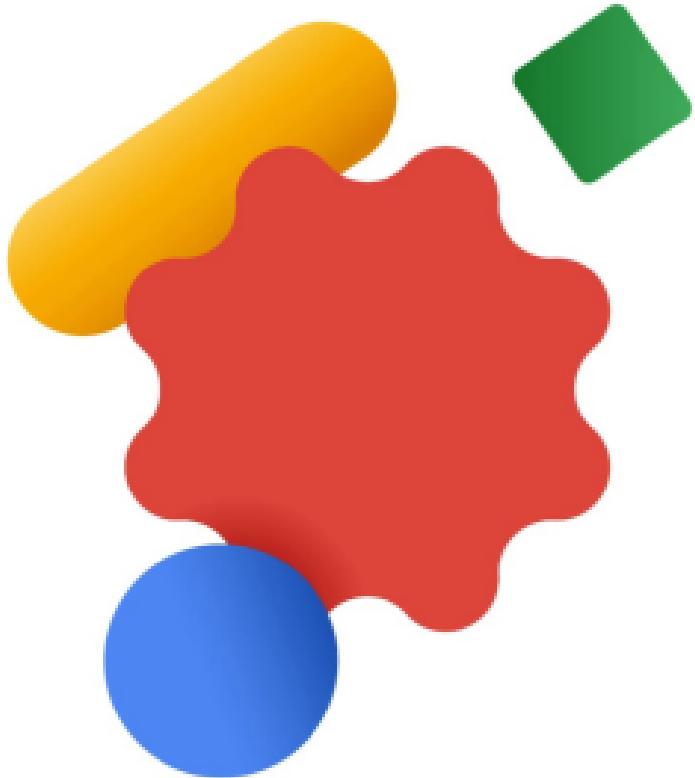
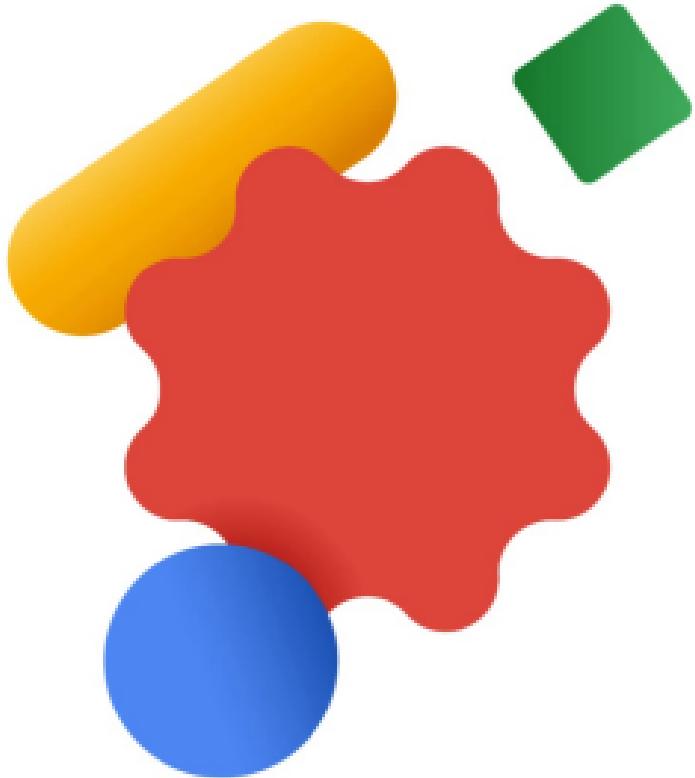


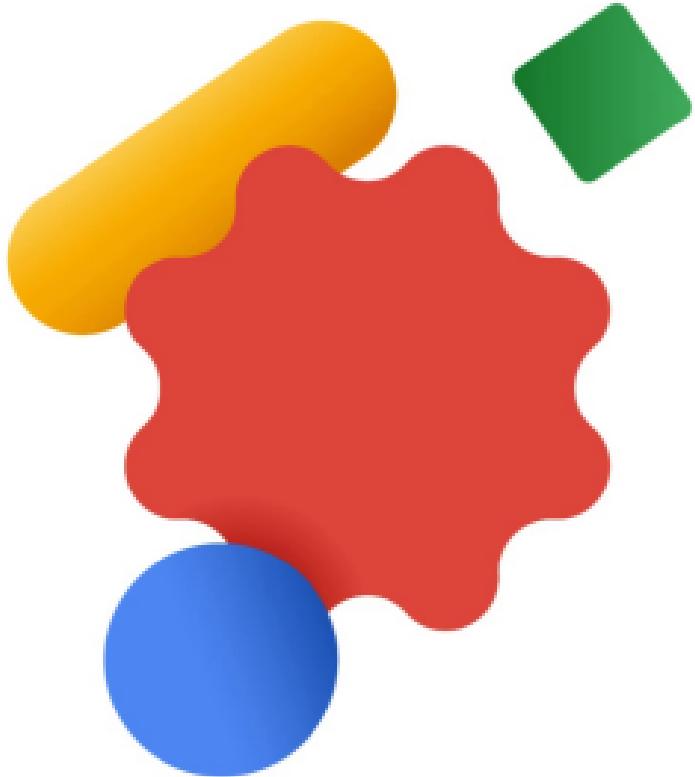
End to end (E2E) testing



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Three types of E2E testing

Modular

Testing of an individual flow or component that is a subset of the entire customer journey.



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Focused journey

Focused on the entire customer journey but with simulated inputs.



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Modular testing in Conversational Agents

Definition	Scope	Purpose	Process
<p>Modular testing focuses on individual flows within the agent in Conversational Agents. It tests the functionality and logic of specific flows without considering the entire agent's context.</p>	<ul style="list-style-type: none">• Limited to specific flows within the agent.• It focuses on the internal logic and responses within a single flow.	<ul style="list-style-type: none">• To validate the logic and performance of individual flows.• Ideal for testing specific features or updates in isolation.	<p>Involves testing a flow from its start to its end, including the handling of intents, fulfillment, and transitions within the flow.</p>

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Advantages

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- Easier to isolate and fix issues within a specific flow.



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Focused journey testing in Conversational Agents

Definition	Scope	Purpose	Process
<p>Focused Journey tests simulate specific user paths through a system using controlled inputs and responses, isolating features for targeted testing.</p>	<p>These tests center on a single feature, critical process, or limited set of interactions within a user journey.</p>	<ul style="list-style-type: none">• Provide early feedback on specific journeys, even with incomplete systems.• Isolate problems within workflows for targeted debugging.	<ol style="list-style-type: none">1. Select a user journey.2. Develop a test cases.3. Execute tests with controlled inputs.4. Analyze results and report findings for improvement.

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Advantages

- Targeted feedback for critical features.
- Isolation from other system issues.
- Wider scenario coverage due to ease of setup
- Faster to execute.



Considerations

- Mock accuracy: The test's validity depends on how well your simulations replicate real-world dependencies and responses.
- Maintenance: Simulators and mocks need to be updated as the system or its dependencies evolve.



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<p>Full stack testing is the most comprehensive stage of end to end testing.</p> <p>Every aspect of the agent design from intent recognition to systems integration testing is covered in this stage.</p>	<p>Encompasses all layers of the technology stack involved in the customer journey including integration with backend fulfillment systems.</p>	<p>The final stage of testing by the agent development team to ensure the agent is ready for User Acceptance Testing by the customer and ultimately production launch.</p>	<ul style="list-style-type: none">Combine all of the test cases for all CUJ's handled by the agent.Add testing to ensure the function of all integrated systems such as the telephony and chat UI.

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Full Stack testing in Conversational Agents

Advantages

- Improved user experience.
- Enhanced overall software quality.
- Ensures agent is ready for user acceptance testing and production launch upon customer sign off.



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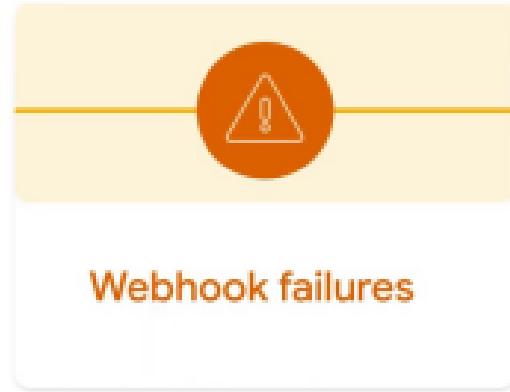
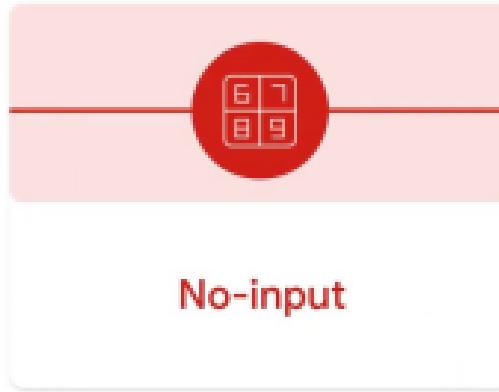
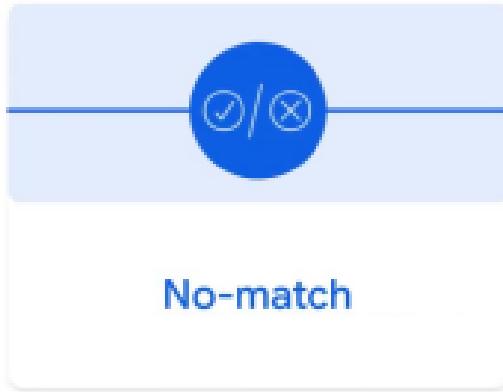


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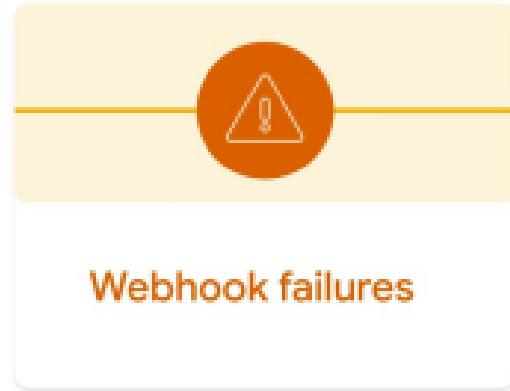
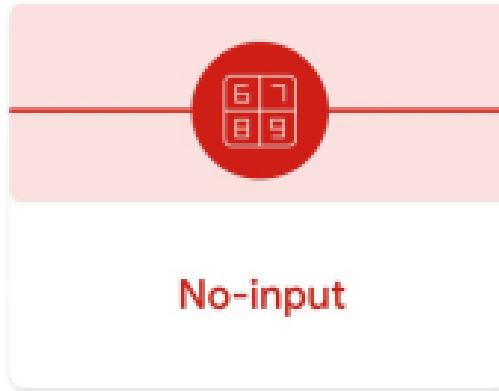
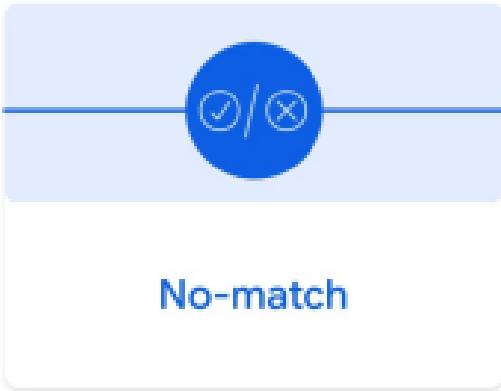
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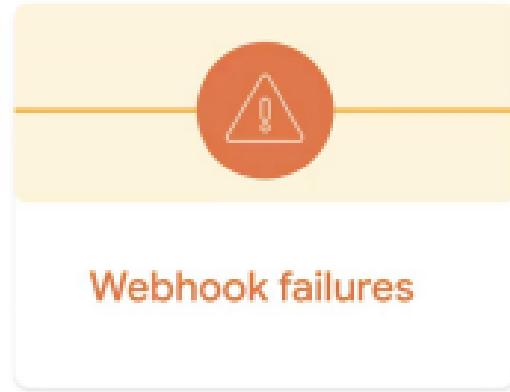
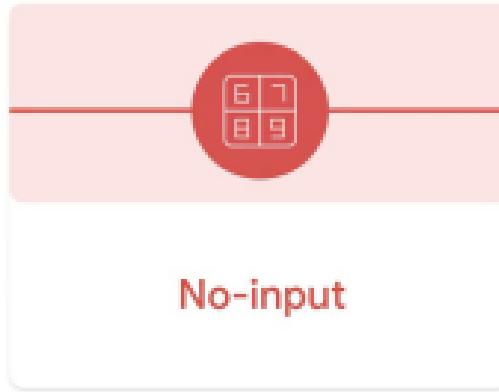
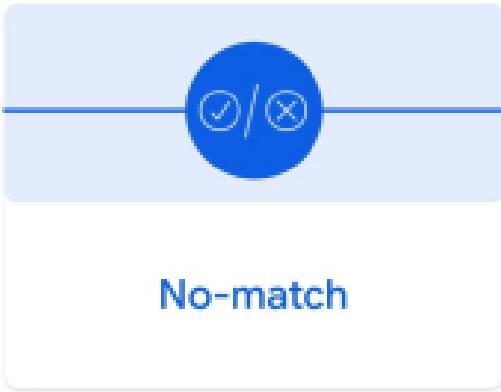
Understanding fallback scenarios



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Understanding fallback scenarios



No-match

No-match scenarios occur when a user's input does not match any of the defined intents in your agent.



Understanding fallback scenarios



No-input

No-inputs happen when there is no user input, perhaps due to user distraction or confusion.



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Webhook failures occur when a call to an external webhook results in an error or timeout.



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Fallback scenarios are key to creating a **resilient** and
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Testing no-match scenarios

01

Creating scenarios where user inputs are intentionally out of scope.

Hello

Please enter a four-digit number using the keypad. At the end, press #.

I want to buy some apples

Testing no-match scenarios

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Creating scenarios where user inputs are intentionally out of scope.

The image shows a mobile application interface with a light gray background. At the top, there is a blue header bar containing the number '01'. Below this, the main content area has a white background. A message from a user named 'Hello' is displayed in a light gray box. The message text is 'Please enter a four-digit number using the keypad. At the end, press #.' Below this message, there is a small input field with a blue placeholder icon and the text '0000'. At the bottom of the screen, another message from the same user 'Hello' is shown, with the text 'I want to buy some apples'.

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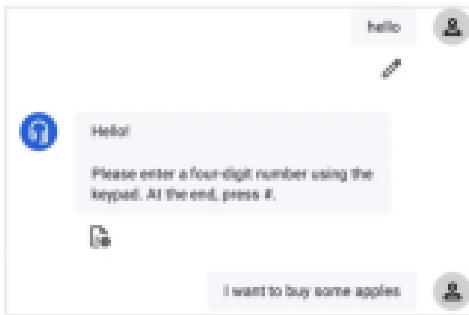
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The image shows a mobile application interface with a light gray background. At the top, there is a blue header bar with the number '01' in white. Below the header, the text 'Creating scenarios where user inputs are intentionally out of scope.' is displayed in a large, dark font. The main content area contains two messages from a user named 'Hello'. The first message, at the top, has a blue circular profile picture and the text 'Hello'. Below it is a message bubble containing the instruction: 'Please enter a four-digit number using the keypad. At the end, press #.' The second message, at the bottom, has a blue circular profile picture and the text 'I want to buy some apples'. There are also small circular icons with a person symbol and a pencil icon on either side of the messages.

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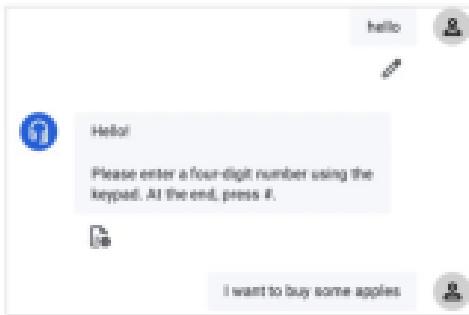
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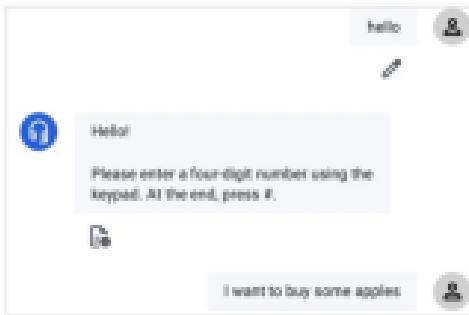
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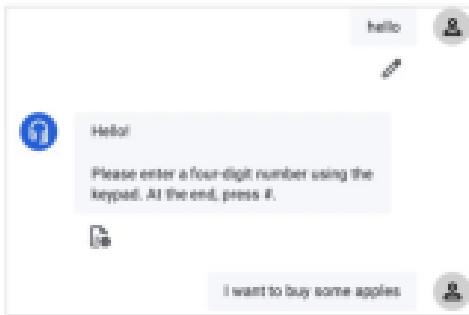
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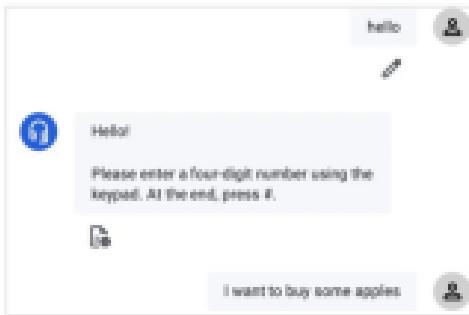
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Testing no-input scenarios

Simulating situations with a lack of user response.

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No audio input
using the
microphone

02

No input utterance
using space
character (' ')

Expected handling by the agent, such as
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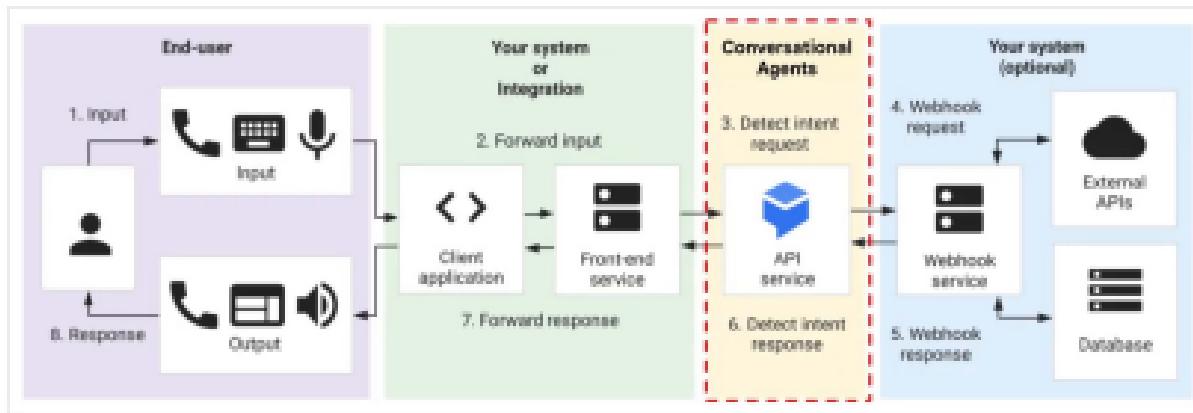
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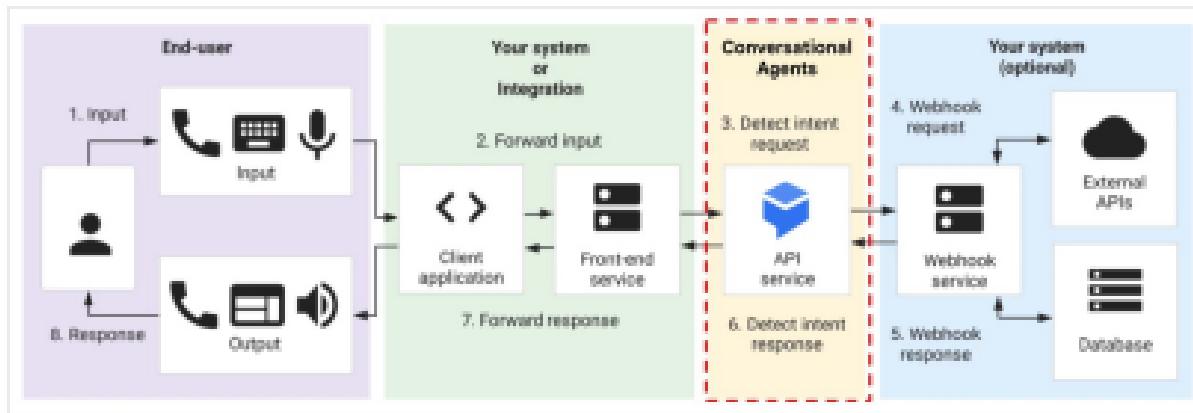
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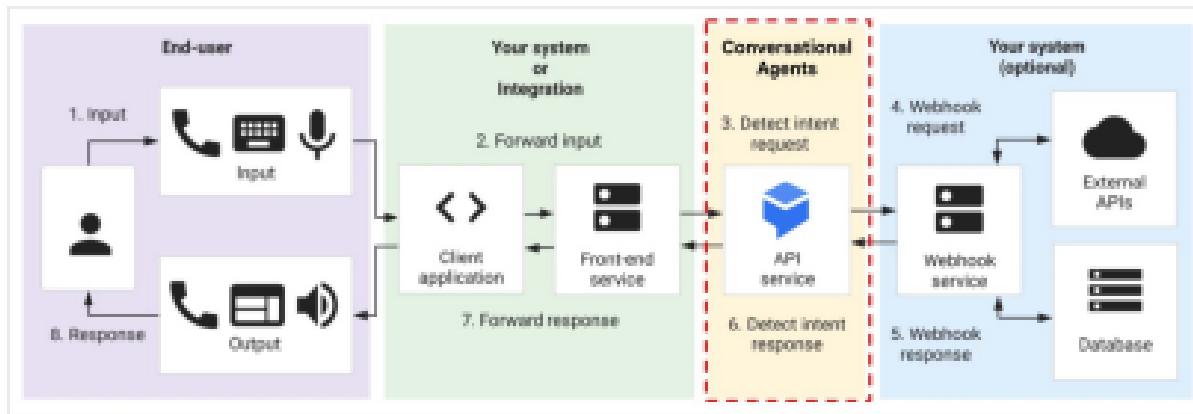
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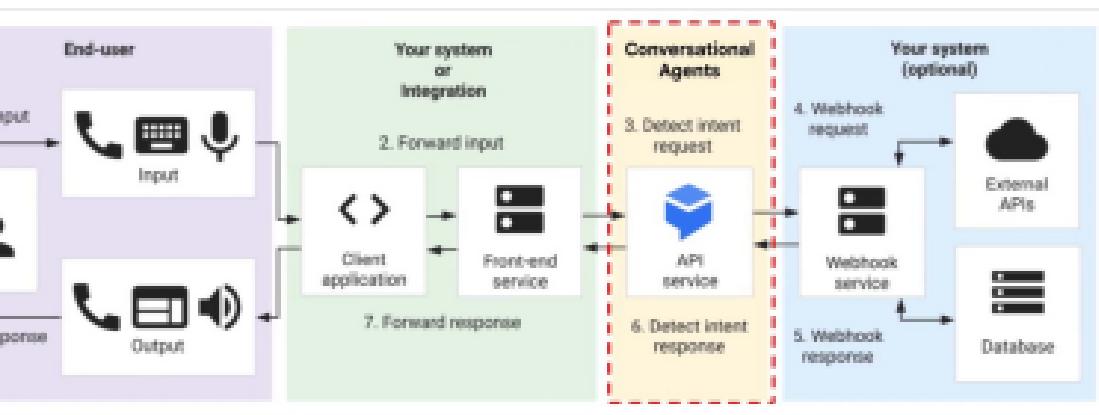


Testing webhook failure scenarios



Webhook failure scenarios

E2E Testing



When introducing new components or changing existing routes, make sure the flow to and from the conversational agents is correctly ordered.

E2E Testing: Best practices

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Multiple access paths

If a new page has several access points, create test cases covering each path to ensure all routes to the page work flawlessly.

Google Cloud