Create an AI Virtual Assistant

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Overview

Chatbots make software accessible to everyone who understands human language. A customer can avoid the frustration that comes with having to memorize and navigate complex menus and button layouts that are always changing with software updates. Instead, computers can be operated with simple human language that people can understand. Customers can now simply ask a bot to take them where they want to go, or to enable a feature without having to hunt it down. Good bot services encourage users to engage more deeply with software features that might otherwise go unnoticed, because they provide a richer, more natural experience. For example, imagine an image editing suite that can respond to a command like: "Make the background of my photo darker."

In addition to enhancing the customer experience, chatbots free up agents to respond to the more complex problems that are better solved by a customer service agent. When people are able to delegate a portion of their workload onto a conversational bot, they are now able to participate in higher value decision making for the company and expand their skills, which benefits the company and enriches the agents.

Industry Use -- HR Support Chatbot for Employee Queriers

The HR department of a large company, XYZ Enterprises, is inundated with a high volume of employee queries on a daily basis. To alleviate the HR team's workload and provide employees with quick and accurate responses, XYZ Enterprises decides to implement an HR Support Chatbot.

HR Support Chatbot Features

- **Query Resolution:** The chatbot is equipped to handle a wide range of employee inquiries, including questions about benefits, payroll, policies, leave requests, performance evaluations, and more.
- **Policy Clarifications:** Employees can ask the chatbot about company policies, such as dress code, code of conduct, remote work policies, and maternity/paternity leave policies. The chatbot provides detailed explanations to relevant policy documents.
- **Leave Management:** Employees can use the chatbot to submit leave requests, check their remaining leave balance, and inquire about the status of pending requests. The chatbot integrates with the company's HR system to provide real-time updates.
- **Payroll Information:** The chatbot offers employees access to their payroll information, including salary details, tax deductions, and payment schedules. It can also assist with setting up direct deposit and tax-related inquiries.
- **Training and Development:** Employees can inquire about available training programs, professional development opportunities, and workshops. The chatbot provides information on upcoming sessions and how to enroll.
- **Performance Feedback:** The chatbot assists employees in understanding their performance evaluations, 360-degree feedback, and goal-setting processes. It provides guidance on improvement areas and accessing performance-related resources.

- **Employee Assistance Programs (EAP):** The chatbot educates employees about available EAPs, how to access counseling services, and the types of issues EAPs can help with, such as stress management or work-life balance.
- **Health and Well-being:** Employees can inquire about health insurance coverage, wellness initiatives, fitness programs, and health-related benefits. The chatbot also provides tips on maintaining a healthy work-life balance.
- **Conflict Resolution:** The chatbot offers initial guidance on resolving workplace conflicts, emphasizing the importance of open communication, and suggesting when to involve HR for further assistance.

Benefits

- **Efficiency:** The HR Support Chatbot reduces the HR team's workload by handling routine inquiries, allowing HR staff to focus on more complex tasks.
- **Instant Access:** Employees can get quick answers to their queries at any time of the day, even outside of regular HR office hours.
- **Consistency:** The chatbot ensures that all employees receive consistent and accurate information, reducing the likelihood of miscommunication.
- **Empowerment:** Employees feel empowered to find answers independently, reducing dependency on HR staff for routine inquiries.
- **Data Insights:** The chatbot gathers data on common employee queries, helping HR identify trends and areas where additional employee training or information might be needed.

By implementing an HR Support Chatbot, XYZ Enterprises can enhance employee satisfaction, streamline HR operations, and foster a culture of self-service and empowerment among its workforces.

Estimated Time to Complete: 1 Hour

Objectives

Here's how you will implement your assistant:

The new Watson Assistant experience, focused on using **actions** to build customer conversations, is designed to make it simple enough for *anyone* to build a virtual assistant. Building, testing, publishing, and analyzing your assistant can all now be done in one simple and intuitive interface.

- New **navigation** provides a workflow for building, previewing, publishing, and analyzing your assistant.
- Each assistant has a **home page** with a task list to help you get started.
- Build conversations with **actions**, which represent the tasks you want your assistant to help your customers with. Each action contains a series of steps that represent individual exchanges with a customer.
- A new way to **publish** lets you review and debug your work in a draft environment before going live to your customers.
- Use a new suite of **analytics** to improve your assistant. Review which actions are being completed to see what your customers want help with, determine if your assistant understands and addresses customer needs, and decide how can you make your assistant better.
- Explore our interactive demo site to learn how Watson Assistant can be used to build powerful, scalable experiences for your users.

For more information about the new experience, see FAQs about the new IBM Watson Assistant experience.
Visit Getting started with Watson Assistant for a tutorial series on building in the new experience. Use IBM Watson® Assistant to build your own branded live chatbot into any device, application, or channel. Your chatbot, which is also known as an *assistant*, connects to the customer engagement resources you already use to deliver an engaging, unified problem-solving experience to your customers.

Create AI-driven conversational flows	Your assistant uses industry-leading AI capabilities to understand questions that your customers ask in natural language. It uses machine learning models that are custom-built from your data to deliver accurate answers in real time.
Embed existing help content	You already know the answers to customer questions? Put your subject matter expertise to work. Add a search integration with IBM Watson® Discovery to give your assistant access to corporate data collections that it can mine for answers.
Connect to your customer service teams	If customers need more help or want to discuss a topic that requires a personal touch, connect them to human agents from your existing service desk provider.

Bring the assistant to your customers, where they are	Configure one or more built-in integrations to quickly publish your assistant on popular social media platforms such as Slack, Facebook Messenger, Intercom, or WhatsApp. Turn the assistant into a member of your customer support call center team, where it can answer the phone and address simple requests so its human teammates can focus on more nuanced customer needs. Make your assistant the go-to help resource for customers by adding it as a chat widget to your company website. If none of the built-in integrations fit your needs, use the APIs to build your own custom app.
Track customer engagement and satisfaction	Use built-in metrics to analyze logs from conversations between customers and your assistant to gauge how well it's doing and identify areas for improvement.

How it works

This diagram illustrates how IBM Watson® Assistant delivers an exceptional, omnichannel customer experience:
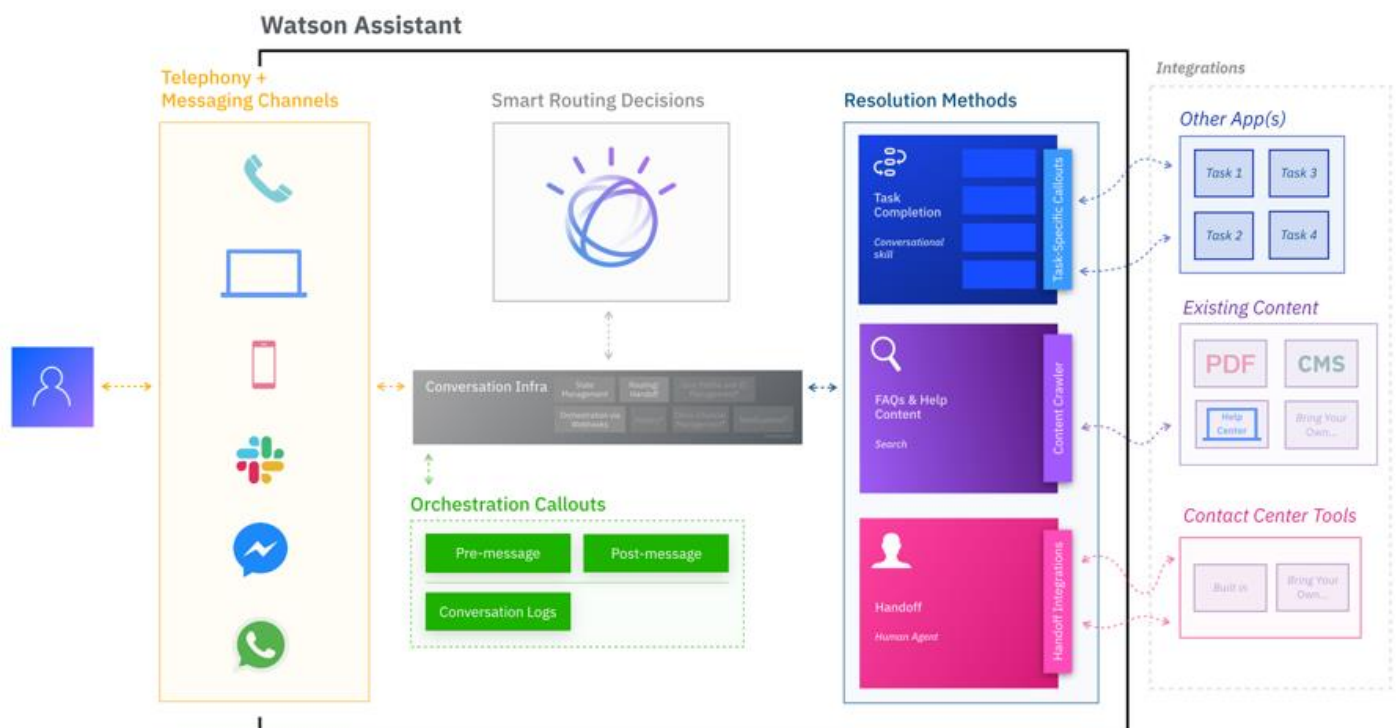
Customers interact with the assistant through one or more of these channels:

- A web chat that you embed in your company website and that can transfer complex requests to a customer support representative.
- An existing social-media messaging platform, such as Slack, Facebook Messenger, or WhatsApp
- A phone call or text message

- A custom application that you develop, such as a mobile app or a robot with a voice interface

The **assistant** receives a message from a customer and sends it down the appropriate resolution path. If you want to pre-process incoming messages, this is where you can use webhooks to inject logic that calls an external service that can process the messages before the assistant routes them. Likewise, you can process responses from the assistant before they are returned to the customer.
The assistant chooses the appropriate resolution from among these options:

- An **action** interprets the customer's message further, then directs the flow of the conversation. The action gathers any information it needs to respond or perform a transaction on the customer's behalf.
- A **search integration** uses existing FAQ or other curated content that you own to find relevant answers to customer questions.
- If a customer wants more personalized help or wants to discuss a sensitive subject, the assistant can connect the customer with someone from your support team through the web chat or phone integration.

To see how Watson Assistant is helping enterprises cut costs and improve customer satisfaction today, read the [Independent study finds IBM Watson Assistant customers can accrue $23.9 million in benefits](#) blog on ibm.com.

Prerequisites

This lab requires that you have an IBM Cloud Account, if you have not yet created your IBM Cloud Account please refer to the following links:

- [How to create an IBM Cloud account](#) ([日本語](#), [Português](#))
- [How to request and IBM Cloud Feature Code](#) ([日本語](#), [Português](#))
- [How to apply an IBM Cloud Feature Code](#) ([日本語](#), [Português](#))

It is also recommended that you use Firefox, IE, or Chrome and avoid Edge and Safari browsers.

Milestone 1: Create Watson Assistant Service

Milestone Overview

This lab requires you to complete seven Milestones:

1. **Create Watson Assistant Service**
2. Create an Action
3. Import Actions from catalog
4. Publish your chatbot

This guide is an instructional approach to working with the IBM Watson™ Assistant service where you can create virtual agents and bots that combine machine learning, natural language understanding, and integrated dialog tools to provide automated customer engagements. Creating your first conversation using the IBM Watson™ Assistant service entails the following steps:

Steps

Complete the following steps:

1. Login into IBM Cloud: https://cloud.ibm.com
2. Click the **Catalog** tab.
3. Search for the **Watson Assistant** service and click that tile under the AI heading.
4. Select **Dallas** as your location and click **Accept** in the check box in the black panel to the right and then click **Create**.

After you create a Watson Assistant service instance, you land on the **Manage** page of the Watson Assistant dashboard.

5. Click **Launch Watson Assistant**.
6. You begin by specifying a name, for example: **HR support for training and development**.
7. You may wish to include a description, for example: **Learners from various backgrounds inquire about available training programs, professional development and workshops**.
8. At this point, click **Next**.

Welcome to the new Watson Assistant

9. In the Personalization tab, select **Web** as to where you want to deploy your chatbot (note all the other options that you have). Complete the remaining dialog boxes as you see fit and click **Next**.

10. In the customize tab there is no need for any updates here; we will customize our chabot in a later step; however, note the various ways you can customize your web appearance and feel free to make certain updates here per your choosing.
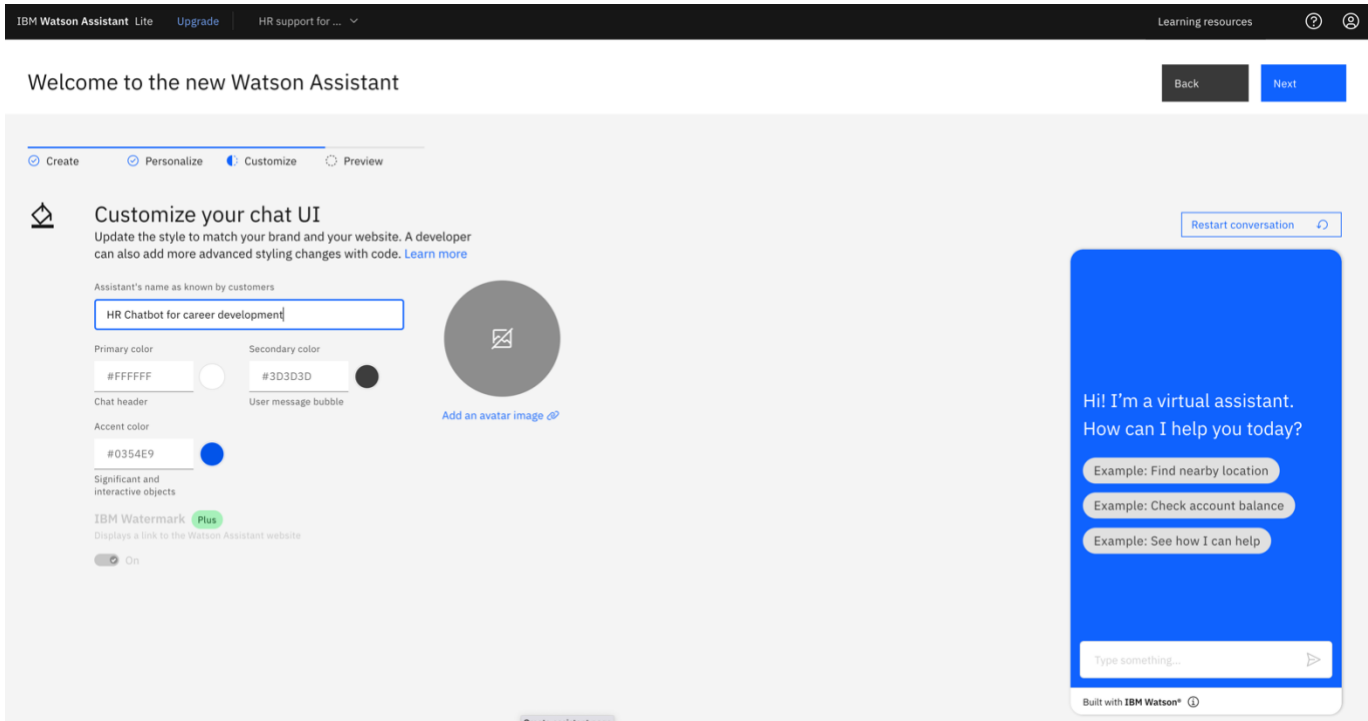
11. Click Next and then click Create.
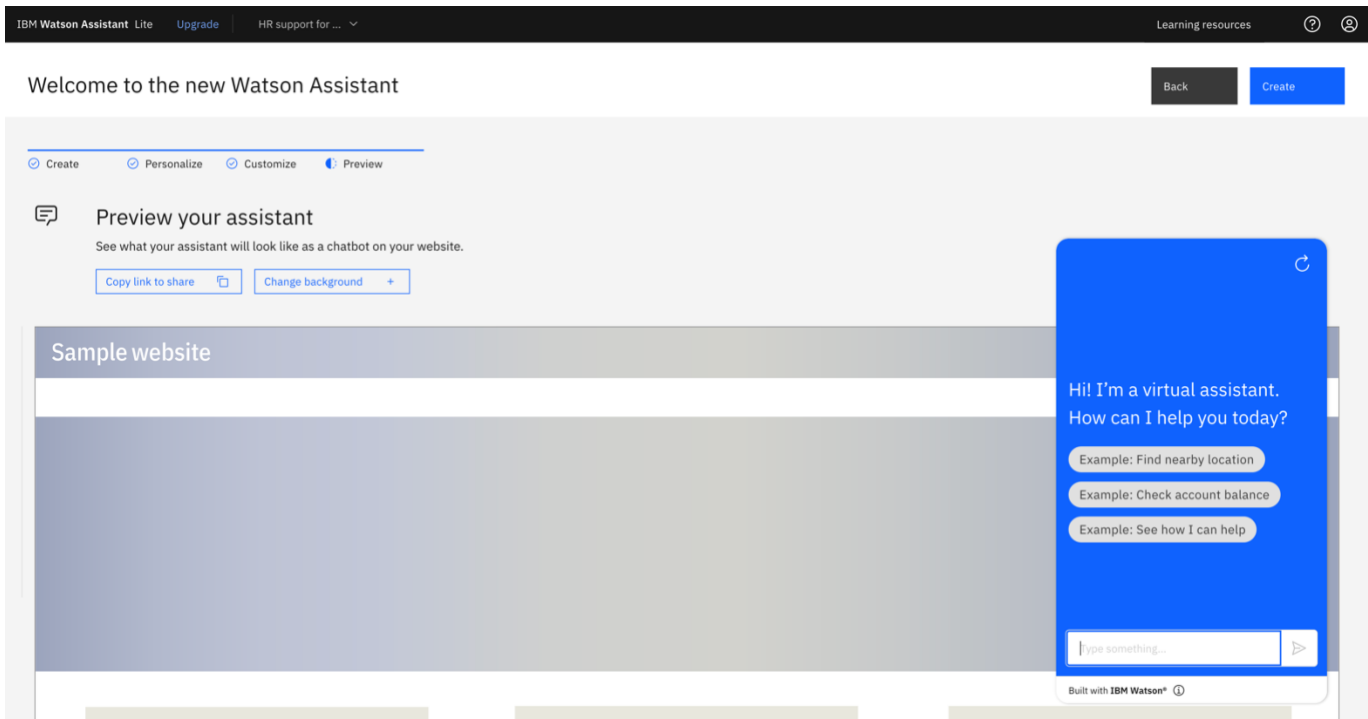
12. Take a moment, or rather 5 minutes and watch the Learn about Watson Assistant.

13. Once you have completed the first item, select the third step: **Explore Watson Assistant features on interactive demo site** (2 minutes)

14. You are now ready to create Actions. Think of Actions as the *intention* that the users may have or *questions*, they may ask of the chatbot about a certain domain of knowledge. Click **Create your first action**.

15. In the ensuing page, click the blue button, **Create action**.
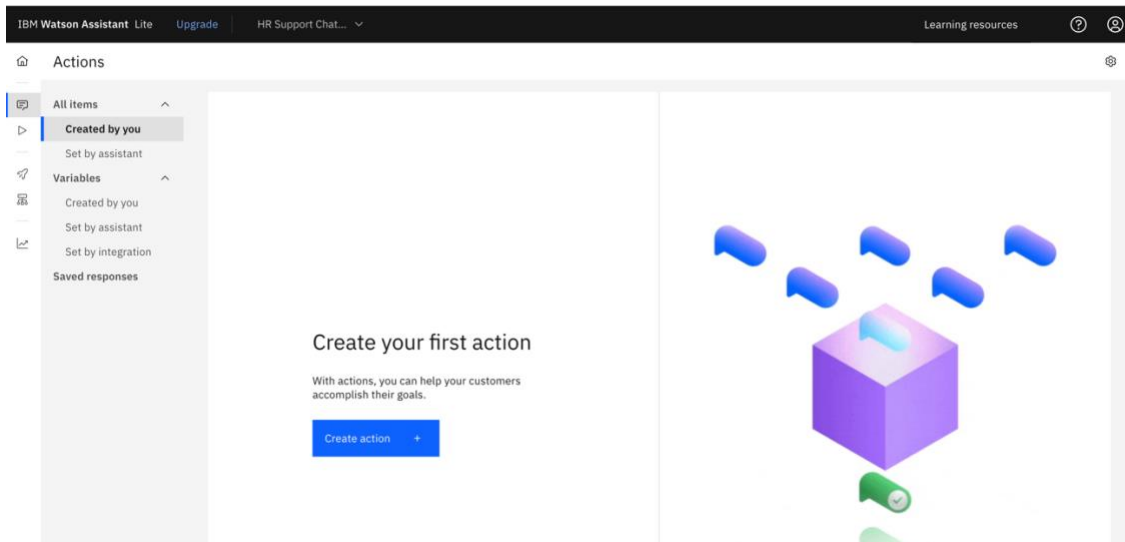
16. Click **Start from scratch**.
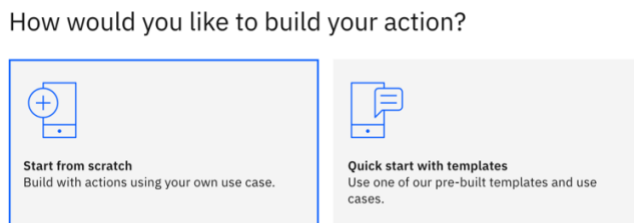
17. Think about what utterances your customers may have when they first respond to the chatbot. For example, type in the dialog box: **What career development and training programs do you have?** And click **Save.**
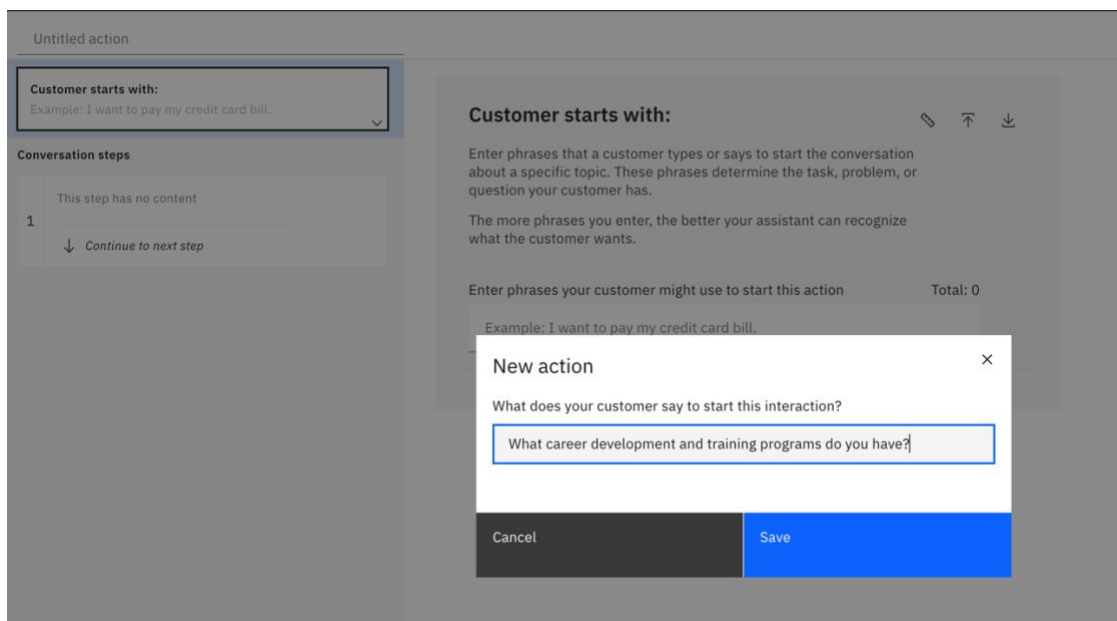
18. Click the first box, **Customer starts with:** and enter additional utterances that you may ask the chatbot. The following screen capture displays some examples. Feel free to include those or your own utterances related to the subject of asking help from an HR department about training, workshops or seminars that they have to help you gain more skills in your pursuit.

19. Click the **Save** icon in the top right corner of the page.
20. Click the second box, your first Action, below the *Customer starts with:* box.
21. In the dialog box you can type, for example: **Hello, happy to help. Let me present you with four of our core offerings and select the option you are most interested to learn**. Or you can type your own utterance for the first response you will get from the chatbot should you ask any (or similar) to question you defined in the starting dialog box.

22. In the Define Customer response section, select **Options**.

23. Enter the following four different options with synonyms that serve to help the chatbot to understand the colloquial way of speaking. Please bear in mind, that these utterances are merely examples, feel free to use your own synonyms.

New Collar	Career change, P-Tech programs, skills
Currently enrolled in school	Advanced courses, hackathons, capstone
Internship	Entry level jobs, apprentice, interns
Employee Benefits	Benefits policy, sick time, payroll
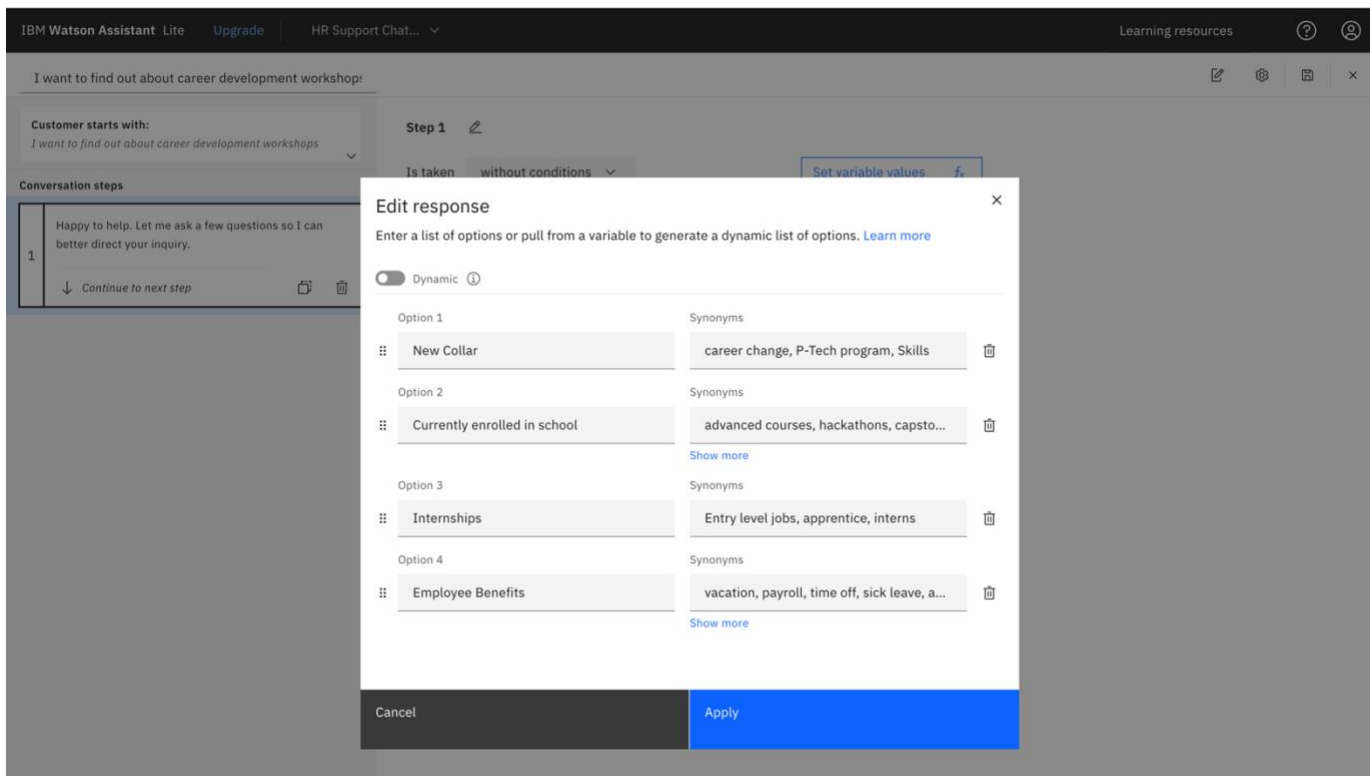
24. Click **Apply**. Notice the blue bar on top? The system is training, allow it a few seconds to complete.
25. Click the **Preview** link in the bottom right corner to open the chatbot and then click **Greet Customer** link to personalize the greeting message.
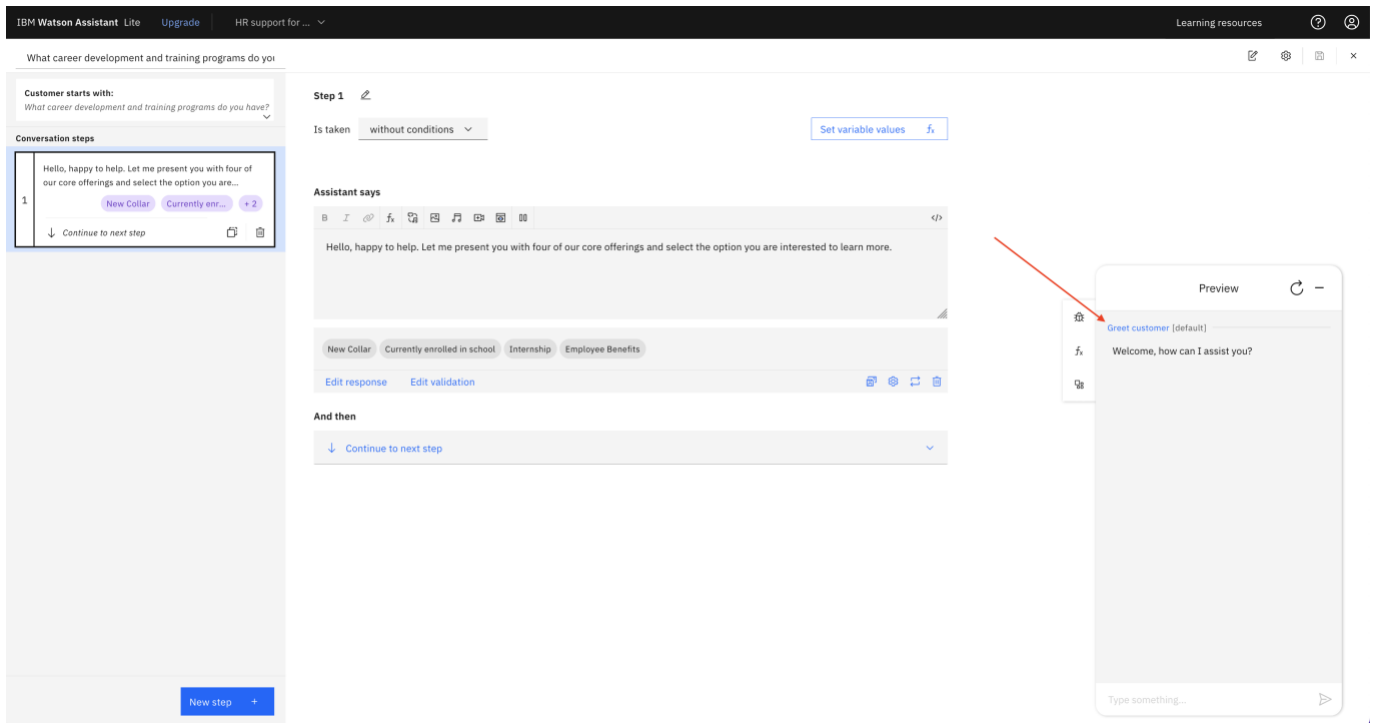
26. Type or copy/paste the following greeting:

Hello and welcome to the HR team. How can I assist with your HR-related questions?

27. Include an image, for example the link below might do the trick. Feel free to find your own free image or type your own greetings in your own words.

https://img.freepik.com/free-vector/human-resources-managers-doing-professional-staff-research-with-magnifier-human-resources-hr-team-work-headhunter-service-concept-illustration_335657-2061.jpg
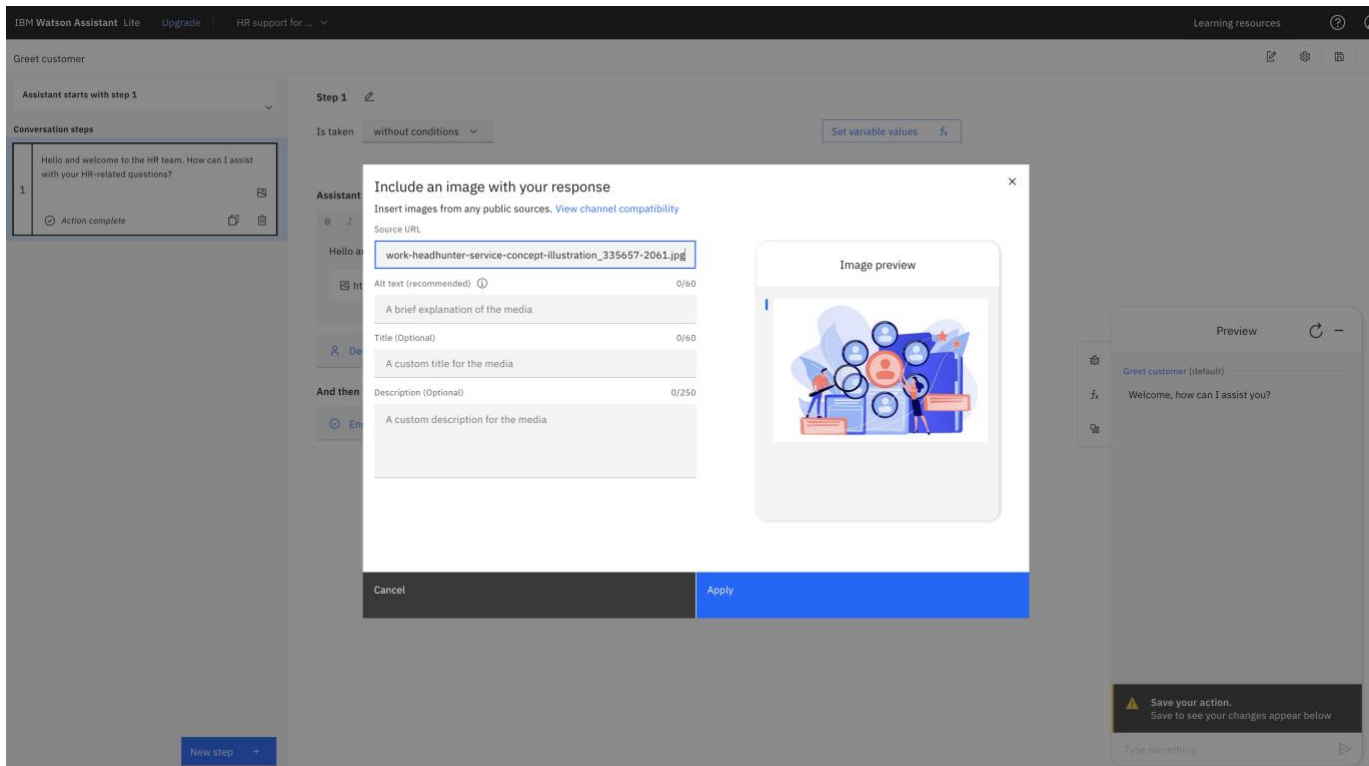
28. Click **Apply** and click **Save**.
29. Now, refresh your chatbot dialog and notice the new greeting with your image.
30. Try out the chatbot and ask your first question, for example: *what programs do u have?*
    (Notice how 'you' is misspelled?)
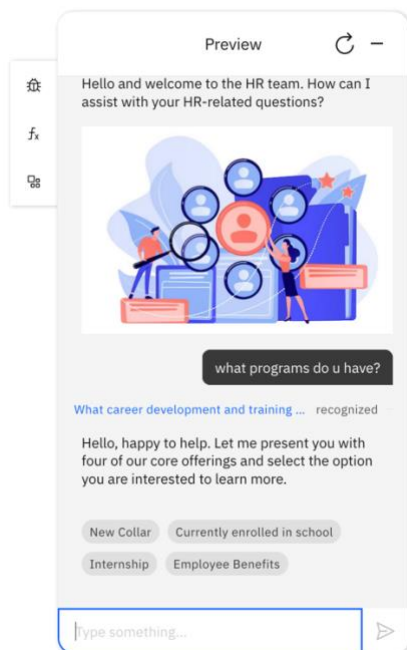
It is time to make options actual links using conditional statements. Each link will open its related dialog box. You are now ready to begin creating more steps.

31. Minimize the chatbot dialog and click **New step**.
32. Select **with conditions** from the drop-down list from the *Is taken* section.

33. Click in the condition box after 'is' and select the **New Collar**.

34. Type the following text in the Assistant says section and preserve and test the link in the text below and in your dialog.

New Collar programs can be found across the globe! With the current focus on the skills gap in the technology industry, other companies are launching programs similar to IBM's and are re-thinking their hiring process to ensure all candidates with skills are able to qualify for roles. You may hear the phrase New Collar being used external to IBM as our thought leadership in this area grows! Every IBM unit is participating in some version of a New Collar program, either in direct hiring partnerships or apprenticeships. And we're expanding programs to other countries. This isn't just limited to the US – IBM has long had successful apprentice programs in the UK, and Singapore just recently launched their New Collar Apprentice Program. You can learn more about New Collar here!

Note: ensure that the links within all dialog boxes are working properly. They are embedded in the blue highlighted words or sentence.

You are now ready to create your third step that caters to one of the other conditions.

35. Click **New Step**.

36. Select **with conditions** and in the conditions detail section select **Currently enrolled in school**.

37. Copy and paste the following text in the dialog box:

So glad you are seeking to augment your current education and skills through your academic program. SkillsBuild program is designed to fit perfectly with your curriculum.

Let's create the fourth step.

38. Click **New Step**.

39. Select **with conditions** and in the conditions detail section select **Internships**

40. Copy and paste the following text in the dialog box:

We currently have 17 locations that have adopted the Tech Re-Entry program. There are six states (NY, OH, MA, GA, NC, TX) and three countries (US, Canada, and India) participating in the model. Check out this link for available Tech Re-Entry roles!

41.

Let's create the fifth step.

42. Click **New Step**.

43. Select **with conditions** and in the conditions detail section select **Employee Benefits**

44. Copy and paste the following text in the dialog box:

For benefits support please use the U.S. Benefits Hub, your one-stop destination for all of the latest news, benefits updates, resources and contacts during Annual Enrollment and throughout the year. **Important!** Employees can find the latest info about their 2023 benefits on the US Benefits Hub. For questions about your benefits and help with the benefits enrollment process you can contact the IBM Benefits Center—Provided by Fidelity at 866-937-0720. Available on business days (excluding holidays recognized by the New York Stock Exchange, except Good Friday) between 8:30 a.m. and 8:30 p.m. ET.

45. Scroll down and in the section: *And then*, from the drop-down list, select **Connect to agent**.
46. Save your changes.

Congratulation, you have created all needed aspects for your first Action. In the next section you will upload already existing templates for two other Actions from the **Quick Start with templates** section.

Milestone 2: Import an Existing Conversation

You are now ready to use pre-built Actions that perform certain tasks. Complete the following steps:

1. Click the x icon in the top right-most corner of the page to close the current view.
2. Click New Action in the top right corner and select **Quick Start with templates**.
3. Scroll down and select two templates to import, and **click Add templates**.
   - Request store hours (all you will have to do here is change all instances of *store* to **workshop**)
   - View policy information (all you must do here is change all instances of *policy* to **Benefit**)
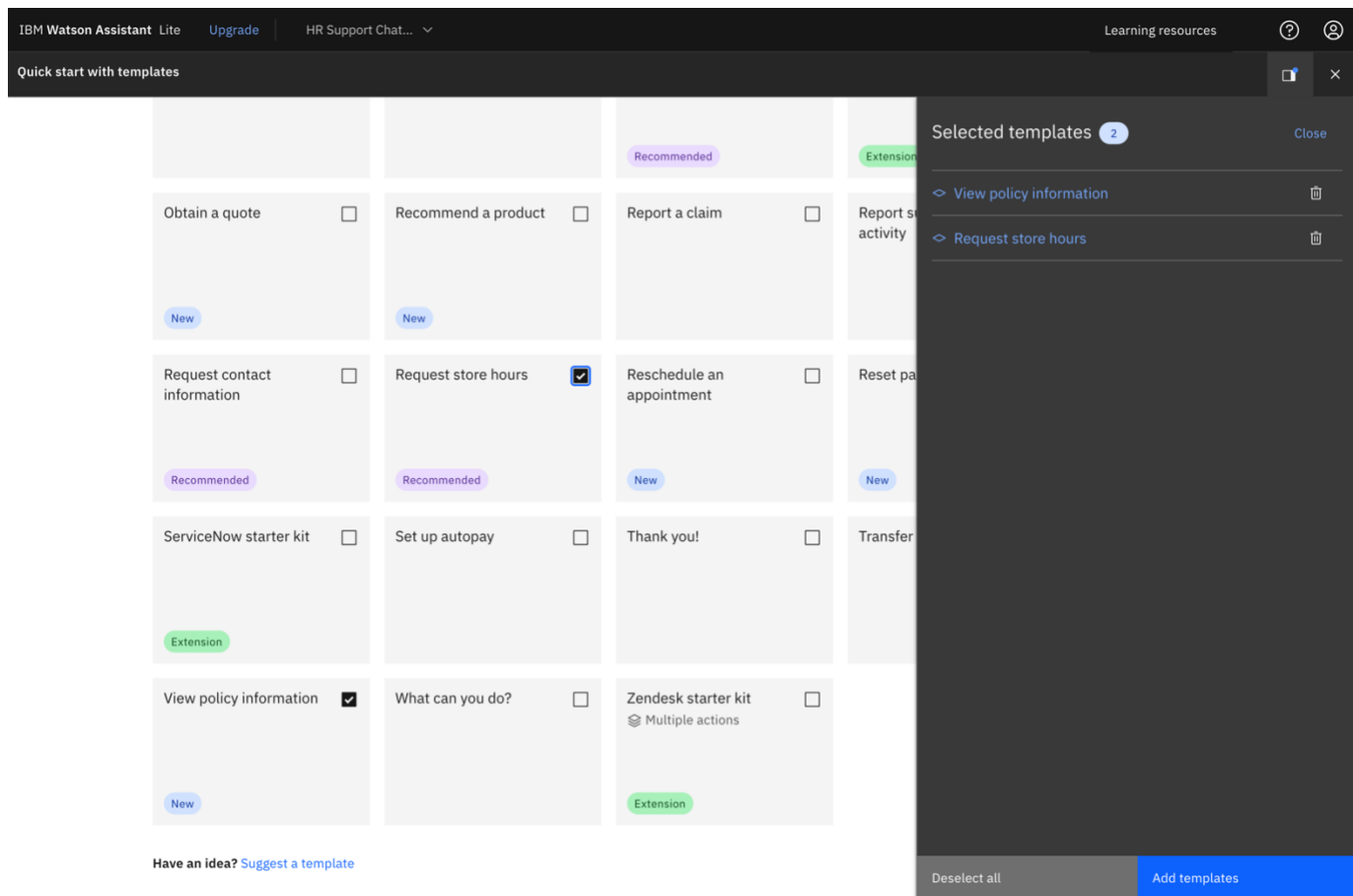
4. Save your work.

5. From the **Actions** page, click the three dots and change the name of the Action per below: replace all instances of *store* with **workshop** and, afterwards, replace *policy* with **Benefits**.

6. Open the newly imported Request workshops hours (with the new name).
7. To start, find all mentions of store and change it to workshop. In all dialog boxes...everywhere (and if you missed a few, that's OK). The questions here that a customer may ask has to do with where and when (not the *what,* but **when** and the **where**).

8. Repeat similar steps as with the prior steps by first closing all open Actions and then open the third Action: View policy information.
9. Change the Action name (the three dots) to **View Benefits information**.
10. Look for the word *policy* in all the steps of this Action and change them to **Benefits**. While you are at it, observe some of the conditions used in this template.
11. Enter some new utterances and delete some that are not germane HR Benefits. Most, if not all utterances out-of-box will work with Benefits instead of policy in the verbiage.


12. Save your changes.

13. It's time to test the dialog box. Open the **Preview**.

14. And start with this question: what programs do you have?
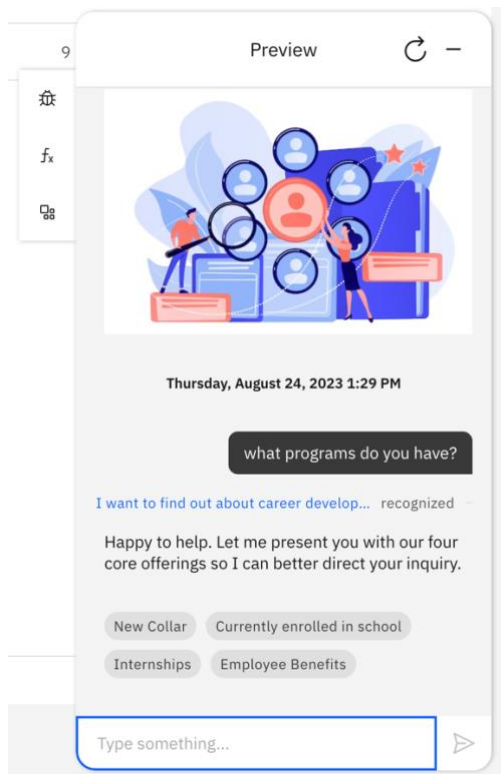
15. Select each of the options one at a time and carry out the conversation. You may find that you need to add more utterances or other constructs as you see fit to make your chatbot that much more engaging.

    This effort is an on-going endeavor. You always update the conversation. And now you are ready to publish your chatbot.

16. Click **Preview** and click **Customize web chat**.
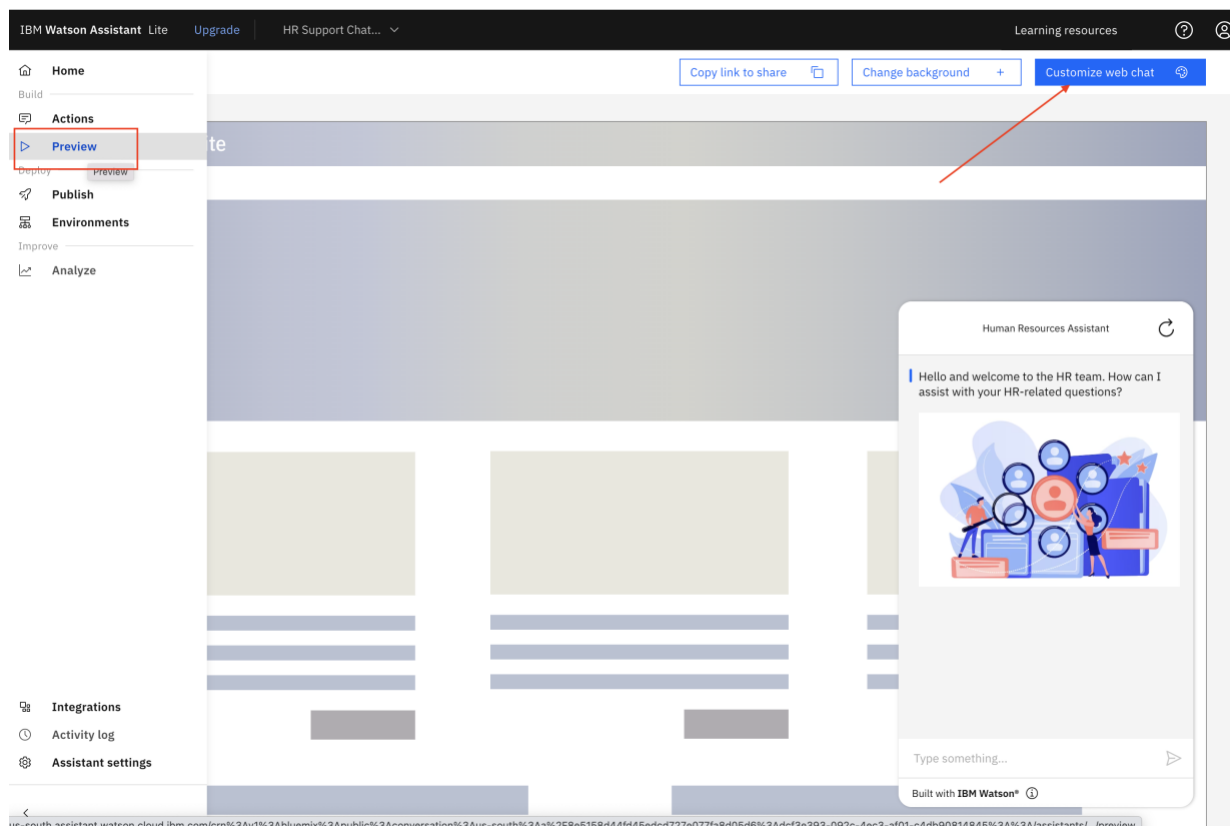
17. Select the **Home** screen tab and uncheck the default greetings message and set it to **off**. You are using your own web page in this example. While you are here, explore the other tabs. Think about how else you can bolster your chatbot. Next you publish it so we can obtain a URL and pass that to friends and family for some stress test if you will.
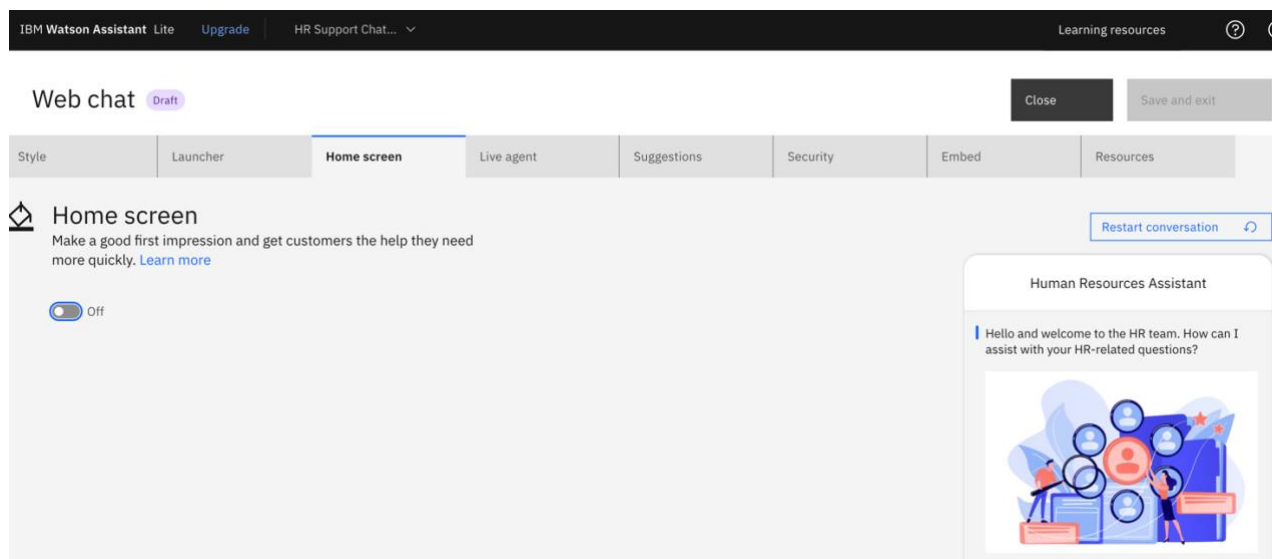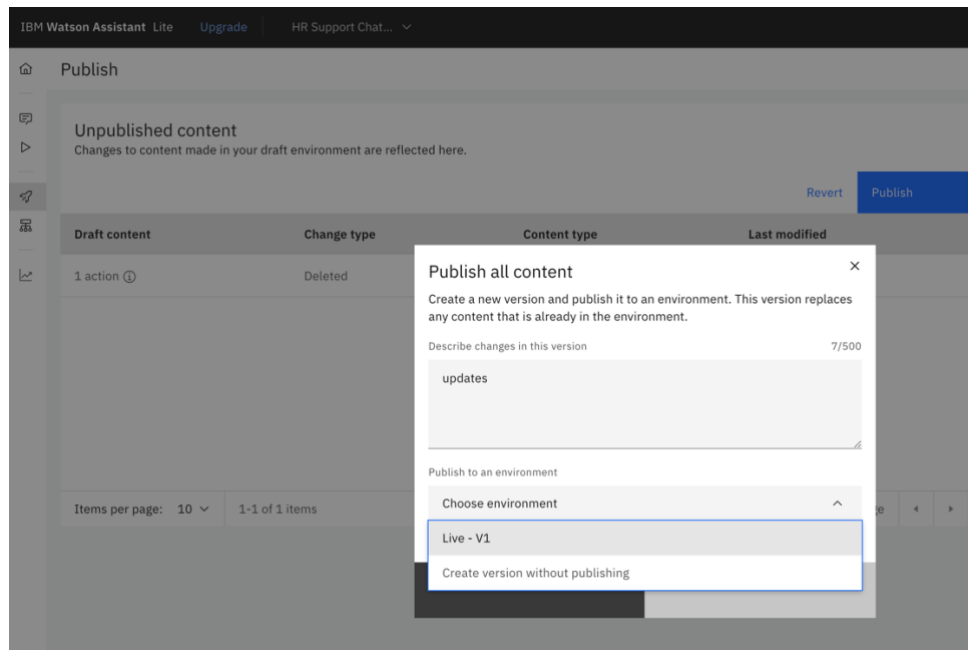

18. Save and exit.
19. Click the **Publish** link from the left pane and click the blue **Publish** button.
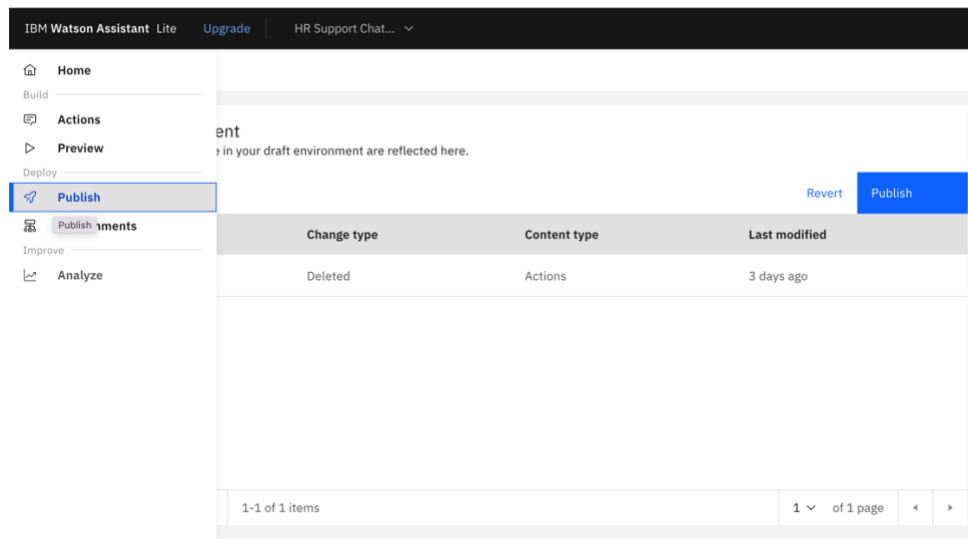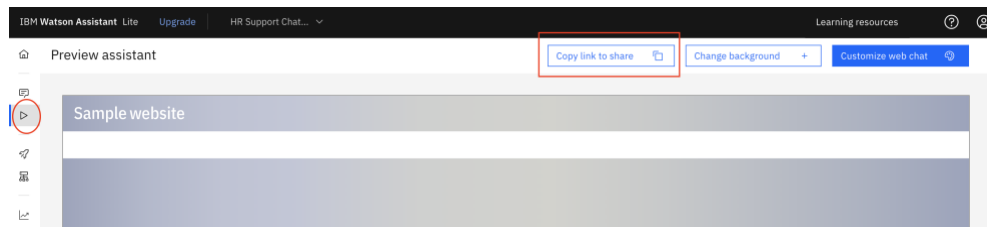
20. From the Choose environment drop-down list, select **Live** and click **Publish**.

21. Click the Publish icon in the left panel.
22. Click copy link to share.

Save your link and send it around for folks to test your chatbot and provide feedback fo