IBM Developer
SKILLS NETWORK

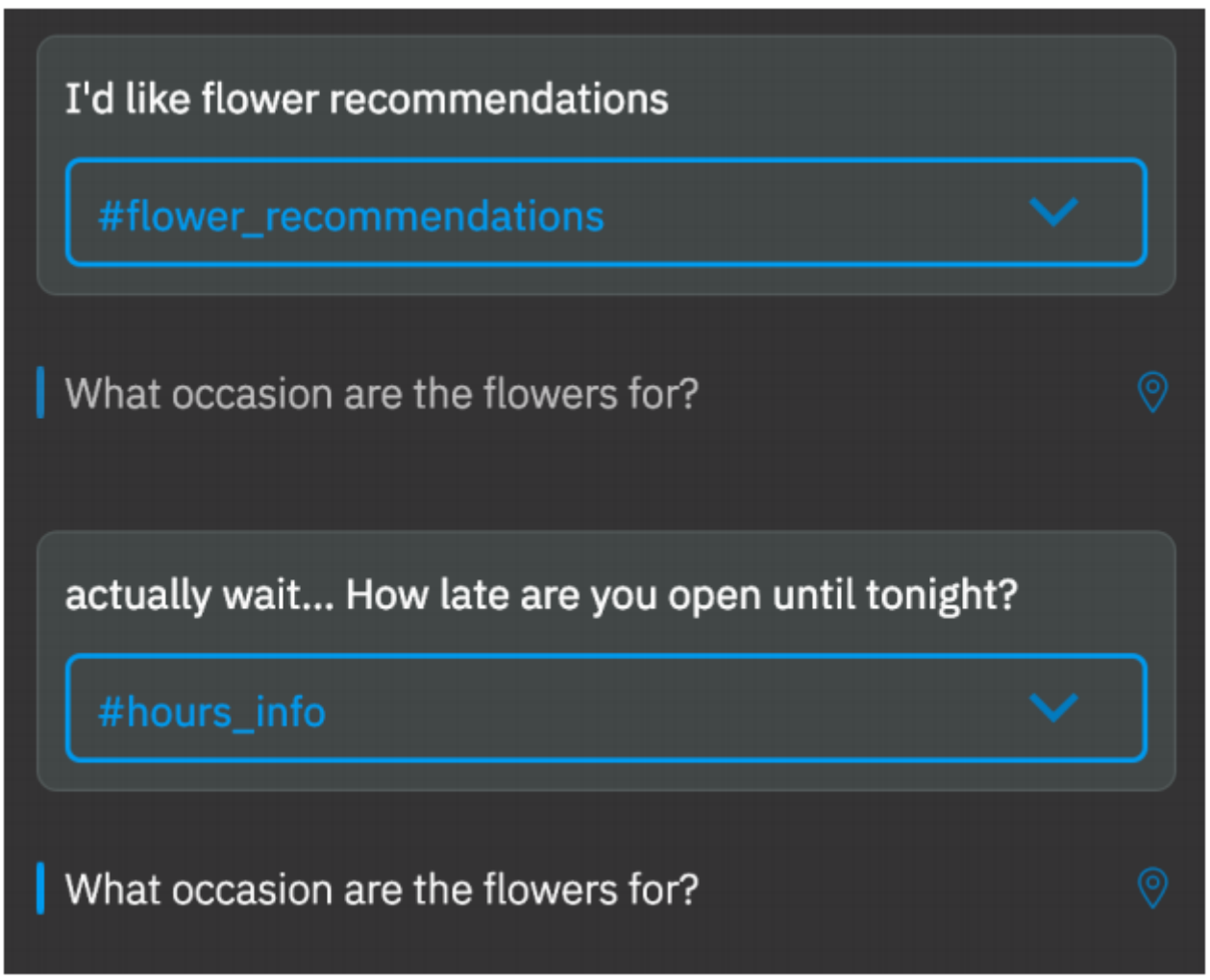
Objective for Exercise:

- Configuring Slot's Found and Not Found.
- Enabling Digressions.
- Understanding Handlers.

Exercise 1: Configuring Slot's Found and Not Found

Slots are awesome. However, their stubborn nature (for required slots that specify a question) can come across as rude if we are not careful. They keep the user to the task, which might be fine if the user enters something irrelevant. It's definitely less okay if the user is asking a legitimate side question, however.

Consider the following interaction.



That's not great. It looks like we completely ignored the user's legitimate question. Notice also that the chatbot understood what the user wanted (i.e., #hours_info was detected) but we were still somewhat rude to them by not addressing their digression.

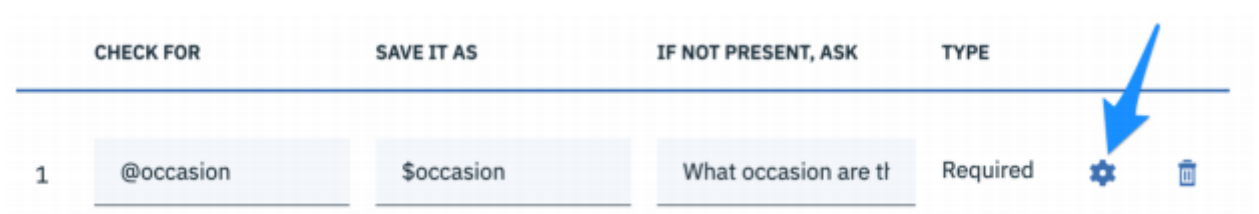
Configuring Found and Not Found responses

A first course of action we have is to use the Slot's *Found* and *Not Found* responses. These are issued to the user before the node's own responses (in our case the actual flower suggestions for the given occasion), so they allow us to interject a message before the node replies to the user.

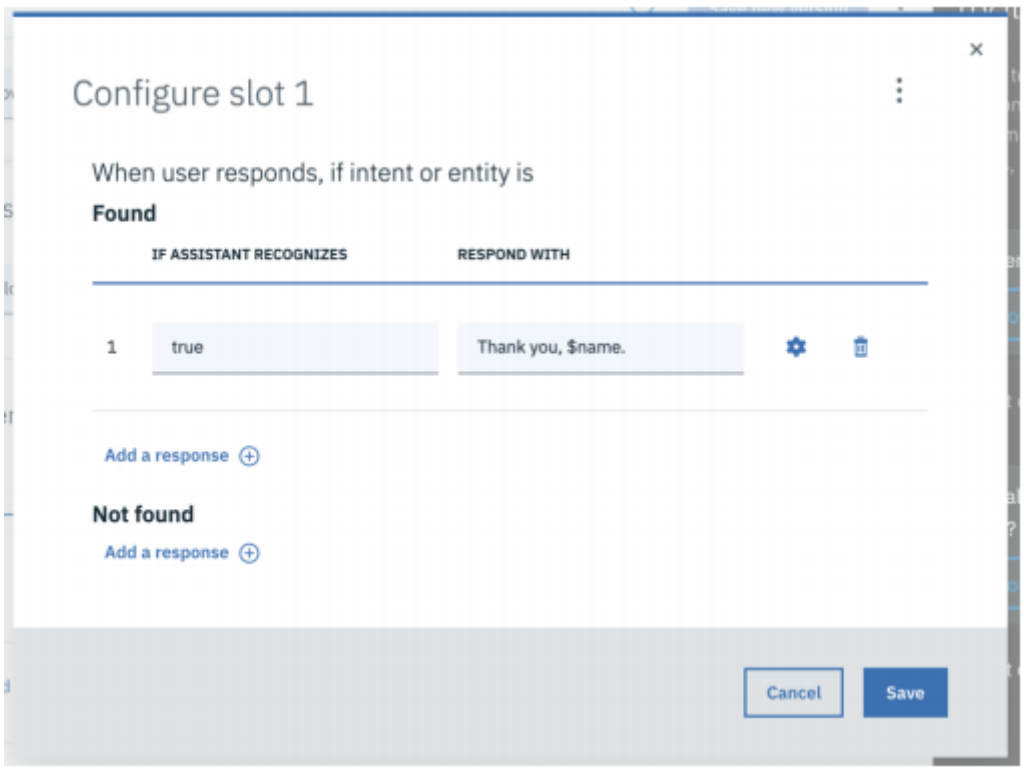
Let's see them in action.

1. Select the *Flower Recommendations* node and **click on the gear icon next to *Required*** **in our

node's slot.**

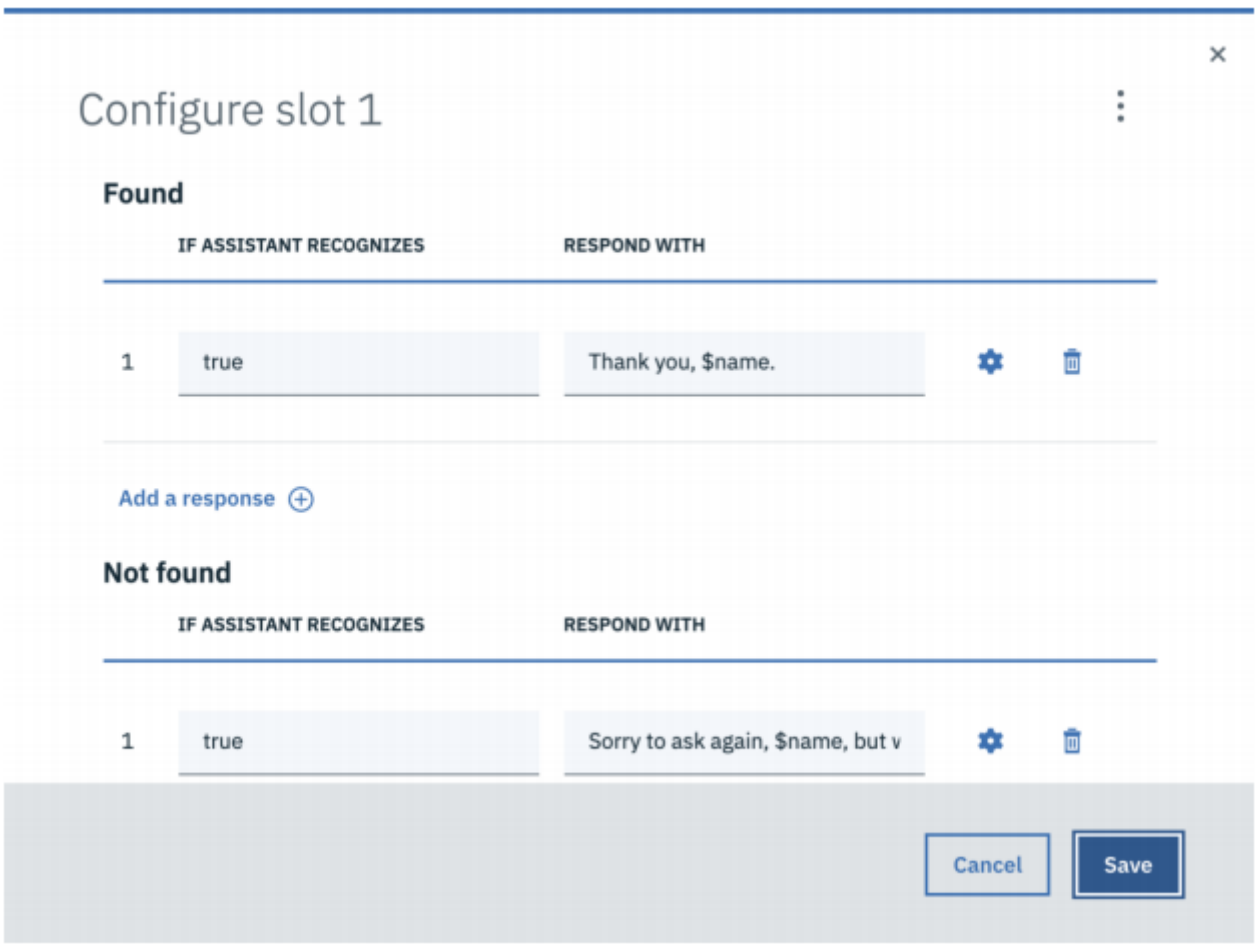


2. Configure the slot by scrolling to the bottom of the dialog that appears, and by **clicking** **_Add a response_** **below the ***Found*** section.** Then **enter true as the condition and Thank you, $name.** as the response in the *Found* section.



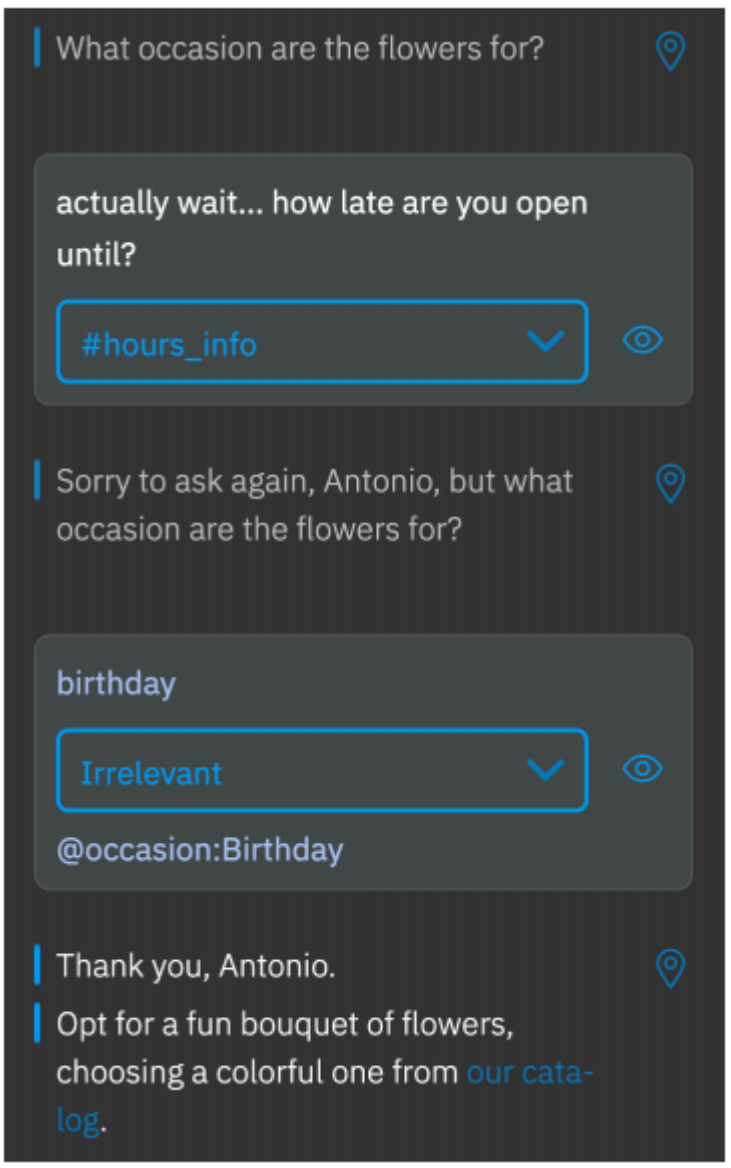
This will ensure that when the slot receives the answer that it's looking for (the occasion in this case), we will always issue a thank you. If we wanted more refined control, we could add different responses for different inputs from the user. In our case, we are happy with a standard thank you response.

3. Similarly, **add a ***Not Found*** **response with a true condition that responds with, Sorry to ask again, $name, but what occasion are the flowers for?** as shown in the image below.



Finally, click *Save*.

Now, when we try the interaction again, we get a slightly more friendly interaction as shown below.



That's better, maybe even good enough! We are apologizing when we have to ask again, and we are thanking the user when they provide the answer we need. Since we have their name, we sweetened the deal by including it in our messages.

But... we are still not answering the user's legitimate side question about hours of operation. To properly handle that, we'll need *Digressions*.

Exercise 2: Enabling Digressions

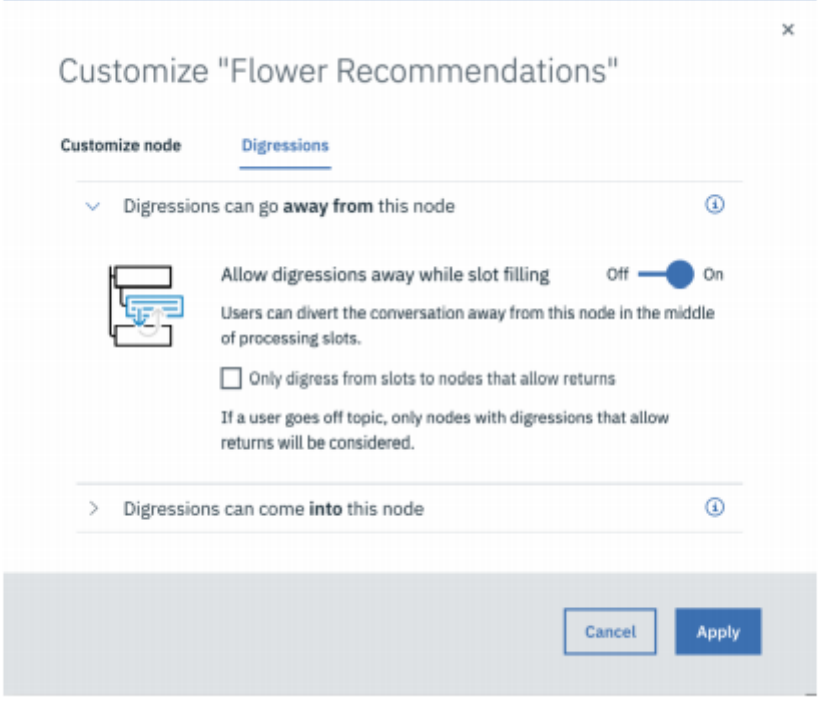
Digressions are a feature that enables nodes to pass control to a different node while they are processing a slot. What this means is that they allow the dialog to respond to a user's side question, while they are in the middle of answering a slot.

Let's see them in action.

1. The first thing we need to do is ensure that the node containing the slot allows digressing

away from it. Select the *Flower Recommendations* node again and click on *Customize* , and then its *Digressions* tab.

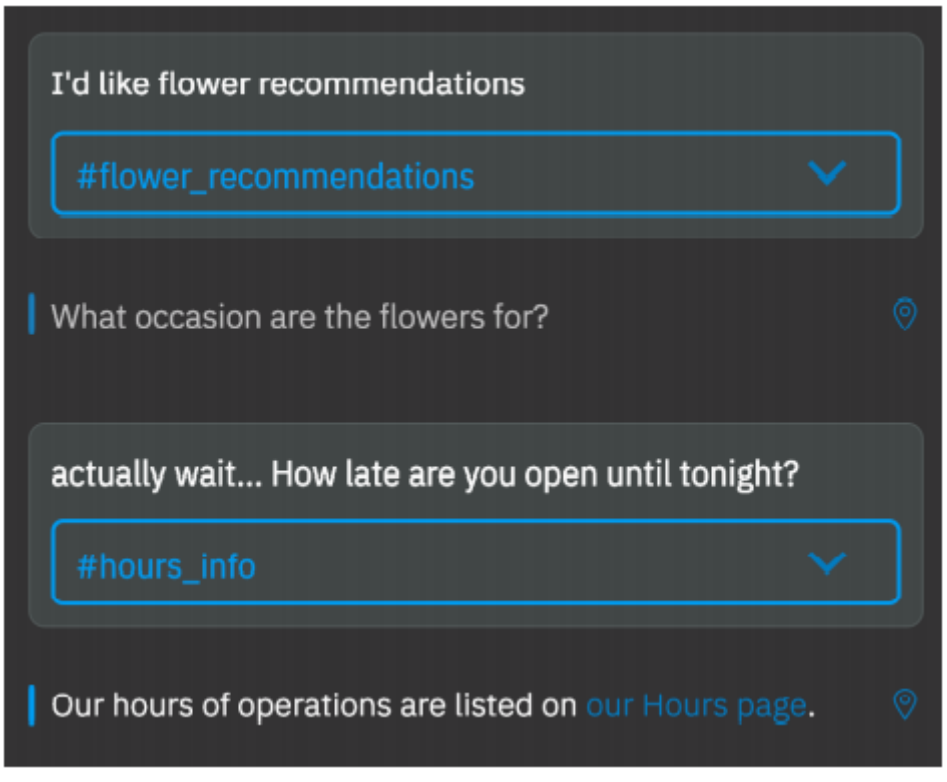
Here you'll want to expand *Digressions cannot go away from this node* by clicking on the > next to it and **turn on the option to allow digressions away from this node**. Make sure you click *Apply*.



With the digression away enabled in our node, we'll now be able to ask other questions in the middle of answering the slot's question and get a proper response for them.

Technically, the nodes we digress into need to allow the digression, but that's the default setting so we don't have to worry about it. (Should you ever need to prevent a node from being digressed into, you can disable the *Digressions can come into this node* for that node.)

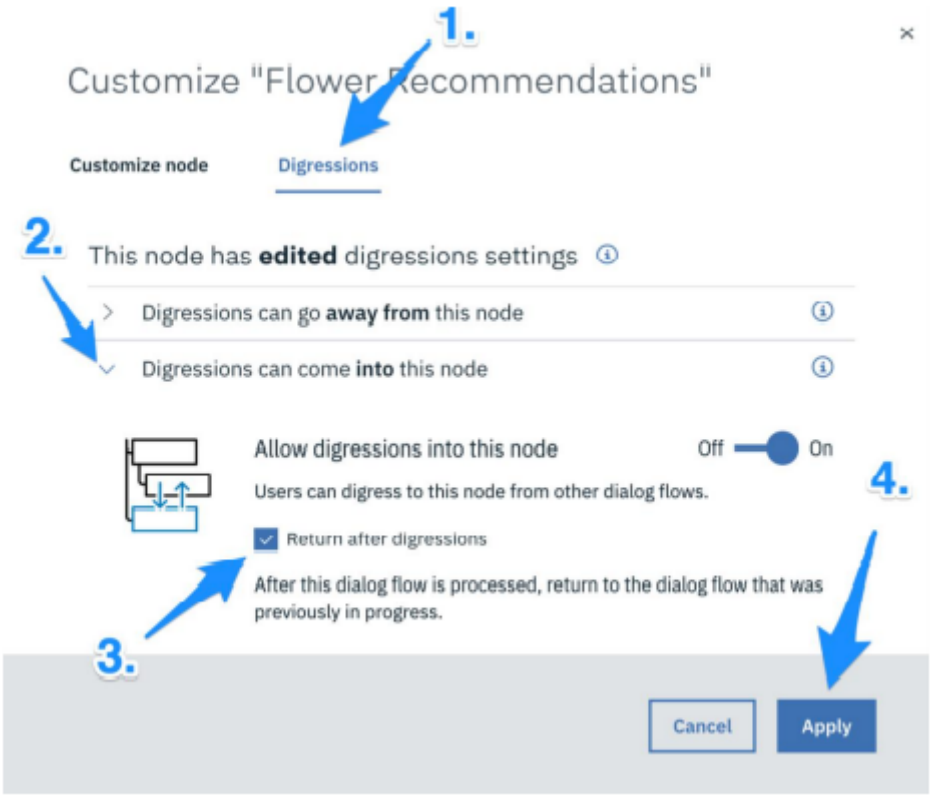
Let's see how this altered our interaction.



Awesome. We fixed our original problem. However, you might notice that we don't come back to the original question about flower recommendations.

This may or may not be what we want, depending on our chatbot. If we'd like to return, we'll need to explicitly **set *Return after digression*** in the nodes we might digress to.

Go ahead and set the option for all three nodes with slots (i.e., *Hours of Operation* , *Location Information* , and *Flower Recommendations*) as shown below. As a reminder, you can access the *Digressions* section by clicking on *Customize* in each of these three nodes.



Don't forget to click on *Apply* , and then test the interaction again, as shown in the image below.

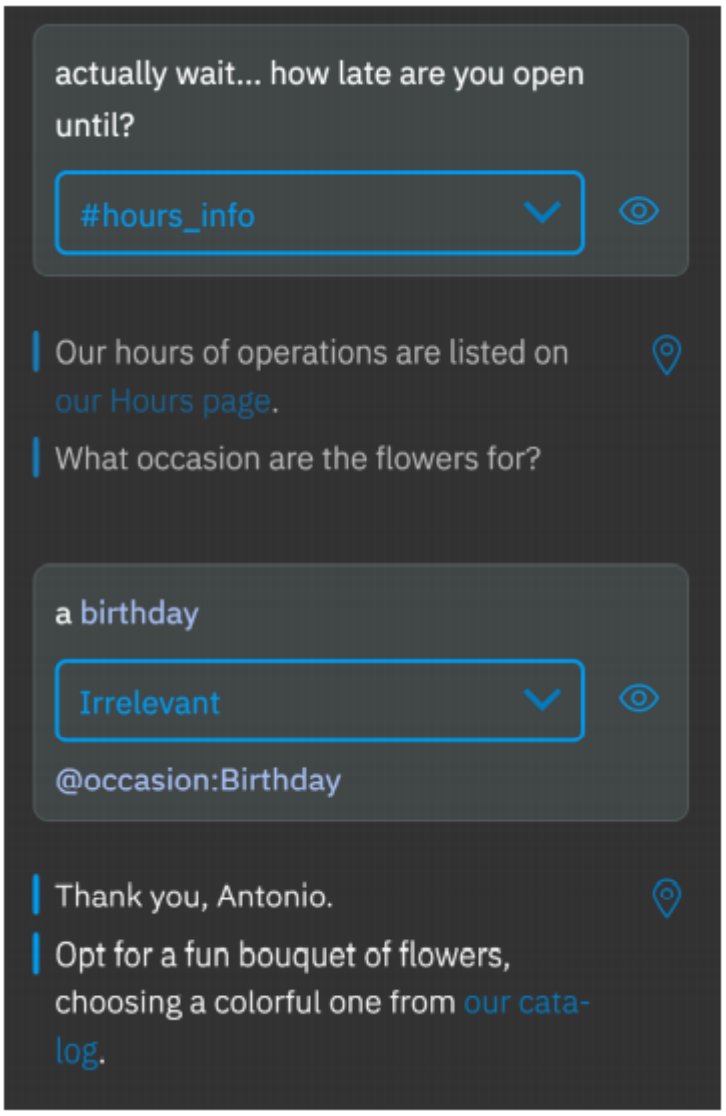
Next, clear the conversation and test it again.

(enter your name)

I'd like flower recommendations

actually wait... how late are you open until tonight?

birthday



That's quite nice! Our chatbot interacts like a polite human would in such a conversation.

2. Technically, neither *Hours of Operation* nor *Location Information* have required slots, so we

don't need digressions. But in the future, we might decide to make their slots mandatory, so as an exercise, there is no harm in enabling the digression for both nodes now. Go ahead and **enable *Allow digressions away* for both nodes.** 3. **Test a few conversations with your chatbot from the WordPress site** you deployed to earlier in the course.

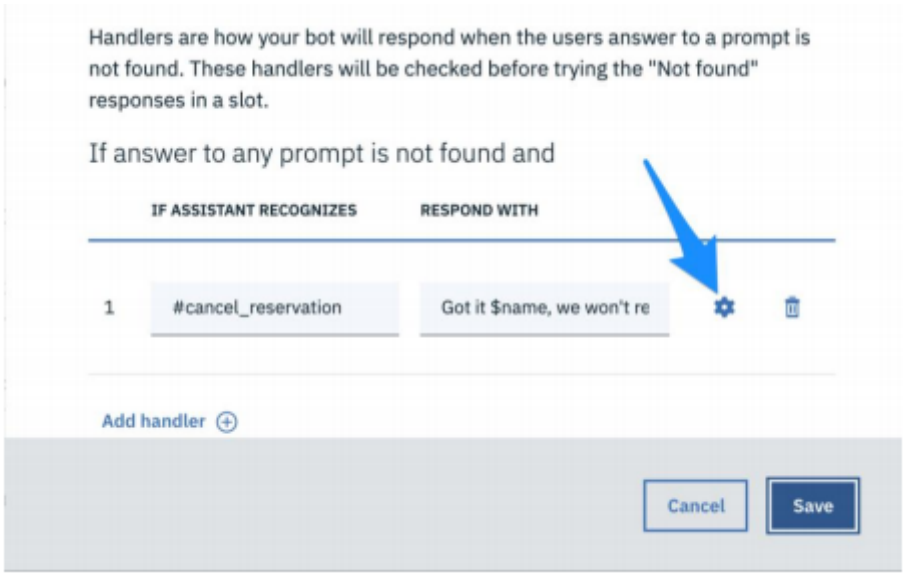
Found and *Not Found* responses, along with *Digressions* , are useful tools to add further polish to our chatbot and make it appear more human-like in its interactions with our users.

Handlers

We didn't need it in our chatbot, but sometimes we might want to execute certain actions if the user responds to a slot in a certain way. For example, if we detect that the user is trying to cancel a reservation, we want to escape/exit the slot rather than continue to pester the user for details until they get frustrated and just leave the chat.

To skip a slot when a certain condition is met, you might use *Handlers* , accessible via the *Manage Handlers* link in the slot section of your node. Handlers are evaluated even before the *Not Found* response is issued.

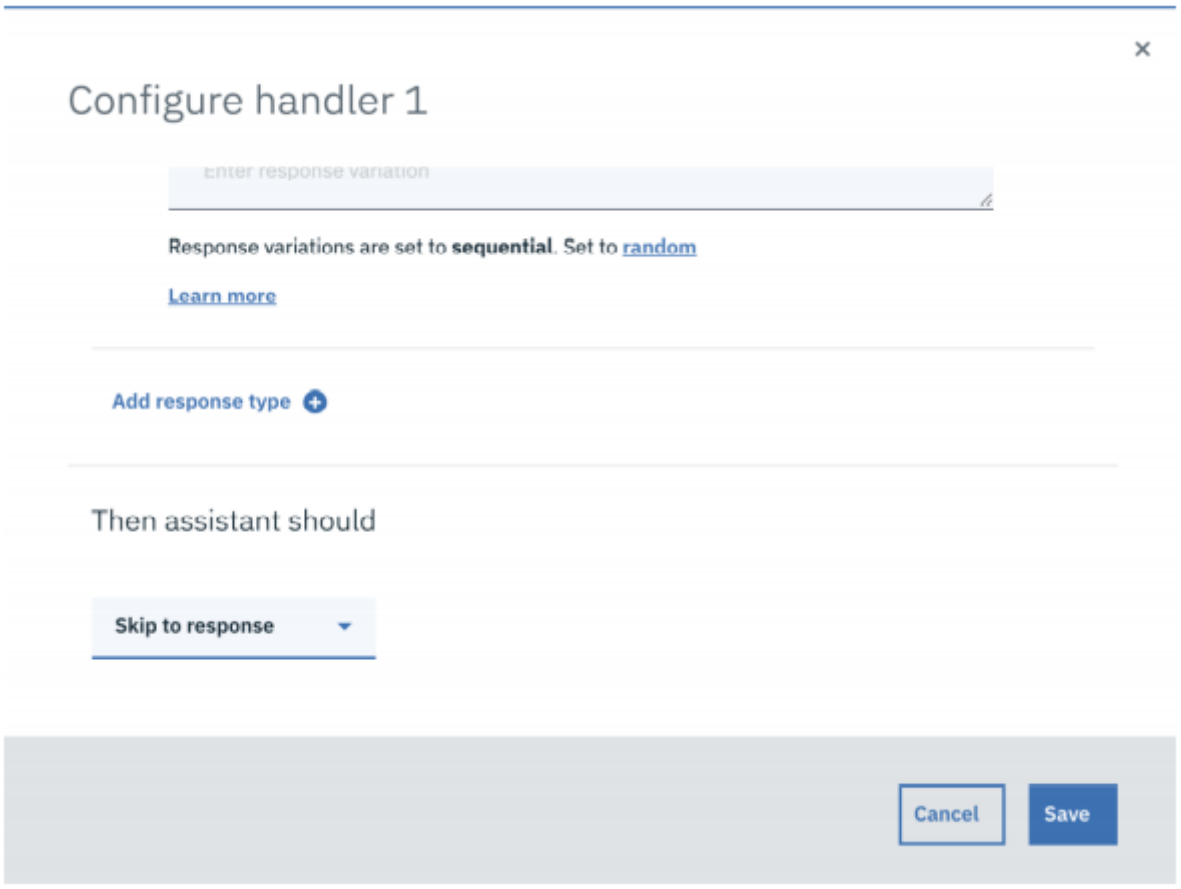
For example, we could have the following response in an handler within a reservation chatbot. Clicking on the gear icon offers us more detailed control.



This includes specifying that the handler should escape the current slot by skipping it when the handler's condition (e.g., a cancellation intent) is detected in response to the slot's question.

We can skip the current slot or skip all the slots in the node jumping straight to the response.

In the theoretical scenario of a reservation cancelled mid-booking, we'd want to skip any further question and would therefore opt to skip straight to response.



The fallback/ *true* response for such a reservation node, will likely have some kind of message inviting the user to reserve again at a later time or something equally user-friendly.

Again, this is not relevant to our chatbot, but I wanted you to know about the existence of *Handlers* and why they might be useful at times.

Our chatbot

Congratulations on getting so far into the course. We're almost done. Meanwhile, if you need it you can download and import a JSON file of the dialog skill we created so far.

Author(s)

Antonio Cangiano

Changelog

Date	Version	Changed by	Change Description
2020-08-27	2.0	Srishti	Migrated Lab to Markdown and added to course repo in GitLab