

Introduction

[IBM Watson](#) is a leading artificial intelligence (AI) and machine learning (ML) technology. It gained notoriety when Watson's predecessor, Big Blue, [defeated a world champion in chess](#) in '97. In 2011 it [made its mark again](#) in Jeopardy, proving how powerful its natural language processing is. Watson is now leveraged for a wide range of uses across various industries, from machine automation and Industry 4.0 in [manufacturing](#) to finance analytics and cybersecurity.

The IBM Cloud platform will allow you to create a chatbot on the backs of possibly the most advanced machine learning system available to the public. Chatbots, as you may recall from [another guide](#) related to a rival service, are a useful way for your customers to ask questions and get answers right away. The bot can answer questions or direct the customer to another resource.

You can run the chatbot (or, as IBM refers to it, *conversational instance*) within a wide range of devices, channels, apps, or even car dashboards.

The screenshot displays the IBM Watson Developer Console interface for a 'Car Dashboard Sample' project. The interface is divided into two main sections: 'Intents' and 'Dialog'.

Intents Section:

- Buttons: 'Add intent', '4 intents', 'Newest'.
- Table of Intents:

Index	Intent Name	Example Utterance
6	#book_room	I need a room for this weekend
9	#no	Absolutely not
10	#yes	absolutely
5	#locate_amenity	Does this hotel have a bar?

Dialog Section:

- Buttons: 'Try it out', 'Clear'.
- Chat Log:

Hey Watson, I need a room
[#book_room]

We've only got one room left - would you like it?

nah
[no]

Fair enough!

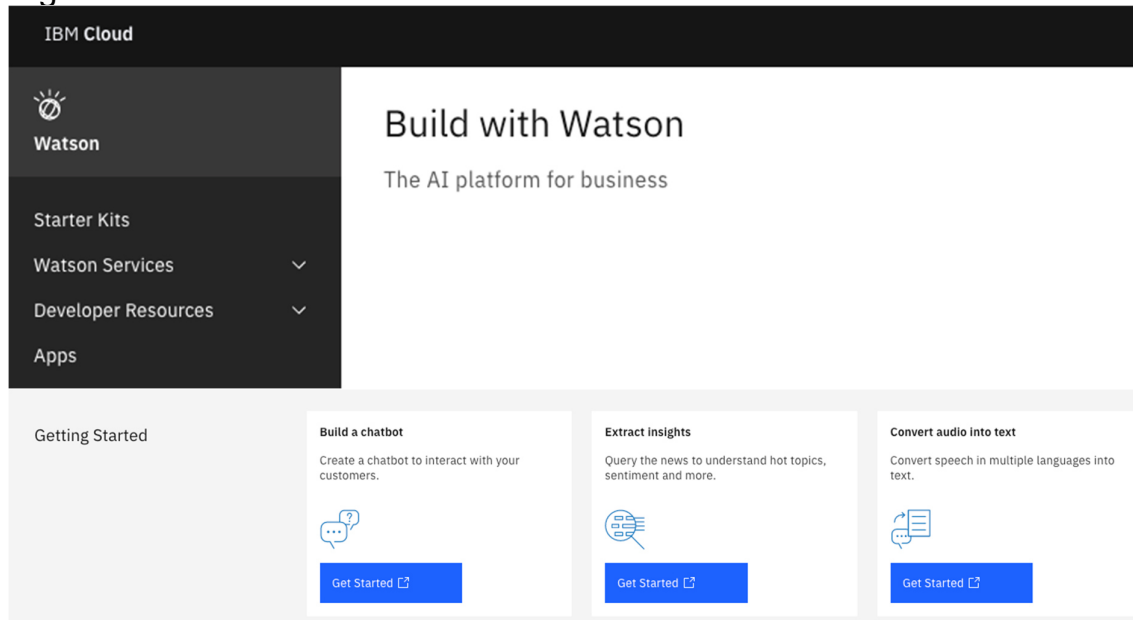
Where's the bar?
[#locate_amenity] [#entity:bar]

The bar is located down the corridor to your right

Enter something to test your service

Set Up an IBM Cloud Account

First, create an IBM Cloud account from the [IBM Cloud website](#) and log in. Keep in mind that the IBMid button will probably be the email address you registered with.



Log in to IBM Cloud

ID

IBMid	▼	Stirolak28@gmail.com
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☐ Remember me

Start Creating Your Chatbot

Click Get Started in the Build a Chatbot window.

Build a chatbot

Create a chatbot to interact with your customers.



Get Started 

Next, choose a plan. The free Lite plan should be enough to get started for anyone not running a larger enterprise. It offers up to 10,000 messages per month with five dialog skills and 100 dialog nodes. You can upgrade to a paid plan any time and keep your intents, entities, dialog flows, and chat logs.

Additional plans include searchable indexes from external data (help desk), more than one user, more messages or APIs between the chatbot and customers, more dialog skills, and nodes.

To truly take advantage of the Watson AI, consider the Plus or Premium plans, which offer *Intent Conflict Detection*. This can detect when a user or site visitor is frustrated and needs their questions answered soon.

After choosing a plan, choose the name you want your chatbot to have and any desired tags.

Configure your resource

Service name:	Select a resource group: ⓘ
<input type="text" value="Watson Assistant-ci"/>	<input type="text" value="Default"/>
Tags ⓘ	
<input type="text" value="Examples: env:dev, version-1"/>	

If you choose anything outside the free plan, click Add to estimate and Review estimate. Otherwise, go back to your IBM Cloud Dashboard. Your Watson Assistant instance should be available under resource summary>services. If your chatbot isn't indicated by a number "1" next to Services, click Create resource.

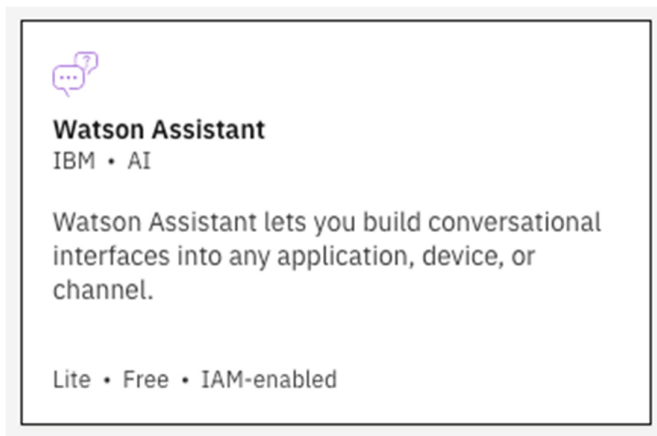
Upgrade

Customize 

Create resource



You will see a list of service options available.

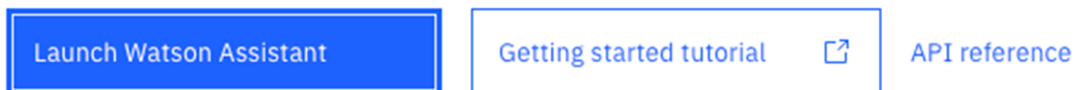


If you do see a number 1 next to Services, click on Services to see your instance in a list.

^ Services (1)				
 assistant KVQ7Z	Default	Frankfurt	Watson Assistant	● Active

Click on your instance and then Launch Watson Assistant.

Start by launching the tool



Click My first assistant, then the Dialog window in the Skill section.

My first assistant Built for you to explore and learn.	Skills (1) My first skill	Integrations (0)
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Intents and Entities

Before you begin creating your chatbot's dialog, it's important to understand *intents* and *entities*. The way IBM [defines](#) them is that intents are the verbs or actions the user wants to do, while entities are the nouns like places or things related to your business. The chatbot puts them together to figure out the best ways to answer questions.

Intent Setup

Intent is the customer's purpose asking the question or the intention of their request. It could be something like finding basic information including hours of operation, or simply a greeting.

To set intents in your chatbot, click Create intent in the skill section and add the name of the intent and an optional description.

The name should reflect the intent, like "location," "operational hours," or "greeting." This example starts out with a greeting. Once you add this to the Intent name section, you will see another prompt called User example where you can input ways your customers may introduce themselves to the chatbot, such as "Hello," "Hi," or "Greetings."

Intent name

Name your intent to match a customer's question or goal

#Greeting

Description (optional)

Add a description to this intent

User example

Add unique examples of what the user might say. (*Pro tip:* Add at least 5 unique examples to help Watson understand)

Type a user example here, e.g. I want to pay my credit card bill

Enter each example and click Add example to get a list. Watson AI will process this list and its variants into its system for future reference. Premium plans offer automated versions of user questions it deems appropriate for the given intent.

Add example

Show recommendations

Annotate entities

What's this?

<input type="checkbox"/> User examples (3) ↑	Added To
<input type="checkbox"/> Greetings	a few seconds ago
<input type="checkbox"/> Hello	2 minutes ago
<input type="checkbox"/> Hi	a few seconds ago

Repeat this for other intents your customers may have, like "Operational Hours," "Service Help," "Sign Up to Service," "Application Support," "Definition of," "Location," and the like. A "ThankYou" or a "Goodbye" intent can be useful to leave the user with a good impression at the end. Click the back arrow to add intents. The Content Catalog option within Skills has a wide range of automated, preselected options.

Content Catalog	Bot Control	Functions that allow navigation within a conversation.	9	Add to skill +
	Covid-19	Common questions about the Covid-19 virus.	10	Add to skill +
	Customer Care	Understand and assist customers with information about themselves and...	18	Add to skill +

Entity Setup

Next, set up some entities related to your business so the chatbot knows how to start answering questions.

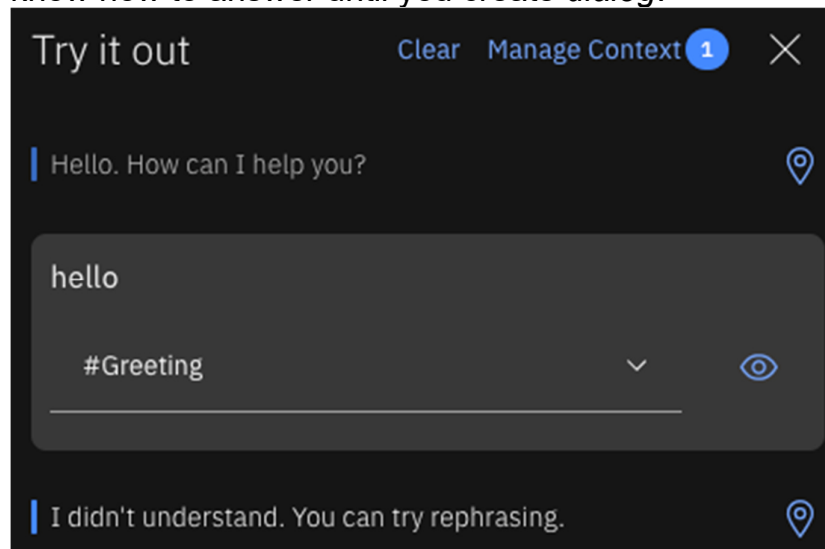
In the Entities section, enter values related to the entity and synonyms for it. *Values* are used by the chatbot to find an entity based on synonyms a customer may use in their question. One customer may call the gallery a "showroom" while another may call it a "store," but if you list both of these as values under one entity the chatbot will recognize that they both suggest the same entity.

For example, if "ArtGallery" is the name of the Entity, then "Gallery" is the name of the Value, and "Showroom," "Store," "Showcase," "ArtShow," and "Display" are the synonyms. When everything you want is selected, click Add value.



Entity (1) ↑	Values	Modified ↑
@ArtGallery	Gallery	3 hours ago

After adding your values, click Try it to preview an instance of your chatbot and try to greet it. You will see the chatbot understand the intent when a # icon and the intent name appear next to it. However, the chatbot will not know how to answer until you create *dialog*.



Dialog and Nodes

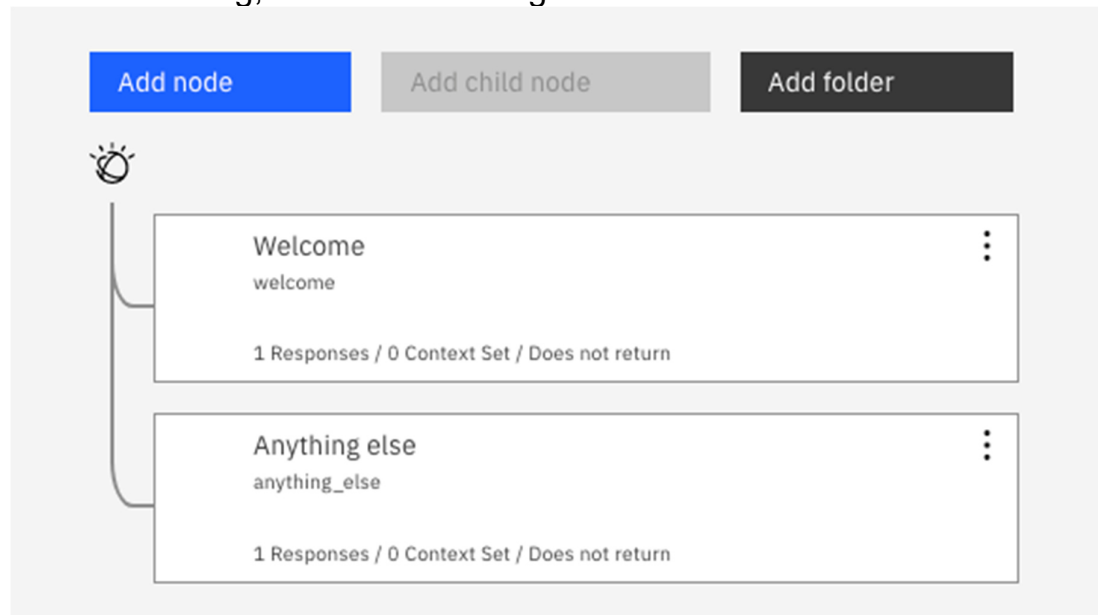
Dialog is how the chatbot responds to customers and jumps to new topics based on previous responses through the use of dialog trees. The *dialog tree* refers the customer to different topics using nodes.

A *node* deals with responses to specific entities or intents. There is a lot of variation here and over time you should get a hang of how to best give your

audience the content they need. Watson will also use its machine learning algorithm to improve and adapt to changing conditions the longer it runs and more options you give it.

A node name should be descriptive and relate to the issue the chatbot will be dealing with because it may be shown to customers or coworkers.

To create dialog, click on the Dialog skill.



“Welcome” and “Anything else” nodes are already set up for you. Click “Welcome” to modify it. You can give your chatbot various dialog options such as responses and variations of a response.

If assistant recognizes

welcome - +

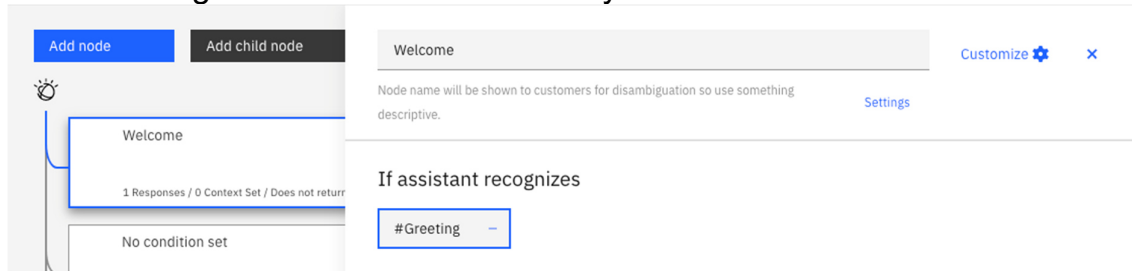
Assistant responds



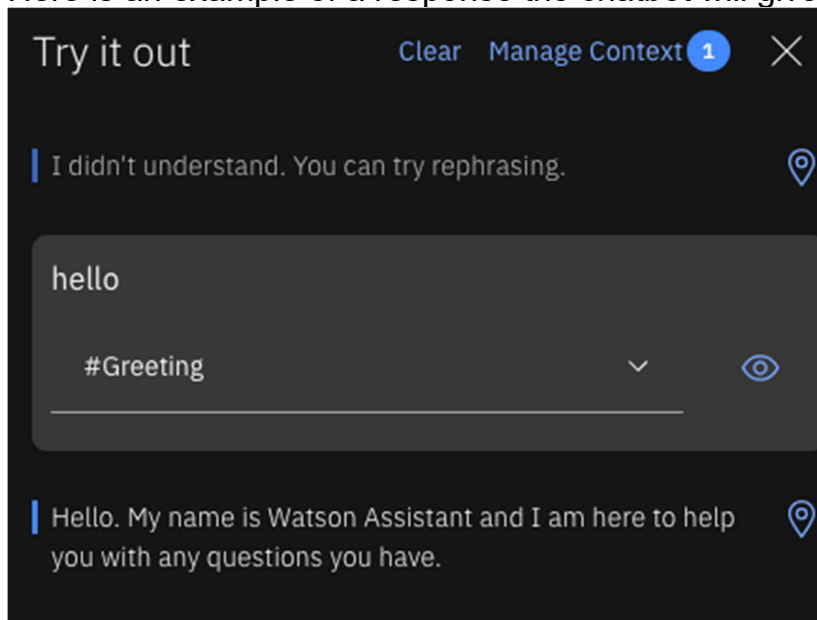
Response variations are set to **sequential**. Set to [random](#) | [multiline](#)

It is good to create a welcoming message a bit longer than the default version and to set the variations of this response to random to make it less robotic.

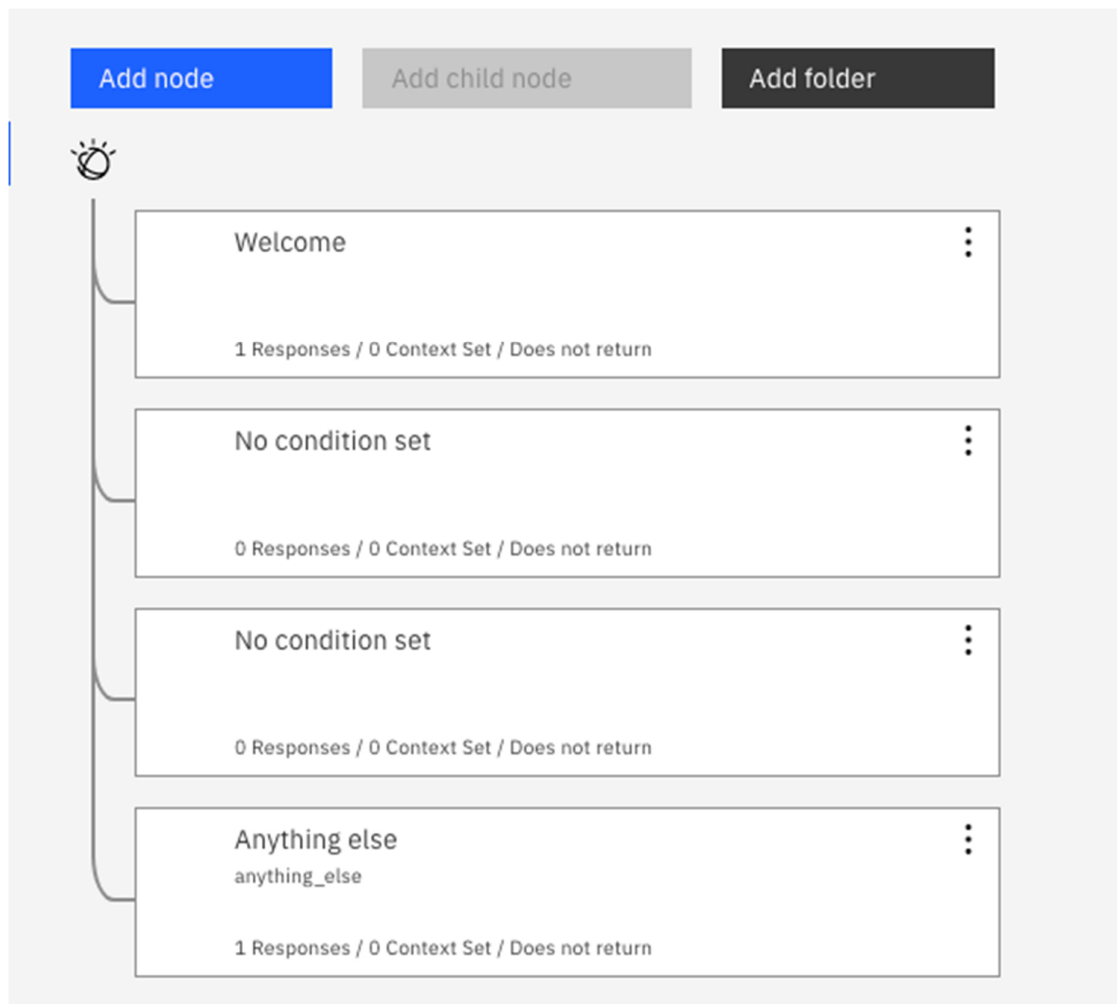
Even though there is a "Welcome" node, the chatbot will still not be able to respond to customers until you set up a node for a greeting. This is unless you modify the section If assistant recognizes from the default "welcome" (which has not been set up as an intent) to "Greeting," because that is the intent it recognizes when a customer says "Hi" or "Hello".



Here is an example of a response the chatbot will give as you set it up:



Another thing to keep in mind about the nodes is that the chatbot analyzes them from the top down. So if the "Anything Else" node catches a question and answer before the "Greeting" node, the chatbot may get confused. "Anything Else" should be on the bottom of the list of nodes and "Greeting" should be on top.



Head over to the Anything else node and modify the chatbot's responses to deal with any questions Watson may not understand or subjects you have no nodes for.

You can start to test these responses out by clicking Try it out. You can add a wide range of new nodes by clicking on the blue Add node button or the button next to it to add *child nodes*, or nodes within the main nodes that relate to them.

To modify your chatbot further, you can add custom *Skills* related to dialog or search with a premium subscription. A "Customer Care" sample skill is available to see the sort of options available to you within Watson's arsenal of tasks and operations.

Create skill

Skills can be combined to improve your assistant's capabilities. [Learn more](#)

Select skill type

Dialog skill

Dialog skills use Watson natural language processing and machine learning technologies to understand user requests and respond appropriately. [Learn more](#)

Next

Search skill Plus

Once you've created a dialog skill, you can add a search skill. Search skills find relevant information from external data sources and provide responses to user queries that the dialog is not designed to handle. [Learn more](#)

Try Plus plan

Hover over the icons on the left to see the Skills options.



Finally, go to the Assistants section and click on your instance to choose how to deploy your chatbot.

Integrations

Choose a channel to deploy your assistant.

[Add integration +](#)

Deploy with Web Chat Beta Plus

Add your assistant to your company website.

[Integrate Web Chat](#)

Saved integrations



Saved integrations like the *Preview Link* will be available here.

Conclusion

It can be tricky at first to figure out the best way to set up an IBM Watson chatbot. But this is really due to how many options IBM gives you. Keep working with it and you may find that it is a comprehensive way for your customers to connect with your business whether employees are working or not.