describe what you'd like to do in a few wo

▼ Variations - *optional*

Hmm could you try rephrasing that? I can help you find your account balance, transfer funds

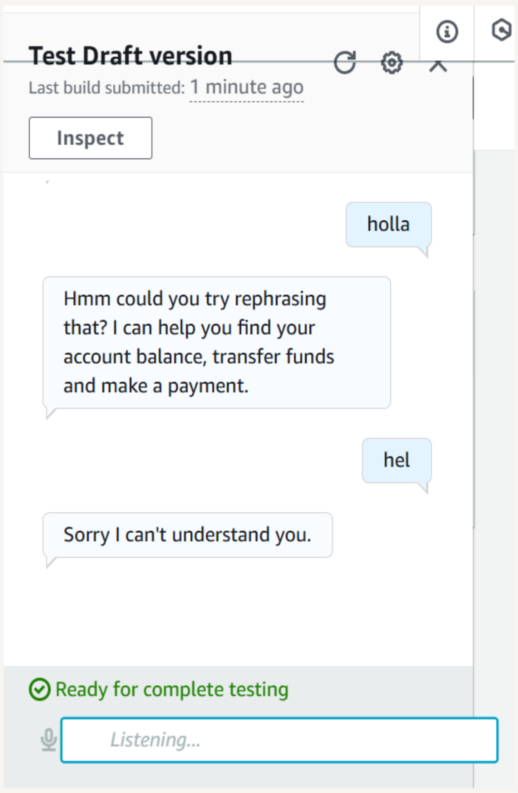
Sorry I can't understand you.

Variations

I also added variations which can be noticed in the above image .

Variations are literally variations of the same Message in the main Message box. When Amazon Lex needs to return a Fallback response, it will randomly choose a message from the group and return that.

What this means for an end user is a dynamic range of responses, making them sound more conversational.

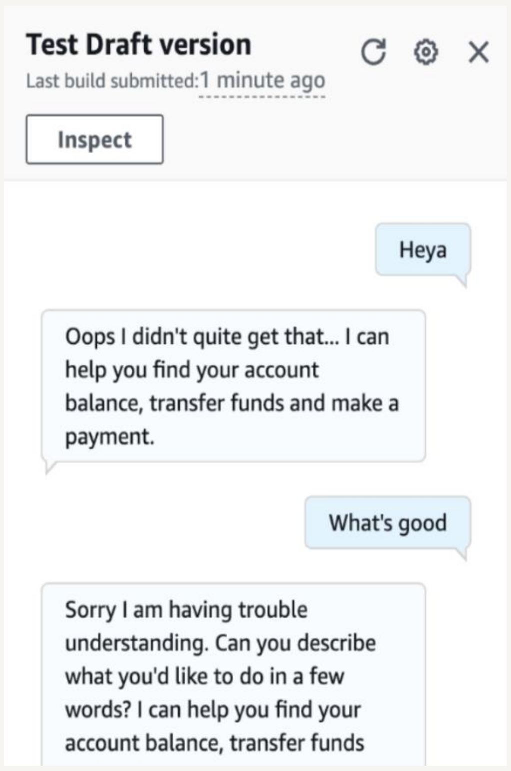

Test Draft version
Last build submitted: 1 minute ago
Inspect
Ready for complete testing
Listening...

holla

Hmm could you try rephrasing that? I can help you find your account balance, transfer funds and make a payment.

hel

Sorry I can't understand you.



Heya

Oops I didn't quite get that... I can help you find your account balance, transfer funds and make a payment.

What's good

Sorry I am having trouble understanding. Can you describe what you'd like to do in a few words? I can help you find your account balance, transfer funds