

SpringAI Tool Calling

This year is named as the Age of Agents. In Agents era, we try to automate stuff – if you want to book a ticket, you ask your AI agent to book for you. Say we want a plan to visit a place for 5 days, it should give me the entire plan.

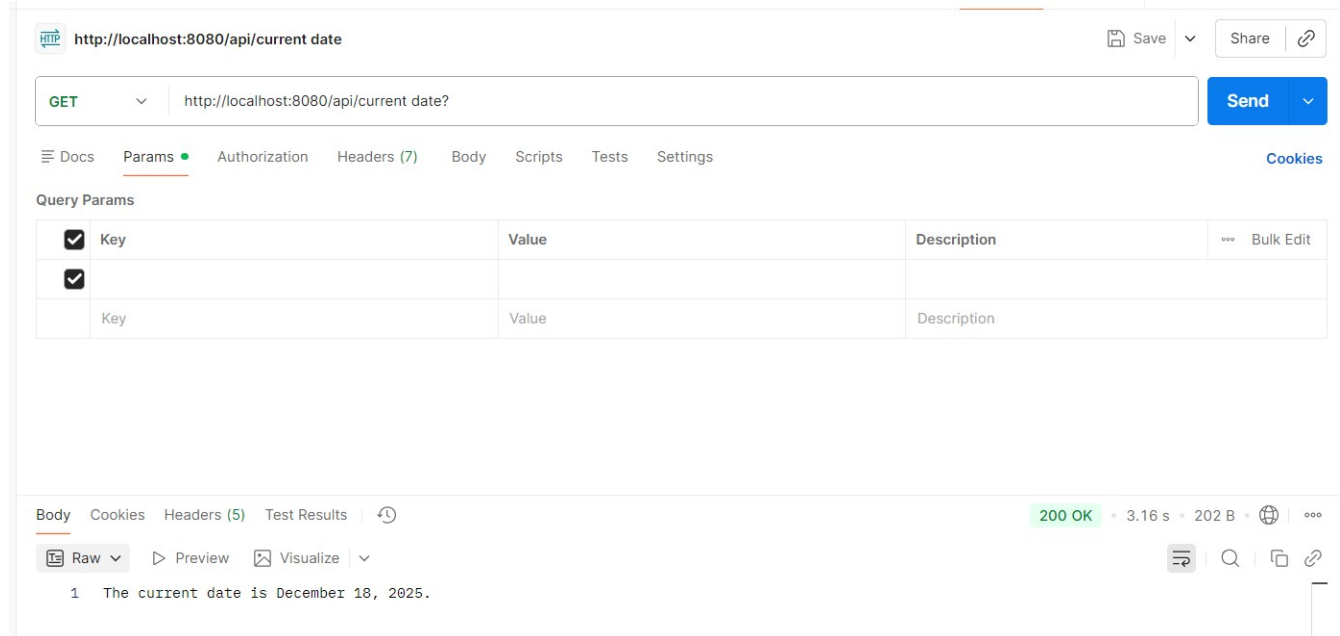
<https://docs.spring.io/spring-ai/reference/api/tools.html>

Tool calling is not only SpringAI

Say we want to find out the current date, AI replies like “Sorry I cant provide real-time information. However, you can check your current date on your device or calendar”. It happens because the model is trained only until a certain date and it doesn’t know current data. Very similar to RAG, we could pass in the current date and time to LLM and get the correct response.

To make it as a Tool, use Annotation @Tool

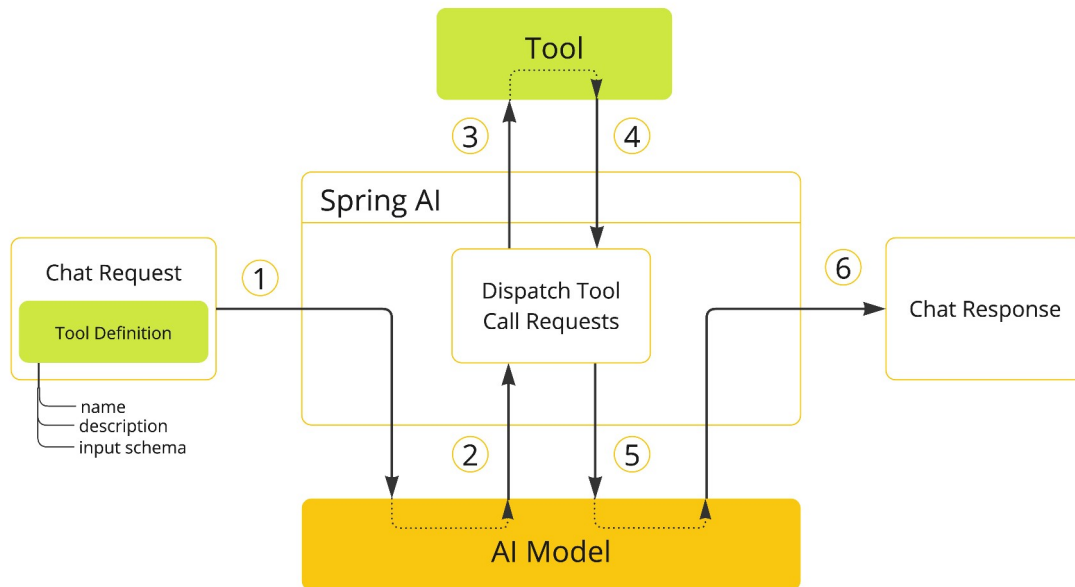
@DateTimeTool



Say we have multiple tools here

```
ChatResponse response = chatClient
    .prompt(message)
    .tools(dateTimeTool, tool1, tool2, tool3)
    .call()
    .chatResponse(); //content();
```

The user query might not require all 3 or 5 tools. It depends on what actions LLM has to perform or return what kind of information it has to return. It is in the hands of LLM



So when you send a request, you also send some Tool Definition (you send name, description, input schema). We got to add a description. Description is highly recommended, better description will lead to better results. If Description is not available, it will highly rely on the method name (getCurrentDateAndTime()). If you don't give a proper method name(), it will hallucinate. Request (current date?) goes to AI model and AI model has no idea what current date is. Do we have any available tool, which can give me the current date? Yes, AI model will see description and name of the Tool, which matches with what I want. Then that user request is redirected to that tool and that tool gets executed. The tool will send the response to the AI model. Based on the information, AI model will generate chat response to you. These tools are executed on the Client side not on the AI server. It is the client for the AI model. Say ExampleApplication is using OpenAI model, for OpenAI, ExampleApplication is the client. For ExampleApplication, the end users are the clients. Yes ToolCalling is used by ChatBot, say you want to book an appointment, chatbot can execute a tool.

```


@Tool(description="Get current date and time for user's timezone")
public String getCurrentDateAndTime(){
    return java.time.LocalDateTime.now().toString();
}
  
```

for specific timezone

```

@Tool(description="Get current date and time for specified timezone")
public String getSpecifiedDateTime(String timezone){
    // return java.time.LocalDateTime.now().toString();
    System.out.println("in specified timezone");
    return java.time.ZonedDateTime.now(java.time.ZoneId.of(timezone)).toString();
}
  
```

in local timezone

 **http://localhost:8080/api/current date**

GET

▼

http://localhost:8080/api/current date?

☰ Docs

Params ●

Authorization

Headers (7)

Body

Scripts

Tests

Query Params

<input checked="" type="checkbox"/>	Key	Value
<input checked="" type="checkbox"/>		
	Key	Value


Body


Cookies


Headers (5)

Test Results

↺

 Raw ▼


 Preview

 Visualize ▼

1 The current date is December 18, 2025.

```
2025-12-18T11:28:41.807-05:00 INFO 119044 --- [Exar
2025-12-18T11:28:41.807-05:00 INFO 119044 --- [Exar
in local timezone
ChatResponse [metadata={ id: chatcml-CoB9qWW6C5Ss67
```

For specified timezone

 http://localhost:8080/api/current date in NewYork

GET

⌵

http://localhost:8080/api/current date in NewYork?

☰ Docs

Params ●

Authorization

Headers (7)

Body

Scripts

Tests

Settings

Query Params

<input checked="" type="checkbox"/>	Key	Value
<input checked="" type="checkbox"/>		
	Key	Value


Body

Cookies


Headers (5)


Test Results

↺

 Raw

⌵

 Preview

 Visualize

⌵

1 The current date and time in New York is December 18, 2025, 11:30 AM (EST).

```
2025-12-18T11:28:41.807-05:00 INFO 11
in local timezone
ChatResponse [metadata={ id: chatcpl-
in specified timezone
ChatResponse [metadata={ id: chatcpl-
```

HTTP

http://localhost:8080/api/current news in NewYork

Save

GET

http://localhost:8080/api/current news in NewYork?

Docs

Params

Authorization

Headers (7)

Body

Scripts

Tests

Settings

Query Params

<input checked="" type="checkbox"/>	Key	Value	Description
<input checked="" type="checkbox"/>			
	Key	Value	Description

Body

Cookies

Headers (5)

Test Results

200 OK

3.74 s

29

Raw

Preview

Visualize


1

I can't provide real-time news updates. You may want to check a reliable news website or app for the latest news in New York.

For that we need:

https://newsapi.ai/?gad_source=1&gad_campaignid=16130462799&gclid=Cj0KCQiA6Y7KBhCkARIsAOxhqtPBFP8Bhl-ev_SywkmAYuC3uu2q-M05BK5dfC_1ij-wdFD4iEKPlrPsaAnUOEALw_wcB

Get API key



Activate your account

To activate your account and start exploring, fill in your details below

Full name

Enter your full name

Work email

Enter your work email

Password

••••••

Repeat password

••••••


☐ I agree to the [Terms of service](#)

☒ Must be at least 8 characters

☒ Must contain one special character

☒ Passwords match

☐ I'm not a robot


reCAPTCHA
[Privacy](#) - [Terms](#)

Sign up

Get the API key and store

<https://newsapi.org/docs/endpoints/everything>

GET https://newsapi.org/v2/everything?q=bitcoin&apiKey=API_KEY

GET <http://localhost:8080/api/recent news in NewYork?>

http://localhost:8080/api/recent news in NewYork

GET <http://localhost:8080/api/recent news in NewYork?> Send

Docs Params Authorization Headers (7) Body Scripts Tests Settings

Query Params

<input checked="" type="checkbox"/>	Key	Value	Description	...	Bulk Edit
<input checked="" type="checkbox"/>					
	Key	Value	Description		

Body Cookies Headers (5) Test Results

200 OK • 9.14 s • 1.76 KB

Raw Preview Visualize

```
1 Here are some recent news headlines from New York:
2
3 1. Why college students prefer News Daddy over The New York Times - College students are increasingly turning to platforms like TikTok
   for news, preferring influencers like Dylan Page for major story updates. [Read more](https://www.theverge.com/cs/features/818380/
   college-students-news-sources-tiktok-instagram-newsdaddy)
4
5 2. New York's new law forces advertisers to say when they're using AI avatars - Governor Kathy Hochul of New York signed a pioneering
   bill requiring advertisers to disclose the use of AI-generated people in ads. [Read more](https://www.theverge.com/news/842848/
   new-york-law-ai-advertisements-sag-aftra-labor)
6
7 3. Your Data Might Determine How Much You Pay for Eggs - A new law in New York requires retailers to disclose if consumer data affects
   pricing on basic goods, though it doesn't mandate transparency on how. [Read more](https://www.wired.com/story/
```

Output

Here are some recent news headlines from New York:

1. **Why college students prefer News Daddy over The New York Times** - College students are increasingly turning to platforms like TikTok for news, preferring influencers like Dylan Page for major story updates. [Read more](<https://www.theverge.com/cs/features/818380/college-students-news-sources-tiktok-instagram-newsdaddy>)
2. **New York's new law forces advertisers to say when they're using AI avatars** - Governor Kathy Hochul of New York signed a pioneering bill requiring advertisers to disclose the use of AI-generated people in ads. [Read more](<https://www.theverge.com/news/842848/new-york-law-ai-advertisements-sag-aftra-labor>)
3. **Your Data Might Determine How Much You Pay for Eggs** - A new law in New York requires retailers to disclose if consumer data affects pricing on basic goods, though it doesn't mandate

transparency on how. [Read more](https://www.wired.com/story/algorithmic-pricing-eggs-ny-law/)

4. ****AI’s water and electricity use soars in 2025**** - AI technologies have significantly increased water and electricity consumption, with environmental impacts compared to New York City's carbon pollution levels. [Read more](https://www.theverge.com/news/845831/ai-chips-data-center-power-water)

5. ****The Donald Trump v Zohran Mamdani show**** - A surprising political dynamic unfolds as US President Donald Trump meets with New York's incoming mayor Zohran Mamdani. [Read more](https://www.bbc.co.uk/sounds/play/w3ct8bys)

These articles cover a variety of topics, including education, technology, environmental concerns, and political interactions.

GET http://localhost:8080/api/books/zerotoone

The book "Zero to One" is available for purchase. You can find it on Amazon and other major book retailers. If you're interested in exploring further, you can visit the [Amazon page for Zero to One](https://www.amazon.com).

http://localhost:8080/api/books/zerotoone

Save

SH

GET

http://localhost:8080/api/books/zerotoone

Se

Docs

Params

Authorization

Headers (7)

Body

Scripts

Tests

Settings

Query Params

	Key	Value	Description	...
	Key	Value	Description	

Body

Cookies

Headers (5)

Test Results

🕒

200 OK

9.98 s

388 B

Raw

Preview

Visualize

🔍

1

The book "Zero to One" is available for purchase. You can find it on Amazon and other major book retailers. If you're interested in exploring further, you can visit the [Amazon page for Zero to One](https://www.amazon.com).

