***Lex***

* Amazon Lex V2 is an AWS service for building conversational interfaces for applications using voice and text. Amazon Lex V2 provides the deep functionality and flexibility of natural language understanding (NLU) and automatic speech recognition (ASR) so you can build highly engaging user experiences with lifelike, conversational interactions, and create new categories of products.
* Important terms in Lex:
  + ***Intent***: A particular goal that the user wants to achieve
  + ***Utterances***: Spoken or typed phrase that invokes your intent
  + ***Slots***: Data that user must provide to fulfill the intent
  + ***Prompts***: Questions that ask the user to input data
  + ***Fulfillment***: The business logic required to fulfill the user's intent
  + ***Version:*** A numbered snapshot of your work that you can publish for use in different parts of your workflow, such as development, beta deployment, and production.
  + ***Alias***: A pointer to a specific version of a bot
* Amazon Lex V2 enables you to build applications using a text or speech interface for a conversation with a user.
* Following are the typical steps for working with Amazon Lex V2:
  + Create a bot and add one or more languages. Configure the bot so that it understands the user's goal, engages in conversation with the user to elicit information, and fulfills the user's intent.
  + Test the bot. You can use the test window client provided by the Amazon Lex V2 console.
  + Publish a version and create an alias.
  + Deploy the bot. You can deploy the bot on your own applications or messaging platforms such as Facebook Messenger or Slack
* You create an Amazon Lex V2 bot to interact with your users to elicit information to accomplish a task.To build a bot, you need the following information:
  + The language that the bot uses to interact with the customer. You can choose one or more languages, each language contains independent intents, slots, and slot types.
  + The intents, or goals, that the bot will help the user fulfill. A bot can contain one or more intents, such as ordering flowers, or booking a hotel and rental car. You need to decide which statements, or utterances, that the user makes to trigger the intent.
  + The information, or slots, that you need to gather from the user to fulfill an intent. For example, you might need to get the type of flowers from the user or the start date of a hotel reservation. You need to define one or more prompts that Amazon Lex V2 uses to elicit the slot value from the user.
  + The type of the slots that you need from the user. You may need to create a custom slot type, such as a list of flowers that a user can order, or you can use a built-in slot type, such as using the AMAZON.Date slot type for the start date of a reservation.
  + The interactions between user and intents. Amazon Lex V2 manages the interactions; you can create an AWS Lambda function to validate and fulfill the intent.
* Use Cases:
  + Customer Service Bots
  + Personal Assistants Bots (Alexa/Siri)
  + Food/Book Recommendation Bots
  + Feedback Collection Bots and lots more
* Advantages:
  + Reduce Manual Effort
  + Expedite Conversational Design
  + Improve Customer Experience