

watsonx Orchestrate Lab 3b:

Membuat Skill Kustom

Tujuan

Terkadang, skill bawaan tidak cukup untuk mencapai apa yang ingin Anda lakukan. Atau, organisasi Anda mungkin memiliki alat atau fungsi khusus yang ingin Anda integrasikan ke dalam alur kerja. Dalam lab ini, Anda akan belajar cara mengatur skill kustom menggunakan Skrip Open API yang dibuat secara khusus. Spesifikasi Open API ini terhubung ke tiga agen – "Tanya Database", "Prediksi Penjualan", dan "Hitung Jumlah" yang telah kami buat menggunakan kode Python dengan bantuan watsonx.ai dan Crew AI di sisi backend.

Skenario:

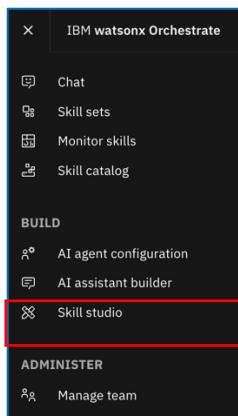
Dalam lab ini, Anda akan belajar cara mengonfigurasi skill kustom untuk text2sql guna mengambil data penjualan dan kuantitas historis.

Langkah-langkah tingkat tinggi yang perlu dilakukan adalah sebagai berikut:

1. Membuat Skill baru menggunakan spesifikasi Open API kustom.
2. Meningkatkan dan Mempublikasikan Skill.
3. Menambahkan skill kustom Anda ke Skill Catalog.
4. Menghubungkan Aplikasi ke Skill Sets.
5. Menambahkan Skill ke AI Chat.
6. Menguji Skill.

Menambahkan Skill Kustom

1. Pergi ke bagian "Skill Studio" melalui menu samping.



2. Buat sebuah skill baru dengan cara “Import API”.

Welcome to Skill studio

Optimize productivity by using projects to build and manage skills like workflows, decisions, generative AI and others.

Projects Skills and apps Skills Apps Find a skill

Skills

Name	Step in the process	Status	Skill type	Author	Last edited
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3. Pilih ‘From a file’ sebagai sumber. Unduh berkas berisi OpenAPI specification dari Github dan unggah ke kotak yang disediakan di layar. Unduh semua file berikut:

bhs_text2sql_openapi.json

bhs_timeseries_openapi_v2.json

bhs_calculate_reorder_quantity_openapi.json

Add skills

Choose how you want to add skills and then select the skills you want to refer to from that source.

Choose the source

To discover new skills, connect to an app or refer to an OpenAPI file.

From an app From a file OpenAPI builder (experimental)

Import a skill file

Ensure your file is in the .json, or yaml format and no larger than 50 MB.

Drag and drop files here or click to upload

4. Anda akan menambahkan ketiga Skill di atas, namun untuk kali ini, kita akan mengunggah berkas bhs_text2sql_openapi.json untuk menambahkan skill “Tanya Database”. Klik ‘Next’.

Skills and apps / Add skills

Add skills

Choose how you want to add skills and then select the skills you want to refer to from that source.

Choose the source Select the skills

Choose the source
To discover new skills, connect to an app or refer to an OpenAPI file.

From an app From a file **OpenAPI builder (experimental)**

Import a skill file
Ensure your file is in the .json, or yaml format and no larger than 50 MB.

bhs_text2sql_openapi.json

The OpenAPI file or skill package is good to go!

5. Ceklis Skill “Tanya ke Database”, kemudian klik tombol “Add”.

Skills and apps / Add skills

Add skills

Choose how you want to add skills and then select the skills you want to refer to from that source.

Choose the source Select the skills

Choose skills
you can choose which skill to add here

Skill	Description	Status
Tanya ke Database	Menerima pertanyaan dalam bah... <input checked="" type="checkbox"/>	Ready to add

Add

6. Cari skill yang baru ditambahkan dan perhatikan bahwa statusnya masih “Ready to publish”. Untuk mengaktifkan skill tersebut, klik “Enhance this skill” pada bagian elipsis vertikal.

Skill	Ready to use	Status	Imported	Created	Actions
Tanya ke Database	Ready to use	Published	Hizkia.Febianto@ibm.com	April 17 2025	Enhance this skill
별주 수령 예측 Agent	Just 1 step away to be ready	Ready to publish	Skill flow	Eunji.Kim2@ibm.com	April 03 2025

Items per page: 10

7. Tambahkan metadata untuk skill ini dengan mengeksplor tab yang ada. Setelah selesai, klik tombol “Publish” untuk menerbitkan skill ke dalam katalog..

Enhance the “Tanya ke Database” skill

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

Name: Tanya ke Database

Description: Menerima pertanyaan dalam bahasa Indonesia, mengubahnya menjadi SQL query, menjalankan query tersebut, dan mengembalikan hasilnya.

API version*: 1.0.0

Categories: Add categories

App: Preview

The skill will look like this in the catalog.

The skill will look like this in the skill set.

Cancel Publish Save as draft

8. Pergi ke “Skill Catalog” di bagian menu samping. Cari skill yang baru ditambah, yaitu “Tanya Database”, dan klik skill tersebut.

Skill catalog

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

Most popular skills

Send an email from Gmail

Create a lead in Salesforce

Send an email using Outlook

All Apps

Tanya Database

HubSpot CRM

Calculate Reorder Quantit...

Eventbrite

Toggl Track

9. Tambahkan skill “Tanya Database” dengan menge-klik “Add skill”.

Tanya Database (1)

Tanya Database

Tanya ke Database

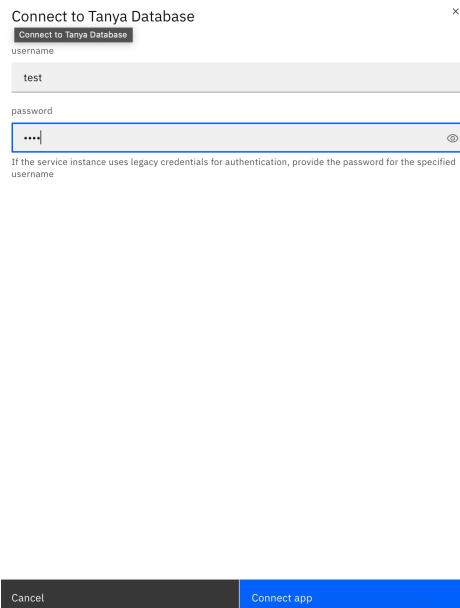
Added

10. Hubungkan ke aplikasi dengan mengeklik tombol “Connect App” dan mengisi identitas berikut:

username: **test**

password: **test**

Klik tombol “Update App” atau “Connect App”.



11. Ikuti langkah 2 sampai 10 untuk menambahkan kedua skill sisanya, yaitu skill “Prediksi Penjualan” dan “Hitung Jumlah Restok”.

Skill catalog

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

Most popular skills

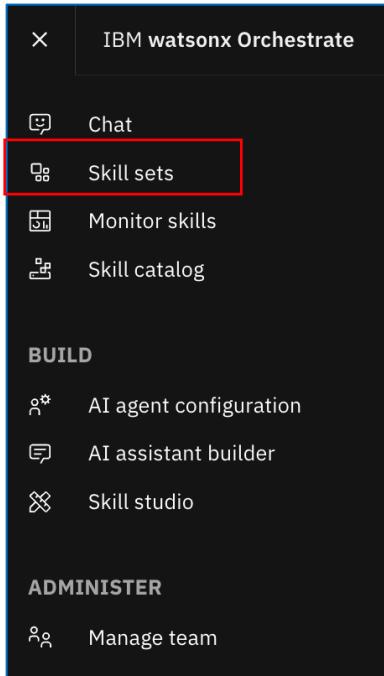
- Send an email from Gmail Add skill +
- Create a lead in Salesforce Add skill +
- Send an email using Outlook Add skill +

All Apps

Salesforce 85 skills	Prediksi Penjualan 1 skill	Hitung Jumlah Restok 1 skill	Tanya Database 1 skill	HubSpot CRM 33 skills
Slack 6 skills	ServiceNow 27 skills	UKG 8 skills	Apptio Targetprocess 24 skills	Calculate Reorder Quantities 1 skill
Anaplan 20 skills	Salesforce Account Engag... 15 skills	Trello 35 skills	Eventbrite 9 skills	Toggl Track 12 skills

Menambahkan Skill Kustom ke AI Chat.

1. Pergi ke bagian “Skill Sets” dari menu samping.



2. Ubah nilai dropdown menu menjadi “Orchestrate Agent Skillset”.

The screenshot shows the "Orchestrate Agent Skillset" page. At the top, it says "Orchestrate Agent Skillset". Below that, there is a dropdown menu with "Skill sets" selected and "Orchestrate Agent Skillset" highlighted with a red box. There are also tabs for "Skills" and "Connections".

Under the "Skills" tab, there is a section titled "Skills (24)" with the following text: "The skills added to this team are available to this team's members. These skills complete related tasks for the team members so members can work more efficiently and effectively." A search bar and a "Manage skills" button are located at the top right of this section.

A table below lists the skills:

Name	App
Update an order	[Cloud icon]
Get all contracts	[Cloud icon]
Text2SQL with Crew AI	[Cloud icon]
Approval_workflow	[Cloud icon]
Get file content	[Box icon]
Get all folders	[Cloud icon]

3. Buka tab “Connections” dan cari “Tanya Database”. Klik elipsis vertikal untuk menemukan bagian “Edit the connection”.

Orchestrate Agent Skillset

Skill sets

Orchestrate Agent Skillset

Skills Connections

These are the applications that are used by the skills in team skill set. Application connections are required to execute skills. Set preference at an application level to enable skills to either use personal or team credentials.

Q Tanya

Application	Number of skills	Credential type	Connected by	Action
Tanya Database	1	Team	Hizkia.Febianto@ibm.com	Edit connection Delete connection

Items per page: 5 | 1-1 of 1 items

- Hubungkan aplikasi dengan mengeklik bagian “Connect App” dan memasukkan informasi berikut:

username: **test**
password: **test**

- Setelah berhasil terhubung, buka “AI Agent Configuration” pada bagian menu samping. Buka bagian “Apps and Skills”.

IBM Watsonx Orchestrate

AI agent configuration

Agent configuration allows users to customize their chat experience according to their preferences.

Model settings
System prompt
Starter prompts
Agents
Assistants
Apps and skills
Embed chat

Apps and skills let your team connect to data and complete tasks in other applications

Why add apps and skills? [\[?\]](#)

Apps

Skills are grouped by their associated application. Select an app to see all the skills in them.

Sort by: Alphabetically A-Z

Box	Calculate Reorder Quantity	chinese_demo	chinese_demo	chinese_demo
Box	Visible			
CWA_2	CWA_2	CWA_2	CWA_2	CWA_2
Demo Skills	GenAIAutomation	GenAIAutomation_NEW	get_email_outlook	Get Historic Sales Visible

- Cari “Tanya Database” dan klik “Add to chat”.

AI agent configuration

Agent configuration allows users to customize their chat experience according to their preferences.

The screenshot shows the 'AI agent configuration' interface. On the left, a sidebar lists several options: Model settings, System prompt, Starter prompts, Agents, Assistants, Apps and skills (which is selected and highlighted in blue), and Embed chat. The main content area has a heading 'Apps and skills let your team connect to data and complete tasks in other applications'. Below this is a sub-heading 'Why add apps and skills? ⓘ'. A link 'Back to all apps' is present. A specific app card for 'Tanya Database' (@tanyadatabase) is shown, with a status bar indicating it is 'Visible'. The app name 'Tanya ke Database' is listed with a note 'From Tanya Database'. At the bottom right of the app card, there is a button labeled 'Added ✓' which is highlighted with a red box.

7. Kembali ke halaman sebelumnya dengan mengeklik “Back to all apps”. Kali ini, carilah “Prediksi Penjualan” dan tambahkan ke AI Chat dengan mengeklik bagian “Add to chat”.

AI agent configuration

Agent configuration allows users to customize their chat experience according to their preferences.

This screenshot is similar to the previous one, showing the 'AI agent configuration' interface with the 'Apps and skills' section selected. The main content area features the same heading and sub-heading. An app card for 'Prediksi Penjualan' (@prediksipenjualan) is displayed, showing the same 'Visible' status and 'From Prediksi Penjualan' note. The 'Added ✓' button at the bottom right of this card is also highlighted with a red box, indicating it has been added to the AI Chat.

Tes Skill Kustom

Pergi ke bagian “Chat” yang ada pada menu samping, Anda akan dibawa ke halaman berikut ini.

The screenshot shows the IBM Watsonx Orchestrate interface. On the left, there's a sidebar with sections for 'New chat' (with a plus sign), 'Active chat' (highlighted in grey with 'Just now'), 'Recent chat' (listing messages from 'saya mau menghitung juml...', 'berapa jumlah penjualan ...', '@tanyadatabase berapa ju...', 'Mulai proses perhitungan...', 'berapa prediksi penj...'), and 'Agents', 'Apps', 'Assistants'. The main area has a message from 'Good Evening 5:03 PM' followed by 'Hello, welcome to watsonx Orchestrate.' Below this, there are three cards: 'Help me send an email' (Understand AI capabilities with the help of AI Assistant.), 'Hello, How are you?' (Understand AI capabilities with the help of AI Assistant.), and 'Good morning, What day is today?' (Understand AI capabilities with the help of AI Assistant.). At the bottom, there's a search bar with 'Type something...' and a blue search icon.

1. Tes skill “Tanya Database” dengan mengetik tulisan sebagai berikut:
@tanyadatabase berapa jumlah penjualan bulanan produk Xtralife selama 3 bulan kemarin?

The screenshot shows the 'Text2SQL with Crew AI' interface. It displays a table titled 'result' with two columns: 'month year' and 'total figure'. The data is as follows:

month year	total figure
2025-02	430000
2025-01	410000
2024-12	400000

At the bottom, there are buttons for 'Items per page: 10 ▾', '1 – 3 of 3 items', '1 ▾ of 1', and navigation arrows.

2. Tes skill “Prediksi Penjualan” dengan menuliskan teks berikut:
@prediksipenjualan lakukan prediksi penjualan dengan forecast_window = 2

 watsonx 5:10 PM

Prediksi Penjualan

predictions

sales	quantity
458951.6	3104
511567.79	3513

Items per page: 10 ▾ 1 – 2 of 2 items 1 ▾ of 1 ◀ ▶

Type something... ➤

3. Tes skill “Hitung Jumlah Restok” dengan menuliskan teks berikut:
@hitungjumlahrestok Berapa jumlah restok yang disarankan apabila stok saat ini ada 1000 unit, penjualan bulan lalu ada 1500 unit, dan prediksi penjualan bulan depan ada 2000 unit?

 watsonx 5:15 PM

Hitung Jumlah Restok

reasoning

Kekurangan stok dihitung sebesar 1000 unit (2000 perkiraan penjualan - 1000 persediaan terkini). Karena kekurangan ini lebih kecil dari penjualan historis (150 0), stok pengaman sebesar 10% dari penjualan historis (150 unit) ditambahkan ke kekurangan. Sehingga, jumlah pemesanan ulang yang optimal adalah 1000 (kekurangan) + 150 (stok pengaman) = 1150 unit.

reorder_quantity

1150 - +

Type something... ➤