



IBM Watson Assistant – Virtual Assistant Workshop

Prerequisites: IBM Cloud Setup and Cloud Object Storage instance. See the Setup and Installation Guide for details.

Over the course of this workshop, you're going to be building an interactive virtual assistant that can be deployed to a custom application or a Slack channel to help users with their various needs. A simple virtual assistant will only take a few things to create, of which there are both pre-made and customisable options. You're going to create the assistant which learns from conversations, as well as its tree for following dialog threads, and the dialog skill which it employs to talk with users. You'll learn what Intents, Entities, and Dialogs are, as well as how to make your own that are more suited to your needs.

You should be able to complete this tutorial in approximately 20-30 minutes, depending on loading and running times.

To get started, open the IBM Cloud site at <https://cloud.ibm.com> and sign in.



Step 1: Creating a Watson Assistant service instance.

1. On the IBM Cloud main page, click the **Create Resource** button.
2. Navigate to the **AI** category on the Catalog page, then click the **Watson Assistant** card.
3. Ensure that on the resource creation screen, your **Region/Location** is set to **Dallas**, your **Resource Group** is set to **Default**, and that you have the **Lite** plan selected. Click the **Create** button.
4. Once the Watson Assistant service instance is created, you will be taken to a details page. Click on the **Launch Watson Assistant** button.

NOTE: If this is your first time creating a Watson Assistant service instance, the blue button on the Manage page may say “**Getting Started Tutorial**” instead of “**Launch Watson Assistant**”. Try opening and closing the tutorial or try clicking through the other tabs on the page until you see that the blue button on the Manage page says: “**Launch Watson Assistant**”.

Step 2: Creating an assistant and a dialog skill.

1. From the Watson Assistant homepage, click on the **Assistants** tab in the bar at the top of the page, then on the Assistants page click the **Create Assistant** button.
2. Enter a name for your virtual assistant, and a short description of what it is meant for. Ensure that the **Enable Preview Link** checkbox is checked, then click the **Create Assistant** button.
3. Click the **Add Dialog Skill** button on the page for the Assistant which you have created.
4. Enter a name and description for the dialog skill which you will create then click the **Create Dialog Skill** button.

Step 3: Configuring your dialog skill.

1. Back on the page for your Assistant, click on the card for the **Dialog Skill** which you just created.
2. From the tab bar near the top, navigate to the **Content Catalog** tab, where you will see a list of intent groups.
3. Find the entry marked “**General**” and click the corresponding “**Add to skill**” button on the right-hand side of the page.
4. Navigate to the **Intents** tab and **click** on one of the items in the list there. You’ll see a list of **user examples** appear.
5. Go back to the **Intents** page and click the **Create Intent** button.
6. Name your new Intent “**#set_alarm**” then click the **Create Intent** button on this page.
7. In the “**Add user example**” field that appears, write in a few different ways of asking the assistant to set an alarm for a certain date and time. These examples don’t even have to be full or proper sentences, just “alarm” or “wake me at 7” will suffice.
8. Navigate to the **Entities** tab, and then the tab labelled “**System entities**”. Turn on “**@sys-date**” and “**@sys-time**”.
9. Go to the **Dialog** tab and click on the **Create Dialog** button. This will create the default nodes for your dialog tree, “Welcome” and “Anything else”.

Intents

Intents are how Watson Assistant classifies user input. Each phrase entered in to your assistant is tagged with what your assistant believes you mean and processes it as such. This then affects the flow of the conversation through the nodes of the assistant’s dialog tree.

Entities

Entities are essentially standard “keyword” items which your assistant processes. For example, if you have the @sys-currency pre-built entity enabled, and you asked your assistant to move one thousand dollars from one account to another, it would be able to read “one thousand dollars” as a numerical amount to move around.

Step 4: Configuring the nodes of your dialog tree

1. Click on the **Welcome node** and the Edit panel will open on the right-side of the screen.
2. In the Edit panel, under the “**Then Respond With**” section, edit the text to whatever you would like as a welcome message.
3. Click the “**Add Node**” button at the top of the node tree.
In the Edit panel, under the “**If assistant recognizes**” field, enter “**#General_Greetings**” and click the corresponding option that appears.
4. Set the name to “**Greetings**”. Under the “**Then respond with**” field, enter in “**Hi!**”, then hit the Enter key and enter in “**Hello!**”, hit the Enter key again and enter in “**Hey!**”.
The default for the Assistant choosing between response variations is **sequential**, but you can set this choice to **random** if preferred.
5. Now click the **Add Node** button again, then under “**If assistant recognizes**” enter “**#General_Ending**”.
6. Set the name to “**Endings**”. Under the “**Then respond with**” field, enter in “**Goodbye**”, then hit the Enter key and enter “**Bye-bye**”, hit the Enter key again and enter in “**See ya**”. Again, set the **response variation** to either sequential or random.
7. Somewhere in the Dialog Tree, add a Node and under “**If assistant recognizes**”, enter the Intent you created, “**#set_alarm**”, and set the name to “**Alarm**”.
8. Click the “**Customize**” button in the top of the panel, turn the “**Slots**” option on, and check the “**Prompt Everything**” box.
9. In the “**Then check for**” section under “**Check for**”, enter “**@sys-time**”; under “**Save it as**”, enter “**\$time**”; under “**If not present, ask**” enter “**What time would you like to set your alarm at?**”.
10. Add a slot, then under “**Check for**” enter “**@sys-date**”, under “**Save it as**” enter “**\$date**”, and under “**If not present, ask**” enter “**What day would you like to set your alarm on?**”.

Nodes

Dialog with your assistant is managed via a decision tree made up of nodes.

The “Welcome” node displays a welcome message to your user each time they open your Assistant.

The “Anything else” node displays a reply to user input that your Assistant can’t understand.

11. Slots work in a simple if-then conditional manner, so we need a base catch-all response if none of the slots are answered in the initiating input. Under **“If no slots are pre-filled, ask this first”** enter **“Which date and what time would you like your alarm to be set for?”**.

Step 5: Testing and sharing your simple virtual assistant

1. In the top right corner of the page, find the button labelled **“Try it”** with a speech bubble image on it and click it. A side panel will open, and your **Welcome** message should display in the panel.
2. At the bottom of the panel is a space for you to talk to the assistant. **Try entering a few different greetings**, like “yo”, or “hey”, or even “konnichiwa” or “ciao”.
3. To change the **Intent** or the **Irrelevant** marker, click on the drop-down menu displaying the Intent and either scroll or search to find the Intent which you prefer.
4. **Try setting an alarm** with your assistant using variations of the things you entered in when you created the **Alarm Intent**.
5. As with the greetings, **test out a few different endings** like **“see ya”** or **“bye”** or **“sayonara”**.
6. **Navigate** back to the page for your assistant by clicking the **“Assistant”** link above the name of your assistant in the top left of your screen.
7. In the **Integrations** panel on the right side of your screen, click on the **Preview Link** button.
8. The page that pops up contains a **preview link** to an IBM-hosted demo page for your assistant, which can be **shared with anybody** to test your virtual assistant’s capabilities. Click it to talk to the assistant you have made. Ignore the note about incurring charges as this does not apply to those using a Lite plan.

Trying it out

Whenever you enter something to test your assistant, your entry will be visibly tagged with an Intent. If your assistant can’t classify what you entered, it will be tagged as Irrelevant and the bot will respond with one of the default response variations in the Anything Else node.



Over the course of this workshop, you've made your own Dialog Skill, with both unique and pre-built Intents, as well as an Assistant to use that skill. There are several other, more useful integrations available to you. If you click the Add Integration button, you'll see that you can set up your virtual assistant in Slack and Facebook Messenger. Follow the instructions provided within Watson Assistant to implement these integrations. You can also integrate your virtual assistant into a custom application for your client; see the links below for more information on how to do this:

API Methods Overview - <https://cloud.ibm.com/docs/services/assistant?topic=assistant-api-overview>

Assistant API v1 - <https://cloud.ibm.com/apidocs/assistant>

Assistant API v2 - <https://cloud.ibm.com/apidocs/assistant-v2>