# **IBM Watson Assistant – Deeper Dive**

## Lab overview

In this lab, we will use the power of the IBM Cloud Pak for Data platform and the AI enabled virtual assistant service IBM Watson Assistant to design and customize an engaging conversation that can be leveraged by your customers. The narrative of the Virtual Assistant is around providing a self-service channel to customers of Trade Co. that will help streamline certain tasks and improve the quality of service provided by Trade Co. currently.

The installation of IBM Watson Assistant service has already been done for you. We will begin by showing you how to provision an instance and get started.

## Persona represented in this lab

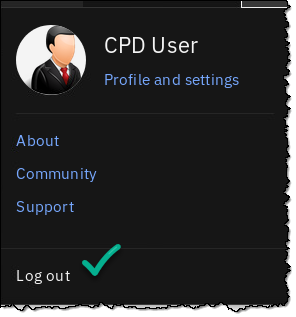
The Developer persona is the likely role to perform the various Infuse tasks in this lab and to further integrate the virtual assistant to multiple channels. However, the Data Scientist / Business Analyst persona could perform the training tasks as well.

|  |  |
| --- | --- |
| **Persona (Role)** | **Capabilities** |
| A close up of sunglasses  Description generated with high confidence  Developer | Developers create and maintain the end-user applications that utilize the output from all the other personas on the CPD platform. |
| A picture containing clothing  Description automatically generated  Business Analyst | Business Analysts deliver value by taking data, using it to answer questions, and communicating the results to help make better business decisions. |

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| A picture containing clothing  Description automatically generated  Business Analyst | **Caution!**  This lab requires that you to log into a ***different*** Cloud Pak for Data web client than what is utilized by the other labs in this workshop.  *Please pay special attention to the next section.* Don’t assume it is the same login information as what you have seen in the rest of the labs in this workshop. Don’t skip it. |

## Logging into the Watson Assistant CPD web client

1. If you are in a CPD web client for any other lab in this workshop, log out and close the browser.



1. Double-click the desktop icon: Watson Assistant – Discovery.

A picture containing sitting, computer, holding, computer

Description automatically generated

|  |  |
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| A picture containing clothing  Description automatically generated  Business Analyst | **Note:**  Again, this lab requires that you log into the Watson Assistant and Watson Discovery web client by clicking on the above icon.  This web client points to a different namespace (project) in OpenShift than what the rest of the services for this workshop utilize, which only houses Watson Assistant and Watson Discovery. |

1. The Watson Assistant and Watson Discovery CPD web client login GUI displays as shown.

Use cpduser and cpdaccess for the *Username* and *Password* and click Sign in.

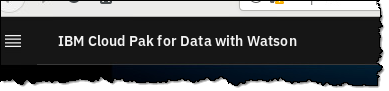
A screenshot of a cell phone

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## Provisioning a new IBM Watson Assistant instance

Before you continue, please check the top left of your screen. It should say IBM Cloud Pak for Data with Watson.

If it does not say that, then return to the previous section in this workbook and follow the instructions.



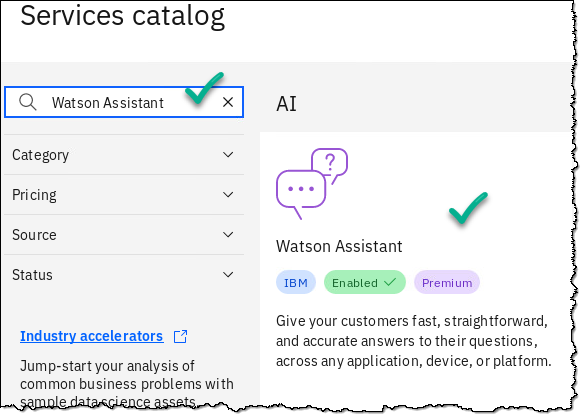
1. Select the Services Menu icon at the top right of the screen.

A picture containing ball, racket, player, person

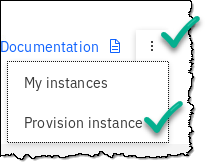
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1. In the search window, type Watson Assistant.

Click on the tile Watson Assistant.

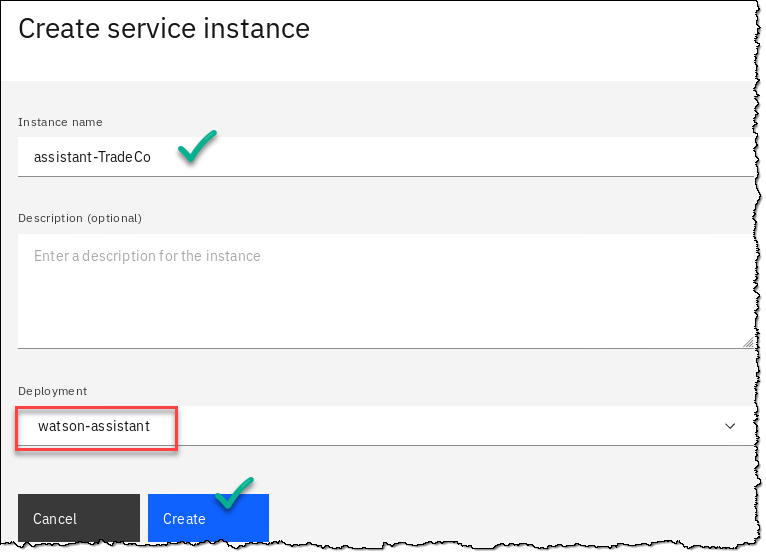


1. On the top right of the screen click ellipsis  🢧 Provision instance.



1. In Create service instance, fill in *Instance name*: assistant–TradeCo

Select Deployment as watson–assistant 🢧 Create.



|  |  |
| --- | --- |
| A picture containing clothing  Description automatically generated  Business Analyst | Note: You will need to do this step once for every new instance you need to create. After which, you can simply access your provisioned instance from the list of available options. |

1. Once your instance is provisioned you will see a detailed screen outlining the details on your instance and access information that can be shared via the “Download” button with your team for customization purposes.

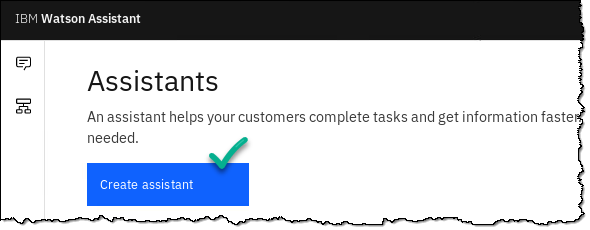
Click the Launch tool button to access Watson Assistant.



## Creating your first Virtual Assistant with IBM Watson Assistant

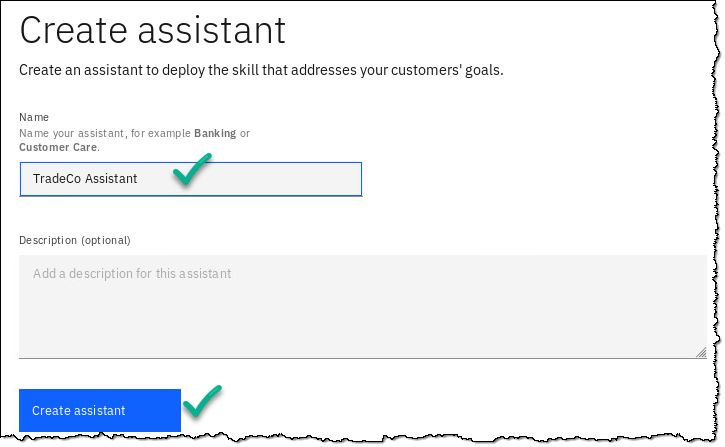
1. We will now create our first virtual assistant on the newly provisioned instance.

Click Create assistant.



1. Type assistant name as TradeCo Assistant 🢧

Leave the Description blank 🢧 Click Create assistant.



|  |  |
| --- | --- |
| A picture containing clothing  Description automatically generated  Business Analyst | Note: You will need to only do this once for any new assistant created. |

### **Dialog and Search skills overview**

You can train your virtual assistant to handle both short tail and long tailresponses using the skills feature. There are two types of skills that you should be aware of: Dialog Skill and Search Skill. A *dialog* skill provides specific responses you've created. You can use a *search* skill to provide answers from linked documents or web pages. You can choose one or both skills for your assistant. Watson Assistant can be later deployed to a channel of your choice which can be a voice agent or a custom application specific to your organization.

Dialog skill: Uses Watson natural language processing and machine learning technologies to understand user questions and requests and respond to them with answers that are authored by you.

Search skill: For a given user query, uses the IBM Watson Discovery service (out of scope for this lab) to search a data source of your self-service content and return an answer.

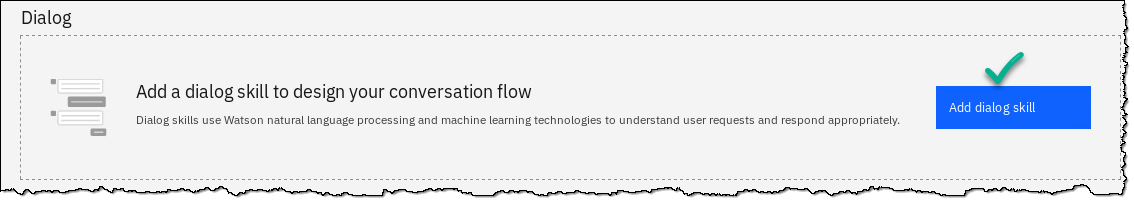
### **Loading the file to add a dialog skill**

1. Use this link to download the JSON File which will be used in the next step. <http://ibm.biz/Trader-JSON>

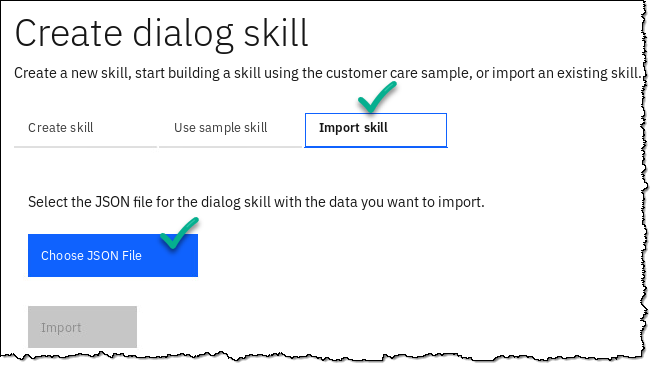
(If you are using a digital copy of this workbook, click on the link. Otherwise, you can open another browser tab and paste the link.)

Alternately, if you are using the Unified Desktop, the file is available for you in directory: /home/ibmdemo/Downloads/skill-IBM-Stock-Trader.json.

1. Click Add dialog skill.



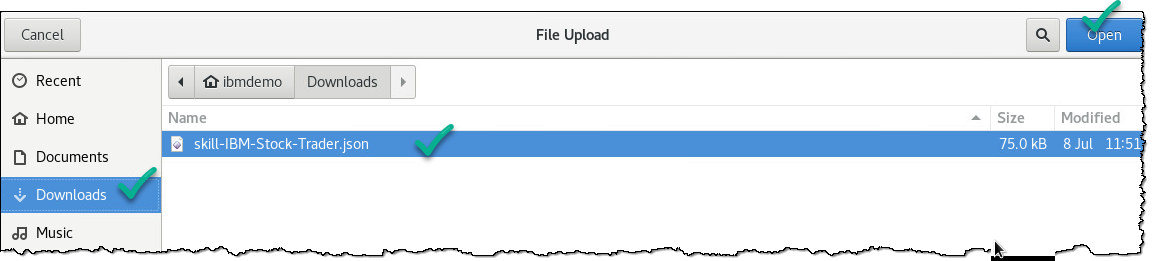
1. Select Import skill 🢧 Choose JSON File.



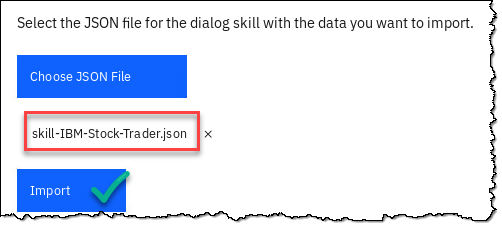
1. If you are using the Unified Desktop, navigate to

Downloads 🢧 skill-IBM-Stock-Trader.json 🢧 Open.

If you are accessing this workshop via your own desktop browser, then select the file from the location of where you downloaded the file.

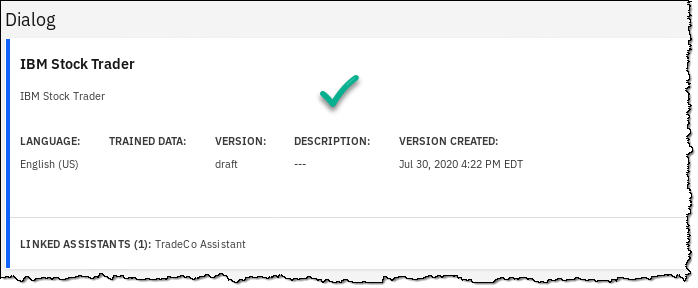


1. With your JSON file chosen, click Import.



1. Upon a successful Import you should see “IBM Stock Trader” card under Dialog as shown below.

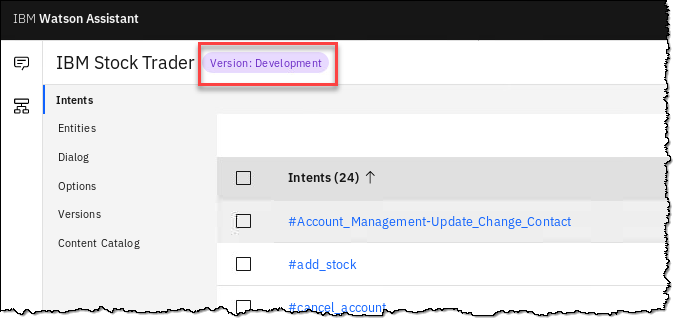
Click in the dialog box IBM Stock Trader.



### **Reviewing the dialog skill**

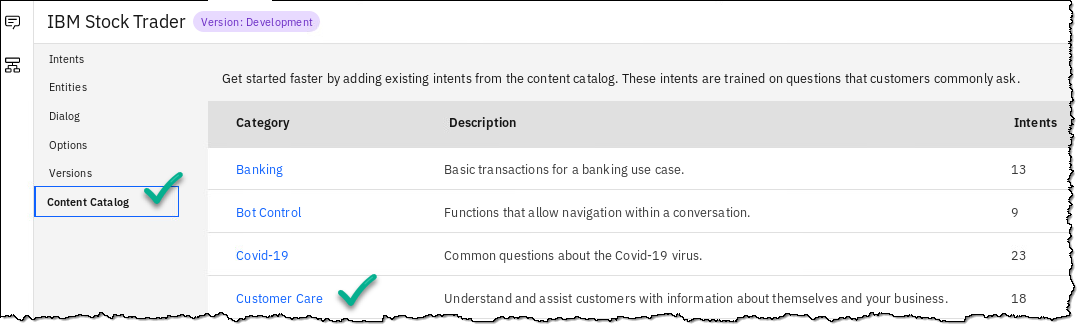
1. When we imported the Dialog skill, it brought the intents & entities which were created previously (This is an easy way to transfer your virtual assistant’s skills from one Assistant to another). You are first positioned t the Intents screen of the Development view.

After you click the Dialog skill IBM Stock Trader, you will see the Development view.



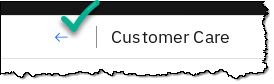
In this view you can add new intents / entities and modify existing ones. You can also use the Content Catalog which is updated regularly to add common intents to your Watson Assistant dialog skill based on the various available categories.

1. Click on Content Catalog 🢧 Customer Care.



Navigate through the different intents already available and review the examples that have been provided. Using them is as easy as clicking the Add to skill button the top right-hand corner. (No need to do that now.)

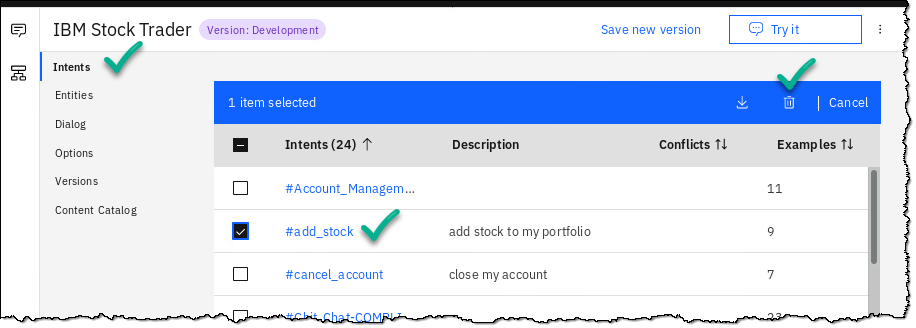
1. Return to the Development view.

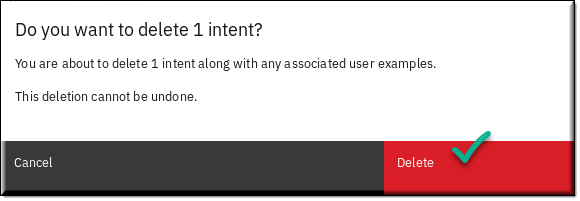


1. You will now go through the process of creating a new intent.

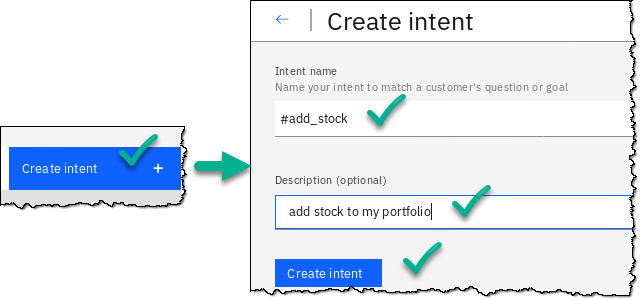
Click on Intents.

Select intent #add\_stock 🢧 Delete (trash can) icon 🢧 Delete.





1. Click Create intent 🢧 Intent name: #add\_stock 🢧 Description: add stock to my portfolio 🢧 Create intent.



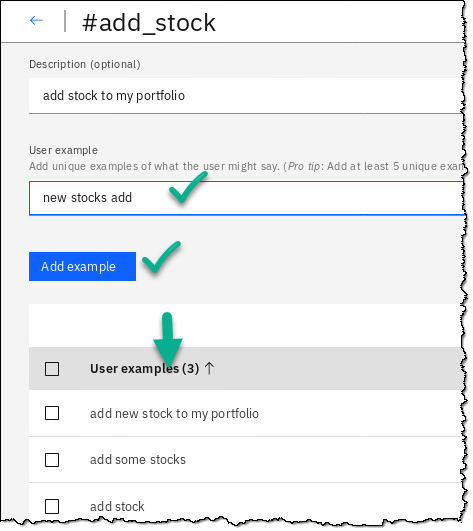
1. Under User example add the following:

add some stock

add stock

add new stock to my portfolio

new stocks add



You can add or import more examples in natural language if you wish. The goal of Intents is to understand the purpose of your customer’s input so that Watson Assistant can choose the correct dialog flow for responding to it.

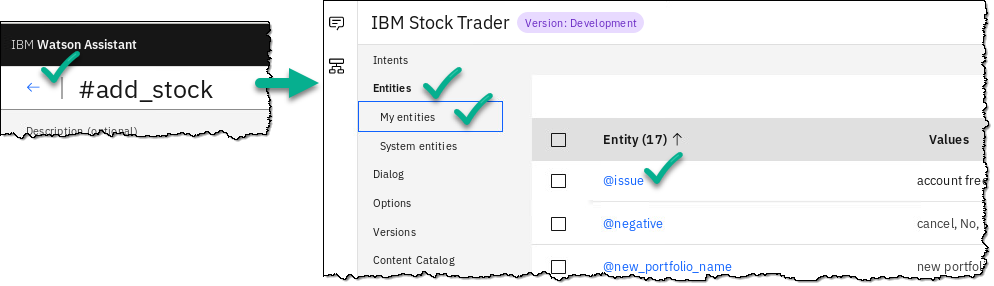
1. Return to your IBM Stock Trader page main development screen.

A screenshot of a cell phone

Description automatically generated

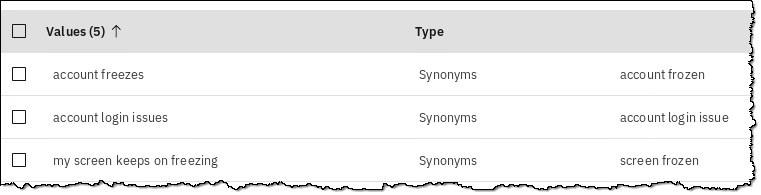
1. Similar to Intents you can create Entities. Entities represent information in the user input that is relevant to the user's purpose.

Navigate back to the main development screen, click on Entities 🢧 My entities 🢧 @issue.



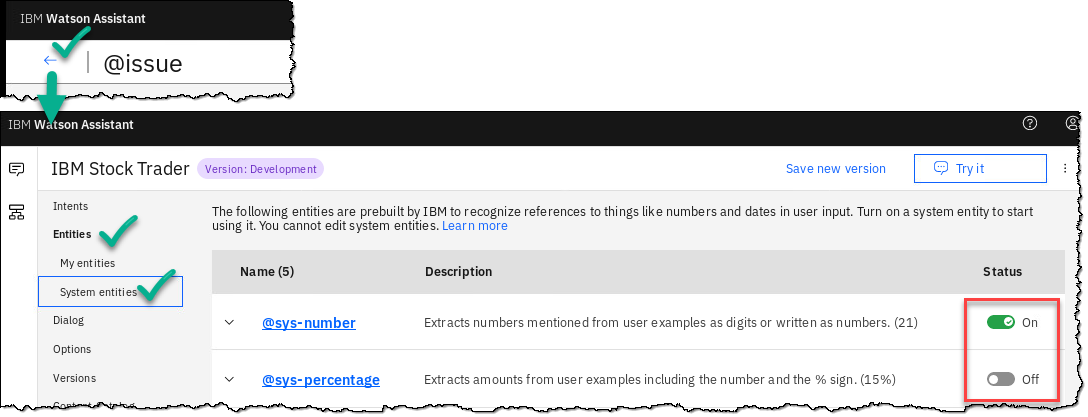
1. Observe the various values that have been provided for this entity. When a user mentions any of these values it is associated to the @issue entity. The virtual agent is instructed to proceed and communicate with the end user according to the intent detected and the specified dialog flow created to handle that intent.

Watson Assistant also provides some prebuilt entities to recognize references to things like numbers/dates in user input. You can also import/export your entities between virtual assistants.



1. Navigate back to main development screen, click on Entities 🢧 System entities.

View the options available. You can toggle them on/off based on your need.



1. Click Dialog.

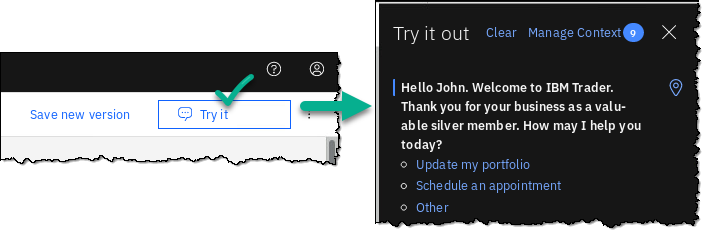
This view shows you the existing dialog flows and the workspace where you can construct new dialogs using the intents and entities created earlier.



## Testing your Virtual Assistant

1. In the IBM Watson Assistant development workspace shown below you can test your virtual assistant before deployment.

Click on the Try it button to reveal a chat interface.



1. We will use the built-in chat interface to test our virtual assistant with a sample conversation designed for Trade Co. customers. (Note: Deploying the Virtual Assistant is out of scope for this lab).

When you type the text commands below observe how the assistant promptly identifies your intent and intelligently navigates you through the appropriate dialog flow.

Click the button Try it (to access the chat interface).

Select: Update my portfolio.

Type: Add a new stock

Type: IBM

Type: What are your hours of operation? [Digression]

Type: 1000 shares

Type: What are my current offers?

Type: I am having issues with my account

Type: My personal portfolio view keeps on freezing

Type: Today

Type: Show me my new offer

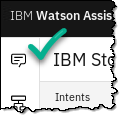
Type: Schedule an appointment

Type: Tomorrow at 2 pm

Type: End

Notice how the *Add new stock* text picked up the intent you created earlier and navigated you through the dialog flow. The hours of operation question was a digression to which the assistant responded and returned to the original conversation. You can further use this interface to train your assistant and improve its accuracy prior to deployment.

1. Close the chat interface and exit the development workspace by clicking the dialog icon.

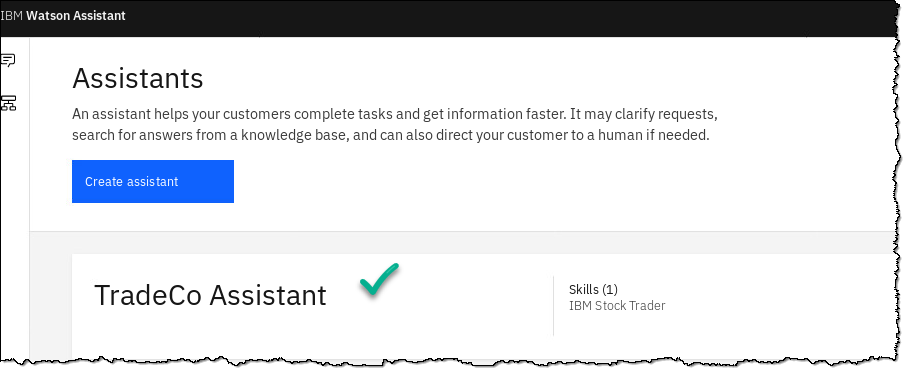


## Integrating your Virtual Assistant

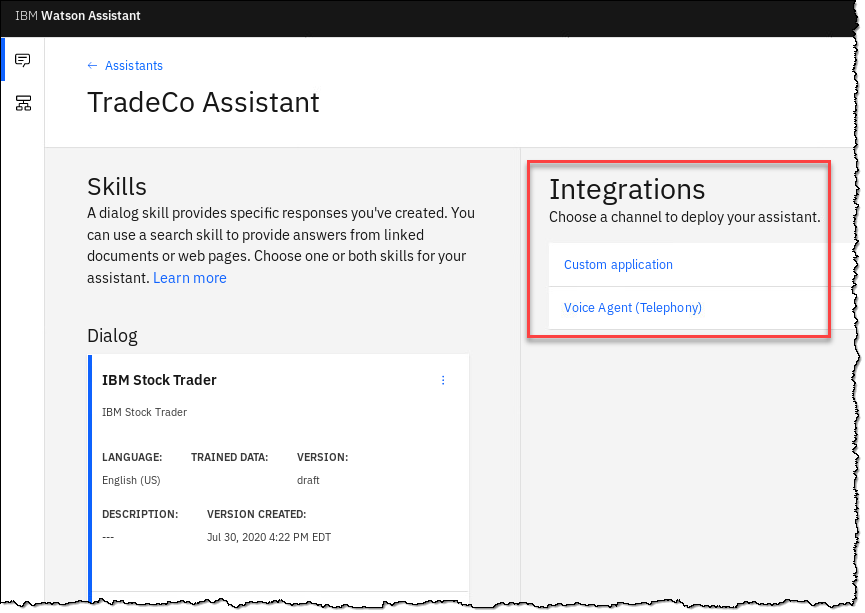
1. Click on Assistants, then the tile TradeCo. Assistant.

A close up of a logo

Description automatically generated



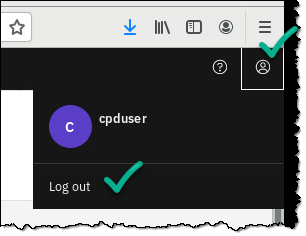
1. On the top right side of the screen you will see the Integrations pane which lists the various channels you can deploy your assistant to once it’s ready to be put into production. Instructions on how to integrate your Assistant into a custom application can be found here.



## Log out of the Watson Assistant web client

1. To finish up this lab, log out of the web client.

At the top left, choose the user icon 🢧 Log out.



1. Close the browser.



## Lab conclusion

The Lab gives us a good overview of the power of the IBM Cloud Pak for Data platform and the AI enabled virtual assistant service, IBM Watson Assistant, which we used to design and customize an engaging conversation around providing a self-service channel to customers of Trade Co.

This is a snapshot of the many advanced capabilities available within this virtual assistant service which assists your setup of an AI assistant with practically no code required. The rich user interface makes it easy for any business professional to start building a virtual assistant tailored to their business and to. leverage the AI capabilities of Watson out of the box.

*For a more detailed information on IBM Watson Assistant, please see:* <https://www.ibm.com/support/producthub/icpdata/docs/content/SSQNUZ_current/svc-welcome/watsonassist.html>.

**\*\* End of Lab 17 – Infuse: Watson Assistant - Deeper Dive**

Lab by Owais Hashmi, Edited by Burt Vialpando and Kent Rubin - IBM