



Mastering the Art of Digital Labor: IBM watsonx Orchestrate

Lab Exercise Guide

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1 Introduction

In this lab, you will learn about IBM's new and exciting platform for AI Assistants, IBM watsonx[™] Orchestrate. You will learn how Orchestrate automates and streamlines our daily tasks as a personal AI Assistant powered by hundreds of pre-built skills.

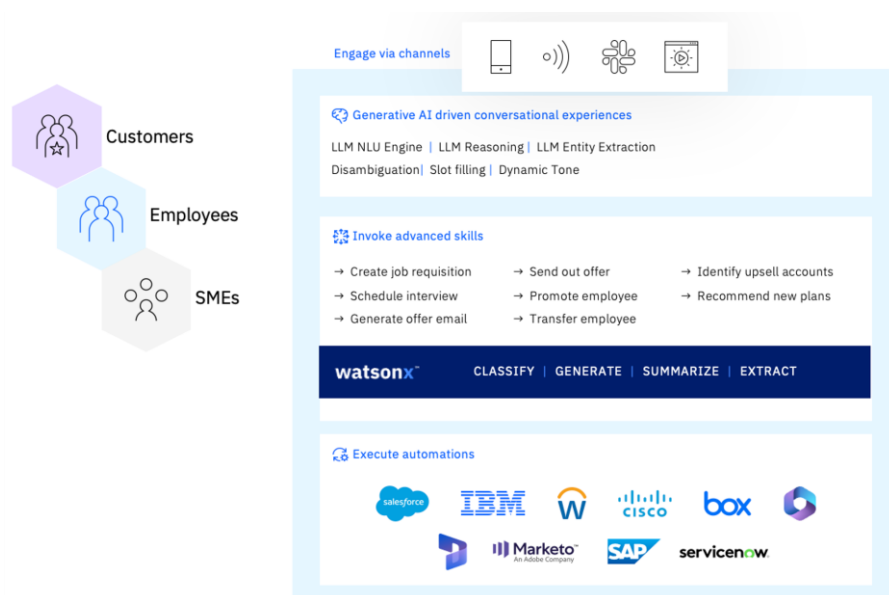
This lab will also cover how you can create custom skills, how to prepare (or enhance) skills to be used by your business users, and how to combine skills into skill flows that govern a sequence of steps to run more complex tasks.

The final chapter of this lab is dedicated to how you can build new automations and expose them as skills using the market leading automation capabilities added to Orchestrate at the end of 2023.

1.1 IBM watsonx[™] Orchestrate

With IBM watsonx[™] Orchestrate, you have access to a broad range of skills that can help you get your work done. It brings together multiple business automation capabilities into a powerful, unified experience designed to empower users with self-service functions and employees with productivity gains that simplify one-off tasks and speed up repetitive ones. It is also extendable as you can create your own skills to handle repetitive tasks in your own organizations custom business applications and processes.

IBM watsonx[™] Orchestrate is built to democratize the availability of automations through **natural language** and **AI assistants**. Users interact with Orchestrate using natural language to complete tasks and processes across your existing systems using the pre-built or custom skills published to the skill catalog.



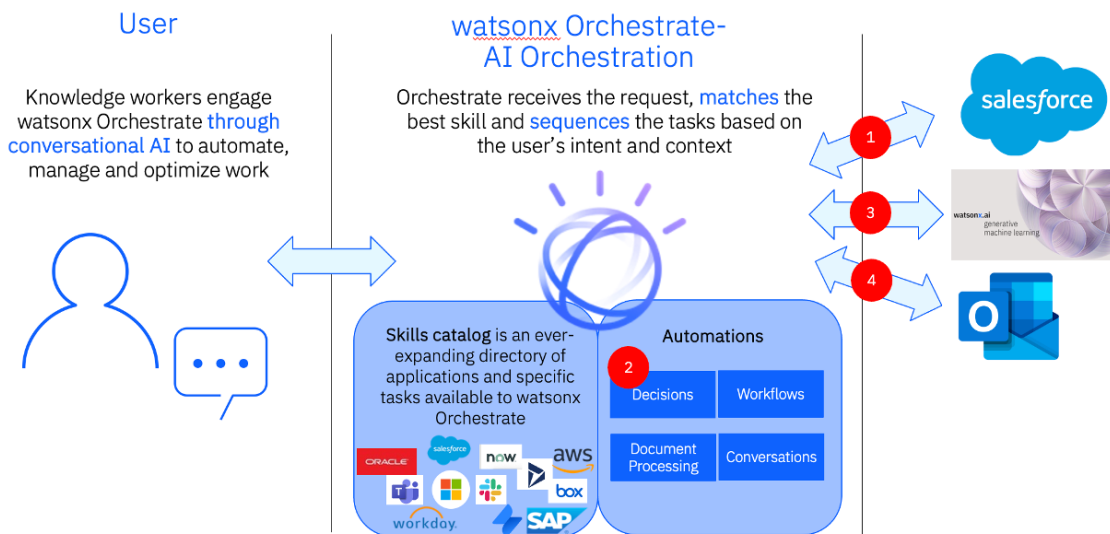
To learn more, follow the links below:

- Official product site: <https://www.ibm.com/products/watsonx-orchestrate>
- Product documentation: <https://www.ibm.com/docs/en/watson-orchestrate>
- Case studies, videos and blogs: <https://www.ibm.com/products/watsonx-orchestrate/resources>
- Community: <https://community.ibm.com/community/user/automation/communities/community-home?CommunityKey=3ad46381-9535-462e-85c9-568b21f4b067>

1.2 Lab Overview

This lab shows how IBM watsonx Orchestrate can be used by sales representatives to assist with the upsell / cross-sell process. To illustrate this, an insurance seller uses Orchestrate to retrieve a list of customers from Salesforce and automatically send a customized offer. The scenario is based on a skill flow that uses the following custom skills:

- 1) data retrieval from Salesforce,
- 2) decision automation to determine the best products to upsell,
- 3) watsonx.ai generative AI to create the offer email to the customer
- 4) send as an email to the selected customer

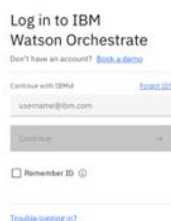


You will first run through the user scenario using Team Skills (pre-published and managed by your tenant admin) and then explore how to build and configure such a scenario as an Orchestrate builder.

1.3 Log in to watsonx Orchestrate

First, you must log in to watsonx Orchestrate.

1. Enter the URL <https://dl.watson-orchestrate.ibm.com/> into the browser within your lab environment.
2. Enter the username and password **your instructor provided** to login.



- When you first login, you will likely get a warning to provide a code for two-factor authentication.

Enter code sent to your email

For added security, we sent a 6-digit code to **use***@mailinator.com**.
Please enter the code below within 20 minutes

Enter email code

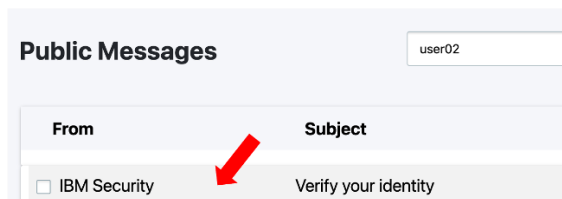
5727-

Verify

- Open another tab in your web browser and navigate to <https://www.mailinator.com>. Use the same username (email address) you used to login to Orchestra and **type it in to the input field** at the top left corner of the screen. Click **GO**.

The image shows the top navigation bar of the Mailinator website. On the left, there is a search bar with the placeholder text "Enter Public Mailinator Inbox" and a "GO" button next to it. To the right of the search bar is a link for "Public Inbox" with an envelope icon. Below the search bar is the Mailinator logo. To the right of the logo are several links: "WHY MAILINATOR", "PRICING", "SUPPORT", "MAILINATOR BLOG", and "ABOUT". On the far right are two buttons: "GET FREE TRIAL" and "LOGIN". A red arrow points from the "GO" button in the search bar to the "Verify" button in the previous screenshot.

- You should see a new email from IBM Security on the top of the received emails list. **Click it to open it** and notice **the second part of the verification code**.

The image shows the "Public Messages" section of the Mailinator website. At the top right, there is a text input field with "user02" entered. Below this is a table with two columns: "From" and "Subject". The first row in the table shows an email from "IBM Security" with the subject "Verify your identity". A red arrow points from the "Verify your identity" subject to the "Verify" button in the previous screenshot.

IBM verify code

Please use the following verification code:

5727-684724

You can only use it once and it will expire after 20min.

- Type it in to the verification** form still open in your other browser tab and click **Verify**.

Enter code sent to your email

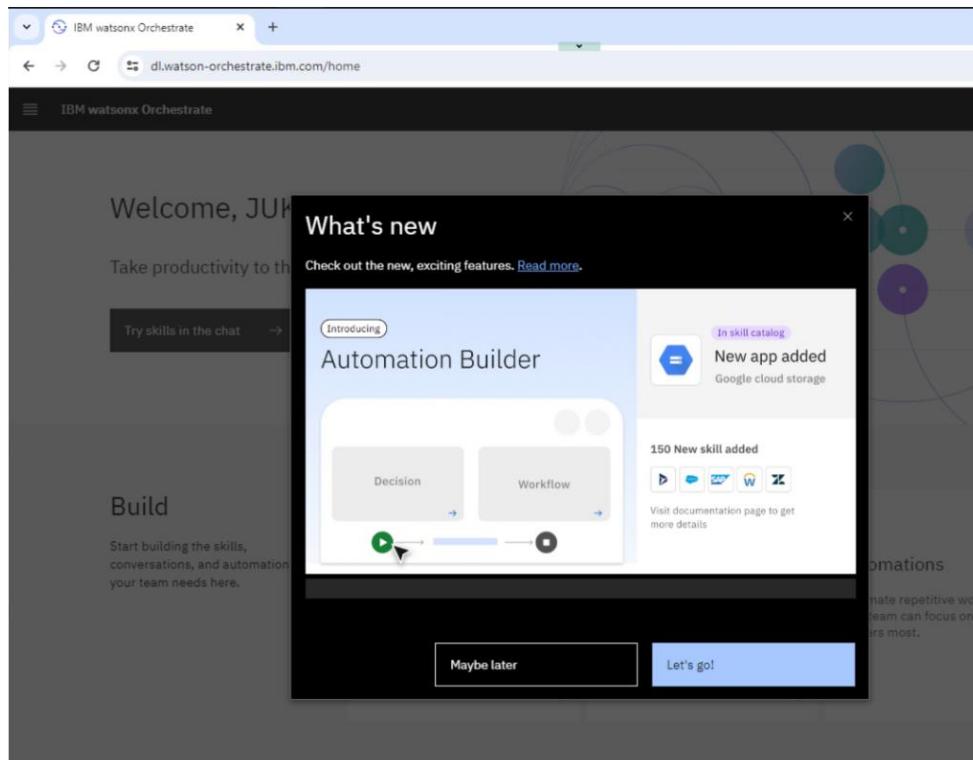
For added security, we sent a 6-digit code to **use***@mailinator.com**.
Please enter the code below within 20 minutes

Enter email code

5727-

Verify

- Once logged in, the landing page of Orchestrator opens and a **What's new** guide may appear. If you want, you can see a little tour by clicking the **Let's go!** button, or you can close the pop up by clicking the **Maybe later** button.



Congratulations, you are now ready to start the lab exercises!

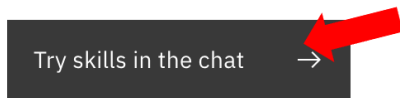
2 Run through the preconfigured scenario

A common task for an insurance sales representative is to periodically search the Salesforce CRM for customers with recent life changes to whom they can make upsell / cross-sell offers. Traditionally, this task involves creating custom Salesforce reports and downloading them for manual review by the representative.

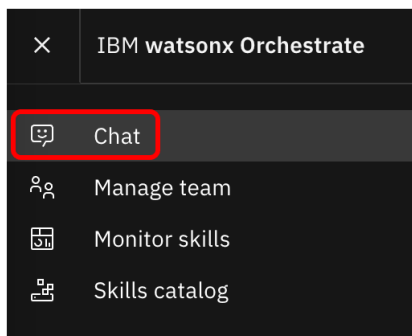
In Orchestrate, the agent invokes the Salesforce task using the simple natural language phrase: “*Write upsell email to customers*”. Orchestrate uses AI to understand the sales representative’s intent and performs the correct action, even when the language used is ambiguous.

1. From the landing page, click the **Try skills in the chat** button.

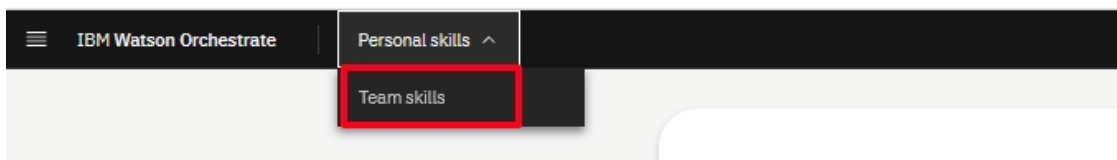
Take productivity to the next level.



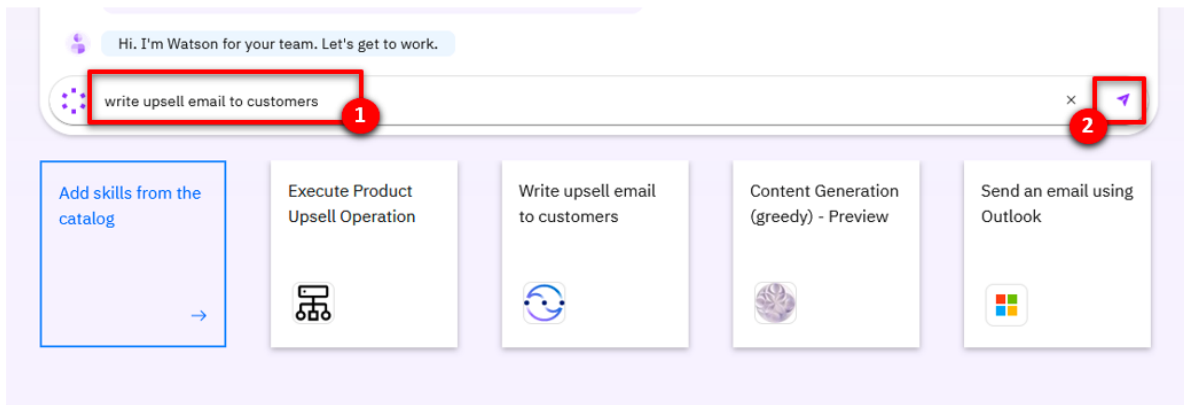
If you already moved away from the landing page to explore other views, click on the menu at the top left and click **Chat**.



2. Switch the view to **Team skills**.



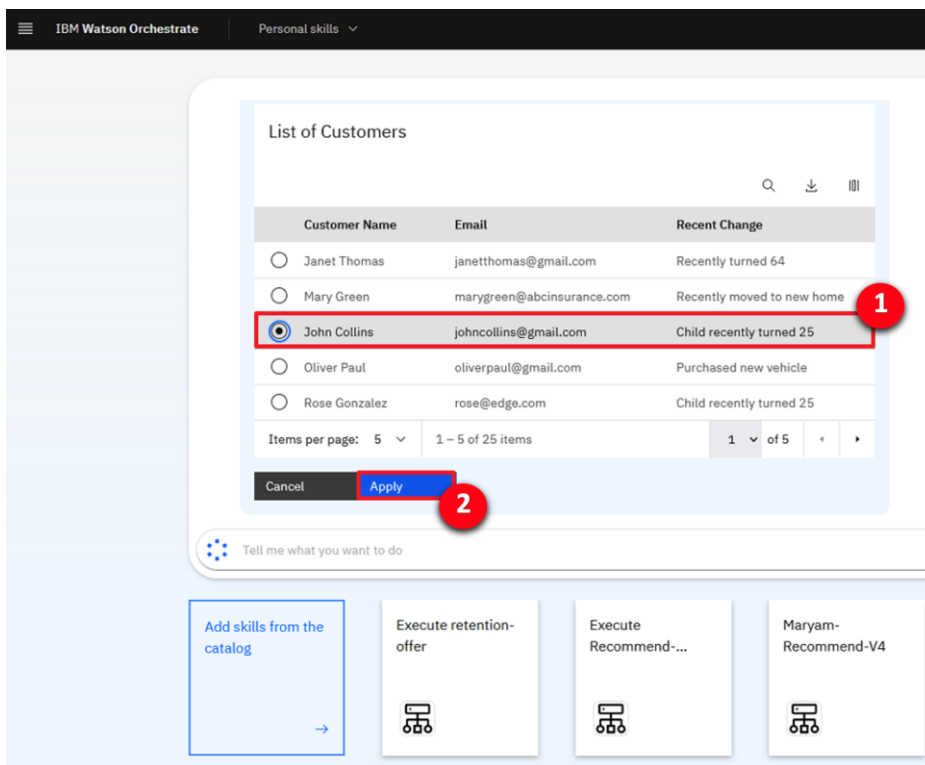
3. Type the natural language command “*Write upsell email to customers*” (1) and click the Send arrow (2) or hit ENTER in the chat window.



Orchestrate runs the Salesforce task by connecting to a backend API that retrieves a list of customers with recent life changes. The returned customer data is neatly displayed in a table within Orchestrate's chat interface.

The agent reviews the list of customers and pursues a cross-sell opportunity with **John Collins**, who has a child that is about to turn twenty-six. In the US, twenty-six is a milestone requiring children to acquire independent health insurance coverage (other countries set different age limits for various family milestones).

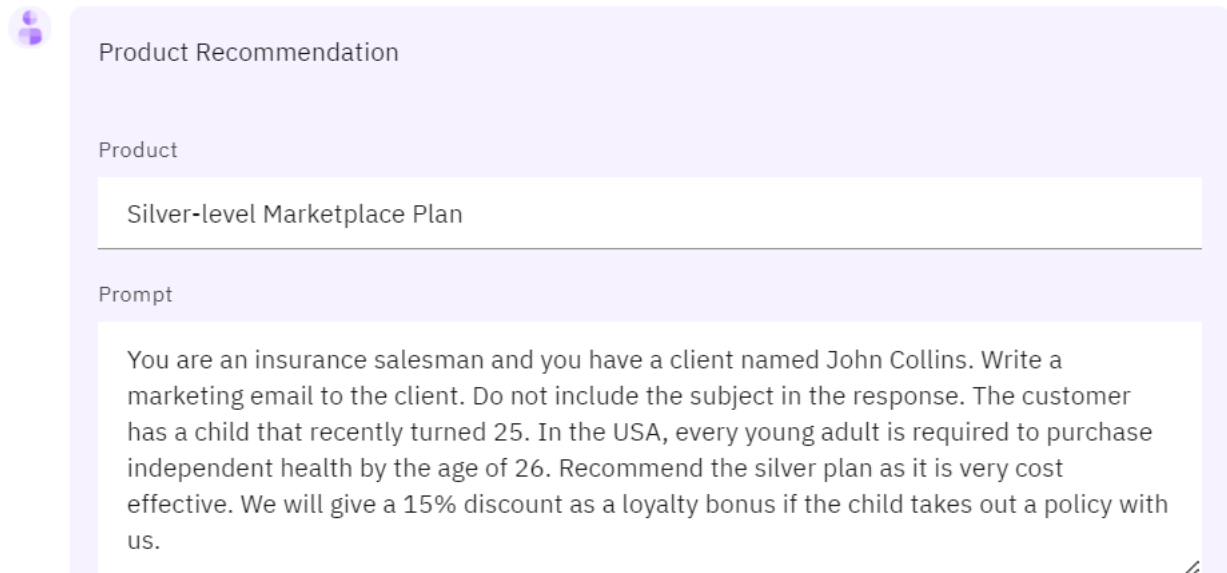
4. Select **John Collins** (1) from the table and click **Apply** (2) in the chat window.



5. The next task is to determine which products to recommend for the selected customer. The customer details from Salesforce are automatically submitted into Orchestrate's built-in *decision engine* and the upsell recommendations are displayed.

Behind the scenes, the decision engine applied business logic using many different factors specific to this customer, such as the child's age, pre-existing conditions, and current coverage.

In the case of John Collins, the decision engine recommends the health insurance plans suitable for his child: Silver-level Marketplace Plan.



The screenshot shows a 'Product Recommendation' form. It has a 'Product' field containing 'Silver-level Marketplace Plan' and a 'Prompt' field containing a detailed instruction for an insurance salesman to write a marketing email for a client named John Collins, recommending a silver plan with a 15% discount.

Product Recommendation

Product

Silver-level Marketplace Plan

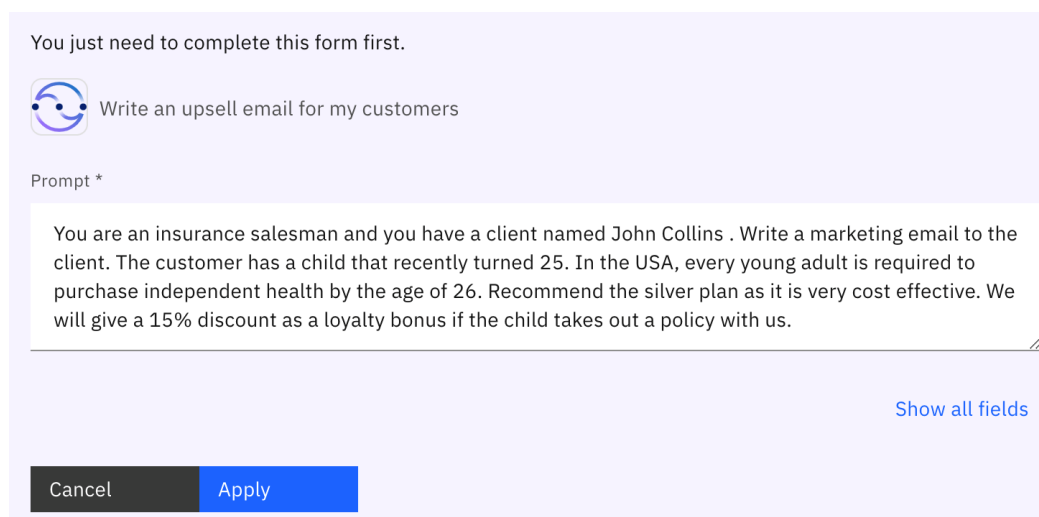
Prompt

You are an insurance salesman and you have a client named John Collins. Write a marketing email to the client. Do not include the subject in the response. The customer has a child that recently turned 25. In the USA, every young adult is required to purchase independent health by the age of 26. Recommend the silver plan as it is very cost effective. We will give a 15% discount as a loyalty bonus if the child takes out a policy with us.

Review the recommendation from the decision engine and Click **Apply**.


6. Personalized emails increase the likelihood of sales conversion. IBM watsonx Orchestrate uses one of IBM's Large Language Models (LLMs) via the watsonx.ai platform to generate a targeted email for the selected customer.

In the prompt field, see the default input text with the suggested prompt (1) to see how Orchestrate engineered the prompt using data taken from the decision engine and Salesforce. Click **Apply** (2).



The screenshot shows a form with a message 'You just need to complete this form first.' and a 'Write an upsell email for my customers' button. Below is a 'Prompt *' field with the same insurance salesman prompt as in the previous screenshot. At the bottom are 'Cancel' and 'Apply' buttons.

You just need to complete this form first.

 Write an upsell email for my customers

Prompt *

You are an insurance salesman and you have a client named John Collins . Write a marketing email to the client. The customer has a child that recently turned 25. In the USA, every young adult is required to purchase independent health by the age of 26. Recommend the silver plan as it is very cost effective. We will give a 15% discount as a loyalty bonus if the child takes out a policy with us.

Show all fields

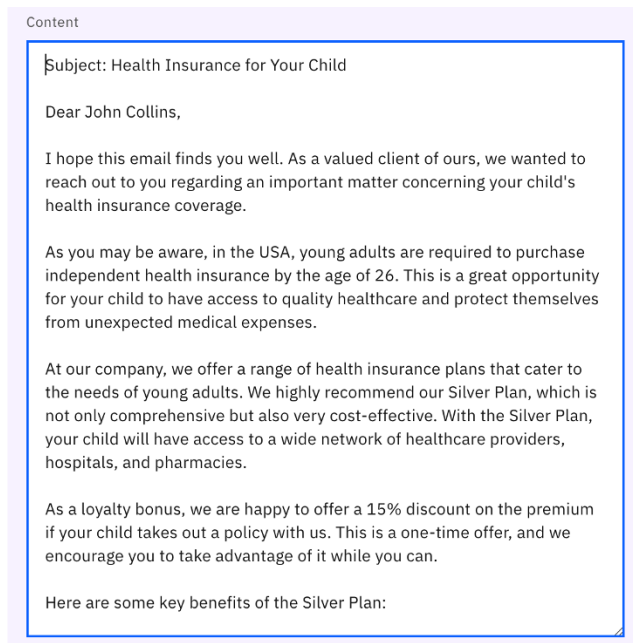
Cancel Apply

NOTE! Perfecting the AI prompt to generate a properly formatted email is typically a time-consuming activity. To make this quicker, Orchestrate automatically inserts a pre-written AI prompt that includes dynamically inserted customer data in the prompt input field. This step is also something that we might

choose not to show to the user, but we again want to show it here for you to see what's going on behind the scenes.

Orchestrate launches its pre-built Microsoft Outlook skill to send an email without the sales representative leaving the Orchestrate user interface to use an email client. In addition to pre-populating the **To** and **Subject** fields, Orchestrate automatically inserts the AI-generated text into the **Content** field.

7. Review the email text generated by IBM watsonx.ai.



The screenshot shows the 'Content' field of an email being generated. The text is as follows:

Subject: Health Insurance for Your Child

Dear John Collins,

I hope this email finds you well. As a valued client of ours, we wanted to reach out to you regarding an important matter concerning your child's health insurance coverage.

As you may be aware, in the USA, young adults are required to purchase independent health insurance by the age of 26. This is a great opportunity for your child to have access to quality healthcare and protect themselves from unexpected medical expenses.

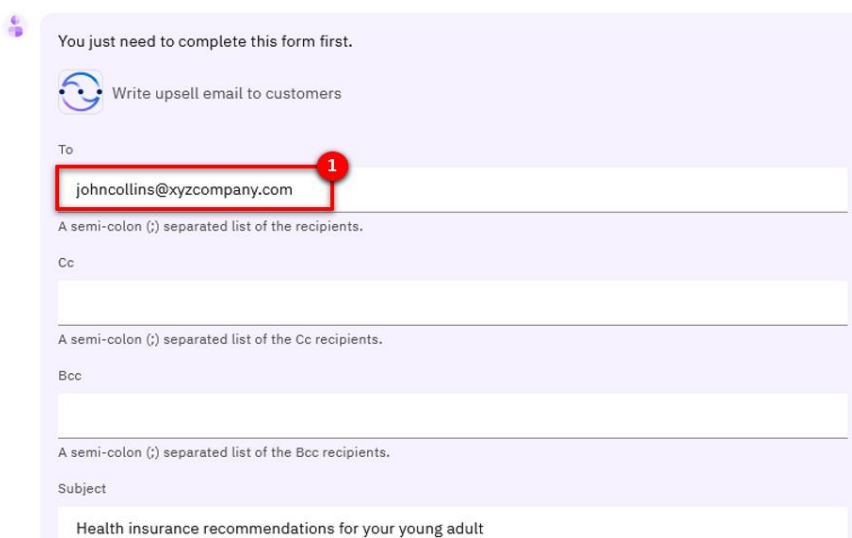
At our company, we offer a range of health insurance plans that cater to the needs of young adults. We highly recommend our Silver Plan, which is not only comprehensive but also very cost-effective. With the Silver Plan, your child will have access to a wide network of healthcare providers, hospitals, and pharmacies.

As a loyalty bonus, we are happy to offer a 15% discount on the premium if your child takes out a policy with us. This is a one-time offer, and we encourage you to take advantage of it while you can.

Here are some key benefits of the Silver Plan:

Generative AI did a good job generating the email, don't you think? Note that your text will likely be a bit different than shown in the picture above.

8. Change the email address in the **To** (1) field to your own email address (one that you can access to verify the email sending). Scroll down and click **Apply** (2) in the watsonx Orchestrate chat window.

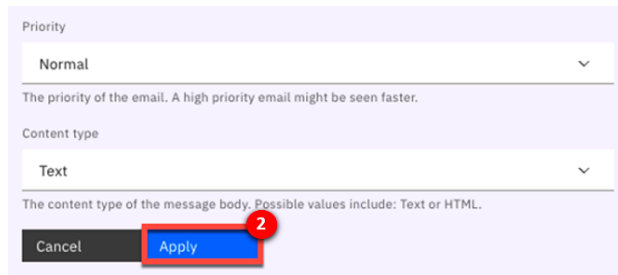


The screenshot shows the Orchestrate chat window with a form to write an upsell email. The form has the following fields:

- To:** johncollins@xyzcompany.com (marked with a red box and a red circle with the number 1)
- Cc:** (empty field)
- Bcc:** (empty field)
- Subject:** Health insurance recommendations for your young adult

Instructions for each field are provided below the field name:

- To:** A semi-colon (;) separated list of the recipients.
- Cc:** A semi-colon (;) separated list of the Cc recipients.
- Bcc:** A semi-colon (;) separated list of the Bcc recipients.



Give it a moment and you should be able to see the email sent by Orchestra in your inbox.

Subject: Health Insurance for Your 25-Year-Old Child

Dear John Collins,

I hope this email finds you well. As a valued client of ours, we wanted to reach out to you regarding an important matter concerning your child's health insurance coverage. As you may be aware, in the USA, young adults are required to purchase independent health insurance by the age of 26.

We understand that finding the right health insurance plan for your child can be overwhelming, which is why we're excited to offer our Silver Plan, which we believe is the best option for your child's needs. The Silver Plan offers comprehensive coverage at an affordable price, making it a cost-effective solution for young adults.

What's more, as a loyalty bonus, we're happy to offer a 15% discount on the policy if your child takes out a policy with us. This is a one-time offer, and we're confident that you'll find the Silver Plan to be an excellent choice for your child's health care needs.

Here are some key benefits of the Silver Plan:

- * Comprehensive coverage, including doctor visits, hospital stays, and prescription medication
- * Low out-of-pocket costs, including copays and deductibles
- * Access to a large network of healthcare providers and hospitals
- * 24/7 customer support

We believe that the Silver Plan is an excellent option for your child, and we're confident that you'll find it to be a valuable investment in their health and well-being.

To take advantage of this offer, simply reply to this email or give us a call at [insert phone number]. We'll be happy to answer any questions you may have and guide you through the enrollment process.

Don't miss out on this opportunity to ensure that your child has the health insurance coverage they need. Contact us today to learn more about the Silver Plan and to take advantage of our 15% loyalty bonus discount.

Thank you for your continued trust in our services. We look forward to providing your child with the best possible health insurance coverage.

Best regards,

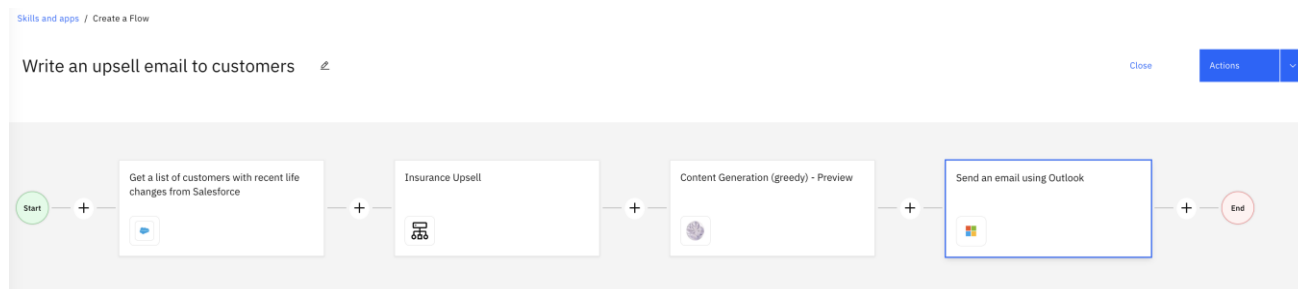
This concludes section two of this lab. Good job!

Next, we will look closer at how to build and configure one part of the scenario using the skills in Orchestra's skill catalogue.

3 Combine skills into skill flows

IBM watsonx[®] Orchestrate provides access to a broad range of skills that help users perform their daily tasks. It comes with a collection of ready-to-use, built-in skills that range from working with productivity tools to providing deep analytical insights. Users can immediately access and use these skills.

Developers, called “builders”, can import and create all kinds of custom skills like the ones used by the insurance sales representatives in our lab scenario. Builders can also create **skill flows**, or a sequence of individual skills. When a skill flow is created, it becomes a new “composite” skill that can be used just like an individual skill. The skill flow for the scenario you just ran through is presented in the picture below.



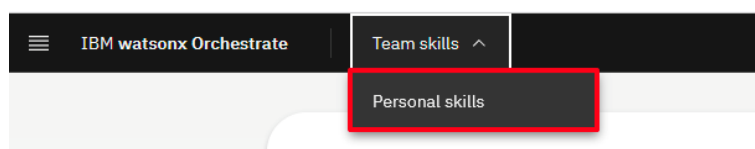
Skill flows perform tasks composed of multiple steps. For example, in our scenario we use a skill flow that combined *Salesforce*, a *product recommendation engine* (decision automation), a *watsonx.ai generative AI service*, and *sending email using Outlook*.

We’ll now look at how builders create skill flows by sequencing the first two steps of the upsell task performed by the agent. We’ll combine the Salesforce and recommendation engine skills to build a new composite skill flow that searches Salesforce for target customers and then makes product recommendations for a selected customer.

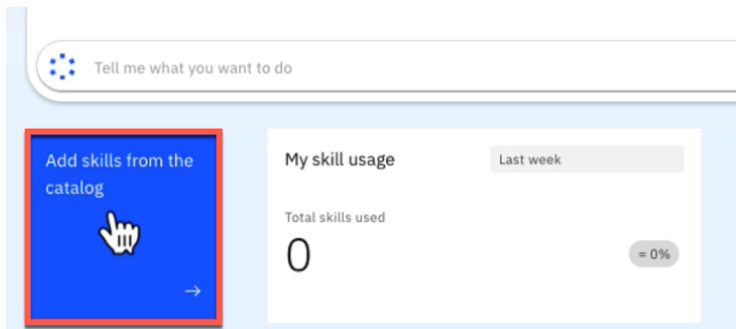
3.1 Adding custom skills to your personal skills

Before we can start building the skill flow, we need to add all the skills to our personal skills list. The custom skills we’re using for this part of the lab are already imported and published to the skill catalog, but to use them you need to connect them with your credentials and add them to your personal skills list. Let’s get to it!

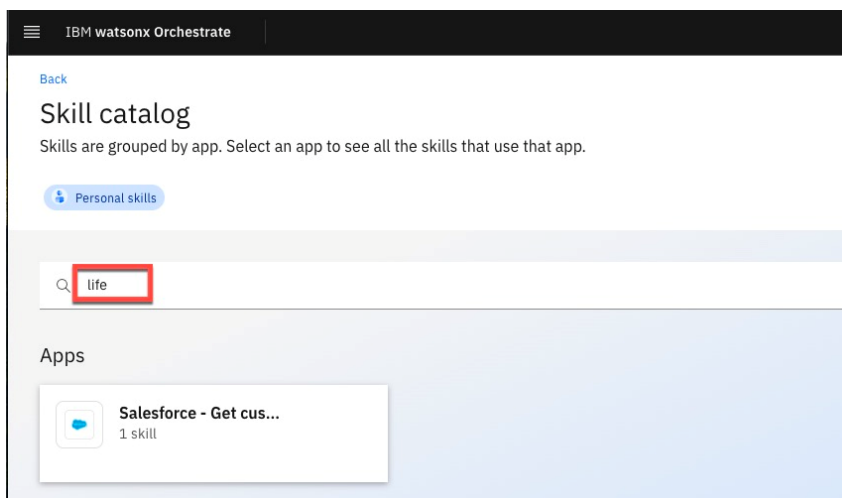
1. Make sure to select **Personal skills** at the top of the Chat view.



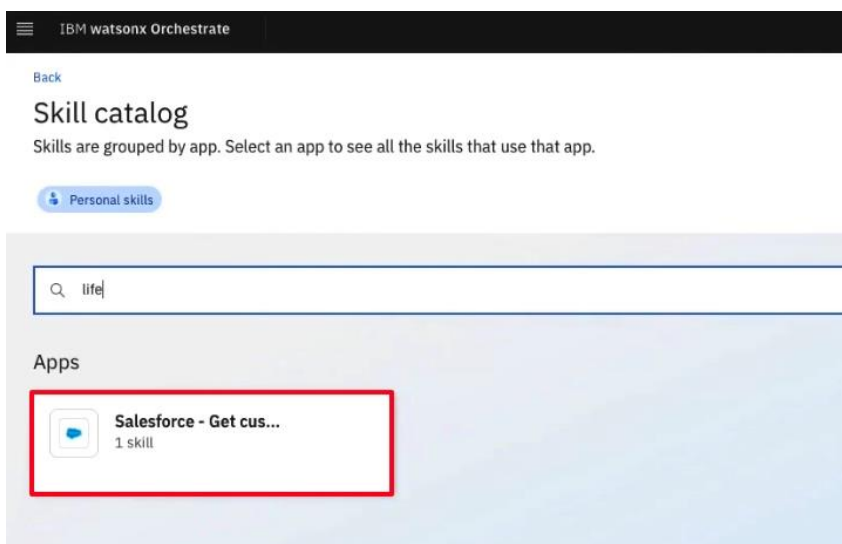
2. Click the **Add skills from the catalog** tile.



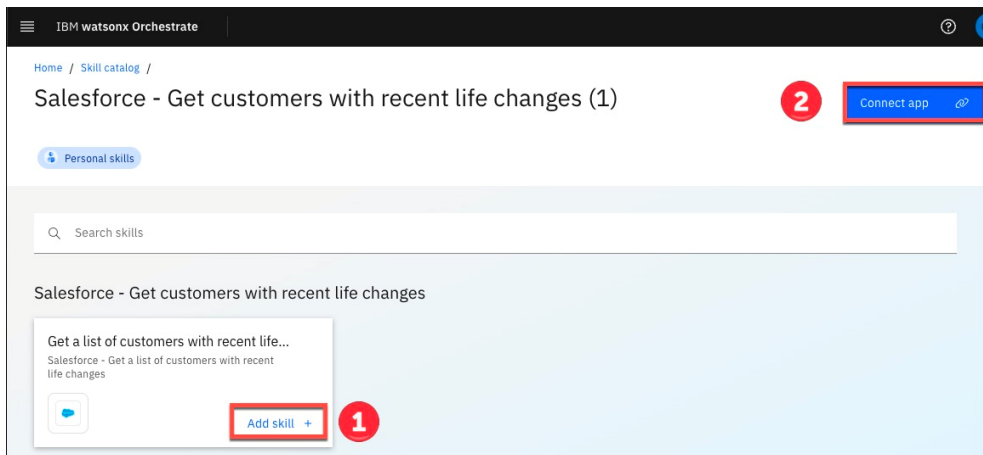
3. Search for **life** in the search panel.



4. The list of apps is filtered to only those that contain skills containing the word “life”. Click the **Salesforce – Get customers with recent life changes** tile.



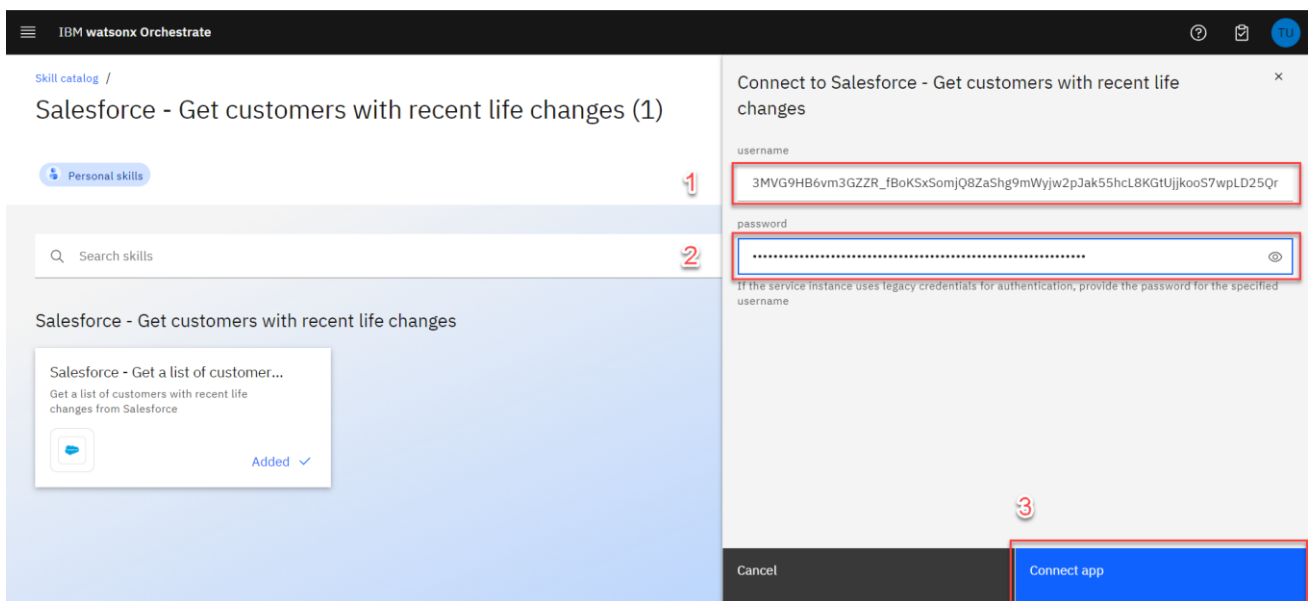
5. Click **Add skill + (1)** on the skill tile, then click **Connect app (2)**.



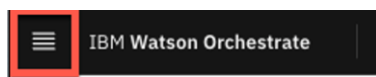
6. Use the following credentials:

- **username (1):** 3MVG9HB6vm3GZZR_fBoKSxSomjQ8ZaShg9mWyjw2pJak55hcL8KGtUjjkooS7wpLD25QraIBxop4ThrTPK237
- **password (2):** 34CB8CCE1E4495C0CAE6A921A5FC7D17CC6CE614152175D20F5B00F8B250626C

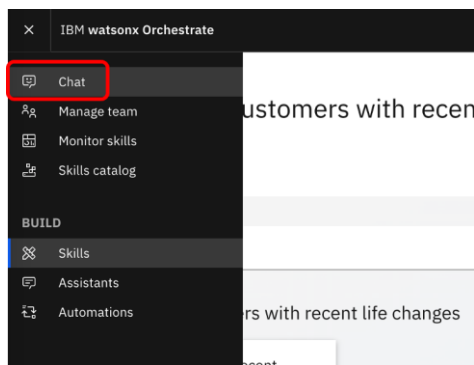
Click **Connect app** (3).



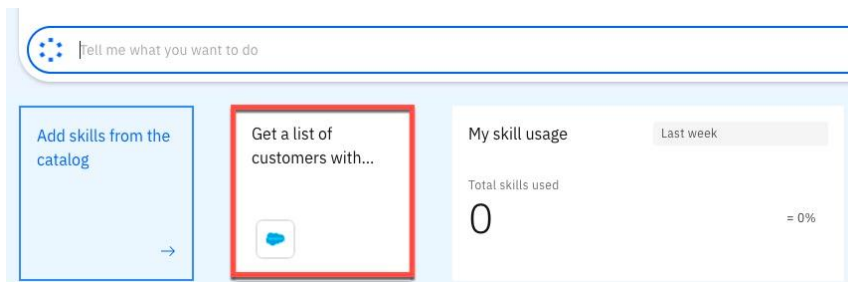
7. Click the main menu at top left.



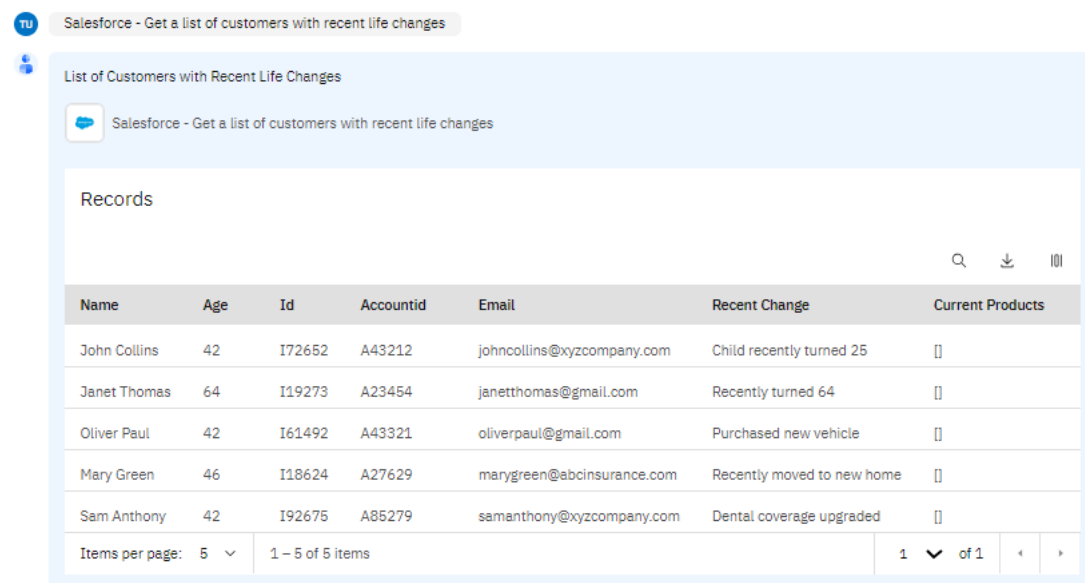
8. Click **Chat** from the expanded menu.



9. You can now test the skill. Click the tile for the skill in your personal skills list under the chat input area.

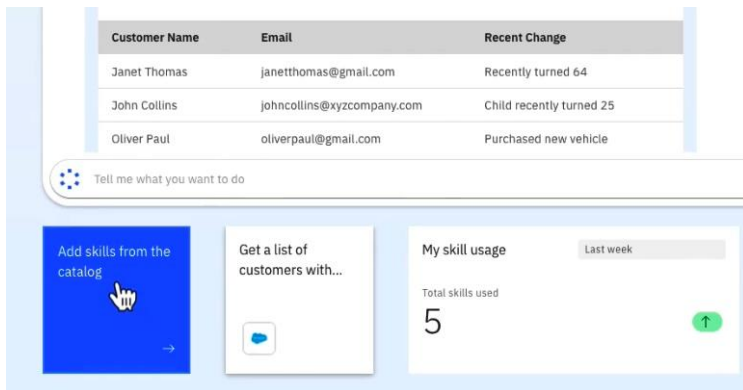


10. After a couple of seconds, a table should be shown containing the data from Salesforce.

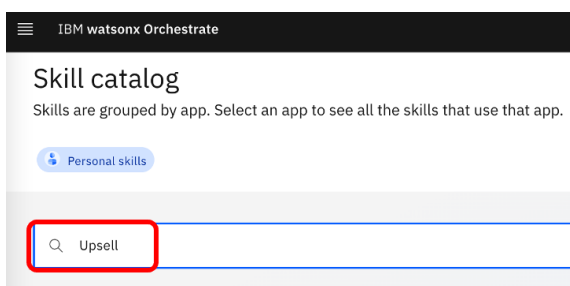


Congratulations! Let's add another skill to your personal skills list, a decision automation authored using Orchestrate's Automation Builder. This is the skill responsible of making the upsell suggestion for the selected customer.

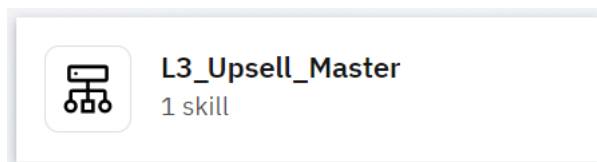
11. Click **Add skills from the catalog**.



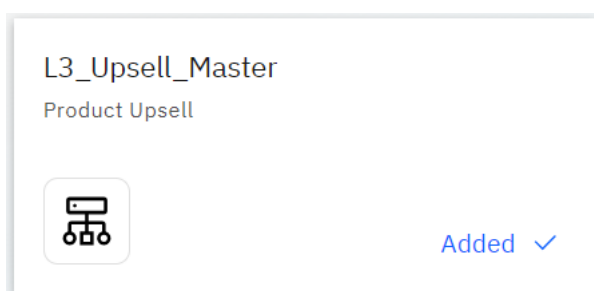
12. Search for **Upsell** in the search panel.



13. Click **L3_Upsell_Master**.



14. Click **Add skill +**. Since the skill is an automation (decision) created on Orchestrate platform, we do not need to connect to it like we do with most other pre-built or custom skills.



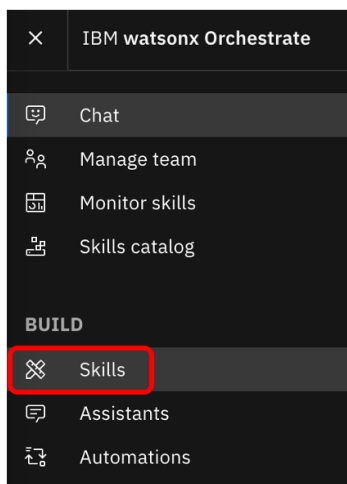
Good! You're now ready to start creating the skill flow.

3.2 Creating a skill flow

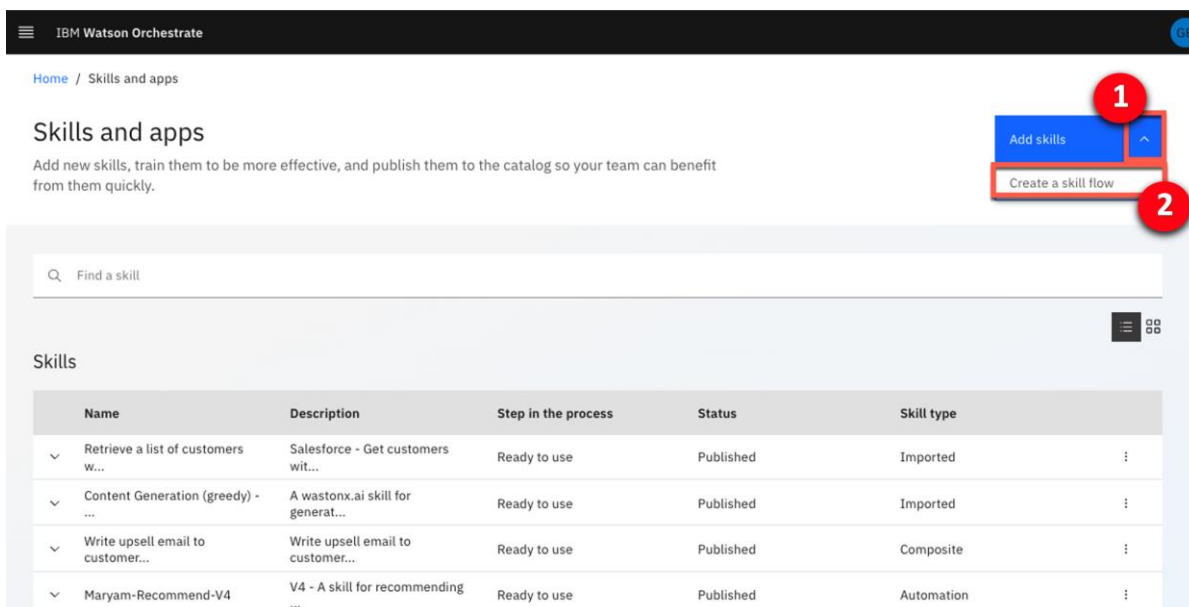
1. Click the menu at top left.



2. Under the Build section, click **Skills**. These options are only shown to users with the builder role.

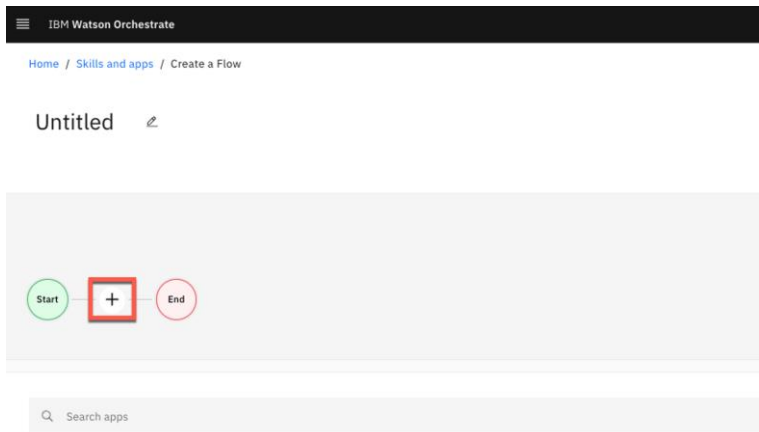


3. Click the arrow next to the **Add skills** button (1), and then **Create a skill flow** (2).



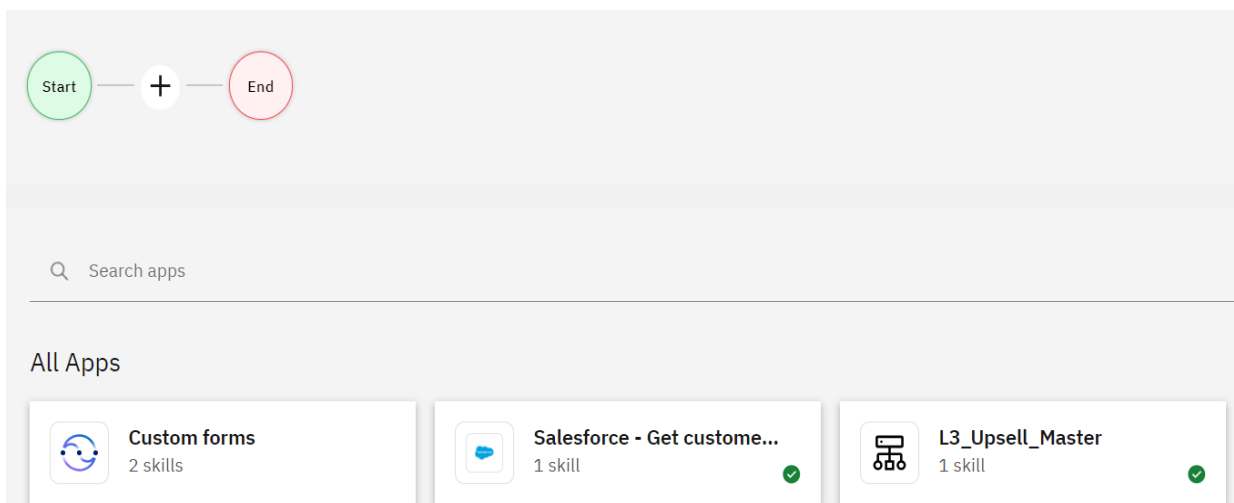
To build skill flows, we can use any skill added to your personal skills list from the skill catalog. First, we'll add the Salesforce skill that returns the list of clients who experienced recent life changes.

4. Click the **+** button in the skill flow editor.

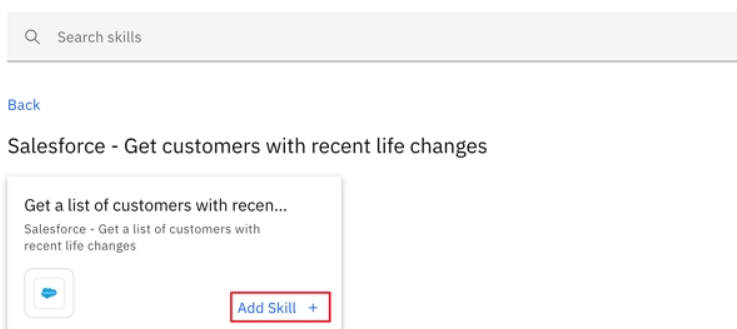


The list of available apps shows the *L3_Upsell_Master* and *Salesforce – Get customers with recent life changes* tiles. These are shown at the top of the list as they are the skills you connected and added to your personal skills list earlier.

- Click the **Salesforce – Get customers with recent life changes** tile.




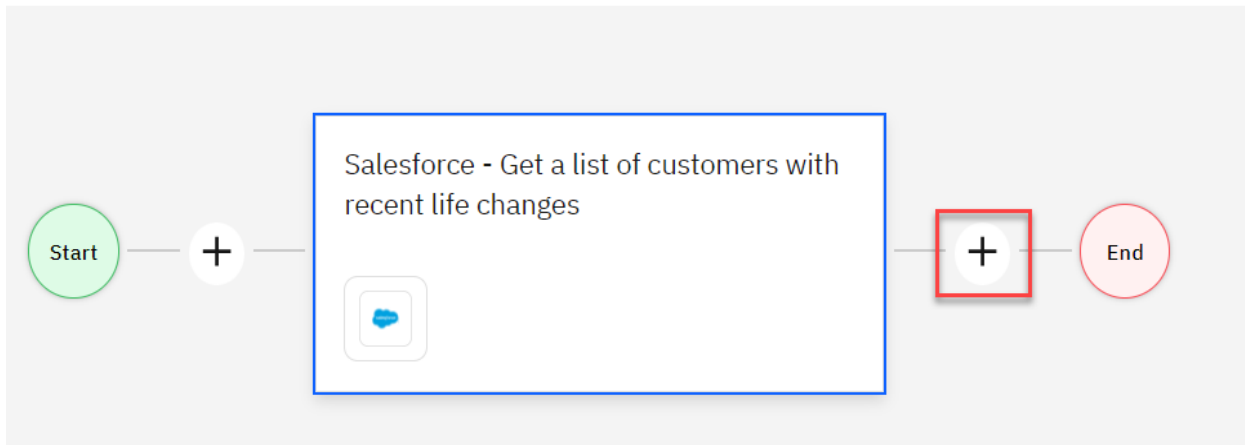
- Click **Add Skill +**.



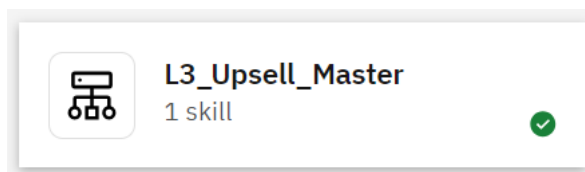
The next step in the flow is to invoke the decision that determines the best product recommendation based on the customer situation. Let's add the recommendation skill to the flow.

7. Click the **+** button on the right-hand side of the just added Salesforce skill.

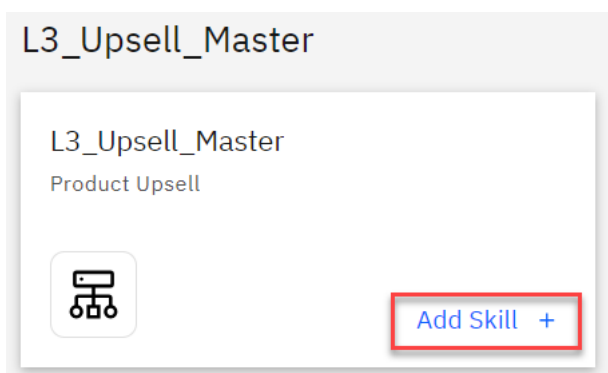
Untitled 



8. Click the **L3_Upsell_Master** tile.



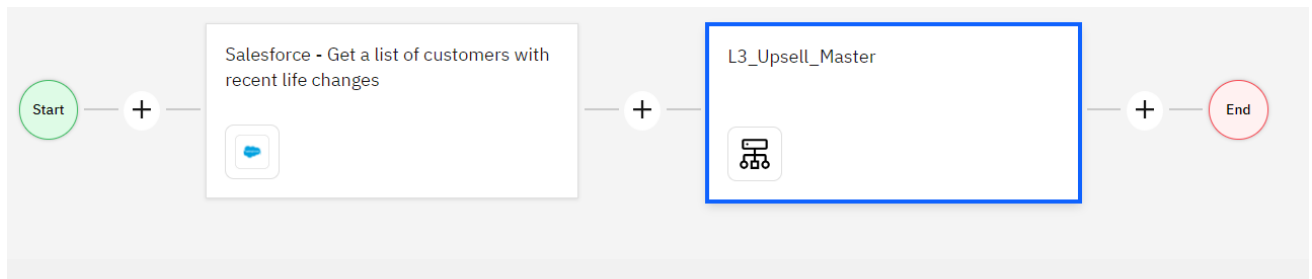
9. Click **Add Skill +**.



Each skill can have one or more inputs and outputs. The skill flow editor allows builders to easily map the output retrieved from a previous skill in the flow to the input of a subsequent skill. For example, the attributes of the selected customer are available as inputs to the product recommendation decision

engine.

- Click the **L3_Upsell_Master** box within the flow. The property sheet for the skill will appear under the flow.



L3_Upsell_Master
 Product Upsell

☐ Repeat this skill

☒ Hide this form from the user

☒ Input Output Clear all mappings [Generate mapping suggestions](#)

theCustomer.age

theCustomer.name

The 'Input' and 'Output' tabs are used to assign the values. Output values from preceding skills are displayed in the 'Input' tab.

- Click the **Input** tab and then click inside the **theRecentChange** field.

☐ Repeat this skill

☒ Hide this form from the user

☒ Input Output Clear all mappings [Generate mapping suggestions](#)

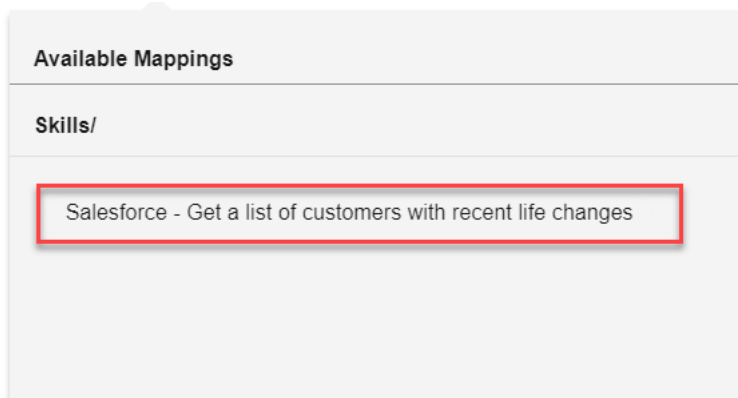
theCustomer.age

theCustomer.name

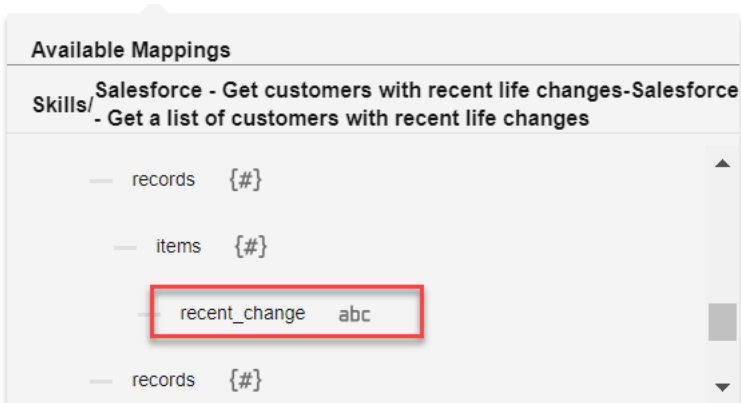
theCustomer.listOfCurrentProducts

theRecentChange

12. Within the **Available Mappings** panel, click the skill that contains the value we need as an input.



13. Scroll through the available values and select **recent_change**.



14. The path to the value is now mapped and shown in the field.

theRecentChange

records.items.properties.recent_change x



15. Repeat this exercise to map the other two values – **theCustomer.age** and **theCustomer.name**. Do NOT select any Operators for the mappings.

theCustomer.age

records.items.properties.age x

theCustomer.name

records.items.properties.name x


Define Transformations

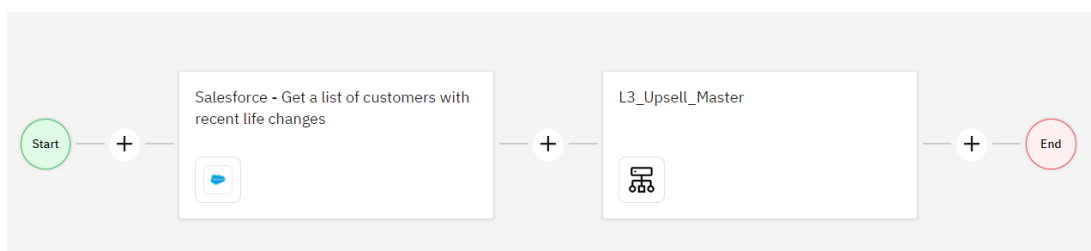
Operator

Select v

Now we'll name our new composite skill flow and save it.

- Click the pencil icon next to **Untitled**.

Untitled 



- In the **Edit Skill flow details**, provide a **Name** for your skill flow, such as “[**YOUR INITIALS**]-Upsell-Skillflow” (1), as an example “GB-Upsell-Skillflow”, and click **Save** (2).

NOTE! Be sure to use your initials as an identifier in your skill flow name. The Orchestrate environment is shared with other lab participants and you want to find your skill flow with ease.

Edit Skill flow details



Preview

GB-Upsell-Skillflow



Name *

1

GB-Upsell-Skillflow

Description

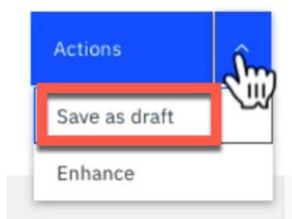
0/100

Cancel

2

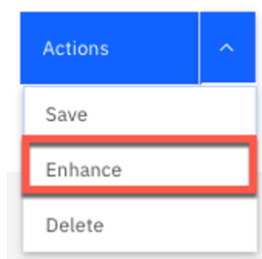
Save

18. Click the arrow next to the **Actions** button (1), and then click **Save as draft** (2).



After building the skill flow, we'll now train the AI model used to trigger the skill from the chat interface. Once the skill is fully trained, we'll publish it to the watsonx Orchestrate skill catalog.

19. Click the arrow next to the **Actions** button (1), and then click **Enhance** (2).



Phrases are used to train the AI model. From the chat interface, watsonx Orchestrate can understand the user's intents, and will ask for clarification and give users choices if it isn't sure which skill to run.

NOTE! As this is a shared environment, it is possible there are many duplicate phrases related to product upsell. Try to provide an original phrase, such as something that includes a name or unrelated term.

20. Enter a phrase into the first field on the **Phrases** tab, such as **get <YOUR NAME>s upsell hints for customers**, like “get gerrys upsell hints for customers”.

IBM Watson Orchestrate

Home / Skills and apps / Enhance this skill

Enhance the “GB-Upsell-Skillflow” skill

Add details that will make people want to use this skill.

Name **Phrases** Next best skills

Phrases are the text your user types in the chat box to find and use a skill.

get gerrys upsell hints for customers

Enter new train phrase

Next, we’ll publish the new flow to the watsonx Orchestrate skill catalog, so the insurance sales representatives can use it.

21. Click **Publish**.

IBM Watson Orchestrate

Home / Skills and apps / Enhance this skill

Enhance the “GB-Upsell-Skillflow” skill

Add details that will make people want to use this skill.

Name **Phrases** Next best skills

Phrases are the text your user types in the chat box to find and use a skill.

get gerrys upsell hints for customers

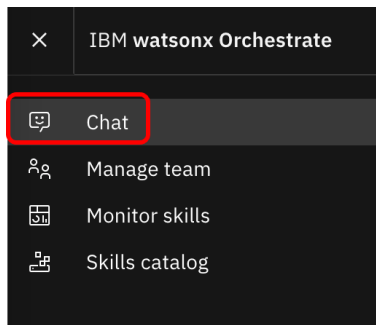
Enter new train phrase

Cancel **Publish** Save as draft

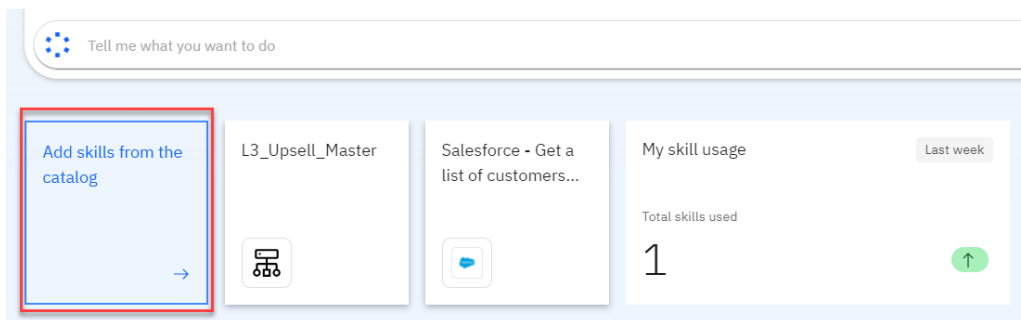
3.3 Using your personal skills list to add and run the skill flow

Since we finished creating and publishing the skill flow, all the insurance sales representatives in the company can now add the skill to their personal skills list.

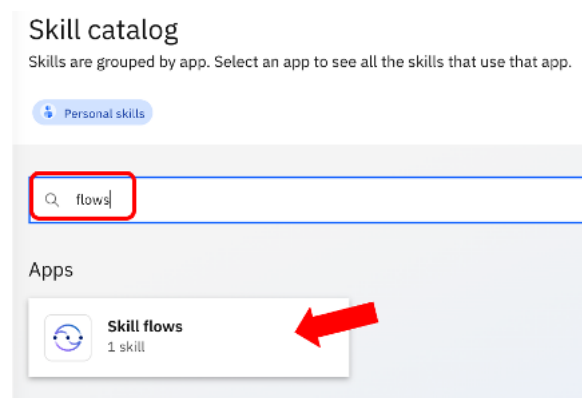
1. Click the menu and then click **Chat** to return to your main chat view.



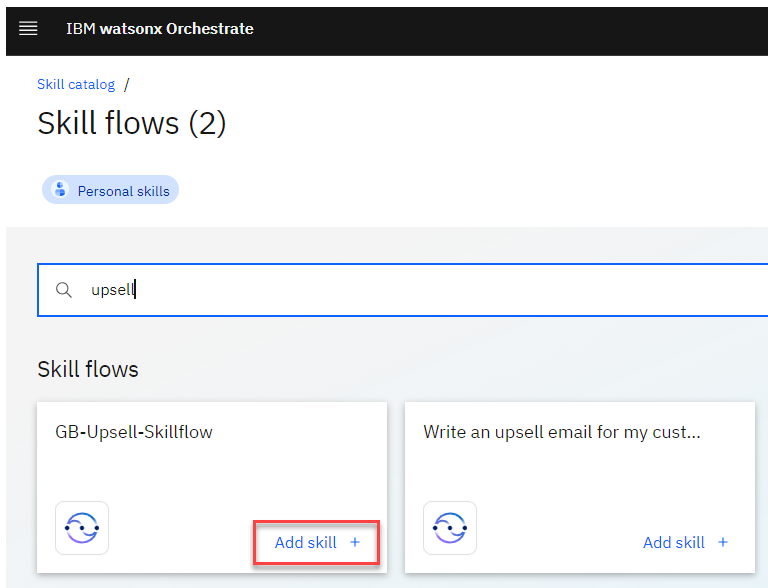
2. Click **Add skills from the catalog**.



3. Search the catalog with **flows** and click the **Skill flows** tile.

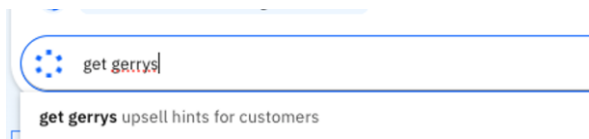


4. In the **Skill flows** view, type **upsell** to find your recently created skill flow, and click **Add skill +** on your skill flow you just created.



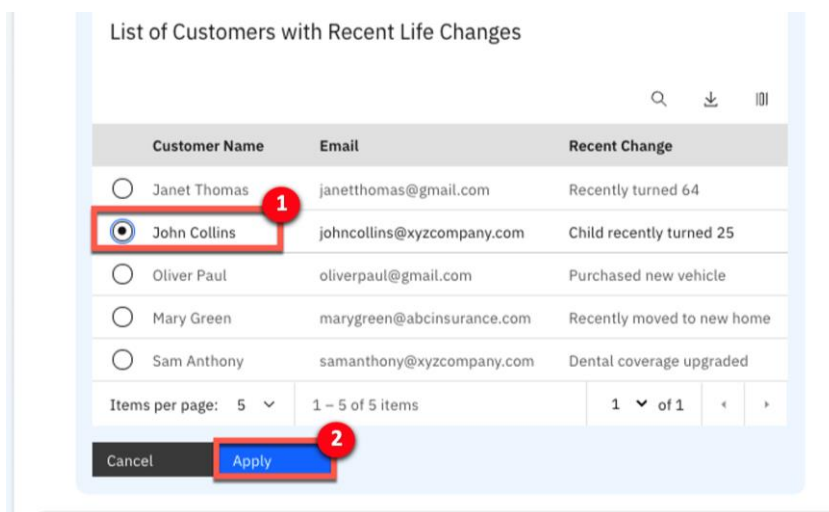
You're now ready to run your new skill flow by asking watsonx Orchestrate to find upsell candidates and make product recommendations for the selected customer.

5. Navigate back to your **Chat** view (menu → Chat).
6. Enter the **phrase with your name in it** to run your skill.

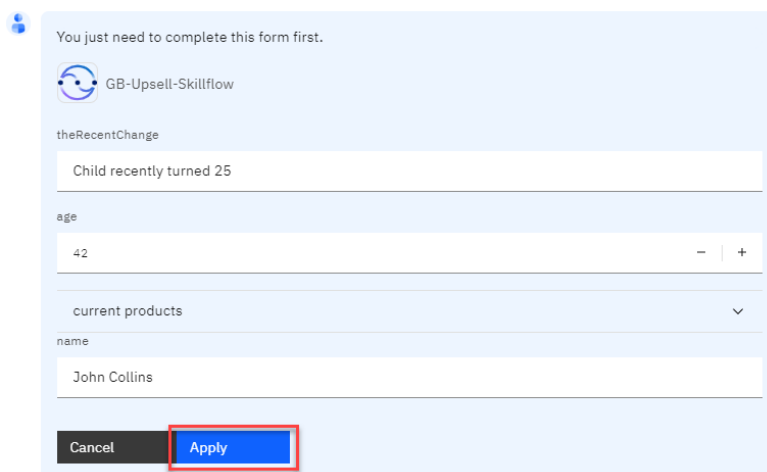


The list of customers is returned, and we'll select one.

7. Select **John Collins** (1) and click **Apply** (2). Note that when a skill that returns a list of items is defined as part of a skill flow, Orchestrate automatically enables by default selections for the list.



8. The data for Johns Collins is then automatically mapped into the input fields of the product recommendation skill. Review and then click **Apply** to run the second skill in your skill flow.



You just need to complete this form first.

GB-Upsell-Skillflow

theRecentChange

Child recently turned 25

age

42

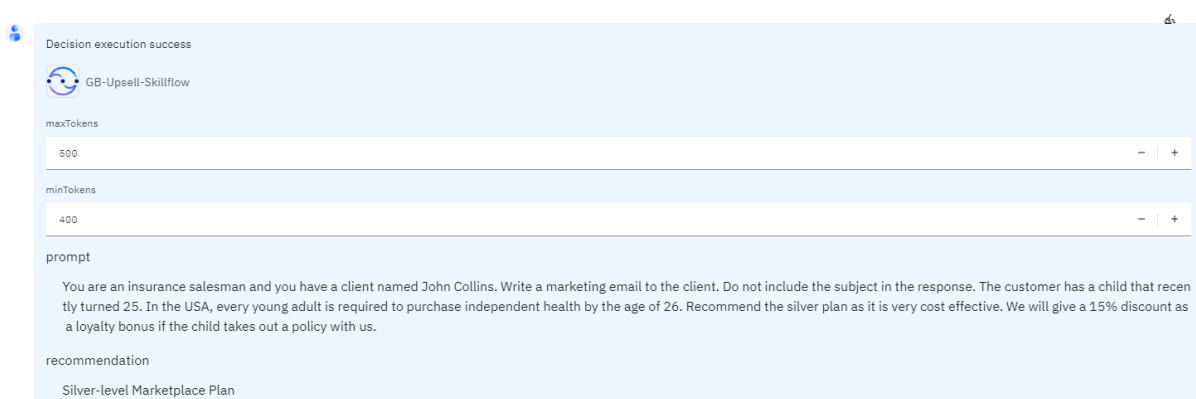
current products

name

John Collins

Cancel Apply

9. Review the result of the upsell decision service.



Decision execution success

GB-Upsell-Skillflow

maxTokens

500

minTokens

400

prompt

You are an insurance salesman and you have a client named John Collins. Write a marketing email to the client. Do not include the subject in the response. The customer has a child that recently turned 25. In the USA, every young adult is required to purchase independent health by the age of 26. Recommend the silver plan as it is very cost effective. We will give a 15% discount as a loyalty bonus if the child takes out a policy with us.

recommendation

Silver-level Marketplace Plan

Feel free to explore your skill flow and attached decision skill by selecting users other than John Collins. You should see different recommendations based on customer's recent change in life situation.

Nice! As a builder, you created and published new skill flow. The skill flow ran successfully and made a product upsell recommendation for the selected customer.

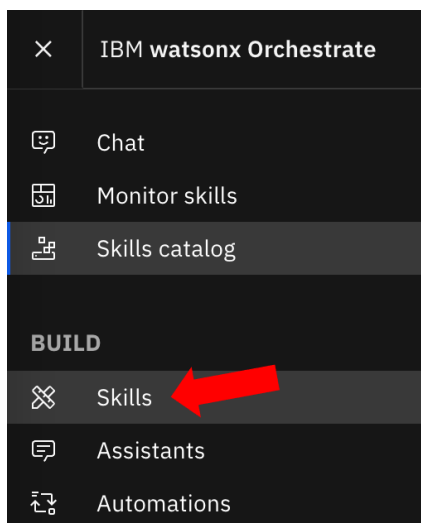
Next, we will have a closer look at the options to import your own custom skills into Orchestrate.

4 Import custom skills

As mentioned in the introduction, builders can import custom skills into IBM watsonx Orchestrate in a few different ways. All available skills – pre-built and custom skills that are already published – can be accessed through the Skills catalog.

To import existing services as skills, you have several options. You're not going to use them in this lab, but let's explore them briefly!

1. In the menu, click **Skills**.



The Skills view shows you all the custom skills imported or created (including *skill flows* and published *automations*). Let's start with the imported ones.

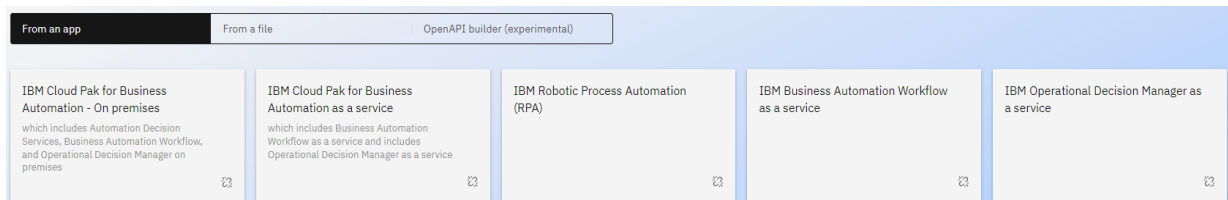
Skills					
Name	Description	Step in the process	Status	Skill type	
▼ GB-Upsell-Skillflow		Ready to use	Published	Skill flow	⋮
▼ Insurance Upsell	Execute Insurance-Upsell	Ready to use	Published	Automation	⋮
▼ Content Generation (greedy) - Preview	A watsonx.ai skill for generating text	Ready to use	Published	Imported	⋮
▼ Get a list of customers with recent life change...	Skill to retrieve customer information from Sal...	Ready to use	Published	Imported	⋮
▼ Write an upsell email to customers	Skill flow that combines 4 skills to send an off...	Ready to use	Published	Skill flow	⋮

2. Click the **Add skills** button.

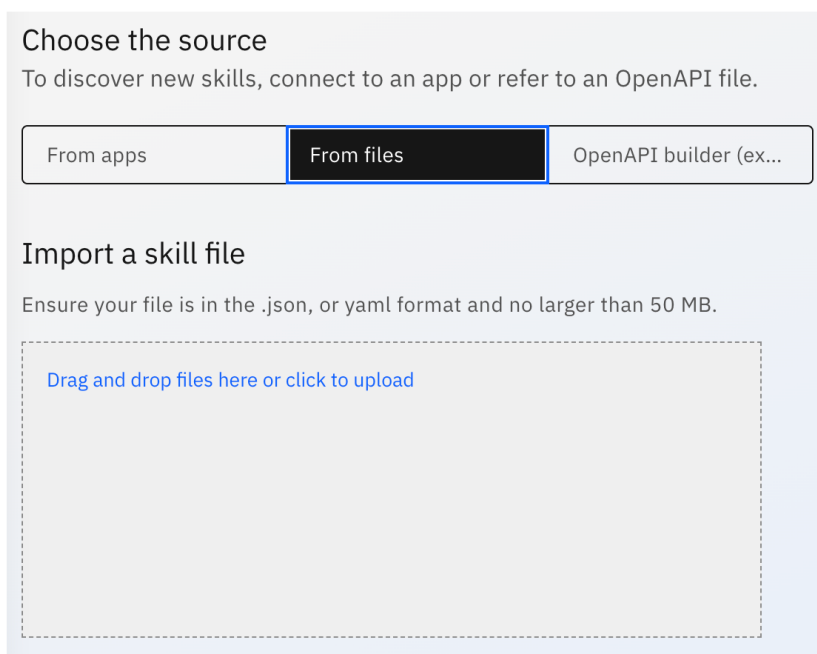


This opens the **Add skills view** and shows you the current options for importing new skills.

The first option allows you to discover available automation services from IBM Cloud Pak for Business Automation (CP4BA) on-premises or SaaS and from IBM RPA (more information is available [here](#)). IBM plans to add support to discover services from other 3rd party platforms in upcoming releases.



The second option is to import skills using OpenAPI definition files. If you have a service endpoint description as an OpenAPI, you can import it directly to Orchestrate (more information is available [here](#)).



The third option, released in December 2023, is the **embedded OpenAPI builder** (beta in the current version). A Builder can use it to do the following:

- 1) have AI generate a new OpenAPI specification from a documentation web page,
- 2) view and edit an existing OpenAPI specification, or
- 3) create an OpenAPI specification from scratch (more information is available [here](#)).

Welcome!

Build, edit, and generate OpenAPI specs.

To launch the builder, pick one of the following options. After that, you can edit the specification and enhance it using AI (see [documentation](#)).

AI generate a new OpenAPI spec

AI

Generate an OpenAPI specification from a documentation web page using AI. Currently limited to documentation pages containing cURL requests and JSON responses. May take a few minutes.



Open an existing spec

Open an existing OpenAPI specification (3.0 or later) from a .json file that is no more than 500kB.



Create a spec

Create an OpenAPI specification from scratch.



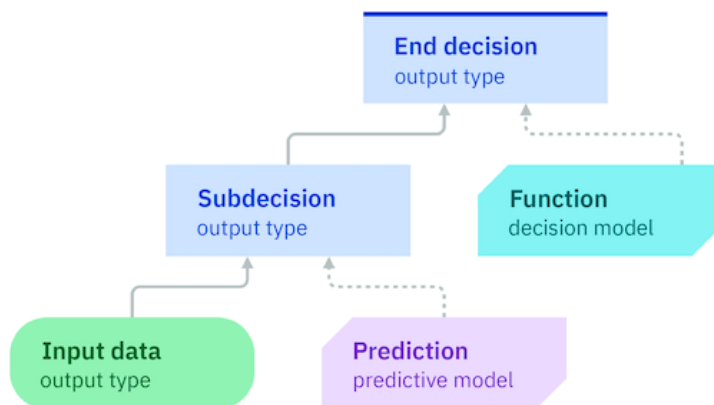
5 Build automations

IBM watsonx Orchestrate also includes embedded tools to create new automations and publish them as skills to provide support for more complex scenarios and further automate work.

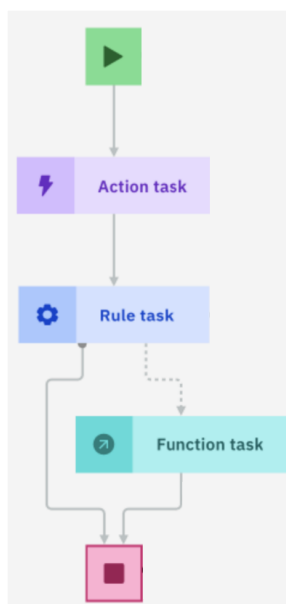
5.1 Decisions

Decisions are an automation type that capture and automate repeatable intelligent **business decisions**. For example, a business decision to authorize a loan, based on established rules and policies. A decision can be implemented with *decision models*, *ruleflow models*, and *prediction models*.

Decision models offer a straightforward and low-code approach to modeling business decisions through a structured, visual representation of a decision. Orchestrate provides low-code tooling to create, test, deploy, and publish decision models as skills. More information about creating decision models [here](#).



Ruleflow models offer a more advanced way to define decisions with control over the order of steps and branching of your decision logic.



Prediction models offer insights from historical data to help you make more informed decisions. Use prediction models to compute a prediction that you can use as part of a decision or ruleflow model. Three

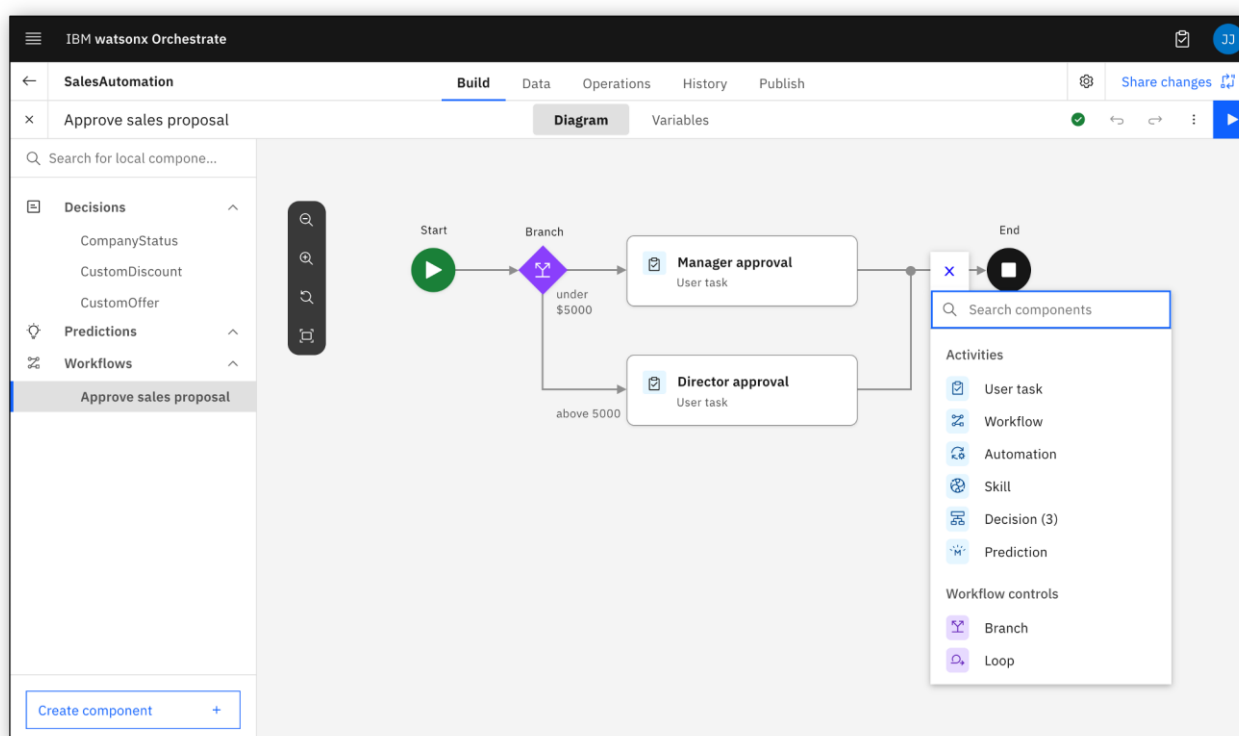
remote providers are supported: IBM Watson® Machine Learning, Amazon® SageMaker, and IBM® Open Prediction Service.

Open Prediction Service is an extension framework that allows you to connect to machine learning providers that are not natively supported. This includes custom machine learning services and third-party machine learning tools, such as Microsoft® Azure Machine Learning. For more information about Open Prediction Service, see the [Open Prediction Service Hub repository](#).

An **embedded machine learning provider** is also supported. This provider allows you to import Predictive Model Markup Language (PMML) files and run them directly in Orchestrator. More about building and using prediction models [here](#).

5.2 Workflows

Workflow is an automation component that models a **business process**. For example, a process to find and hire candidates for a job. A workflow is composed of a sequence of activities and tasks. These activities can be other workflows, decisions, automations, or skills, which you can put together to create powerful automations and **publish as skills** in the Orchestrator skills catalog.



You can think of the workflow capability as more advanced skill flow editor, where you can branch out to different activities and create collaborative flows by assigning user tasks to different Orchestrator users. More about using workflows [here](#).

5.3 Assistants (embedded IBM watsonx Assistant capability)

IBM watsonx Orchestrate can also build **virtual assistants** by using the Assistant builder to create and deploy conversational Artificial Intelligence (AI) interfaces. These assistants can be tailored to fit both internal employee and external customer care use cases.

IBM has been delivering conversational AI for 10+ years and IBM watsonx Assistant is a leader in the market.

2%+

of the world population
interacts with watsonx
Assistant each month

+10,000

Clients using
watsonx Assistant
right now



Customer Experience
Transformation



Call center
modernization



Employee experience
modernization



Now, when combining the advanced conversational AI capabilities of watsonx Assistant with the skill-based approach of watsonx Orchestrate, IBM opens a new scene for enterprise productivity.

There is a lot of public information on watsonx Assistant, but to get started using it as part of Orchestrate, refer to these [instructions](#).

This concludes the lab exercise, congratulations! We hope you enjoyed it and would love to hear your feedback and any questions you might have. Your instructors are happy to answer your questions and help you to get started with IBM watsonx Orchestrate. Thank you!