

## Lab 2: Build Skill Flows with GenAI

In this lab, you will create a skill flow with a box and watsonx.ai skill connected. Using this, you will be able to extract the 2023 historic sales for a product for the procurement scenario.



### Build a skill flow

In order to build a skill flow, you need to do the following:

1. Add skills in personal skills
2. Create the skill flow
3. Add skills to the skill flow
4. Connect the input and output of skills
5. Enhance and Publish the skill flow

Follow the steps below for detailed instructions.

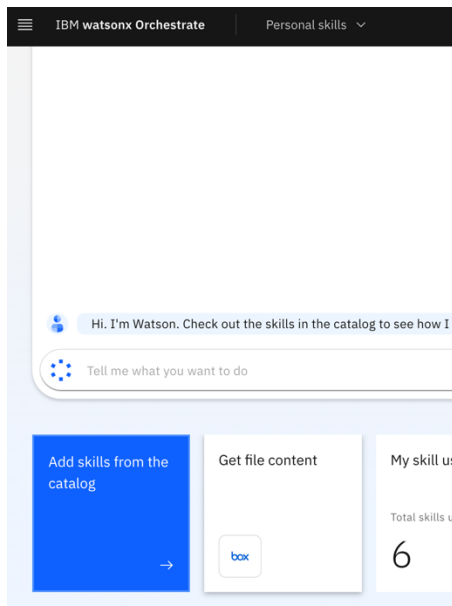
#### 1. Add skills in personal skills

1.1 Add “Get File Content” Box skill as personal skill [skip this if you have completed lab 1a]

1.2 Add “Content Generation (Async)” watsonx.ai skill as personal skill

1.2.1 Click on chat in the menu bar

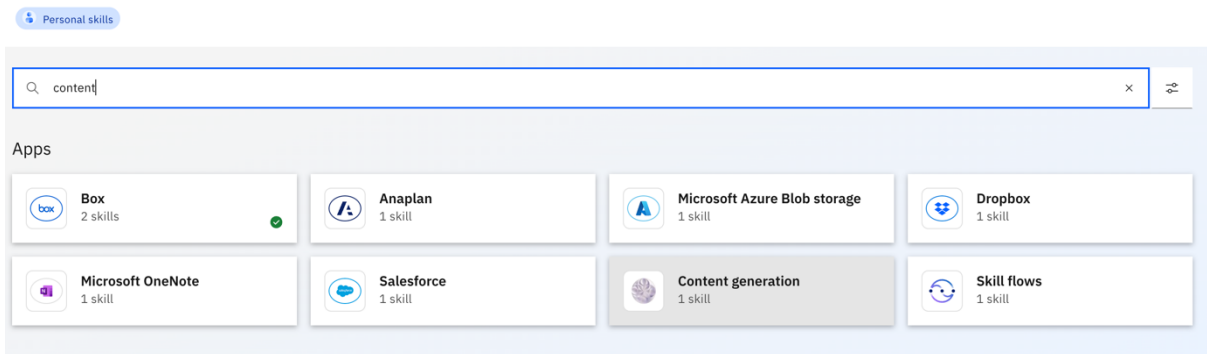
1.2.2 Ensure “Personal skills” is selected. Click on “Add skills from the catalog”



### 1.2.3 Search and click on Content generation app

#### Skill catalog

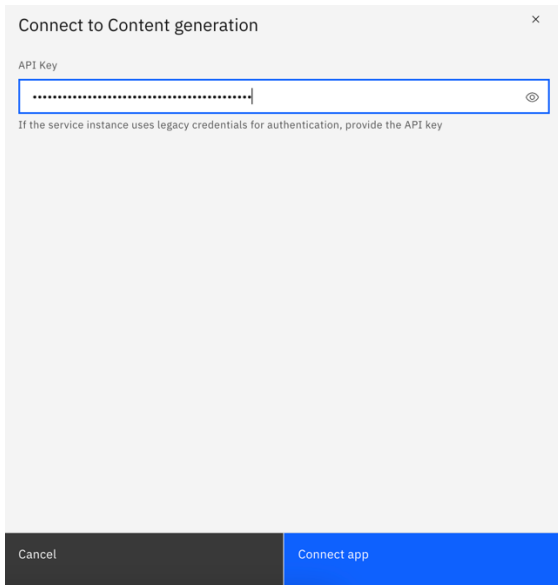
Skills are grouped by app. Select an app to see all the skills that use that app.



### 1.2.4 Click on “Connect app” to connect to the app. Put in the IBM Cloud API key.

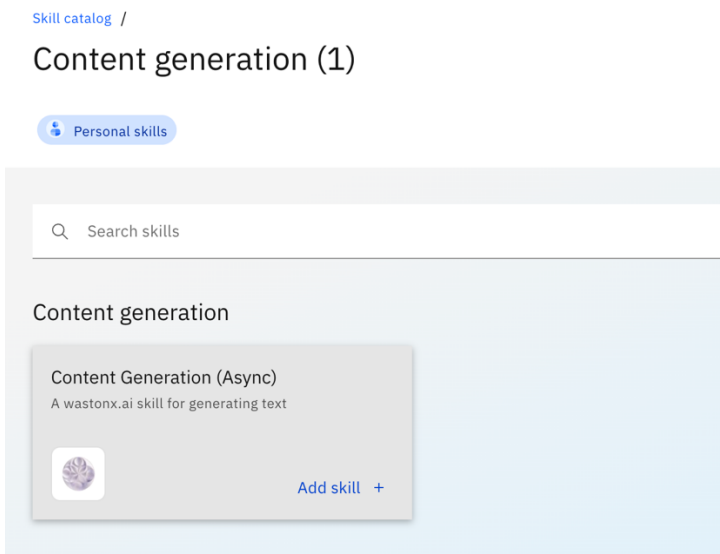


1.2.5 Put in the IBM Cloud API Key provided in the Skill Connection Details.docx file and click on connect.



A dialog box titled "Connect to Content generation" with a close button (X) in the top right corner. It features a label "API Key" above a text input field. The input field contains a series of dots, indicating a masked password, and has a small eye icon on the right to toggle visibility. Below the input field, a small note reads: "If the service instance uses legacy credentials for authentication, provide the API key". At the bottom, there are two buttons: "Cancel" on the left and "Connect app" on the right.

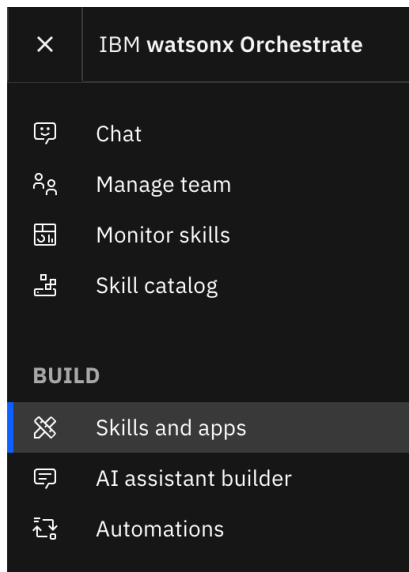
1.2.6 Click on Add Skill + in content generation skill card.



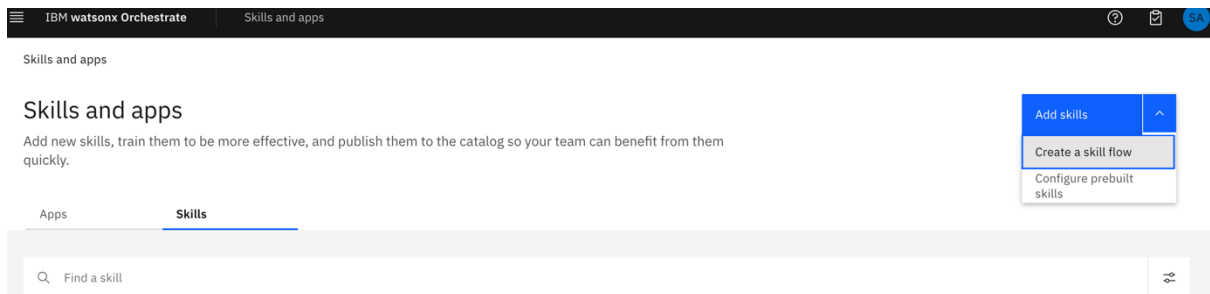
The screenshot shows a web interface for a skill catalog. At the top, there is a breadcrumb "Skill catalog /" followed by the heading "Content generation (1)". Below this is a filter button labeled "Personal skills". A search bar with the placeholder "Search skills" is present. The main content area is titled "Content generation" and contains a skill card for "Content Generation (Async)". The card description is "A wastonx.ai skill for generating text" and includes a small icon of a brain. At the bottom right of the card is a button labeled "Add skill +".

## 2. Create a skill flow

2.1 Got to “Skills and apps” from the menu bar

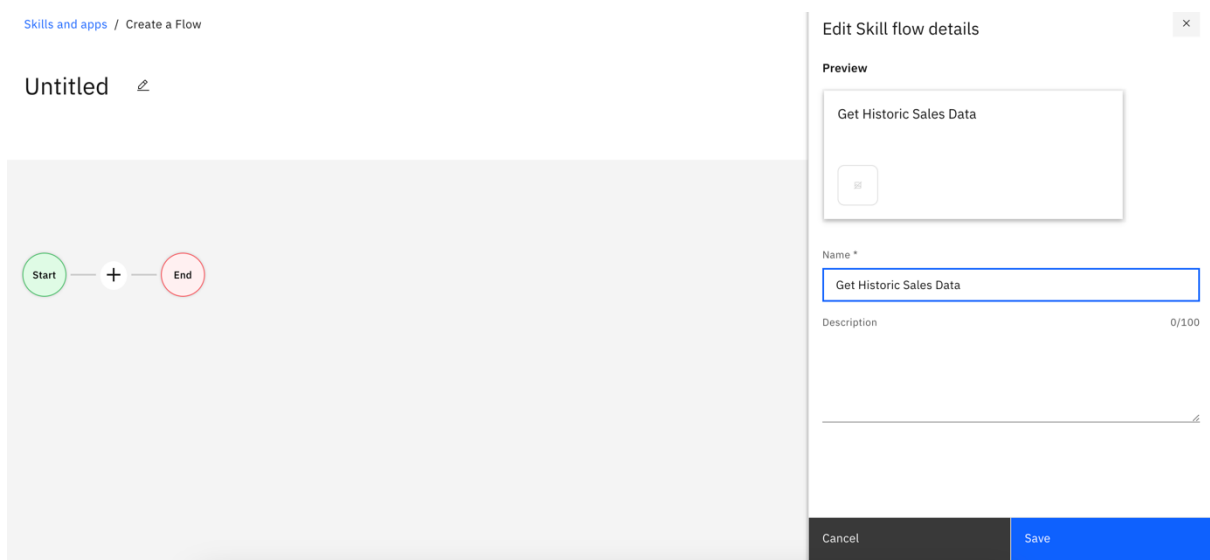


## 2.2 Click on “Create a skill flow”



## 2.3 Name the skill flow

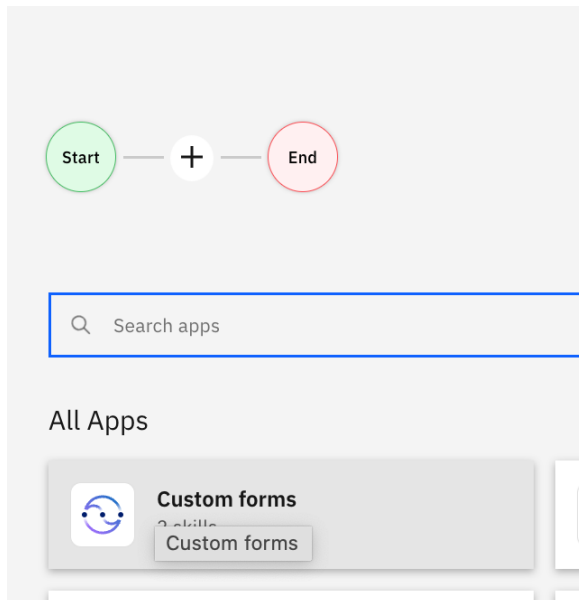
Click on the edit button. Name the skill to “[Your name] Get Historic Sales Data” and Save.



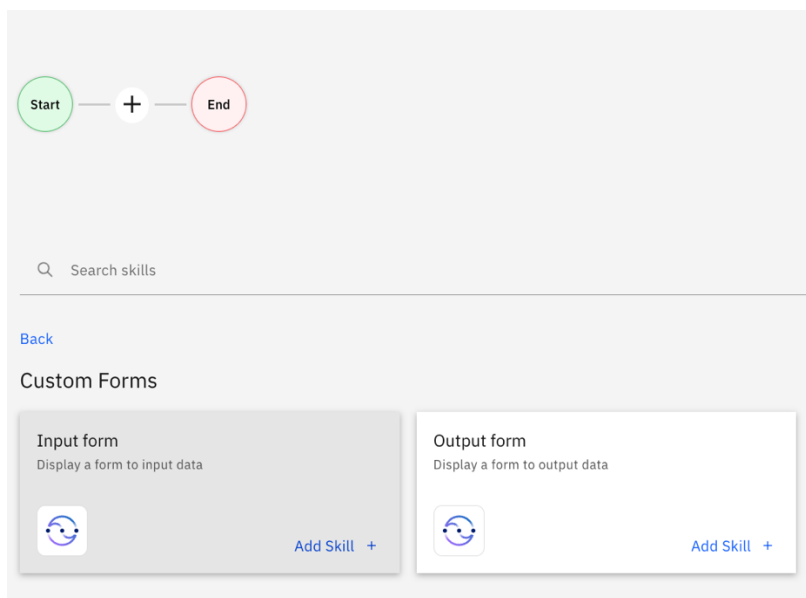
### 3. Add skills to the skill flow

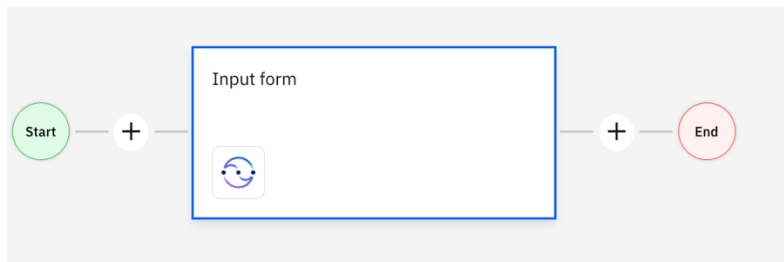
#### 3.1 Add input form as first skill.

##### 3.1.1 Click on “+”. Click on “Custom forms” app card.



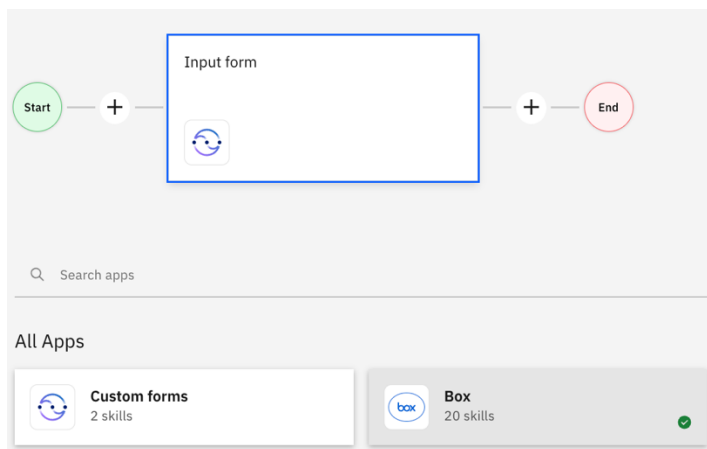
##### 3.1.2 Click on “Add Skill +” in Input form skill card. The skill will be added in skill flow.



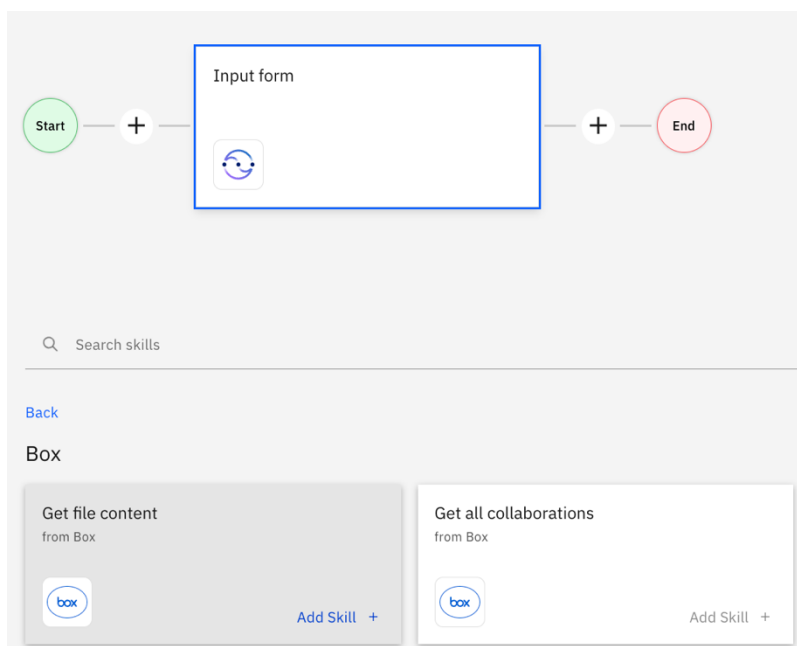


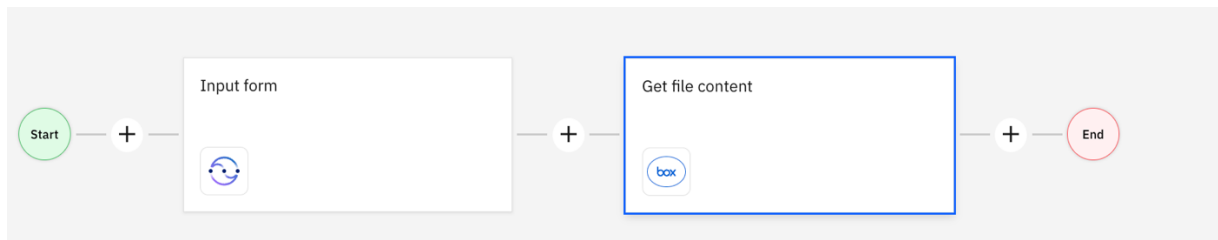
## 3.2 Add box as the second skill

3.2.1 Click on “+”. Search for box and click on “Box” app card.



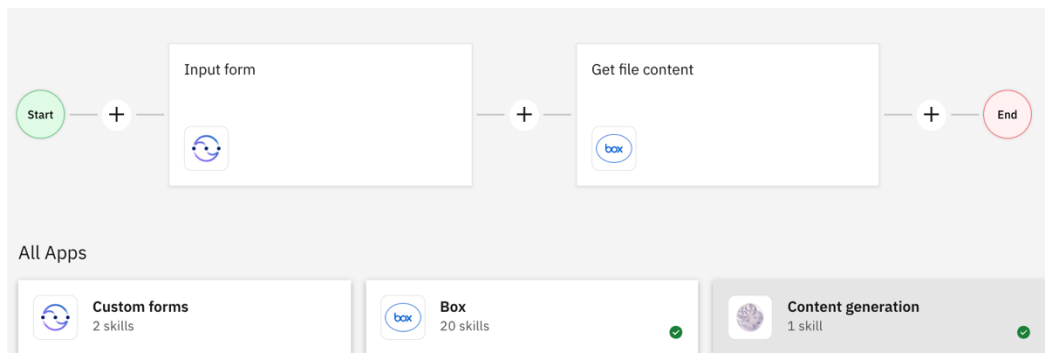
3.2.2 Click on “Add Skill +” in the “Get file content” card. The skill will be added in skill flow.



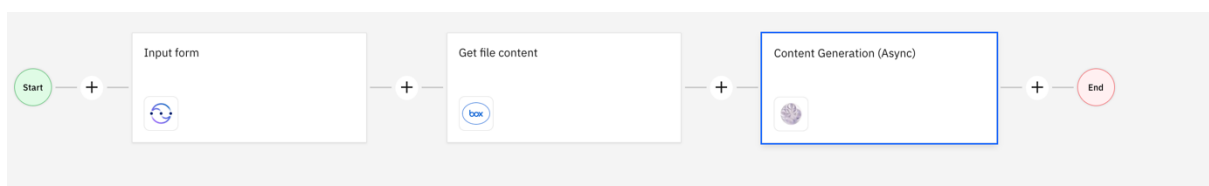
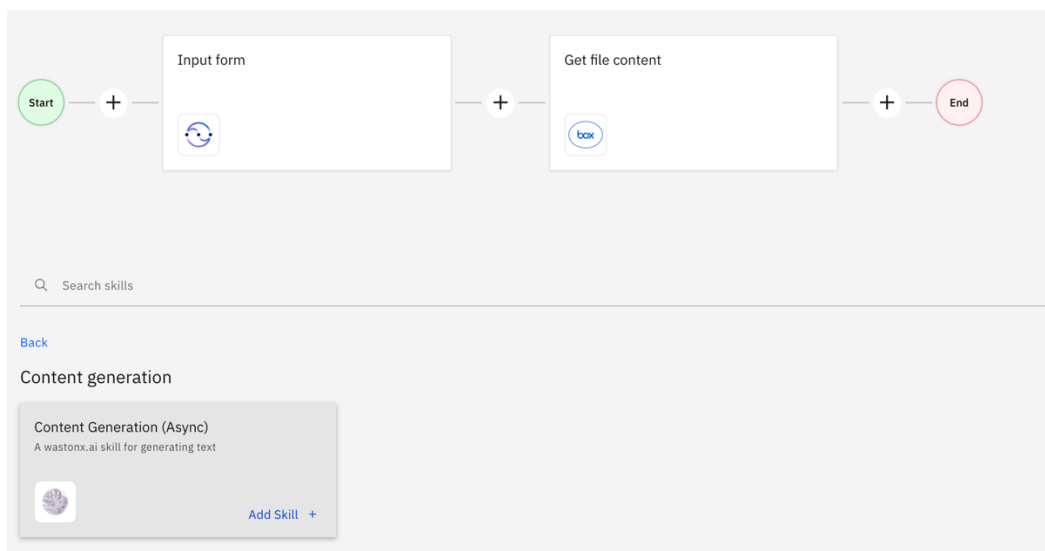


### 3.3 Add Content Generation as third skill

3.3.1 Click on “+”. Search for content generation and click on “Content generation” app card.



3.3.2 Click on “Add Skill +” in the “Content generation (Async)” skill card. The skill will be added in skill flow.



### 4. Connect the input and output of skills

## 4.1 Add User question field in input form

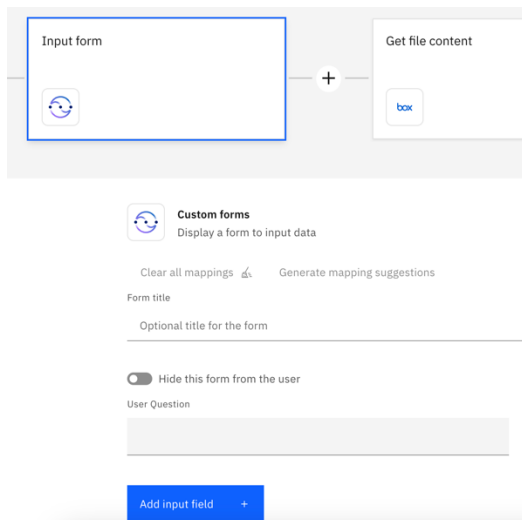
4.1.1 Click on “Input form” card in skill flow and then click on “Add input field +”. Click on “Single line text” radio button and click “Next”.

The screenshot shows a skill flow editor with two cards: 'Input form' and 'Get file content'. The 'Input form' card is selected and highlighted with a blue border. Below the cards, there is a 'Custom forms' section with a 'Form title' field and an 'Optional title for the form' field. A toggle switch for 'Hide this form from the user' is also present. A blue button labeled 'Add input field +' is visible. On the right, the 'Add input field' dialog is open, showing the 'Input type' tab. The 'Single line text' radio button is selected. The 'Configuration' tab is also visible. The dialog has 'Cancel' and 'Next' buttons at the bottom.

4.1.2 Add display label as “User Question” and click “Apply”. The input field will be created.

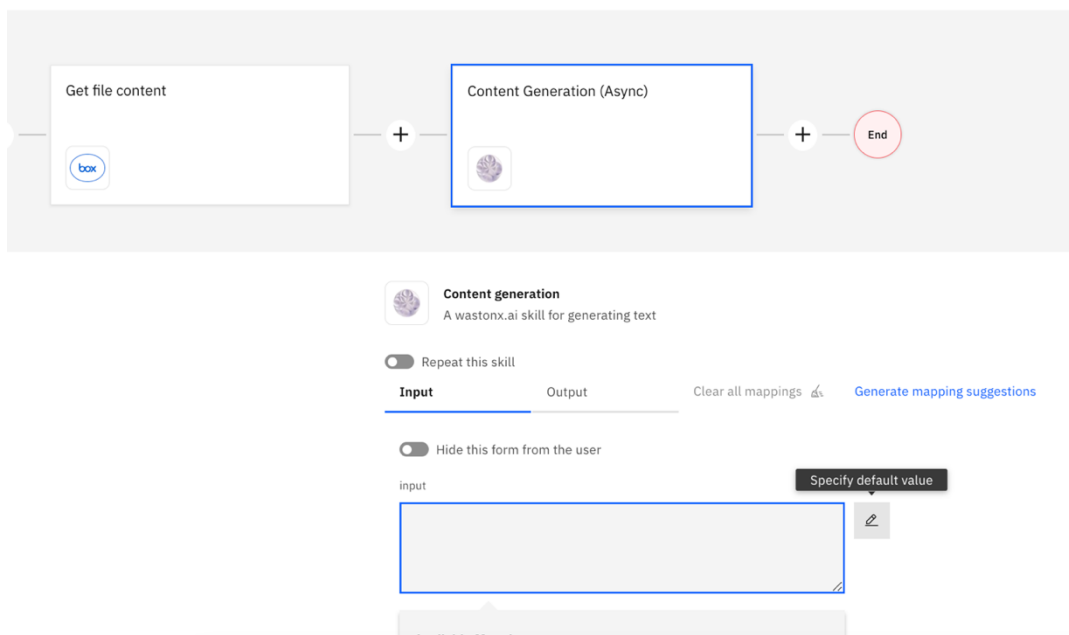
This screenshot shows the same skill flow editor as the previous one, but the 'Add input field' dialog is now in the 'Configuration' tab. The 'Display label' field is set to 'User Question'. The 'Input type' tab is also visible. The dialog has 'Cancel' and 'Apply' buttons at the bottom.





## 4.2 Add input and project\_id in Content Generation (Async) skill

4.2.1 Click on “Content Generation (Async)” skill and click on “Specify default value” in input field.



4.2.2 Specify the text as below and use the insert variable button to insert variables from other skills.

Read the context below and answer the question.

Context:


""

<insert content>

""

Question: <insert user question>

Answer:





**Content generation**  
 A watsonx.ai skill for generating text

☐ Repeat this skill

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

☐ Hide this form from the user

Insert variables
 

Read the context below and answer the question.

Context:

```

=====
content
=====

```

Question: User question

Answer:

4.2.3 Add watsonx.ai project id provided in the Skill Connection Details.docx file as default value in “project\_id”.

+

Get file content

box

+

Content Generation (Async)



parameters.stop\_sequences

parameters.decoding\_method

parameters.repetition\_penalty

project\_id

1bd2fcc1-95fe-4242-8ea4-c0c7345dda38





Define Transformations

## 5. Enhance and Publish skill flow

### 5.1.1 Click on Enhance Skill. Click on “Save and Close” if prompted.

[Skills and apps](#) / [Create a Flow](#)

Get Historic Sales Data
 
Close

Actions

Save as draft

Enhance

Enhance

Input form

+

Get file content

+

Content Generation (Async)

+

End

## Enhance the “SA Get Historic Sales Data” skill

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

Name

Phrases

Next best skills

Name and describe this skill in a way that tells users how it's used and why they would want to use it.

Name\*

SA Get Historic Sales Data

Description

0/100

Enter the description


API version\*

1.0.0

Preview

The skill will look like this in the catalog.

SA Get Historic Sales Data



The skill will look like this in the skill set.

SA Get Historic Sales Data

Categories

Cancel

Publish

Save as draft

5.2.2 Go to “Phrases” tab. You can specify any phrases to use to trigger this skill. In this case, ensure “Get historic sales data” is added as a phrase. Click on “Publish”.

## Enhance the “SA Get Historic Sales Data” 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 bar to find and use a skill.

Get Historic Sales Data



Enter new train phrase

Cancel

Publish

Save as draft

## Use Skill Flow

1. Add the skill flow in personal skills.
2. Click on the skill flow in Chat to execute it.
3. Ask the question, “What was the monthly sales figure in March?” and click on “Apply”.

SA Get Historic Sales Data

Provide the following inputs

User question

What was the monthly sales figure in March?

Cancel Apply

Tell me what you want to do

4. Select the File “Financial Sales Report Xtralife 2023.txt” and File Type as “Text” and click on “Apply”.

box Get file content

File

- workshop
  - Financial Reports
    - Financial Sales Report Xtralife 2023.txt
    - Financial Summary 2023.txt

Show more

Show more


Type of file \*

Text


The value indicating whether the content type of the file is plain text or binary

Cancel Apply

5. The file content will be extracted from box and passed to the Content Generation Skill. Click on “Apply” to run the content generation watsonx.ai skill.



You just need to complete this form first.

 SA Get Historic Sales Data

input \*

Read the context below and answer the question.

Context:

Financial Sales Report

Product: Xtralife

Year: 2023

Summary:


The following report summarizes the sales data for Xtralife, a revolutionary new product from Xtralife Inc., for the year 2023. The report provides insights into the financial performance of the product and highlights areas of growth and opportunity.

Monthly Sales Data:


[Show all fields](#)

Cancel


Apply

 Tell me what you want to do

6. The answer to user question would be generated based on the file provided.




Here are the results of the Content Generation (Async) skill.

 SA Get Historic Sales Data

Generated content

\$150,000.

 Tell me what you want to do