

## IBM Watson Digital Assistant CSC 202, Spring 2022

IBM Watson Assistant is a digital assistant for building conversational interfaces to applications:  
<https://www.ibm.com/products/watson-assistant>

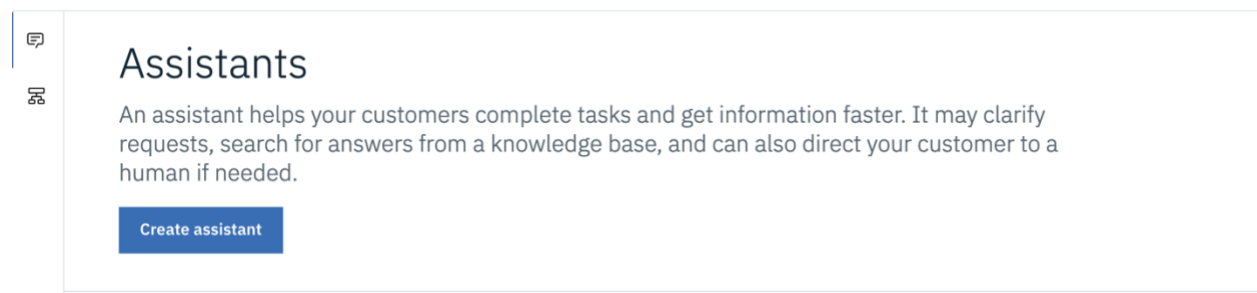
Some key components of Watson Assistant are described below:

- An ***intent*** is a purpose or goal (such as to make a reservation, ask about store hours, etc). Watson Assistant learns how to recognize intents by training on examples to learn how to *classify* an intent.
- An ***entity*** represents information in the user input that is relevant to the user's purpose, such as a product, a reservation time, etc. Entities are specified through keywords, synonyms, or patterns.
- A ***context variable*** is a variable used to store information that may persist during a conversation, such as the user's name. Context variables are set in the dialogue, and can store entities or other variables. To clear a context variable, set it to *null*.
- The ***dialogue*** is a conversation flowchart that determines how Watson welcomes the user, responds to different intents, and converses with the user.

### Watson Assistant Tutorial

1. Sign up for an account by clicking the Get Started Free button at <https://www.ibm.com/cloud/watson-assistant/>
2. Then go back to <https://www.ibm.com/cloud/watson-assistant/> and click the Get Started Free button again, and log in when prompted.
3. Click the Create Assistant button to get started

IBM Watson Assistant



4. Give your assistant a name, and an optional description, and then click Create Assistant.

## Create Assistant

Create an assistant to deploy the skill that addresses your customers' goals.

### Name

Name your assistant, for example Banking or Customer Care.

Eastern Assistant

### Description (optional)

Add a description for this assistant

Preview Link

☒ Enable Preview Link

Create assistant

5. Click the button to add a Dialog skill (do not click any buttons reference the “plus plan”, which costs money).

### Actions or Dialog

#### Build conversations

Understand and address questions or requests that your customers typically ask.

- **Actions** lets you have an assistant ready to chat in less time, with less effort. Compose step-by-step flows for any range of simple or complex conversations.
- **Dialog** offers a set of full-feature editors that you use to define both your training data and the conversation, with greater control over the logic flow.

[Learn more](#)

Try plus plan to add action skill

Add dialog skill

6. Select Use Sample Skill, and then click on the Customer Care Sample Skill, to view the Intents.

## Add dialog skill

Add an existing skill, or create a new dialog skill to add to your assistant.

[Add existing skill](#)[Create skill](#)[Use sample skill](#)[Upload skill](#)

### Customer Care Sample Skill

TYPE: Dialog — English (US)  
Sample simple customer service skill to get you started.

After clicking on the Customer Care Sample Skill, you will see something like the following:

Customer Care Sample Skill

Save new version

Try it

Intents

Entities

My Entities

System Entities

Dialog

Options

Webhooks

Disambiguation

Autocorrection

Intent Detection

Analytics

Overview

User conversations

Versions

Content Catalog

Intents (9) ↑

#Cancel

Cancel the current request

a few seconds ago

7

#Customer\_Care\_Appointments

Schedule or manage an in-store appo...

a few seconds ago

20

#Customer\_Care\_Store\_Hours

Find business hours.

a few seconds ago

48

#Customer\_Care\_Store\_Location

Locate a physical store location or an ...

a few seconds ago

25

#General\_Connect\_to\_Agent

Request a human agent.

a few seconds ago

47

#General\_Greetings

Greetings

a few seconds ago

30

#Goodbye

Good byes

a few seconds ago

6

#Help

Ask for help

a few seconds ago

8

Showing 1–9 of 9 intents

1

1 of 1 pages

- We can delete all the intents but the last 4, shown below. Click the Try it button on the top right to test whether the Assistant correctly recognizes an Intent.

imple Skill

Save new version

Try it

Create intent

<div><input type="checkbox"/></div> <div>Intents (4) ▲</div>	Description	Modified ▲	Examples ▼
<div><input type="checkbox"/></div> <div>#General_Greetings</div>	Greetings	2 minutes ago	30
<div><input type="checkbox"/></div> <div>#Goodbye</div>	Good byes	2 minutes ago	6
<div><input type="checkbox"/></div> <div>#Help</div>	Ask for help	2 minutes ago	8
<div><input type="checkbox"/></div> <div>#Thanks</div>	Thanks	2 minutes ago	8

- Click the Create Intent button to create a new Intent with the name #Get\_Contact\_Info, and type 5 examples of how you might ask to reach somebody. For example, consider:
  - Where is Dr. Smith's office?
  - What is Dr. John's phone number?
  - Where can I find Dr. Roberts?
  - What are Dr. Jim's office hours?
  - I need to e-mail Dr. Roberts.

Click the back arrow when you are finished. Then click the Entities → My entities tab on the left. You can delete the current entities, and click the Create entity button to create a new one.

Customer Care Sample Skill

Intents	Create entity			↕	↓	🗑️
Entities						
My entities	<input type="checkbox"/>	Entity (6) ▲	Values			
System entities	<input type="checkbox"/>	@holiday	christmas eve, valentine's day, independence day, halloween, christmas, thanksgiving, mem...	18		
Dialog	<input type="checkbox"/>	@landmark	empire state building, times square, grand central	18		
Options	<input type="checkbox"/>	@phone	US Phone pattern	18		
Analytics	<input type="checkbox"/>	@reply	no, yes	18		
Versions	<input type="checkbox"/>	@specialist	Derrik, Nicholas, Robert, Barbara, Brenda, Maria	18		
Content Catalog	<input type="checkbox"/>	@zip_code	US Zip	18		

- Create the entity @professor with the value Dr. Dancik, and synonyms Dancik and Dr. Garrett Dancik. Click Add Value to add the entity, then create a similar entity for Dr. Tasneem.

← | @professor Last updated

---

**Entity name**  
Name your entity to match the category of values that it will detect.

@professor

---

**Value**  
Dr. Dancik

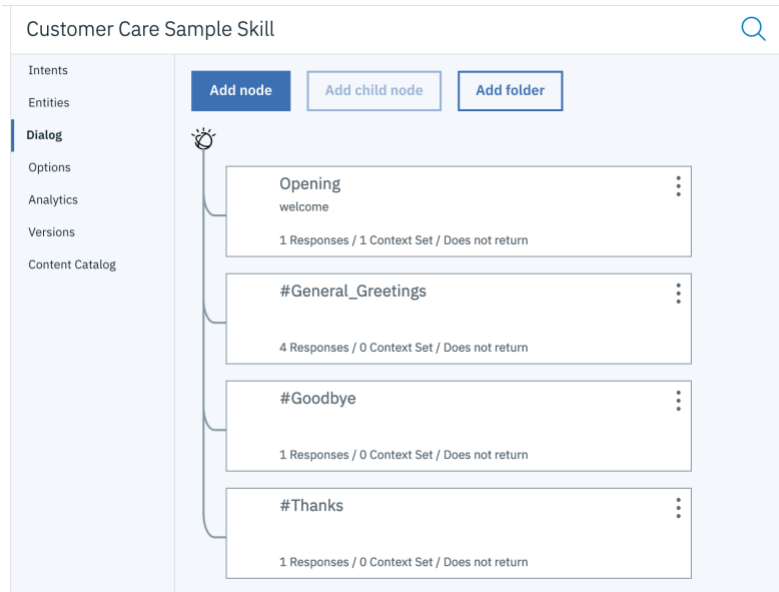
**Synonyms**  
Dancik

**Synonyms**  
Dr. Garrett Dancik

Add value Recommend synonyms

Dictionary (0) Annotation (0) BETA

- Click the blue back arrow to and then select the dialog tab. Delete everything except for the nodes shown below.



11. Add a node called ContactInfo that responds if the assistant recognizes #Get\_Contact\_Info. Click the Customize button, turn slots On and click Apply.

Now we can check for @professor, and ask the user to enter one if one was not provided.

ContactInfo Customize ⚙️ ×

If assistant recognizes

#Get\_Contact\_Info ⓧ ➕

Then check for [Manage handlers](#)



	CHECK FOR	SAVE IT AS	IF NOT PRESENT, ASK	TYPE
1	@professor	\$professor	Id you like to contact?	Required ⚙️ 🗑️

[Add slot ➕](#)

12. Click the blue customize slot wheel next to Required, and add an appropriate response if Dr. Dancik is recognized.

Configure slot 1 ⋮

**Found**





	IF ASSISTANT RECOGNIZES	RESPOND WITH	
1	@professor:(Dr. Dancik)	Dr. Dancik's contact info --Science R	 


13. Click the blue wheel, and configure slot 1 as shown below, and save the changes

Configure slot 1 ⋮ x

When user responds, if intent or entity is

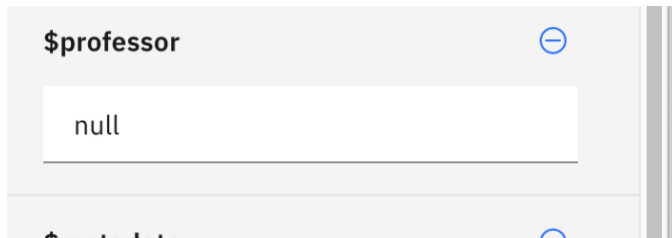
**Found**

	IF ASSISTANT RECOGNIZES	RESPOND WITH	
1	@professor:(Dr. Dancik)	Dr. Dancik's office hours are...	 
2	@professor	(not implemented yet)	 

[Add a response](#) 

You may optionally set a response if the intent or entity is Not Found, and can skip the current slot if desired (click the blue wheel under Not Found).

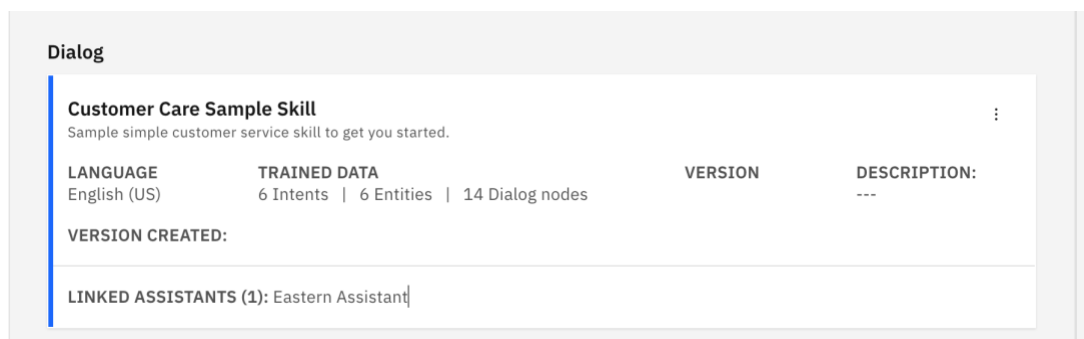
14. Save the changes, then click “Try it” and click “Manage context to Open the Context Editor. Set \$professor to null as shown below. This way we start with a null (not specified) value for \$professor. You should do this (or click “Clear” to reset any context variables during testing).



15. Let's try it!

### Watson Assistant Assignment

1. Extend the Eastern Assistant to provide contact info (e-mail address and office location) for Dr. Dancik, Dr. Tasneem, and Dr. Gao (you can get this info from <https://www.easternct.edu/faculty-directory/index.html?department=computer-science&link=/computer-science/>)
2. Add an additional intent so a user can get the office hours for Dr. Dancik, Dr. Tasneem, and Dr. Gao.
3. To export a Skill:



Click the 3 dots next to the Skill to export it, and select Download. This will download the skill as a JSON format, which can be shared with others.

## Skill

A dialog skill provides specific responses you've created. Choose one for your assistant. [Learn more](#)

### Dialog

#### Eastern Skills

Eastern Skills

**LANGUAGE:** English (US) **TRAINED DATA:** 5 Intents | 4 Entities | 15 Dialog Nodes **VERSION:** Development **CREATED:** Oct 17, 2019 9:39 PM EDT

**UPDATED:**  
Oct 18, 2019 8:26 AM EDT

**LINKED ASSISTANTS (1):** Eastern Assistant Test

View API Details

Export

Swap skill

Change skill version

Remove skill

Note: You are limited to 5 “Skills” in the free plan. If you are not able to create new skills, then you must remove them from the assistant, and then delete the skill. You can view and delete skills by clicking on the 2<sup>nd</sup> icon on the left hand side of the page (under the chat bubble icon).

IBM Watson Assistant Lite [Upgrade](#)

[Learning center](#)



## Skills

Skills contain the training to respond to your customer queries. Add skills to your assistant and then deploy to your channels.

Create skill

### Customer Care Sample Skill

TYPE: Dialog — English (US)

**CREATED:**  
Apr 18, 2022 8:43 PM

**UPDATED:**  
Apr 18, 2022 8:43 PM

**LINKED ASSISTANTS (1):** [Eastern Assistant](#)

### My first skill

TYPE: Dialog — English (US)

**CREATED:**  
Oct 31, 2019 9:52 PM

**UPDATED:**  
Oct 31, 2019 9:54 PM

### SQL

TYPE: Dialog — English (US)

**CREATED:**  
Mar 9, 2020 4:17 PM

**UPDATED:**  
Mar 9, 2020 4:35 PM