

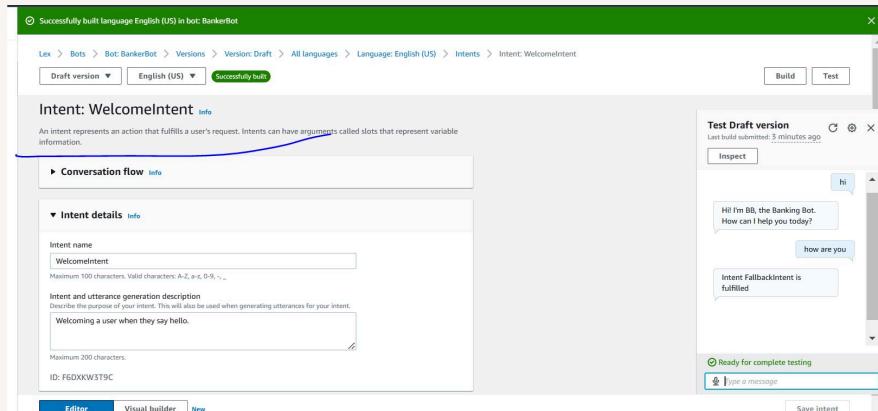


nextwork.org

Build a Chatbot with Amazon Lex



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Introducing Today's Project!

What is Amazon Lex?

Amazon Lex is a service for building conversational interfaces into any application using voice and text, enabling you to add sophisticated, natural language chatbots to your applications.

How I used Amazon Lex in this project

I have used Amazon Lex in today's project to create a banker bot.

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

I did not expect the error, 'Missing required key 'sessionId' in params?' That usually means your bot needs a refresh or some time until it's ready for testing.

This project took me...

It took me around 60 minutes to complete the project including the documentation.



Setting up a Lex chatbot

'I created my chatbot from scratch with Amazon Lex. Setting it up took me like around 2-3 minutes.

While creating my chatbot, I also created a role with basic permissions because Amazon Lex needs the permission to call other AWS services on your behalf.

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

The screenshot shows the 'Add language to bot' configuration interface in the Amazon Lex console. The top navigation bar includes 'Lex', 'Bots', and 'Create bot'. Below this, a breadcrumb trail shows 'Step 1: Configure bot settings' and 'Step 2: Add languages'. The main form is titled 'Add language to bot' with an 'Info' link. It has a section for 'Language: English (US)' with a dropdown for 'Select language' set to 'English (US)' and a 'Description - optional' field. Under 'Voice interaction', there's a dropdown for 'Text-to-speech voice' set to 'Danielle' and a 'Voice sample' field containing the text 'Hello, my name is Danielle. Let me know how I can assist you.' with a 'Play' button. A 'Intent classification confidence score threshold' field is set to '0.40'. At the bottom, there are 'Cancel', 'Add another language', and a highlighted 'Done' button.



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.

I created my first intent, WelcomeIntent, to greet the users.

The screenshot shows the Amazon Lex console interface. At the top, a green banner indicates "Successfully built language English (US) in bot: BankerBot". The navigation bar includes "Lex", "Bots", "Bot: BankerBot", "Versions", "Version: Draft", "All languages", "Language: English (US)", "Intents", and "Intent: WelcomeIntent". Below the banner, there are buttons for "Draft version", "English (US)", and "Successfully built". On the right, there are "Build" and "Test" buttons. The main area is titled "Intent: WelcomeIntent" with a blue link. A tooltip explains that an intent represents an action that fulfills a user's request. The "Conversation flow" section is collapsed. The "Intent details" section is expanded, showing the intent name "WelcomeIntent" and a description "Welcoming a user when they say hello.". The "Test Draft version" pane on the right shows a sample conversation: "hi", "Hi! I'm BB, the Banking Bot. How can I help you today?", "how are you", and "Intent FallbackIntent is fulfilled". A status message at the bottom right says "Ready for complete testing".



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 how are you? This error message occurred because Amazon Lex doesn't quite recognize the utterance.

The screenshot shows the Amazon Lex Intent Editor interface. At the top, a green banner indicates "Successfully built language English (US) in bot: BankerBot". The navigation bar includes Lex > Bots > Bot: BankerBot > Versions > Version: Draft > All languages > Language: English (US) > Intents > Intent: WelcomeIntent. Below the navigation, there are buttons for Draft version, English (US), and Successfully built, along with Build and Test buttons.

The main area displays the "Intent: WelcomeIntent" configuration. Under "Intent details", the "Intent name" is set to "WelcomeIntent". The "Intent and utterance generation description" field contains the text "Welcoming a user when they say hello.". A blue line highlights the "Conversation flow" section, which is currently empty.

To the right, a "Test Draft version" window is open, showing a transcript of a test interaction:

```
hi
Hi I'm BB, the Banking Bot.
How can I help you today?
how are you
Intent FallbackIntent is fulfilled
```

The "Test Draft version" window also shows "Last build submitted: 3 minutes ago" and an "Inspect" button. At the bottom of the editor, there are tabs for "Editor", "Visual builder", and "New", along with a "Save intent" button.



Configuring FallbackIntent

FallbackIntent is a default intent in every chatbot that gets triggered when your chatbot has a confidence score below 40%(the one I have set) for all the intents you've defined

I wanted to configure FallbackIntent because I want the intent to be fulfilled that is the user needs to get a proper response.



Variations

To configure FallbackIntent, I clicked on FallbackIntent in the left panel. Then Typed my message in the closing response. Then saved the intent and build the intent.

I also added variations! What this means for an end user is it will give your users a dynamic range of responses, making them sound more conversational

The screenshot shows the NextWork.org bot builder interface. The top bar indicates a successful build for the English (US) language pack. The main workspace is the 'Editor' tab, showing a conversation flow with various options like 'More response options', 'Set values', and 'Code hooks - optional'. On the right, a 'Test Draft version' window shows a sample conversation with variations in responses. The conversation starts with 'hiya', followed by 'Hi! I'm BB, the Banking Bot. How can I help you today?', then 'whats up', and finally 'Hmm could you try rephrasing that? I can help you find your account balance, transfer funds and make a payment.' A green checkmark at the bottom right of the test window indicates 'Ready for complete testing'.



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