

Create a AWS Chat Bot Using Lex....

1) Log in to your AWS Account..

2) Navigate to Amazon Lex (type Lex into the search bar of your Console)..

3) Check your URL in your web browser - does it say ...console.aws.amazon.com/lexv2/...?.

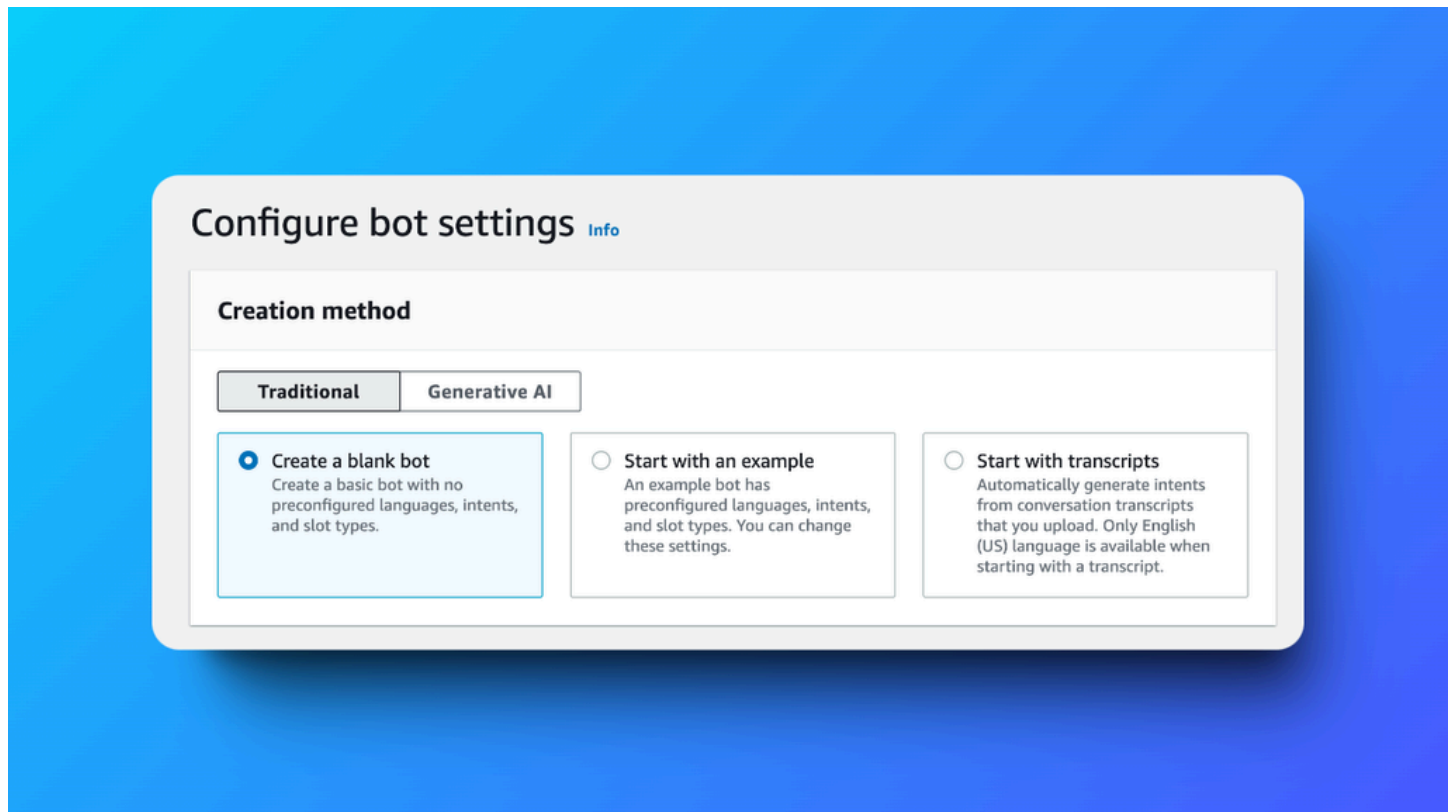
* If you're not seeing "lexv2" in your URL, click on Switch to the new Lex V2 console link in your left-hand menu..

4) Step:-

Select Create bot..

Select Traditional..

Select Create a blank bot.



5) Under IAM permissions, select **Create a role with basic Amazon Lex permissions.**

💡 Why do we need Amazon Lex permissions?

Amazon Lex needs the permission to call other AWS services on your behalf, later in this project series you'll be integrating Lex with another service called Lambda!

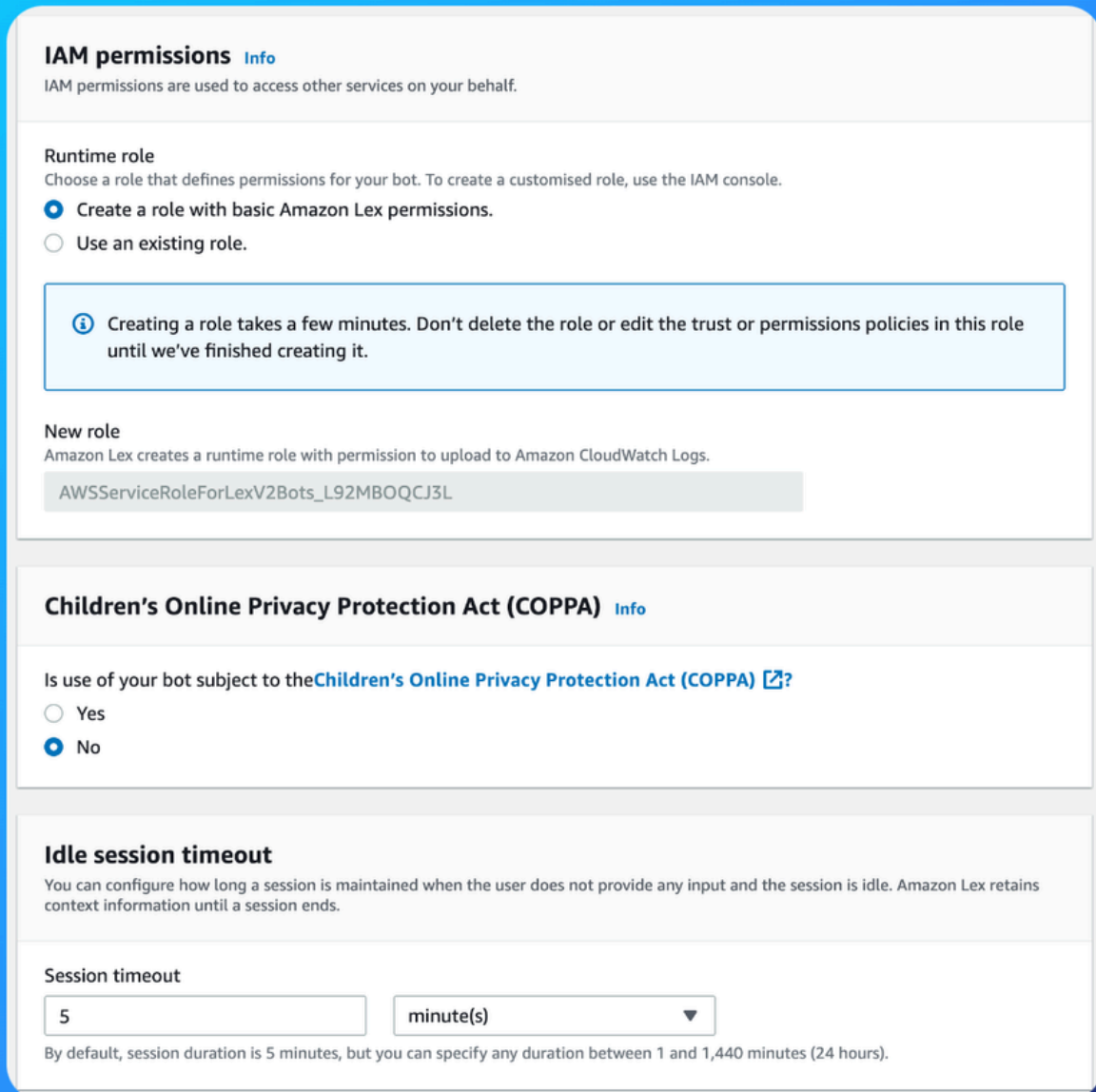
6) We'll be using it to call another service called Lambda later!

7) Under **Children's Online Privacy Protection Act (COPPA)**, select **No**.

8) Under **Idle session timeout**, keep the default of **5 minutes**.

💡 What does Idle session timeout mean?

Amazon Lex will only maintain a session for a set length of time. If the user is idle and doesn't add any input for 5 minutes, their session will end.



The screenshot shows the 'IAM permissions' section of the Amazon Lex console. It includes a 'Runtime role' section with two radio buttons: 'Create a role with basic Amazon Lex permissions' (selected) and 'Use an existing role'. Below this is a blue information box stating: '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.' The 'New role' section shows the role name 'AWSServiceRoleForLexV2Bots_L92MBOQCJ3L'. Below this is the 'Children's Online Privacy Protection Act (COPPA)' section with a question 'Is use of your bot subject to the Children's Online Privacy Protection Act (COPPA)?' and two radio buttons: 'Yes' and 'No' (selected). The 'Idle session timeout' section explains that the session is maintained when the user does not provide any input and the session is idle. It features a 'Session timeout' section with a text input field containing '5' and a dropdown menu set to 'minute(s)'. A note at the bottom states: 'By default, session duration is 5 minutes, but you can specify any duration between 1 and 1,440 minutes (24 hours).'

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 the [Children'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).

9) Select Next..

10) Now we're going to play around with your bot's voice..

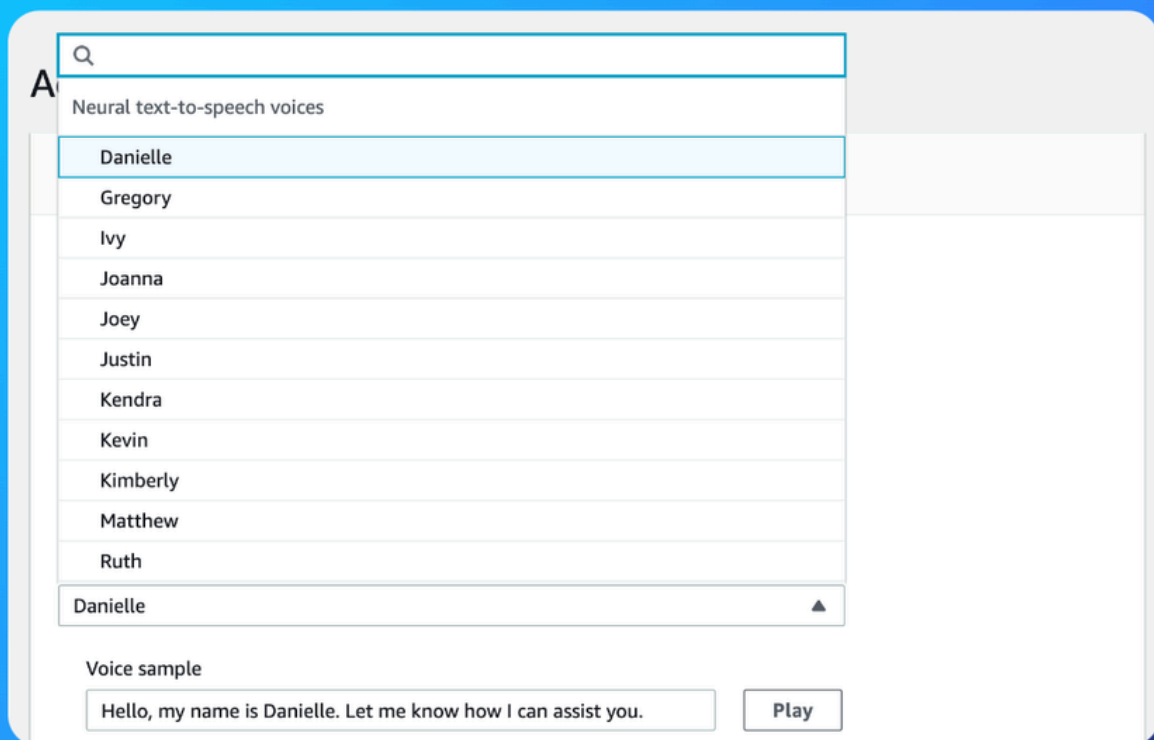
11) Keep the language as English so you can explore Lex's full set of features in this project..

12) Under Voice interaction, click on the dropdown that says Danielle..

13) Click around different voice options to choose your favorite one!.

Two favorites in the NextWork community are Gregory and Ruth :D.

💡 Fun fact: These voices are borrowed from Amazon Polly, which is another AWS service all about turning your text into speech!



14) For Intent classification confidence score threshold, keep the default value of 0.40..

💡 **What is intent classification confidence score threshold?**When you're using Amazon Lex to build a chatbot, this threshold is like a minimum score for your chatbot to confidently understand what the user is trying to say..

Setting this to 0.4 means that your chatbot needs to be at least 40% confident that it understands what the user is asking to be able to give a response..

So if a user's input is ambiguous and your chatbot's confidence score is below 0.4, it'll throw an error message..

You'll see how this works in a bit!

15) Select Done.

- Your basic bot structure is now complete, and you can now bring it to life!

- 16) Create your first intent.

- When your bot is created, you will automatically see a page called Intent: NewIntent.. 💡

What are intents?

An intent is 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..

In Amazon Lex, you build your chatbot by defining and categorising different intents. If you set up different intents, one single chatbot can manage a bunch of requests that are usually related to each other..

- Let's change the name!.
- Under Intent details, enter WelcomeIntent for the Intent name..
- Add the description Welcoming a user when they say hello.

- Scroll down to the Sample utterances panel..
- Click the Plain Text button..

Sample utterances (0) [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.

i 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](#) [X](#)

1

- Copy the text below, which represent the user inputs (called utterances) that will trigger this intent, and paste it into the text window:

Code:-

Hi
Hello
I need help
Can you help me?

- Click back to the Preview button to see these utterances in chat form.

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](#)

Sort by added (ascending)

Preview

Plain Text

Hi

Hello

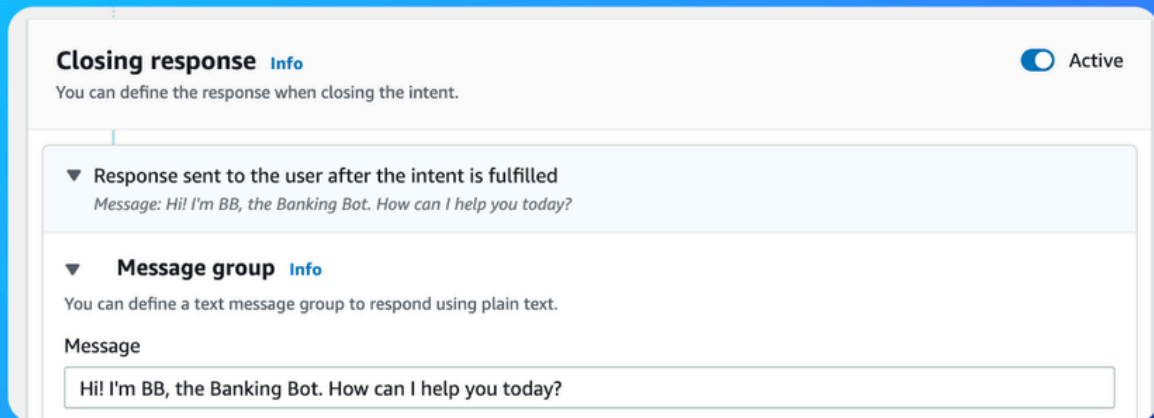
I need help

Can you help me?

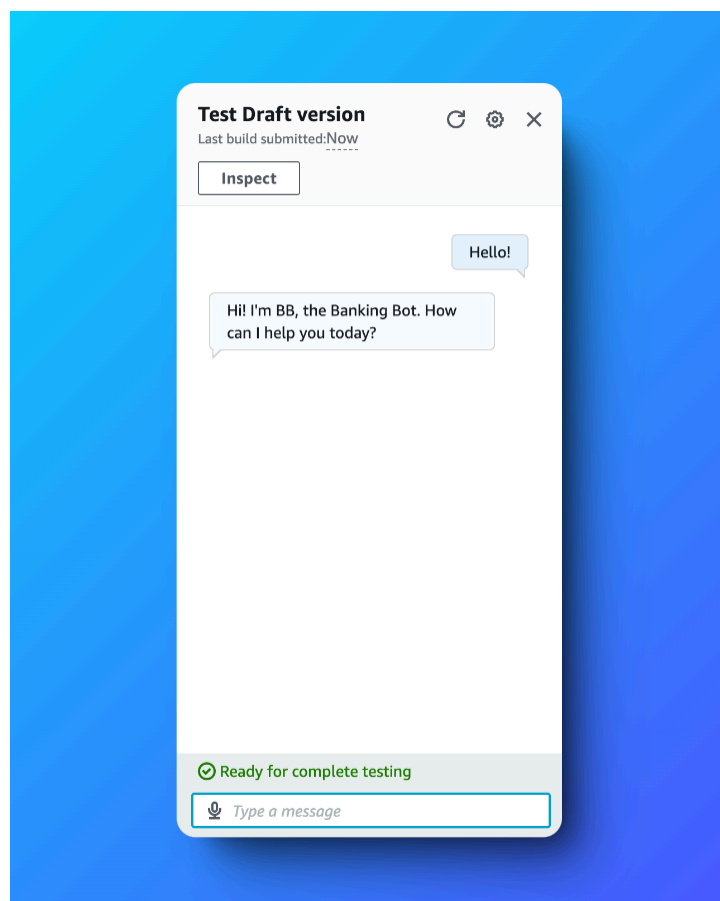
- Scroll down to Closing response, and expand the speech bubble for Response sent to the user after the intent is fulfilled..

- In the Message field, enter the following message:

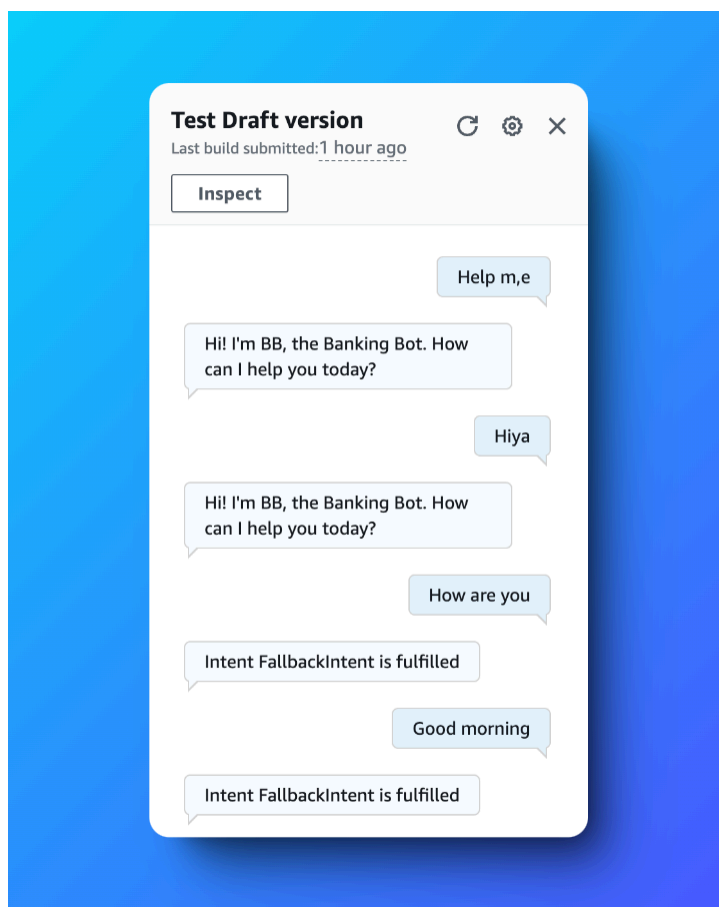
Hi! I'm BB, the Banking Bot. How can I help you today?.



- Choose Save intent.
- Choose Build, which is close to the top of the screen.
- This can take 30 seconds - time for a stretch!
- Choose Test.
- The following dialog will pop up, and you can interact with the bot by entering your opening message.



- Try various different phrases and see what comes up!.
 - The ones that you have literally defined in your Utterances section will definitely work..
 - But what about other utterances?.
 - Since we have an intent classification confidence score of 0.40, other phrases with similar intents to the ones we've defined could work too..
 - Test these:.
 - Help me.
 - Hiya.
 - How are you.
 - Good morning



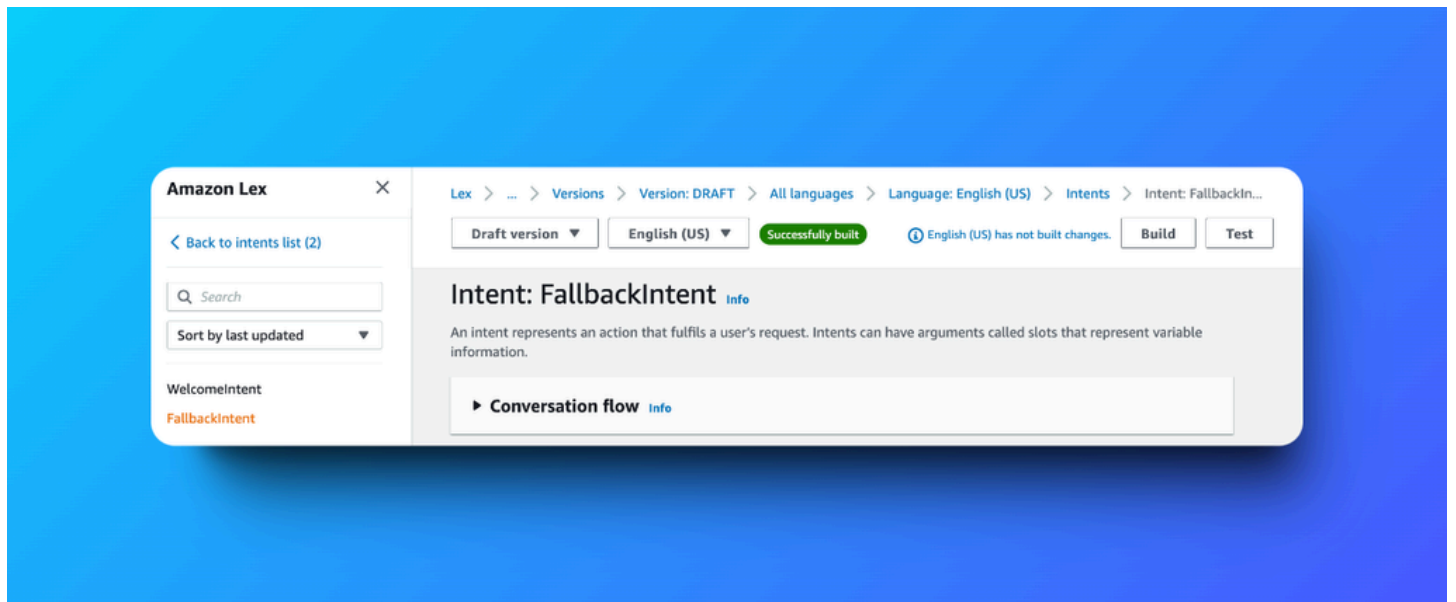
💡 How does my chatbot respond to these user inputs? The first three are successfully recognized - Amazon Lex is able to use its ML techniques to match what you have said against your utterances..

But the last two fail, resulting in an Intent FallbackIntent is fulfilled response - meaning Amazon Lex doesn't quite recognize your utterance. We'll learn what FallbackIntent means in the next step.

- Try two of these utterances again, this time using voice!.
- Click on the microphone icon at the left of the chat box, speak "Hello" and then click on the tick on the right..
- Now try another phrase!.
- What's another way you like to greet someone or say hi?

17) Manage FallbackIntent

In your left hand navigation panel, choose FallbackIntent.



💡 What is FallbackIntent? Remember the intent classification confidence score threshold, and how it's been set to 0.4?.

If your chatbot has a confidence score below 40% for all the intents you've defined (in our case, it's just the WelcomeIntent for now), the FallbackIntent is triggered..

Think of it as a custom error message that your chatbot will use to tell the user it doesn't understand their input.

- The default FallbackIntent message you saw just now ("Intent FallbackIntent is fulfilled") can be a little confusing..
- Let's re-phrase that message so it's clearer to the user that your chatbot doesn't understand the user's request..
- Scroll down to Closing responses..
- Expand the speech bubble for Response sent to the user after the intent is fulfilled..
- In the Message field, add the following text:

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.

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 words? I can help you find

► **Variations - optional**

More response options

Add customisable payloads, SSML and card groups.

► **Set values** Next step in conversation
 - End conversation

[+ Add conditional branching](#)

💡 What a detailed message!

It's often chatbot best practise to give a hint as to what kind of commands the bot can understand and respond to..

- You'll notice another toggle next to the label Variations - optional..
- Open the toggle..
- Enter the following text:

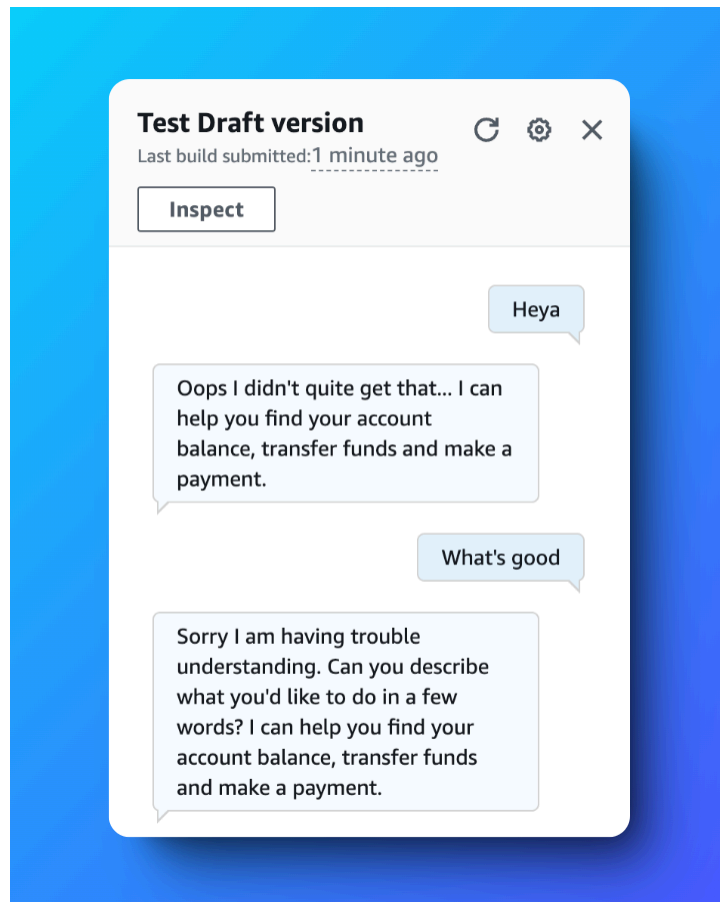
Hmm could you try rephrasing that? I can help you find your account balance, transfer funds and make a payment.. .

- Add another variation! What is another response that the chatbot could use to get clarification if it doesn't understand the user's intent?.

💡 What are variations? 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..

Variations will give your users a dynamic range of responses, making them sound more conversational!.

- Choose Save intent..
- Choose Build - time for another stretch!.
- Choose Test..
- Let's test 2-3 message that failed in your last try - what do you see now?



Doneeeee.....

18) Delete Your Resources

Time to clean up those resources - let's make sure we don't rack up any charges.

● STEPS BELOW:.

- Head to your Amazon Lex console..
- Choose Bots on the left-hand sidebar..
- Choose the circle radio button next to BankerBot..
- Choose Delete from your Action drop-down..
- Choose Delete.

Bots (1) Info

Search bots

Name ▲

Description

Status ▼

BankerBot

Banker Bot to help customer check their balance and make transfers.

Available

10 hours ago

Action ▲

Rename

Import

Export

Delete

Add to network

Create bot

1 > ⚙

Last updated ▼

Donee...