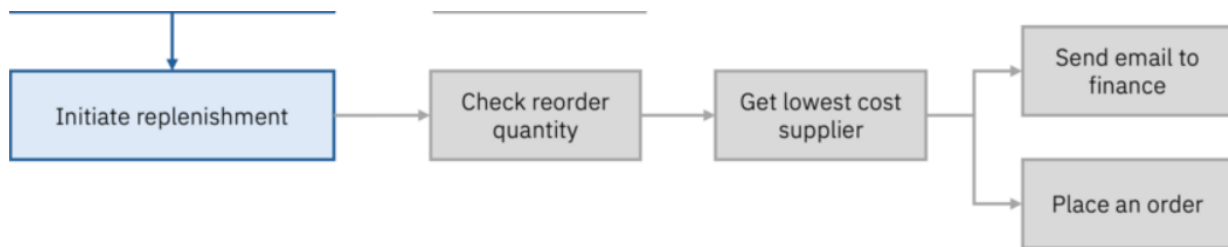


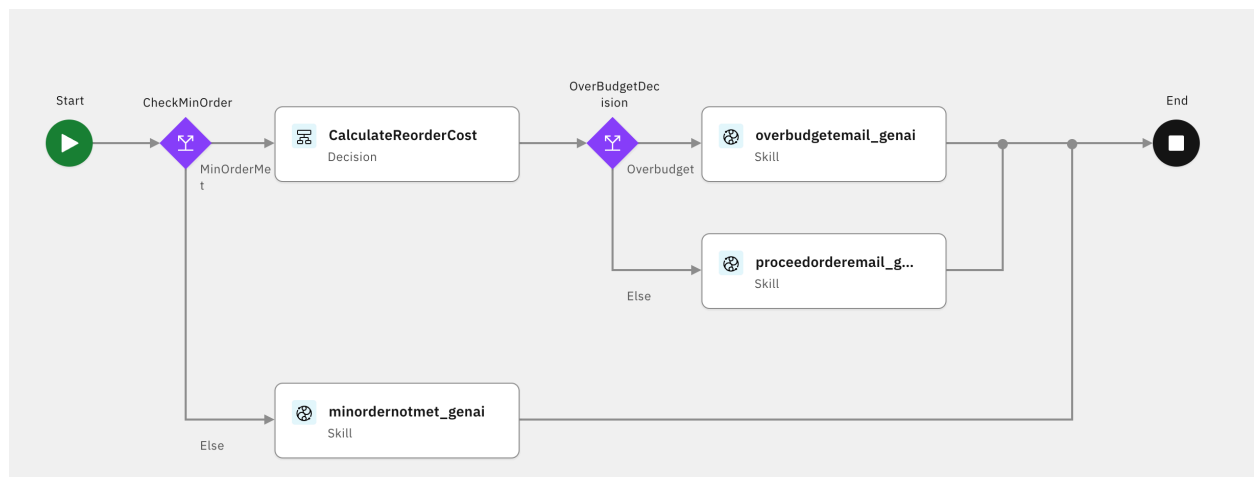
Lab 5: Automation Builder

In this lab, we will be building an automation workflow which can help us to determine the steps to take once we have all our reorder information available. In this automation, we will be branching out to different actions based on the following criteria:

- If the order quantity meets minimum order (assuming set by supplier)
- If the order is above a certain budget and requires approval from the procurement head



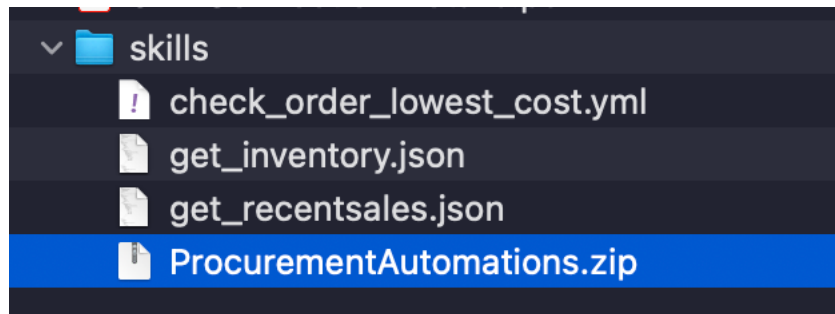
This automation is achievable by a workflow within the automations. The workflow has already been prebuilt for you but feel free to click on each component to understand more.



Automation Builder

1. Prepare zip file

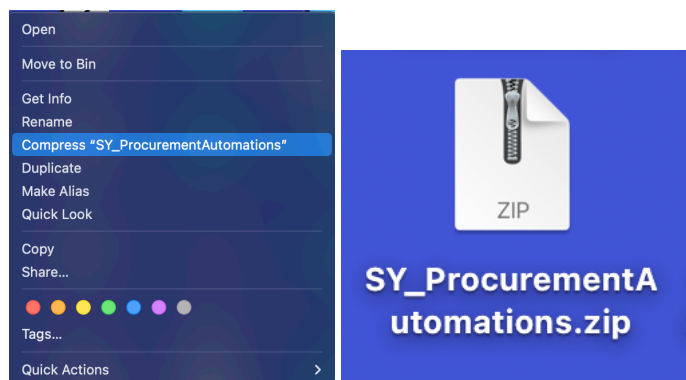
- 1.1 In your downloaded folder, locate the ProcurementAutomations.zip in the “skills” folder. Automations are prebuilt in this skill folder for you.



- 1.2 Unzip the file and rename the file to “[YourName]_ProcurementAutomations”.



- 1.3 Rezip the folder.



***** If you are using a Macbook, the current built in archiver utility is not compatible. To rezip your folder please follow the following steps or please ask a facilitator to assist you.**

- a. Launch terminal
- b. Paste in this code and press return:

```
cd desktop/digital-labour-workshop/workshop content/skills
```

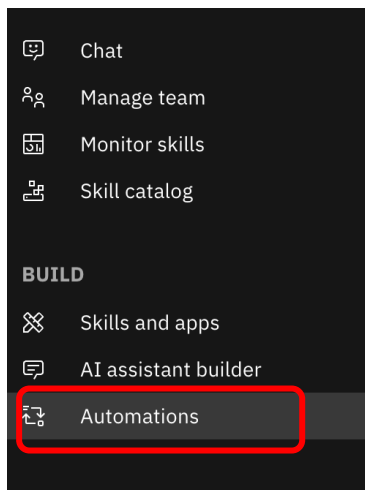
- c. Paste in this code and press return:

```
zip -r [YourName]_ProcurementAutomations.zip
```

```
[YourName]_ProcurementAutomations
```

2. Uploading automations into Watsonx Orchestrate

2.1 Access the automation builder through the menu pane on the left.



2.2 In the Automations page, click on Create automation.



2.3 Select Import automation and select the zip file titled

“[YourName]_ProcurementAutomations” and click the “Import” button

New automation

Create automation

Import automation

Discovery tutorials

Industry samples

Import automation

Select a ZIP file to import. This file can contain only one automation. Maximum size: 20MB.

Browse

Import automation

Select a ZIP file to import. This file can contain only one automation. Maximum size: 20MB.

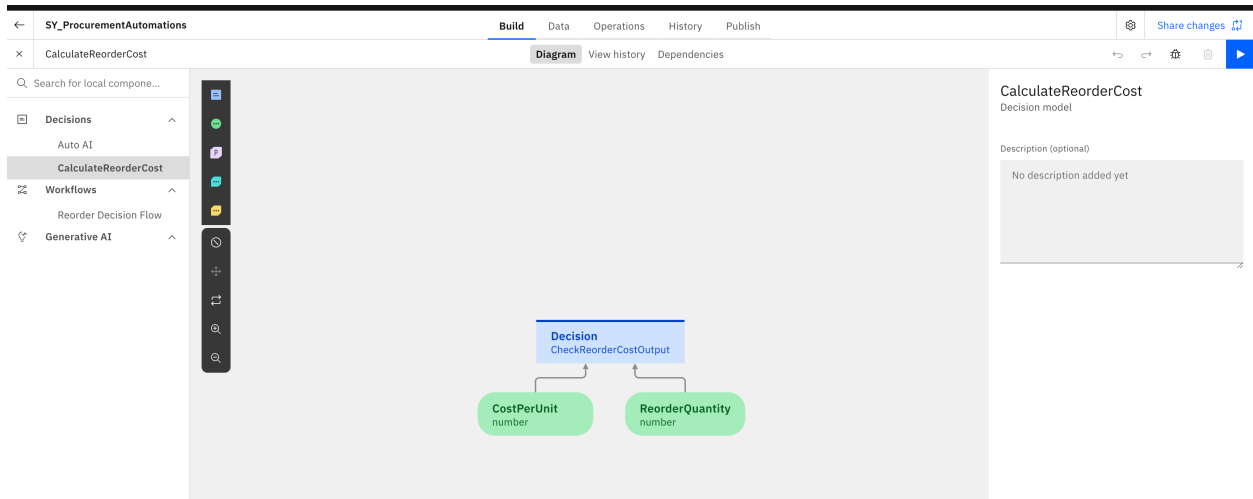
Browse

SY_ProcurementAutomations.zip

Cancel

Import

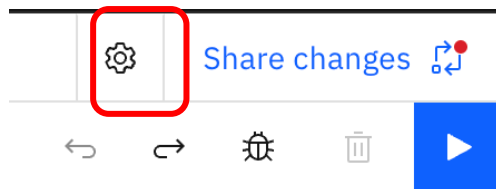
2.4 You will see your interface like this.



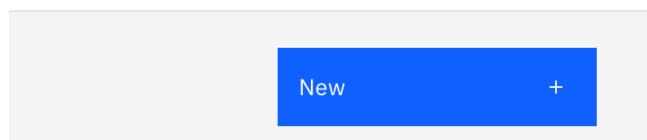
- The Decisions tab allows organization to determine business rules, calculations, business mappings, decisions based on certain conditions.
- Workflows tab allows for automated workflows to be designed. Workflows can also include decisions and skills from our skills catalogue
- Generative AI tab allows automation creation using Large Language Models. These can be published as skills and included into the workflows.

3 Update Prediction Model Details

3.1 Click on the settings on the top right corner.



3.2 Click on “New” on the top right corner.



3.3 Ensure that the details are as below. You will need to fill in the Space ID and API Key as provided in the connection details document. Click Save after all details have been entered.

New provider

Set up a new machine learning provider

Type

Watson Machine Learning

Name

ML Model for AutoML

Description

What is specific about this provider?

URL

https://us-south.ml.cloud.ibm.com/

Space ID

1ab234cd5-123a-456b-789d-1abc1234567d

Authentication URL

https://iam.bluemix.net/identity/token

API key

Cancel

Save

3.4 After you've clicked save, your page should show something similar.

Machine learning providers

Machine learning providers

Connect to the machine learning providers where your models are stored.

New

Test

Type

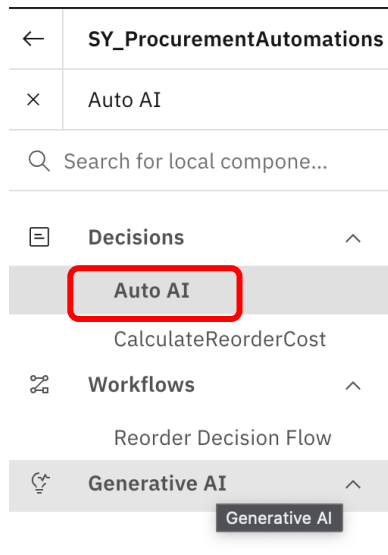
Watson Machine Learning

Status

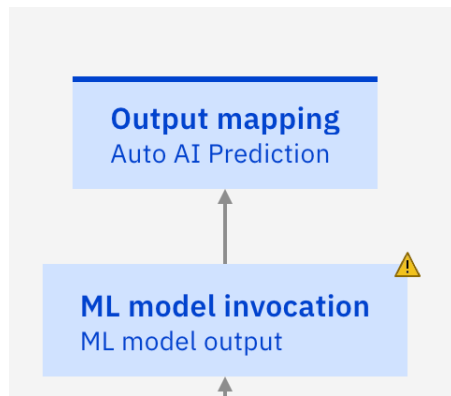
running

3.5 Click on Back and Click on AutoAI from the left panel.

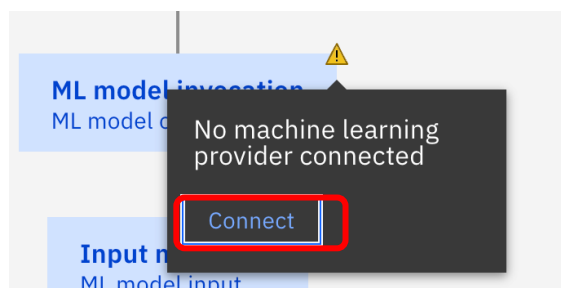
[← Back to SY_ProcurementAutomations](#)



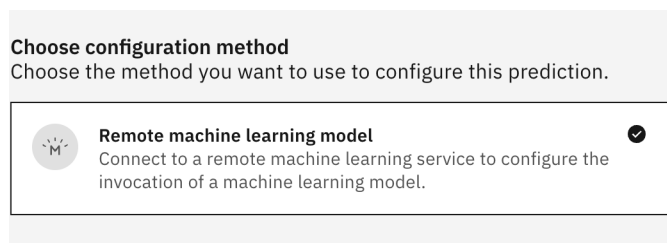
3.6 You will see a warning sign on one of your tiles in the decision flow.



3.7 Click on the warning sign and click “Connect”.



3.8 Choose “Remote machine learning model” and click “Next”.



3.9 Select the provider. The provider's name will depend on the name you've input in step 3.3.

Select provider
Select the provider where your deployed model is stored.

Machine learning provider

✓ Test

New provider +

3.10 You will see the layout change to something similar as below.

Click on the small arrow

Select machine learning model deployment
Select the deployment you want to use to generate the prediction.

Show deployed models only Upload

Machine learning model name	Status	Training date	Last modified
Auto AI Experiment - P2 XGB Regressor - Model	Show selected deployment	6/27/2024, 5:33:29 PM	6/27/2024, 5:33:30 PM

3.11 Select the model and click "Next"

Deployment name	Status
<input checked="" type="radio"/> auto ai xgb model	ready

3.12 Leave the options as it is and click "Next".

Define input schema
Define the input parameters needed to make the prediction.

Name	Type
Order Date	other
Product Name	other

3.13 Click on the Run button to test the model.

Click “Next” when the output has the result shown below.

Test invocation

Use test data to make sure the model works as expected.

Order Date

other

Product Name

other

Output

```
{
  "fields": [
    "prediction"
  ],
  "values": [
    [
      4.2966084480285645
    ]
  ]
}
```

3.14 Click on “Generate from test output” and click “Ok” on the pop up.

Form JSON Generate from test output Generate from payload Add +

3.15 Once you get the Prediction field, click “Apply” on the top right.

Name Type

prediction double

3.16 Click back to AutoAI and you will see the below configuration in your right side panel.

Machine learning provider

Test

Machine learning model

Auto AI Experiment - P2 XGB Regressor - Model

Deployment

auto ai xgb model

Edit Configuration

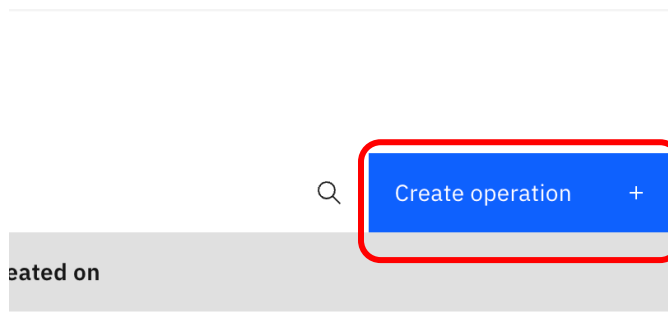
4 Create Operations

To use the automations within Watsonx Orchestrate, we will need to publish the automations in the form of an operation. We will create an operation now.

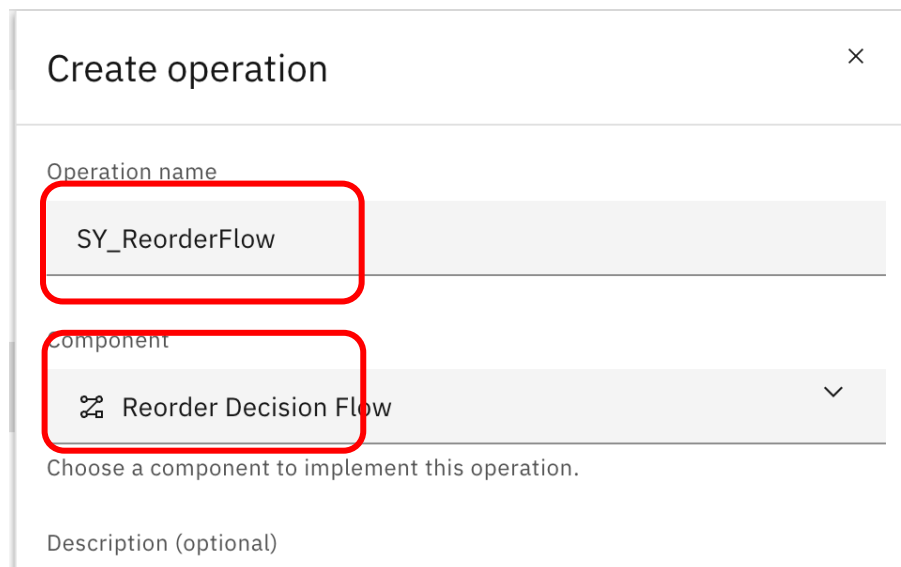
4.1 Select the “Operations” tab.



4.2 Select “Creation operation”.



4.3 Change the Operation name to “[YourName]_ReorderFlow” and Select “Reorder Decision Flow” in the Component Section

A screenshot of the 'Create operation' form in the Watsonx Orchestrate interface. The form has a title bar with the text 'Create operation' and a close button (X). Below the title bar, there are two main sections. The first section is labeled 'Operation name' and contains a text input field with the value 'SY_ReorderFlow'. The second section is labeled 'Component' and contains a dropdown menu with the selected option 'Reorder Decision Flow'. Both the text input field and the dropdown menu are highlighted with red rectangles. Below these sections, there is a text label 'Choose a component to implement this operation.' and a text input field for 'Description (optional)'.

4.4 Click Save and you will see an operation has been created for you.

Operations

Create operations to expose components that you've built in your automation for others to use in their automations or to train as skills.




Name	Component	Description	Created on
SY_ReorderFlow	 Reorder Decision Flow		5/13/2024, 2:35:05 PM

4.5 Repeat steps 3.2 to 3.4 for the AutoAI and CalculateReorderCost decisions.

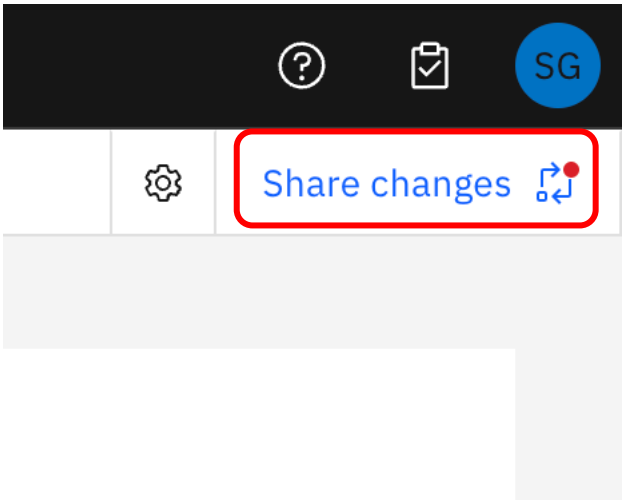
****Important to name your operations starting with your name.**

Operations

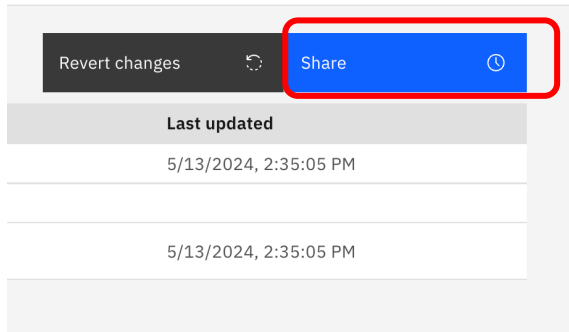
Create operations to expose components that you've built in your automation for others to use in their automations or to train as skills.

Name	Component
SY_CalculateTotalCost	 CalculateReorderCost
SY_AutoAI	 Auto AI
SY_ReorderFlow	 Reorder Decision Flow

4.6 Select the “Share changes” tab.



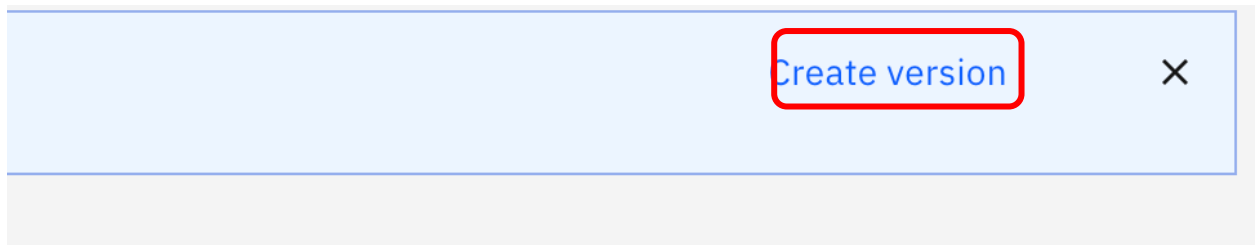
4.7 Click on “Share”, follow the instructions on screen and click “Share” once again.



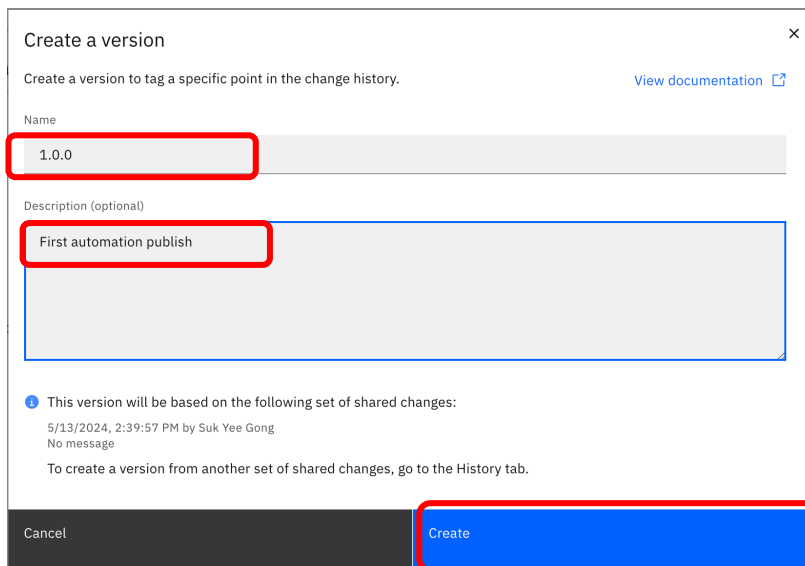
4.8 Select the “Publish” tab



4.9 You will see a blue box on screen. Look for the “Create version” link and click.



4.10 Type in the Name (usually version number), Description and click Create



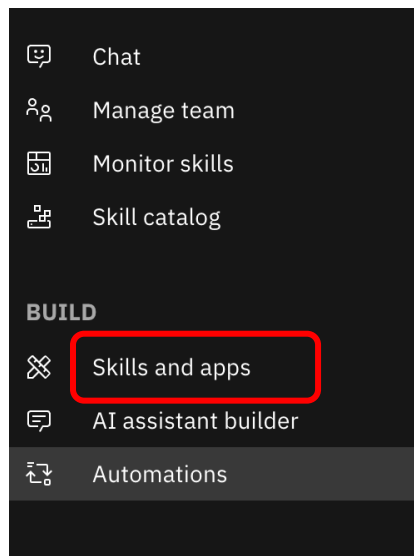
4.11 Expand 'v' against the version and click on 'publish' link. Confirm any confirmation dialog. If the publishing fails, wait for about 10 - 20 seconds and re-try until you have successfully published.

Version	Shared on	Shared by
<div><div>^</div><div>1.0.0</div><div>First automation publish</div></div>	5/13/2024, 2:43:05 PM	Suk Yee Gong
Automation	Publish status	
SY_ProcurementAutomations	Not published	Publish
Items per page: 20	1-1 of 1 items	

5 Using the Automation as a Skill

Now the automations will be a part of the skills which you can use within Watsonx Orchestrate. Just like previous self-built skills, we will need to publish the skill and add it into our personal skills to use it.

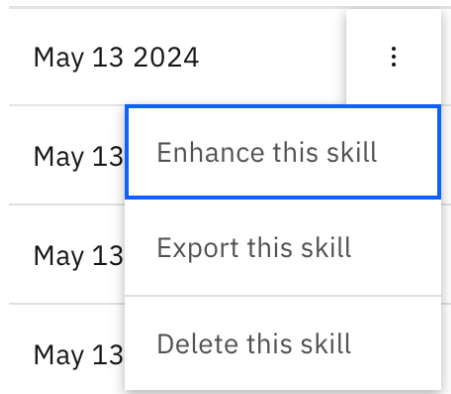
5.1 Access the skills and apps tab.



5.2 From the Skills tab, you will see the unpublished automations listed as skills.

▼	SY_ReorderFlow	Just 1 step away to be ready	✓ Ready to publish	Automation
▼	SY_AutoAI	Just 1 step away to be ready	✓ Ready to publish	Automation
▼	SY_CalculateTotalCost	Just 1 step away to be ready	✓ Ready to publish	Automation

5.3 Publish each skill by clicking on the 3 dots, “Enhance this skill” and click Publish.

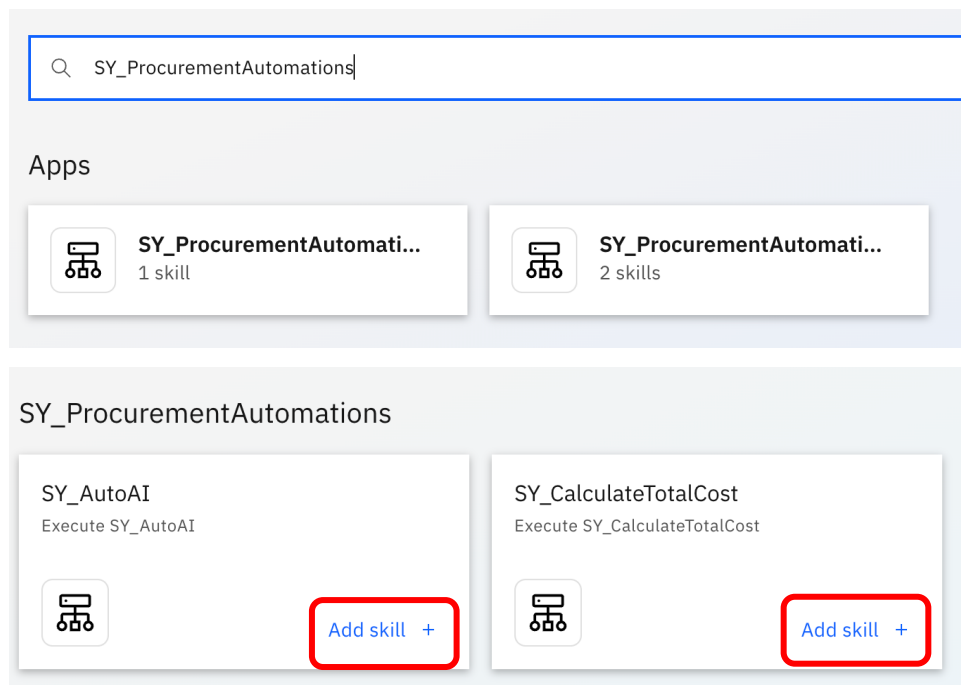


5.4 Repeat this step for all 3 automations.

Name	Step in the process	Status	Skill type
SY_CalculateTotalCost	Ready to use	✓ Published	Automation
SY_AutoAI	Ready to use	✓ Published	Automation
SY_ReorderFlow	Ready to use	✓ Published	Automation

5.5 Click on chat and add the 3 skills into your personal skills.

5.6 Search for “[YourName]_ProcurementAutomations and add all the skills within this app.



SY_ProcurementAutomations

SY_ReorderFlow



Add skill +

5.7 You can test out the skills within the chat.

5.8 We will be incorporating the ReorderFlow in a skills flow in the following lab