

Tool	Description
 Device interaction	<i>Use this to interact with smarthings. Accepts natural language commands. Works best with more detail. Does not know the names of users, so you can't refer to concepts like "Bob's kitchen."</i>
 Device interaction planner	<i>Used to generate a plan of API calls to make to execute some command.</i>
 API documentation retrieval	<i>Use this to get more details about specific components and capabilities of different devices. Using this tool before interacting with the API will increase your chance of success. Input to the tool should be a json string comprising a list of dictionaries. Each dictionary in the list should contain two keys: device_id (guid string), capability_id (str)</i>
 Device attribute retrieval	<i>Use this to get an attribute from a device capability. Input to the tool should be a json string with 4 keys: device_id (str), component (str), capability (str), attribute (str)</i>
 Device disambiguation	<i>Use this to pick the right device from a list of candidate devices. Works best when you describe the device and its location. Input to the tool should be a json string with 2 keys: devices (list of guid strings), disambiguation_information (str): device type and its surroundings</i>
 Device command execution	<i>Use this to execute a command on a device. Input to the tool should be a json string with 5 keys: device_id (str), component (str), capability (str), command (str), args (list)</i>
 Personalization	<i>Learn about the user preferences. The query should be clear, precise and formatted as a question. This tool is not capable of asking the user anything. Try using this tool before addressing subjective or ambiguous user commands. Input should be a json string with 2 keys: query and user_name.</i>
 Human interaction	<i>Use this tool to communicate with the user. This can be to interact with the user to ask for more information on a topic or clarification on a previously requested command.</i>
 Email and calendar	<i>Use this tool to perform actions with user's Gmail and Google calendar account, and get contacts' names and email addresses. This tool accepts natural language inputs. Do not specify the user in the query, assume it is known.</i>
 Weather	<i>Use this tool to get weather information of a given place. Always structure the query in the following format <City, Country></i>
 TV schedule retrieval	<i>Search for programming currently playing on the TV. Input a json string with keys</i>
 Condition code writing	<i>Use this tool to check whether a certain condition is satisfied. Accepts simple natural language commands. Returns the name of a function which checks the condition. Inputs should be phrased as questions.</i>

Table 1: Tools used by SAGE agent along with written descriptions that inform the agent how to use the tool.