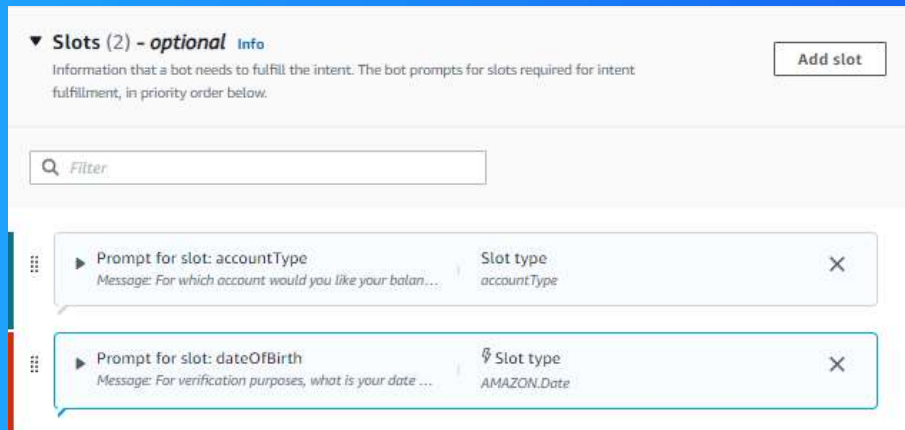




# Build a Chatbot with Custom Slots



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# Introducing Today's Project!

## What is Amazon Lex?

Amazon Lex is service which offers text and speech related services

## How I used Amazon Lex in this project

I created custom slots like accountType and check balance

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

something might seem simple but involves a lot of careful thinking

## This project took me...

50 minutes



# Slots

slots are like blanks that need to be filled by the user so that the bot can fulfill their request

In this project, I created a custom slot type to check the type of account the user has

This slot type has restricted slot values, which means only the values entered by the user are valid

The screenshot displays the Amazon Lex console interface for configuring a slot type. It is divided into two main sections: 'Slot value resolution' and 'Slot type values'.

**Slot value resolution**  
Amazon Lex resolves the slot values in an utterance to only the values you provide, or it expands the resolution to related or similar values.

Two radio buttons are present:  
☐ Expand values (default)  
Values used as training data.  
☒ Restrict to slot values  
Use only values provided.

**Slot type values**  
Modify the list of values used to train the machine learning model to recognize values for a slot.

A search bar is labeled 'Search slot type values'.

Below the search bar, there are three input fields for 'Checking', 'Savings', and 'Credit'. Each field has a 'Tab or ; or enter return for new value' button and an 'X' icon to remove the value.

Under the 'Credit' field, there are five tags representing restricted values: 'credit card', 'visa', 'mastercard', 'amex', and 'american express'. Each tag has an 'X' icon to remove it.

At the bottom, there is a 'Value' input field, a 'Tab or ; or enter return for new value' button, and an 'Add value' button.

Below the input fields, there is a note: 'Maximum 140 characters. Valid characters: A-Z, a-z, 0-9, @, #, \$'.

At the very bottom, there is a checkbox labeled 'Use slot values as custom vocabulary' and an 'Info' link.



# Connecting slots with intents

I associated my custom slot with CheckBalance, which means checking the balance in a user's account is an intent it might require some slots like type of account and date of birth

▼ Slots (2) - optional [Info](#)

Information that a bot needs to fulfill the intent. The bot prompts for slots required for intent fulfillment, in priority order below.

Add slot

Q Filter

⋮

▶ Prompt for slot: accountType

Message: For which account would you like your balan...

Slot type  
accountType

×

⋮

▶ Prompt for slot: dateOfBirth

Message: For verification purposes, what is your date ...

Slot type  
AMAZON.Date

×



# Slot values in utterances

I included slot values in some of the utterances (i.e. user inputs) by adding custom slots for the slot type. For example, checking, savings, credit account etc.

By adding custom slots in utterances, it can include all the words associated to account type and even some related to it.

The screenshot displays the Amazon Lex console interface for testing a draft version of a Lex bot. The interface is split into two main panes.

**Left Pane (Inspect):**

- Summary:** JSON input and output
- Intent:** CheckBalance
- Slots:**
  - accountType:** Savings
  - dateOfBirth:** 2009-09-11
- Active contexts:** (Empty)
- Number of turns or seconds:** (Empty)

**Right Pane (Test Draft version):**

- Inspect:** A button to inspect the test session.
- Test Session:**
  - User input: 01/06/2001
  - System response: Intent CheckBalance is fulfilled
  - User input: What's the balance in my savings account?
  - System response: For verification purposes, what is your date of birth?
  - User input: 09/11/2009
  - System response: Intent CheckBalance is fulfilled
- Status:** Ready for complete testing (indicated by a green checkmark icon).
- Input field:** Type a message
- Buttons:** Visual builder, New, Save intent



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