CEN 5035 Software Engineering
Fall 2019

Project 3: Using Watson Conversation Services to create a ChatBot

Dr. Shihong Huang
Florida Atlantic University
shihong@fau.edu

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Note: This is an individual project

1 Getting started

In this short tutorial, we introduce the Conversation tool and go through the process of creating your first conversation.

2 Individual Homework Requirement

Develop a simple Conversation ChatBot using IBM conversation services.

3 Tutorial

Please follow the Watson Services Conversation tutorial:

https://console.bluemix.net/docs/services/conversation/getting-started.html#gettingstarted

4 Definitions

- Intent - An intent represents the purpose of a user's input. You can think of intents as the actions your users might want to perform with your application.
- Entity - An entity is a portion of the user's input that you can use to provide a different response to a particular intent.
- Dialog - A dialog defines the flow of your conversation in the form of a logic tree. Each node of the tree has a condition that triggers it, based on user input.

5 Modifying Tutorial

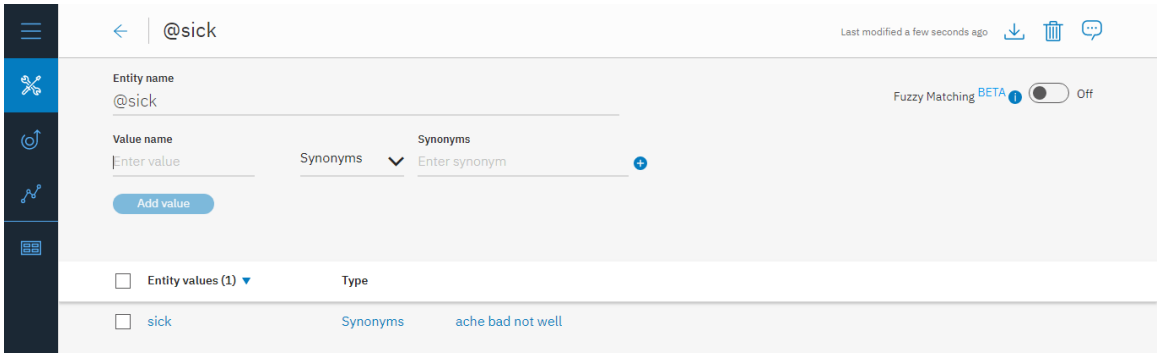
In the next steps we will modify the tutorial to make it a little more complex by adding entities and subnodes. This allows for a branching conversation framework that can be used for more detailed conversations.

○ Adding Entity

1) In the Entities tab click **Add Entity**.
2) Give the entity a name to start building it up.

3) Add the "sick" as the value and choose some synonyms such as "sick", "bad", "not well".

4) Click on "Add value" to add it to the entity. The entity is can have a collection of these types of values.



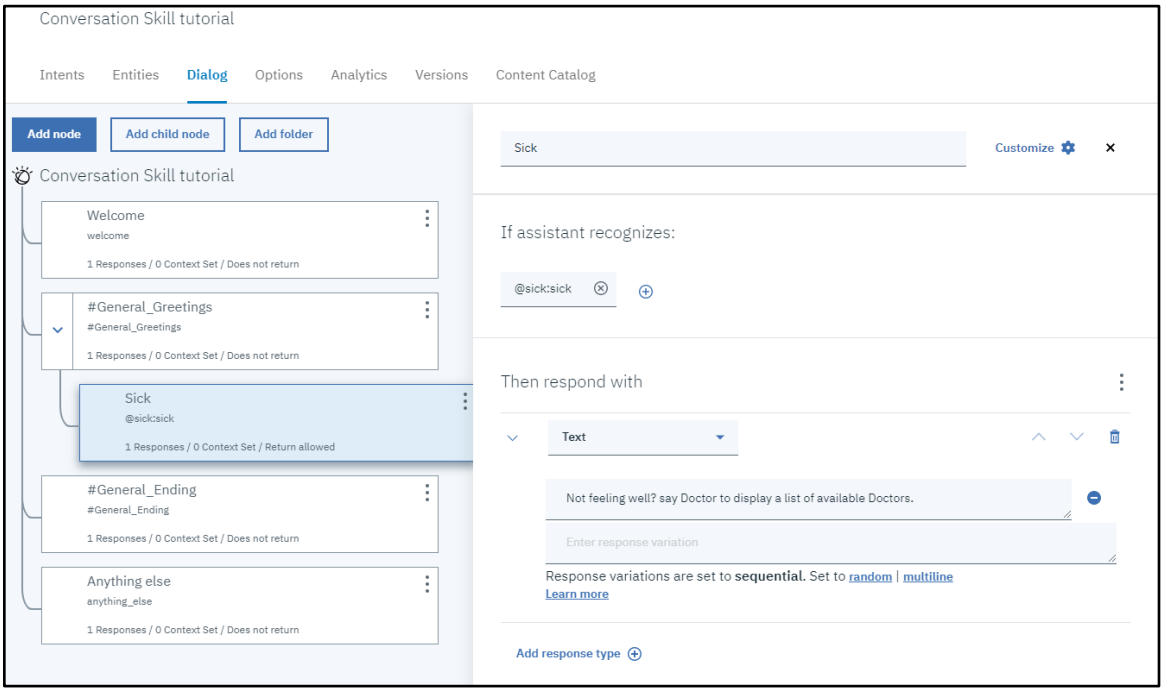
5) Click the **Close** icon to finish creating the @sick entity.

Adding Child nodes

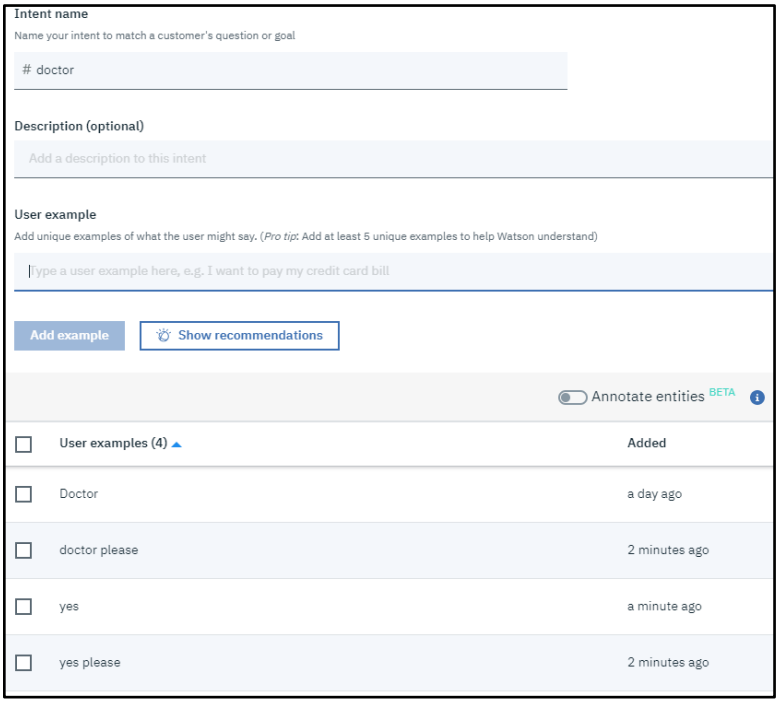
You can create child nodes so the conversation goes deeper.

1) Go to the Dialog tab and click the More icon on the #General_Greetings node, and then select Add child node.

2) Name the node "Sick". In the section "If assistant recognizes" field select the entity with the same name, type the response as "@sick:sick". Then add text response in the Enter response text with "Not feeling well? say Doctor to display a list of available Doctors." It should look like the following picture.

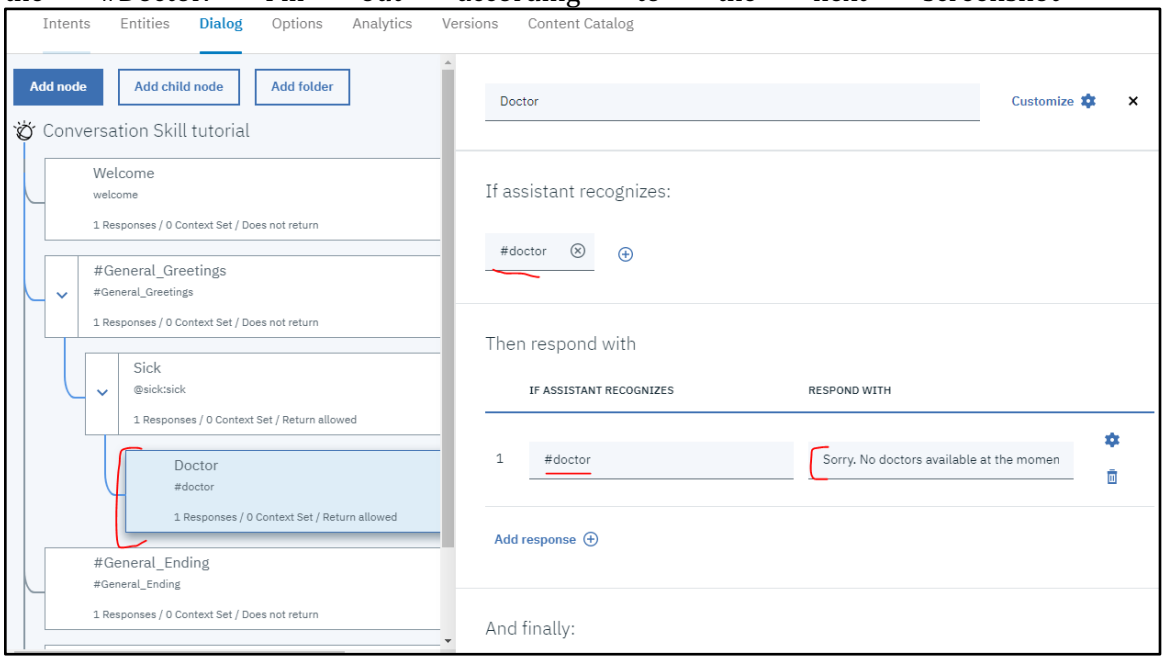


3) For the next step we need to go back to the Intents tab and create a Doctor Intent. Duplicate the same in the next screenshot:

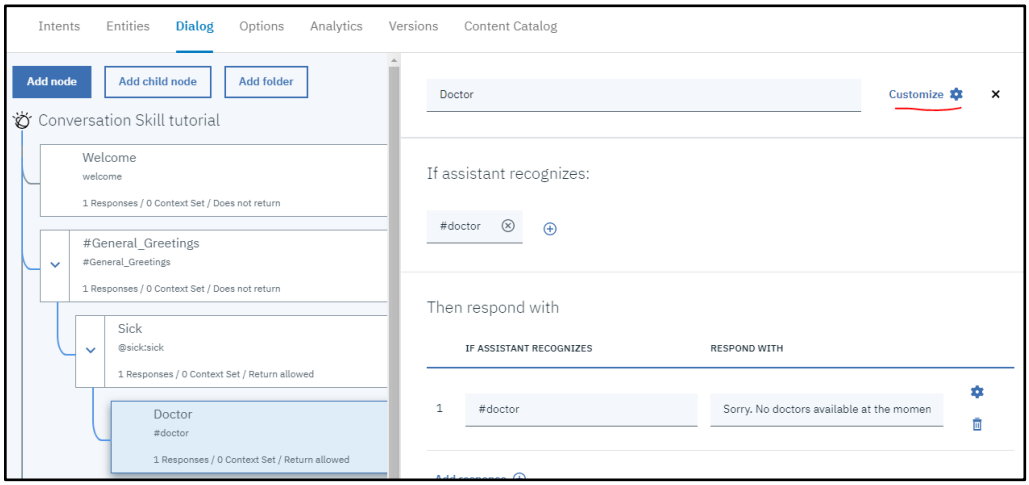


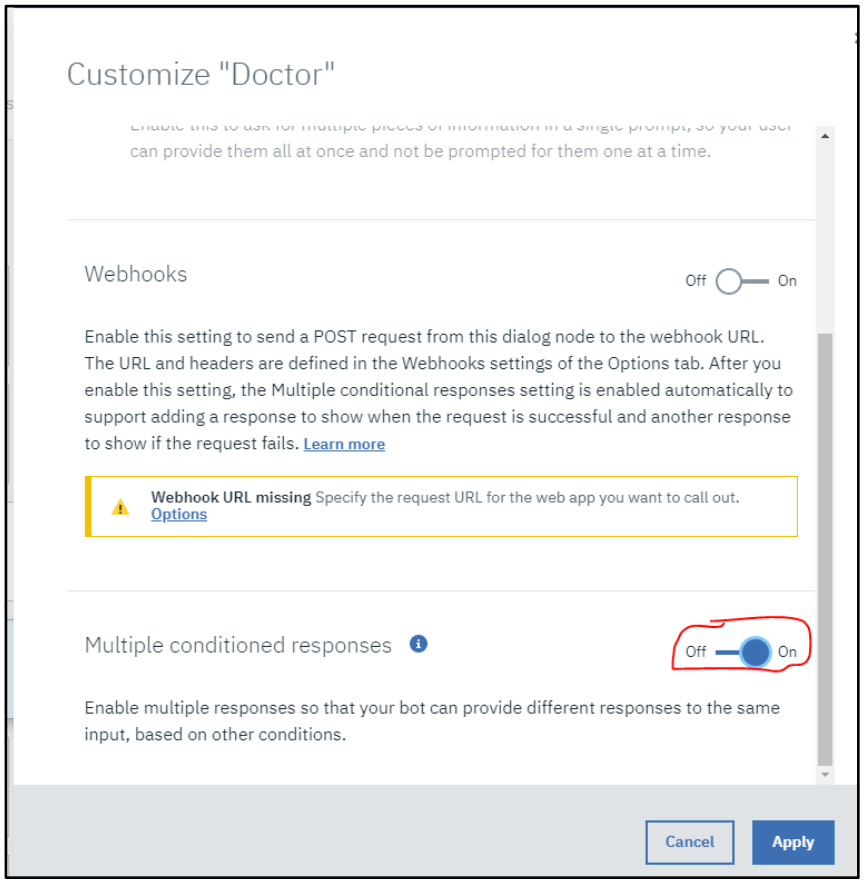
4) Go back to the Dialog tab and click the More icon ⋮ on the Sick node, and then select Add child node.

5) Name it Doctor, under under the “If assistant recognizes” field select the entity with the #Doctor. Fill out according to the next screenshot



6) The setup can be sloppy sometimes and the bot cannot answer in the way we want it to. To fix it, go to “Customize” and switch on “Multiple responses”. Switching this option on will allow us to display different answers to different inputs but under the same node.





Testing intent recognition

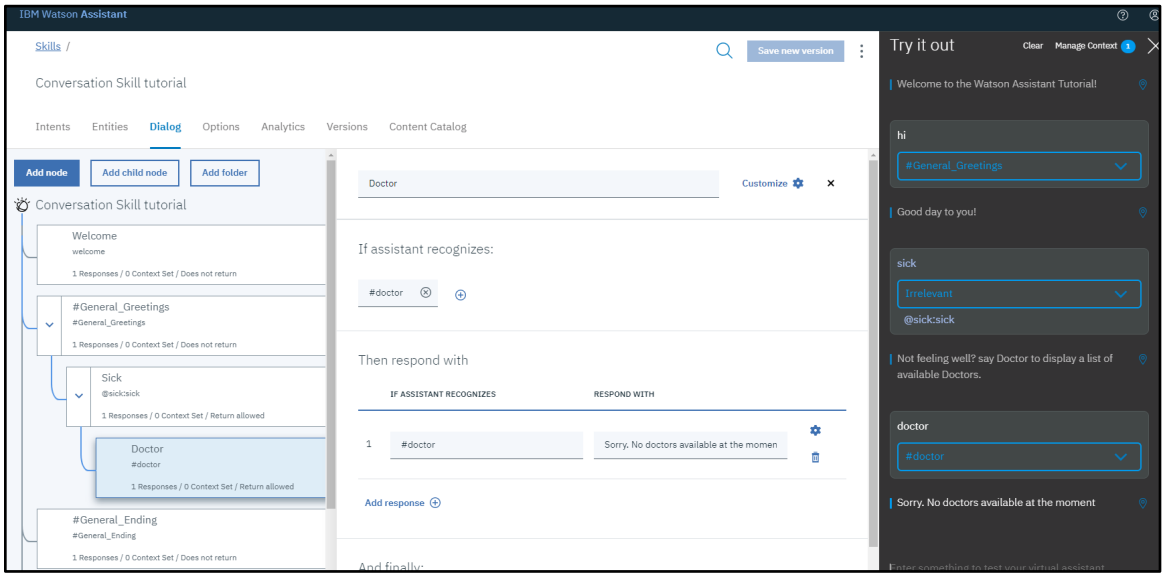
You built a simple dialog to recognize and respond to both hello and goodbye inputs. Let's see how well it works.

1) Click the  icon to open the "Try it out" pane. There's that reassuring welcome message.
2) At the bottom of the pane, type *Hello* and press Enter. The output indicates that the #hello intent was recognized, and the appropriate response (*Good day to you.*) appears.
3) Try the following input:

- bye
- howdy
- see ya
- good morning
- sayonara

Watson can recognize your intents even when your input doesn't exactly match the examples you included. The dialog uses intents to identify the purpose of the user's input regardless of the precise wording used, and then responds in the way you specify.

4) After saying hello, try following the conversation by saying “sick” or “not well”.
5) The final result should look similar to this:



Result of building a dialog

That's it. You created a simple conversation with two intents and a dialog to recognize them.

6 Next steps – Your Own Work

This tutorial is built around a simple example. For a real application, you'll need to define some more interesting intents, some entities, and a more complex dialog.

Create your own suggested conversation – related to something that might be useful for your term project.

- Try the advanced tutorial to add entities and clarify a user's purpose.
- Check out the sample apps.

7 Submission

1) In a word file, list all the functions you have implemented in this assignment
2) Embed screen capture of your final conversation, and other functions you have developed
3) Submit it to Canvas on the date and time specified.

8 Grading criteria

- If you finish just the simple conversation given in this tutorial, you will receive 80%
- If you create your own more advanced features (as shown in "Next Step"), you will receive another 20%. Please specify the advanced features you create in a word Readme file, and submit along with your screenshot