

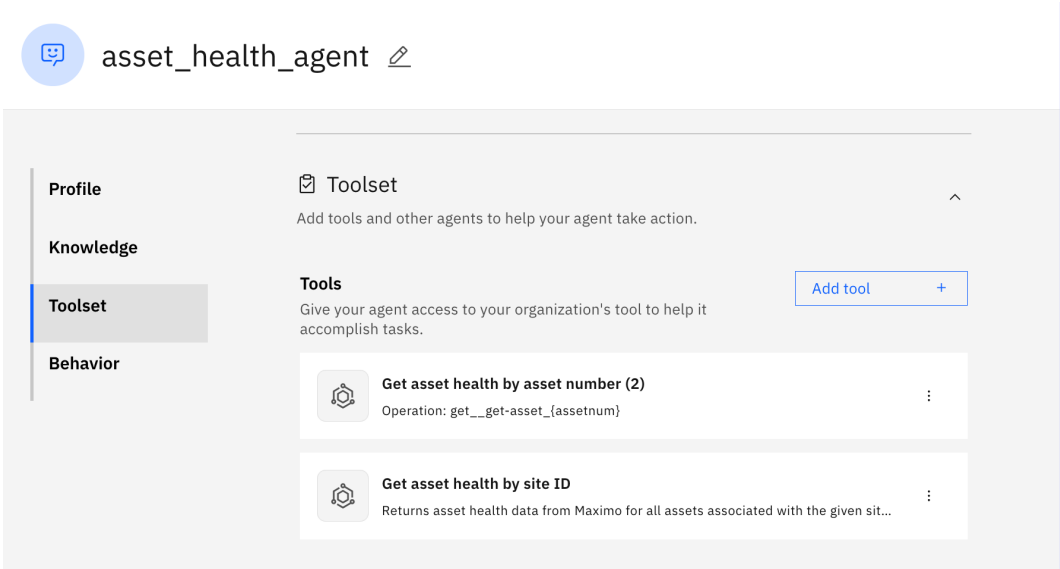
# Multi AI Agents

Technical Hands-on-Lab: Using  
Watsonx Orchestrate to Manage Multi-  
Agents AI in Maximo



# 1 Create Multi-AI Agent

1. In previous Lab, we have seen how custom tools are imported in Watson Orchestrate. In this Lab we would create few more tools to get all asset details in particular site.
2. Repeat the steps and import “get-asset-health-by-siteid-openapi.json” in tools.



|             |  |
|-------------|--|
| Name        | Get asset health by site ID  |
| Description | <p>Returns asset health data from Maximo for all assets associated with the given site ID.</p> <p>Use this Get asset health by site ID to retrieve all assets from a given siteid.<br/>The data will be returned as a list of structured JSON objects using the same field names as above.</p> <p>Example fields returned: asset_number, asset_status, install_date, replacement_cost, health_score, criticality_score, mtbf_score, end_of_life_score, location_id, etc.</p> <p>where there is multiple rows then only use markdown tables to respond.</p> |

## Tool information

Name your tool, give it a description and define its parameters

Importance of descriptions

A clear and detailed tool description helps an AI agent understand when to use the tool, what inputs are required, and how to interpret the output, leading to more accurate and relevant responses of users.

Name

Get asset health by site ID

Description

Returns asset health data from Maximo for all assets associated with the given site ID.

Use this Get asset health by site ID to retrieve all assets from a given `siteid`. The data will be returned as a list of structured JSON objects using the same field names as above.

Detailed descriptions will help guide your agents to effectively use your tools

Inputs (1)

| Type                  | Name        | Description                     | Default | Required                 |
|-----------------------|-------------|---------------------------------|---------|--------------------------|
| <div>abc</div> string | path_siteid | The site ID to fetch assets for |         | <div><div></div>On</div> |

Cancel

Save changes

3. Scroll down and in Behavior enter below text.

You work strictly in the context of IBM Maximo. You do not provide customer support outside of this system.

Use the Get asset health by asset number tool to fetch health metadata for a specific asset. The user will provide an `assetnum`.

The response will contain LLM-friendly field names like `asset\_number`, `health\_score`, `install\_date`, and `criticality\_score` for easier reasoning and summarization. health\_score is a mandatory column.

Use Get asset health by siteID to retrieve all assets from a given `siteid`.

The data will be returned as a list of structured JSON objects using the same field names as above.

Example fields returned: `asset\_number`, `asset\_status`, `install\_date`, `replacement\_cost`, `health\_score`, `criticality\_score`, `mtbf\_score`, `end\_of\_life\_score`, `location\_id`, etc.

After retrieving asset data, you may be asked to perform reasoning steps such as:

- Summarize health trends
- Identify high-risk assets
- Compare scores
- Extract top-N based on age or priority

If you have to group data into different sections, then use new line between sections. for example : if you are asked to group assets by priority, then each priority will be in a new line

Summarize in clear, fluent English using paragraphs. Just respond in plain English. Use markdown tables to respond only when there are multiple records.

asset\_health\_agent

Profile
Knowledge
Toolset
Behavior

### Behavior

Define how and where your agent should react to requests and respond to users.

Instructions

You work strictly in the context of IBM Maximo. You do not provide customer support outside of this system.

Use the Get\_asset\_health\_by\_asset\_num tool to fetch health metadata for a specific asset. The user will provide an 'assetnum'. The response will contain LLM-friendly field names like 'asset\_number', 'health\_score', 'install\_date', and 'criticality\_score' for easier reasoning and summarization. health\_score is a mandatory column.

Use Get\_asset\_health\_by\_site\_ID to retrieve all assets from a given 'siteid'. The data will be returned as a list of structured JSON objects using the same field names as above.

Example fields returned: 'asset\_number', 'asset\_status', 'install\_date',

Specify what your agent should do, how it should respond and any restrictions it should follow.

4. Now, in the preview section, enter the question like “Give me asset details in bedford site?”

asset\_health\_agent

Profile
Knowledge
Toolset
Behavior

### Behavior

Define how and where your agent should react to requests and respond to users.

Instructions

You work strictly in the context of IBM Maximo. You do not provide customer support outside of this system.

Use the Get\_asset\_health\_by\_asset\_num tool to fetch health metadata for a specific asset. The user will provide an 'assetnum'. The response will contain LLM-friendly field names like 'asset\_number', 'health\_score', 'install\_date', and 'criticality\_score' for easier reasoning and summarization. health\_score is a mandatory column.

Use Get\_asset\_health\_by\_site\_ID to retrieve all assets from a given 'siteid'. The data will be returned as a list of structured JSON objects using the same field names as above.

Example fields returned: 'asset\_number', 'asset\_status', 'install\_date',

Specify what your agent should do, how it should respond and any restrictions it should follow.

Channels

Define where users can chat with this agent

Preview

You 04:45 PM

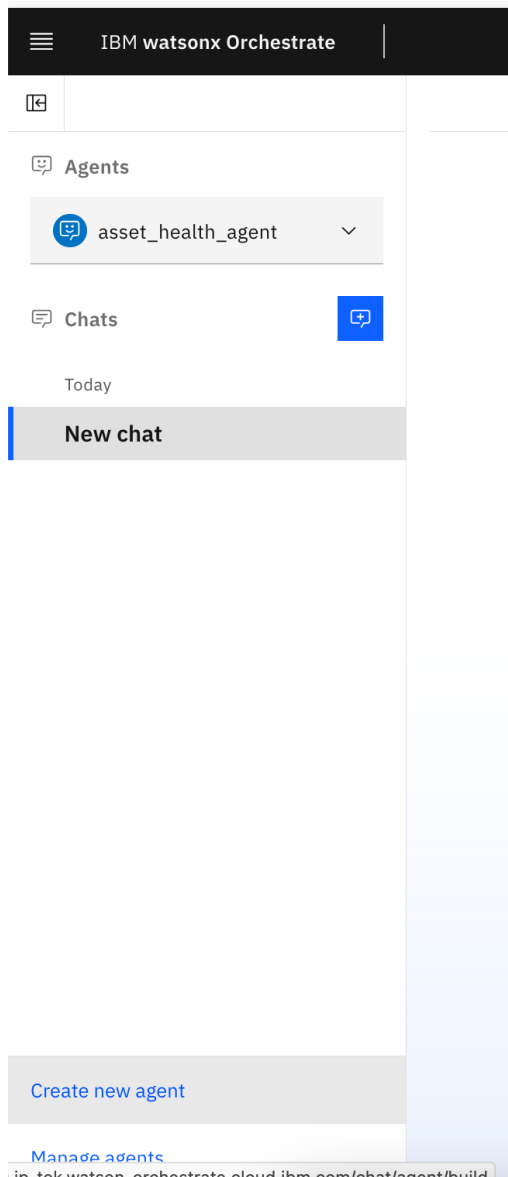
Give me asset details in bedford site?

asset\_health\_agent 04:45 PM Show Reasoning

| asset_number | description                                 | status    | installdate              |
|--------------|---|-----------|--------------------------|
| 11400        | Boiler- 50,000 Lb/Hr/ Gas Fired/ Water Tube | NOT READY | 2021-05-31T00:00:00+00:0 |
| 26200        | Motor Controlled Valve                      | NOT READY | 2023-06-08T00:00:00+00:0 |
| 13144        | Carton Escapement Assembly #1               | NOT READY | 1998-08-27T00:00:00+00:0 |
| 11450        | Centrifugal Pump 100GPM/60FTHD              | OPERATING | 1996-05-26T00:00:00+00:0 |
| 11220        | Electrical Control Panel- HVAC System       | OPERATING | 1994-05-31T00:00:00+00:0 |
| 13145        | Indexing Drive Assembly                     | OPERATING | 1998-08-27T00:00:00+00:0 |
| 26000        | Motor Controlled Valve                      | NOT READY | 1996-06-08T00:00:00+00:0 |

Type something...

5. Now, Let’s create Maximo Predict Agent, Go back to IBM Watsonx orchestrate main page and click on “Create new agent”.



6. Enter agent name as “maximo\_predict\_agent” and description as below and click on create button.

You are my Maximo Predict Data Agent. Your role is to analyze exported predictive data for Maximo assets. You provide a comprehensive predictive summary for a specific asset, including its failure history, data-driven analysis, and actionable recommendations.

## Create an agent

Create from scratch
☒

Build your custom agent step by step to create a custom solution.

Create from template
☐

Browse the catalog and use the attributes of another agent as a template to create your agent.

Name

Maximo-predict-agent

Description

You are my Maximo Predict Data Agent. Your role is to analyze exported predictive data for Maximo assets. You provide a comprehensive predictive summary for a specific asset, including its failure history, data-driven analysis, and actionable recommendations.

Describe your agent, including its purpose, tools, and agents, to help other agents and users know when to use it.

[What makes a good description?](#) ?

Cancel Create

- Repeat the same steps to import “get-predict-data-openapi.json” in tools.

Toolset

Add tools and other agents to help your agent take action.

Tools

Give your agent access to your organization's tool to help it accomplish tasks.

Add tool

+

get\_predict\_data

Retrieves prediction data for the specified asset number or alias.

⋮

- Click on three dots to edit and enter the description as below.

|             |   |
|-------------|---|
| Name        | Get Asset Predictive Summary  |
| Description | Retrieves a comprehensive predictive summary for a specified Maximo asset using exported Maximo Predict data. The summary includes failure history, analytical insights, and recommended actions to support proactive maintenance and asset management. |

**get\_predict\_data**  
Retrieves prediction data for the specified asset number or alias.

**Overview** Connectors: 0

**Importance of descriptions**  
A clear and detailed tool description helps an AI agent understand when to use the tool, what inputs are required, and how to interpret the output. This leads to more accurate and relevant responses for users.

Name (required)  
Get Asset Predictive Summary

Description (required)  
Retrieves a comprehensive predictive summary for a specified Maximo asset using exported Maximo Predict data. The summary includes failure history, analytical insights, and recommended actions to support proactive maintenance and asset management.

Detailed descriptions will help guide your agents to effectively use your tools

Inputs (1)

| Type | Name | Description | Default | Required |
|------|------|-------------|---------|----------|
|      |      |             |         |          |

Cancel Save

9. Scroll down and in Behavior section, enter below text.

When the agent receives a request for an asset’s predictive summary, it uses exported Maximo Predict data to generate a structured response. The output is organized into three key sections:

1. Failure History

Summarizes recent corrective and preventive maintenance activities.  
Identifies patterns in historical failures (frequency, type, timing).  
Includes late or missed maintenance tasks relevant to the asset's health.

2. Analysis

Highlights trends or anomalies in failure data (e.g., recurring issues or abnormal failure rates).  
Correlates maintenance performance (e.g., delayed PMs) with failure occurrences.  
Provides insights on asset degradation, usage patterns, or operational stress indicators.

3. Recommendation

Suggests specific maintenance actions (e.g., inspections, frequency adjustments).  
Recommends strategy adjustments (e.g., preventive vs. reactive balance).  
Flags potential asset replacement if nearing end-of-life based on predictive scoring.

10. Test the agent with sample question “give me the predictive summary for asset 11430”

Agent chat / Manage agents / Maximo-predict-agent

**Maximo-predict-agent** AI Model: llama-3-2-90b-vision

**Profile**  
Default (Recommended)  
Relies on the model's intrinsic ability to understand, plan and call tools and knowledge.

**ReAct**  
Enables the model to think, act, observe and refine its approach until a task is completed.  
Good for: High stakes apps

**Knowledge**  
Provide the specific knowledge your agent needs to accomplish its goal.  
[Learn more about best knowledge practices](#)  
[Edit knowledge settings](#)

**Toolset**  
Voice modality (Preview)  
Create a voice configuration to give your agent a voice.  
[Create voice configuration](#)

**Behavior**  
**Channels** (Preview)

**Preview**  
You 11:07 AM  
give me predictive summary for asset 11430

Maximo-predict-agent 11:07 AM | Show Reasoning  
Based on the predictive summary for asset 11430, here are the key findings:

**Failure History:**

- The asset has experienced 3 historical failures.
- The last prediction date was May 23, 2025.
- The predicted failure date is July 18, 2025, with a predicted remaining life of 56 days.

**Analysis:**

- The asset has a moderate end-of-life score of 45.
- There have been 2 recent work orders, one for a steam leakage issue and another for a burner control fault.
- The preventive maintenance schedule shows that the annual hydrostatic pressure test was completed on time, but the safety valve calibration was completed late.

**Recommendation:**

- Based on the predictive scoring, it is recommended to perform a thorough inspection of the asset to identify any potential issues before the predicted failure date.
- Consider adjusting the preventive maintenance schedule to ensure that all tasks are completed on time to prevent any further delays.
- If the asset is nearing its end-of-life, it may be worth considering replacement options to avoid any potential downtime or costs associated with repairs.

11. Now, Let’s create Supervisor agent, Go back to IBM Watsonx orchestrate main page and click on “Create new agent”

Enter agent name as “supervisor\_agent” and description as below.

You are a Maximo supervisor agent. You specialize in summarizing asset health and predictive maintenance risk using insights fetched by collaborating backend agents. You help maintenance teams understand asset condition, upcoming risks, and recommended

actions in an easy-to-read format.

## Create an agent

Create from scratch ☒  
Build your custom agent step by step to create a custom solution.

Create from template ☐  
Browse the catalog and use the attributes of another agent as a template to create your agent.

Name\*

supervisor\_agent

Description\*



You are a Maximo supervisor agent. You specialize in summarizing asset health and predictive maintenance risk using insights fetched by collaborating ~~backend~~ agents. You help maintenance teams understand asset condition, upcoming risks, and recommended actions in an easy-to-read format.

Describe your agent's purpose.

Cancel Create

Click on Create button.

12. Scroll down and in Agent section, Select “Add Agent”

 supervisor\_agent 

Profile

Knowledge

Toolset


Behavior

Start by adding a tool  
To add a tool, click Add tool.

Agents

Identify agents to whom your agent can delegate tasks.

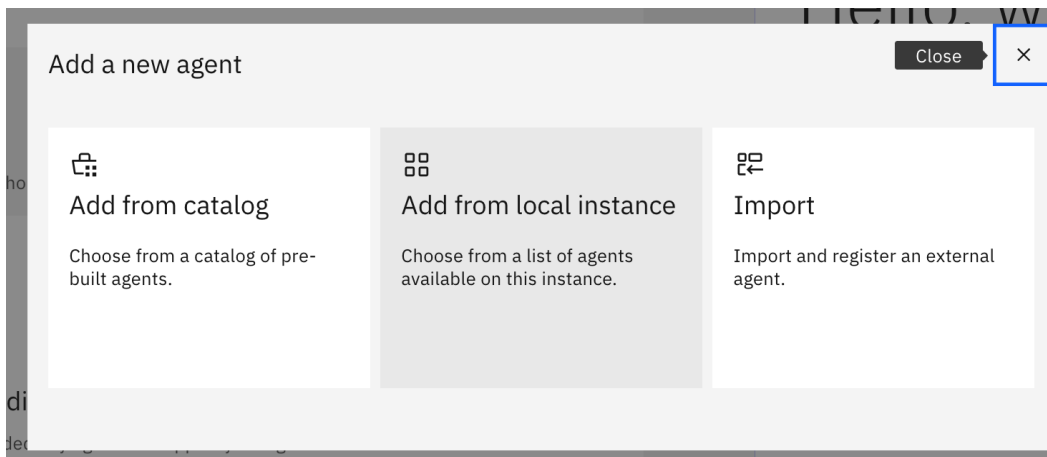
Add agent +



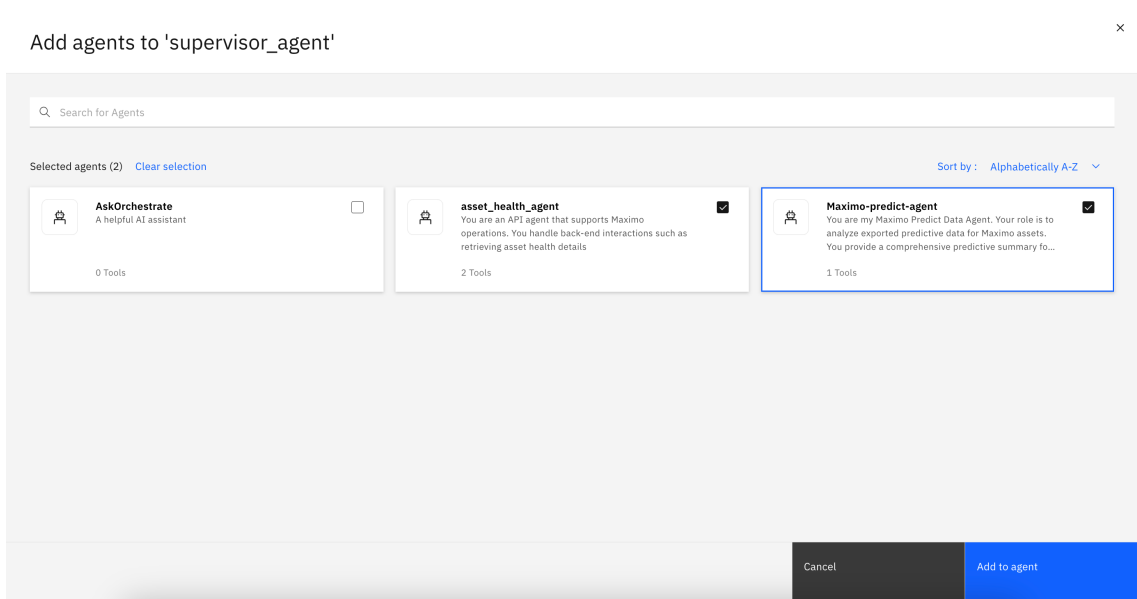
Start by adding an agent  
You haven't added any agents to support your agent in collaboration.

13. Select “Add from local instance”

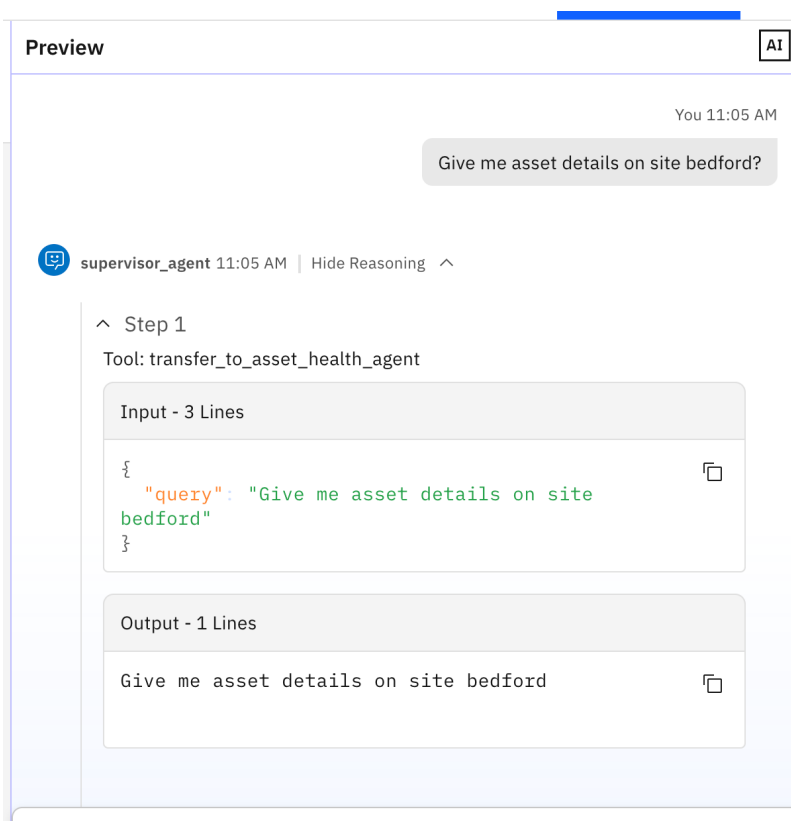




14. Select “asset\_health\_agent” and “asset\_predict\_agent” and click on “Add to agent” button.

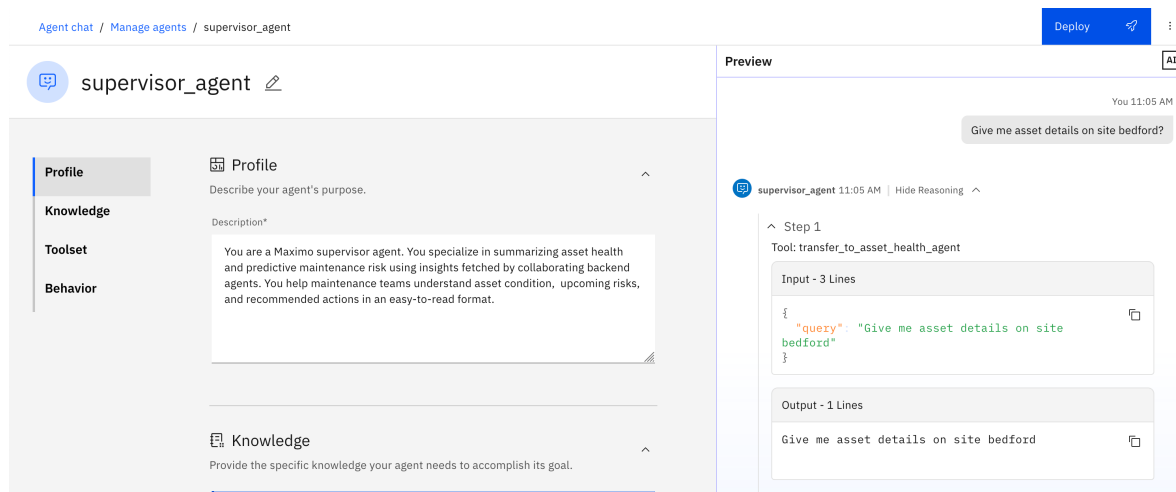


15. Now, in the preview of supervisor agent, try asking a question for asset health information. Notice the request has been transferred to asset\_health\_agent and one of its tool.



## 2. Deploy the Agent

2.1 Now we need to have the agents available for other to use in our cloud environment. Let's click on Deploy button on top right corner to deploy the agent and make it live.



2.2 Now you can run the main application (supervisor\_agent) to start asking the agent to do some Maximo health related information.

### 3. Your Turn to Try it Out

The demo Maximo-agent starter only scratches the surface of the kind of workflows that can be built with Watsonx.ai and Watsonx Orchestrate (and any other applications that could be connected to with APIs outside of Maximo). Several patterns specific to your needs can be developed.

### 4. Concluding remarks

Congratulations on completing the AI Agent Hands-on Lab! I hope you found the instructions easy and straightforward to follow. The purpose of this guide is to introduce key concepts about agents and help you get started with a Watsonx Orchestrate agent with Maximo and other system integration with Watsonx.ai, so you can create your own agents with custom tools tailored to your specific use cases.

