

Building a Chatbot with Amazon Lex

- Navigate to Amazon Lex (type Lex into the search bar of your Console).
- 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.
- Select **Create bot**.
- Select **Create a blank bot**.
- For Bot name, enter BankerBot
- For Description, enter Banker Bot to help customer check their balance and make transfers.
- Under IAM permissions, select **Create a role with basic Amazon Lex permissions**.
- We'll be using it to call another service called Lambda later!
- Under **Children's Online Privacy Protection Act (COPPA)**, select **No**.
- Under **Idle session timeout**, keep the default of **5 minutes**.
- Select **Next**.
- Now we're going to play around with your bot's voice.
- Keep the language as **English** so you can explore Lex's full set of features in this project.
- Under **Voice interaction**, click on the dropdown that says **Danielle**.
- 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.

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.

Danielle ▼

Voice sample

Hello, my name is Danielle. Let me know how I can assist you. Play

Intent classification confidence score threshold

0.40

Min: 0.00, max: 1.00.

Cancel
Add another language
Done

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

Hi

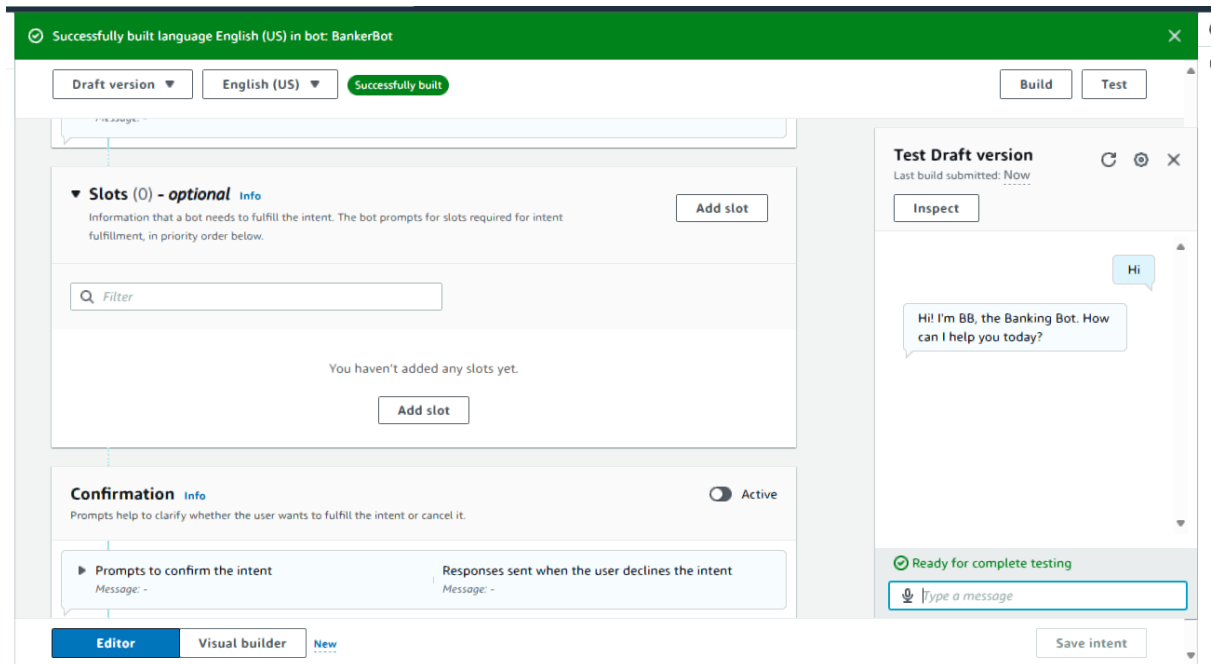
Hello

I need help

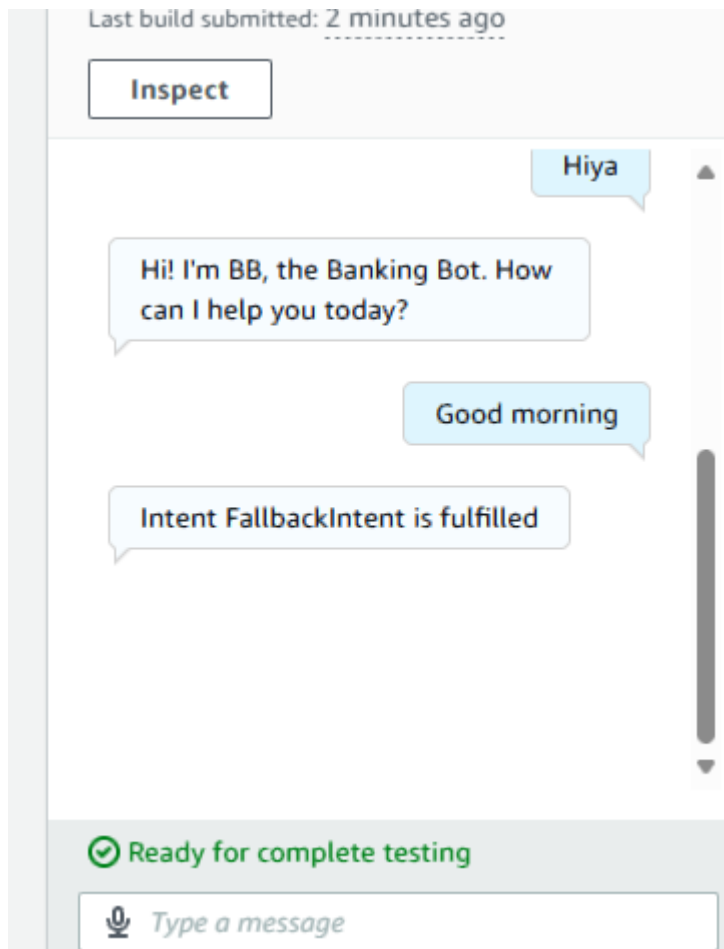
Can you help me?

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

- Scroll down to **Closing response**, and expand the arrow 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.
- Choose **Test**.



- 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?

Want to switch dialects, or add a completely new language?

- From the left hand sidebar, select **Back to intents list**.
- Your sidebar will update to show new options.
- Select **All languages**.
- Select **Add language** from the top right corner.
- Select **Copy from an existing language**.
- Under the **Language details** panel, select your **New language**.

Manage FallbackIntent

In this step, get ready to:

- Customise **FallbackIntent** to send user-friendly messages.
- 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 arrow 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.
- You'll notice another arrow next to the label **Variations - optional**.
- Expand the arrow.
- Enter the following text:
Hmm could you try rephrasing that? I can help you find your account balance, transfer funds and make a payment.
- Choose **Save intent**.
- Choose **Build** - time for another quick question!
- Choose **Test**.

▼ 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 your account balance, transfer funds and make a payment.

▼ Variations - optional

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

More response options

Add custom payloads, SSML, and card groups.

► Set values

Next step in conversation
End conversation

Test Draft version
Last build submitted: 3 minutes ago

Inspect

hiya

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

Good morning

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.

Ready for complete testing

Type a message

Save intent

Editor Visual builder New

