Week 4: Further Topics

Unit 4a: Latest Updates

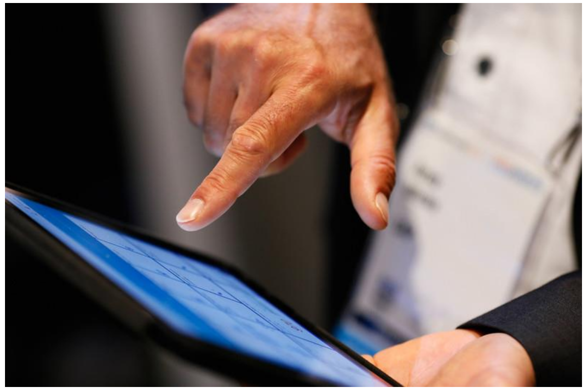
Latest Updates

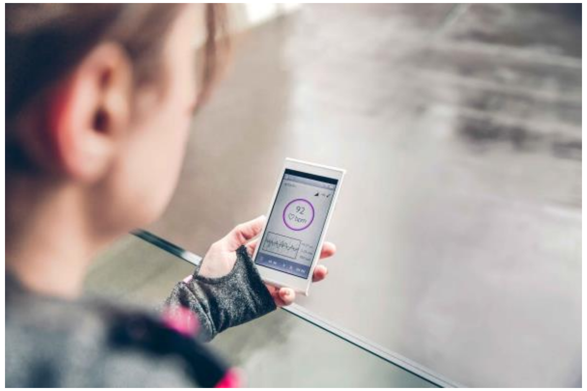
API triggers and notifiers

Triggers provide the means of starting a bot execution from different channels

Notifiers provide the means of communicating the bot execution state through different channels

API triggers and notifiers provide the connection to SAP Intelligent RPA via Web API channel





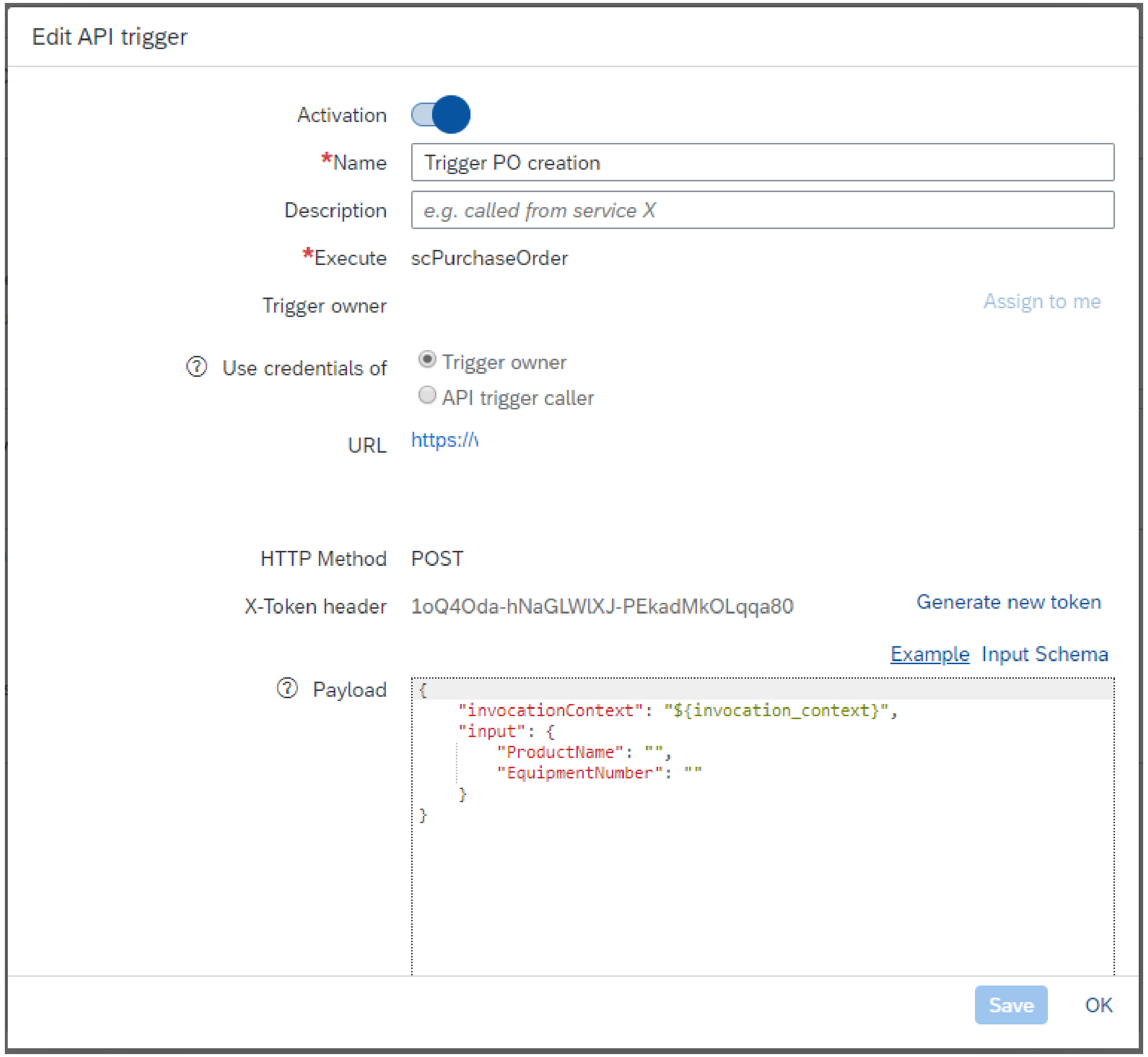
Start RPA bot from your application

Receive notifications to your application

Latest Updates

API triggers and notifiers – API trigger

- Are attached to a particular scenario in a deployment
  - Can be added, modified, or removed at any time
- Provide a dedicated API endpoint protected by API key
- Provides input for a bot execution
  - Defined by scenario input schema
- Can provide invocation context for call correlation
  - Invocation context is available in notifiers



Edit API trigger

Activation	●
*Name	Trigger PO creation
Description	e.g. called from service X
*Execute	scPurchaseOrder
Trigger owner	Assign to me
ⓘ Use credentials of	● Trigger owner ○ API trigger caller
URL	https://\
HTTP Method	POST
X-Token header	1oQ4Oda-hNaGLWlXJ-PEkadMkOLqqa80

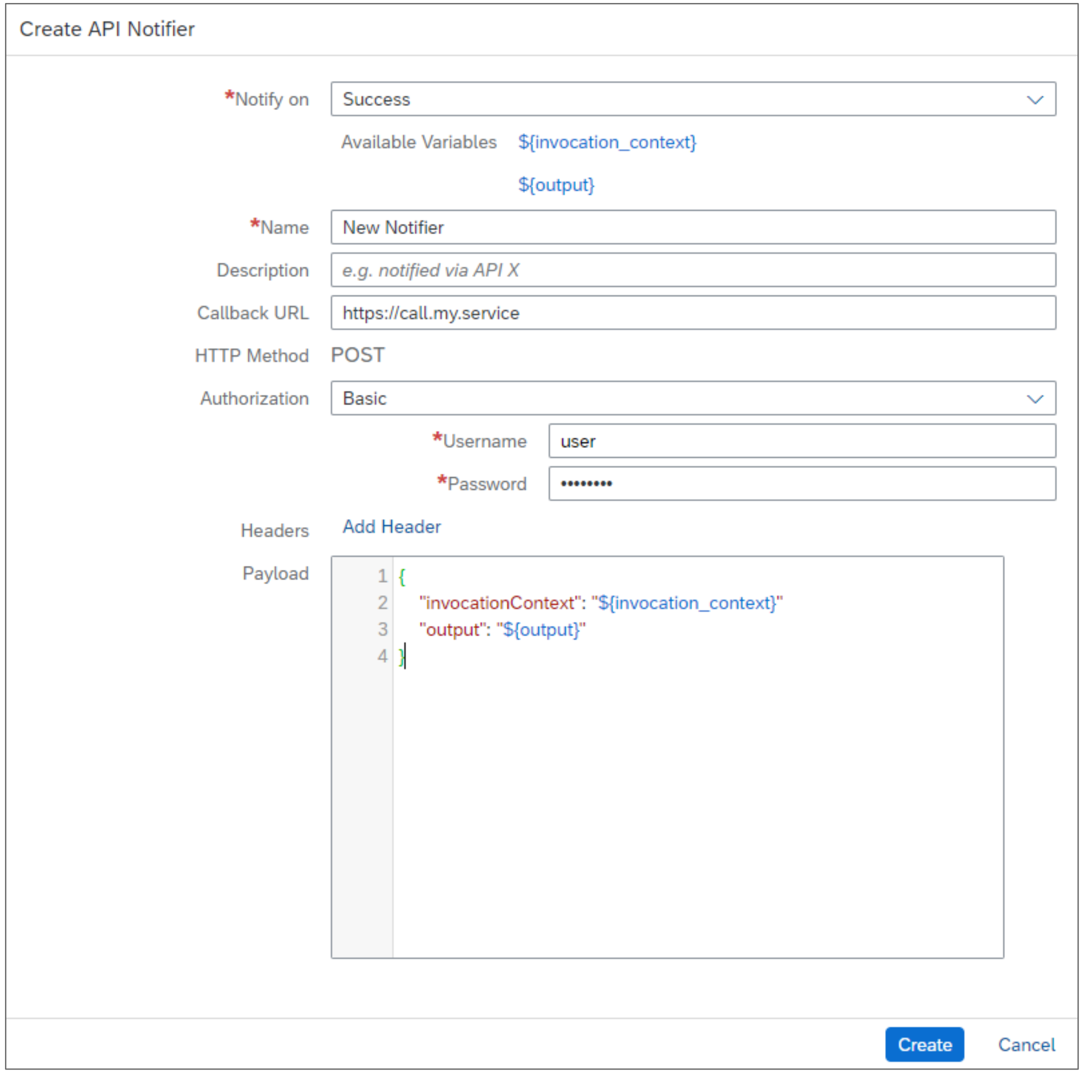
ⓘ Payload

```
{
    "invocationContext": "${invocation_context}",
    "input": {
        "ProductName": "",
        "EquipmentNumber": ""
    }
}
```

Latest Updates

API triggers and notifiers – API notifier

- Are attached to a trigger
  - Can be added, modified, or removed at any time
- React on an activation event
  - Start/Success/Failure/Cancel
  - Different variables are available for different events
- Contain a REST call configuration
  - Callback URL
  - HTTP method
  - Authorization
  - Headers
  - Payload
    - Custom JSON structure
    - Use **${invocation_context}** sent with API trigger
    - Use other variables available for the notifier event



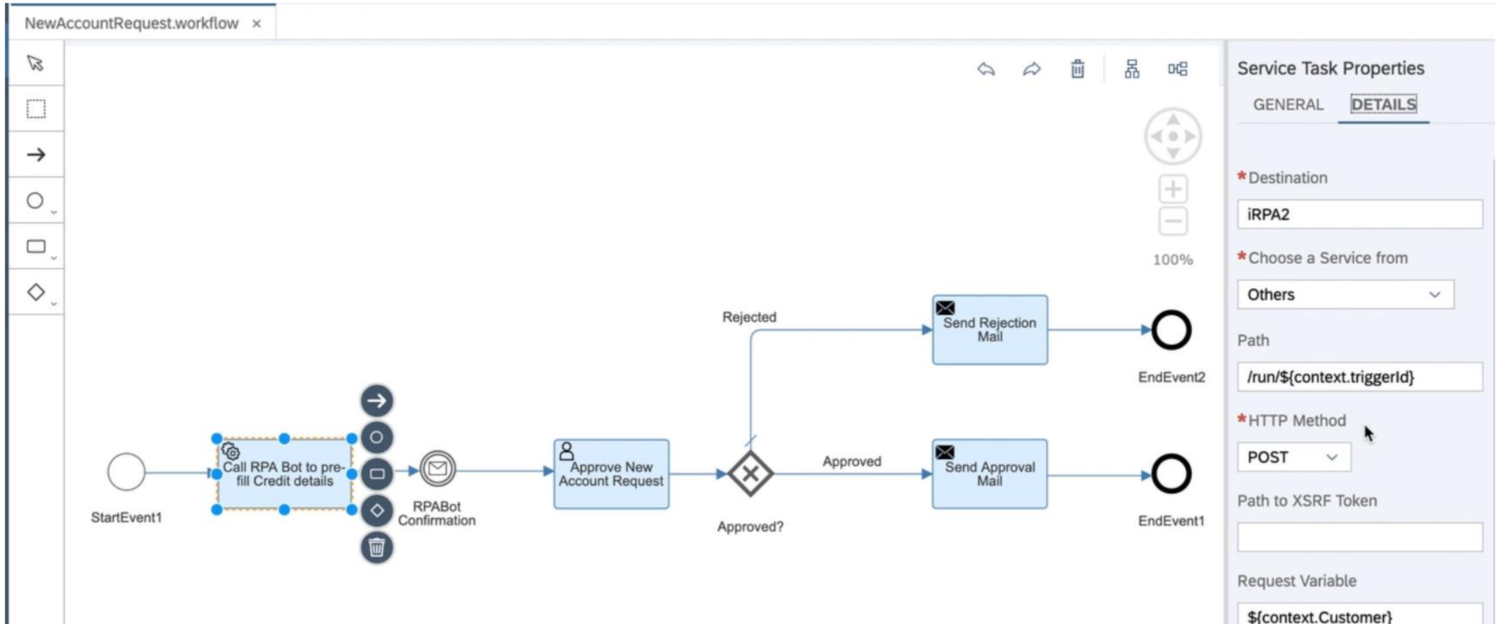
Create API Notifier

*Notify on	Success
Available Variables	${invocation_context} ${output}
*Name	New Notifier
Description	e.g. notified via API X
Callback URL	https://call.my.service
HTTP Method	POST
Authorization	Basic
*Username	user
*Password	••••••••
Headers	Add Header
Payload	

```
{
  "invocationContext": "${invocation_context}"
  "output": "${output}"
}
```

Latest Updates

API triggers and notifiers – BPM integration: Workflow definition



Service Task Properties

*Destination: iRPA2

*Choose a Service from: Others

Path: /run/${context.triggerId}

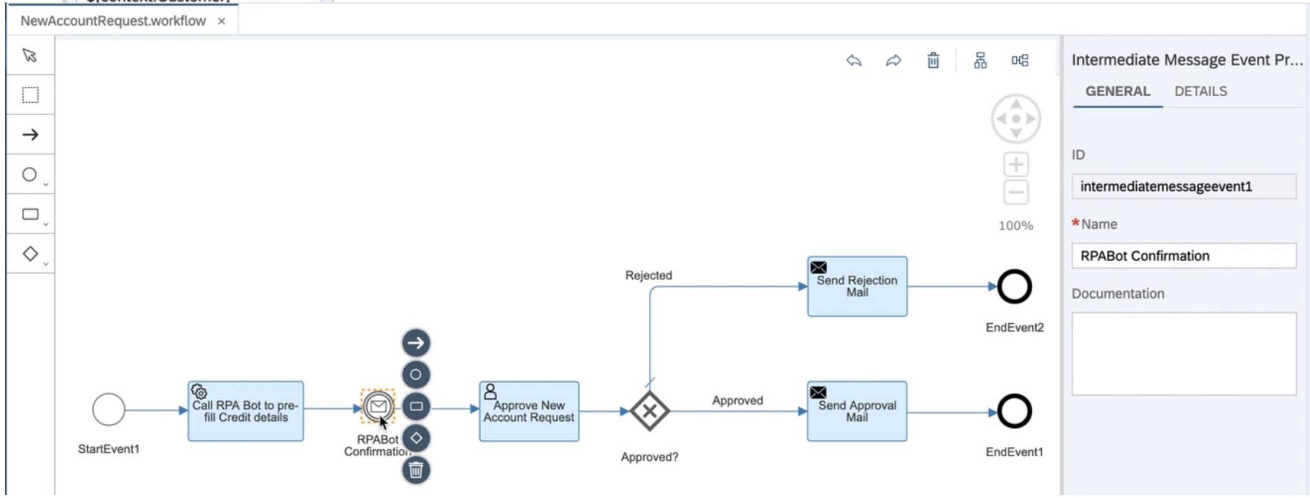
*HTTP Method: POST

Path to XSRF Token:

Request Variable: ${context.Customer}

Call API trigger to start the bot

Wait for bot execution



Intermediate Message Event Pr...

ID: intermediatemessageevent1

*Name: RPABot Confirmation

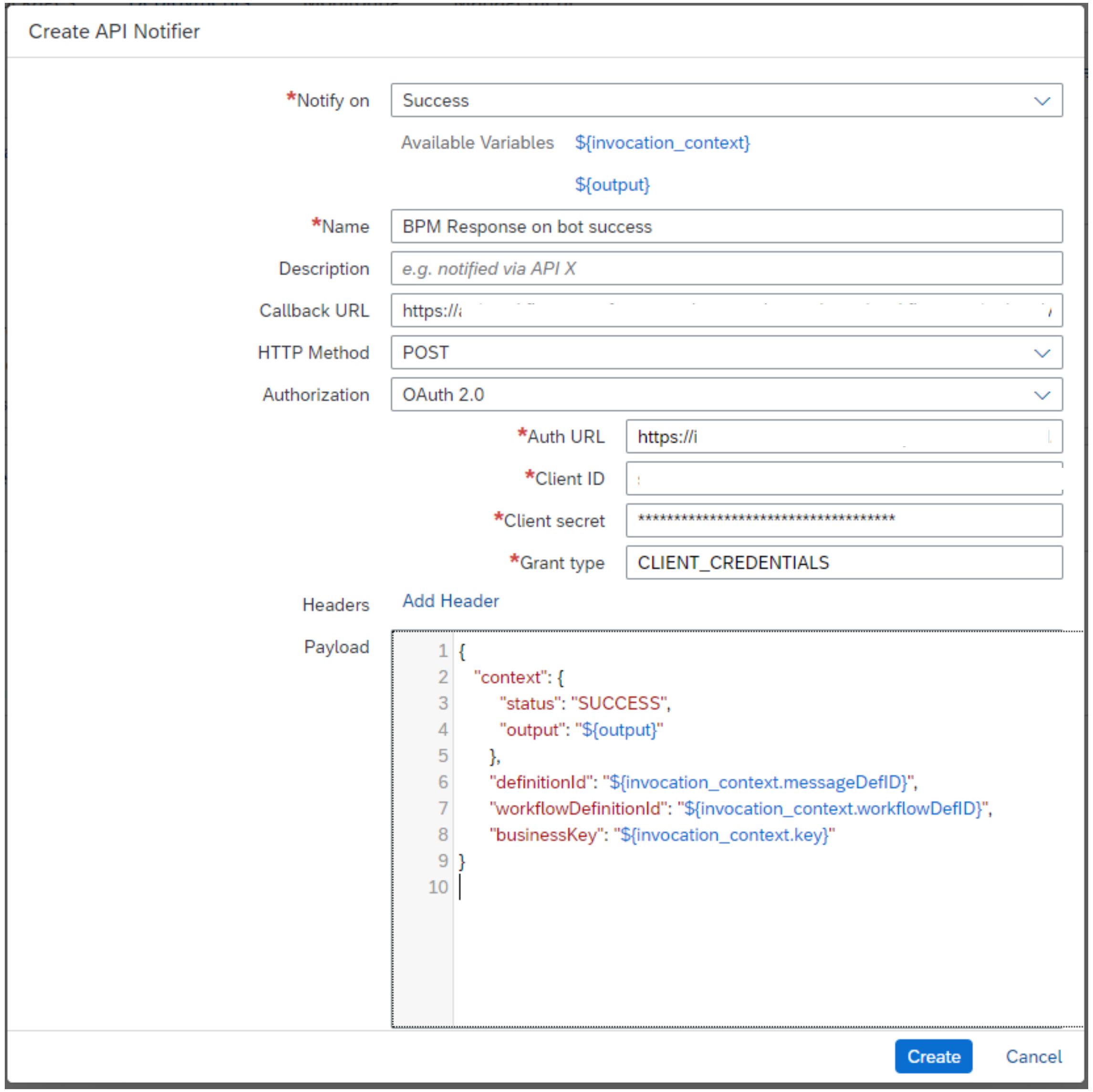
Documentation:

© 2019 SAP SE or an SAP affiliate company. All rights reserved. I PUBLIC

Latest Updates

API triggers and notifiers – BPM integration

1. Define an API trigger to open an endpoint
2. Define an API notifier with the required BPM configuration
   - Callback URL of your workflow service
   - Payload structure expected by BPM references invocation context
   - Authentication



Create API Notifier

*Notify on: Success

Available Variables: ${invocation_context} ${output}

*Name: BPM Response on bot success

Description: *e.g. notified via API X*

Callback URL: https://

HTTP Method: POST

Authorization: OAuth 2.0

*Auth URL: https://i

*Client ID:

*Client secret: ***********************************

*Grant type: CLIENT_CREDENTIALS

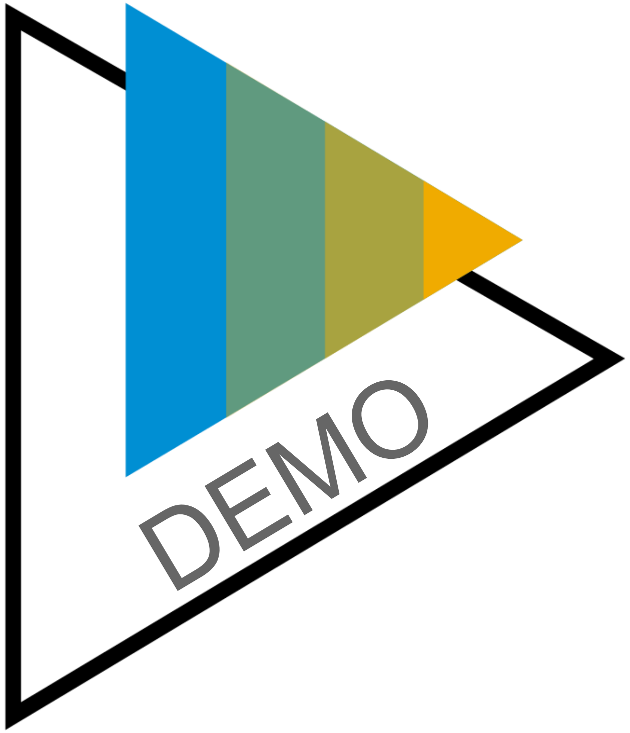
Headers: Add Header

Payload:

```
{
  "context": {
      "status": "SUCCESS",
      "output": "${output}"
    },
    "definitionId": "${invocation_context.messageDefID}",
    "workflowDefinitionId": "${invocation_context.workflowDefID}",
    "businessKey": "${invocation_context.key}"
}
```

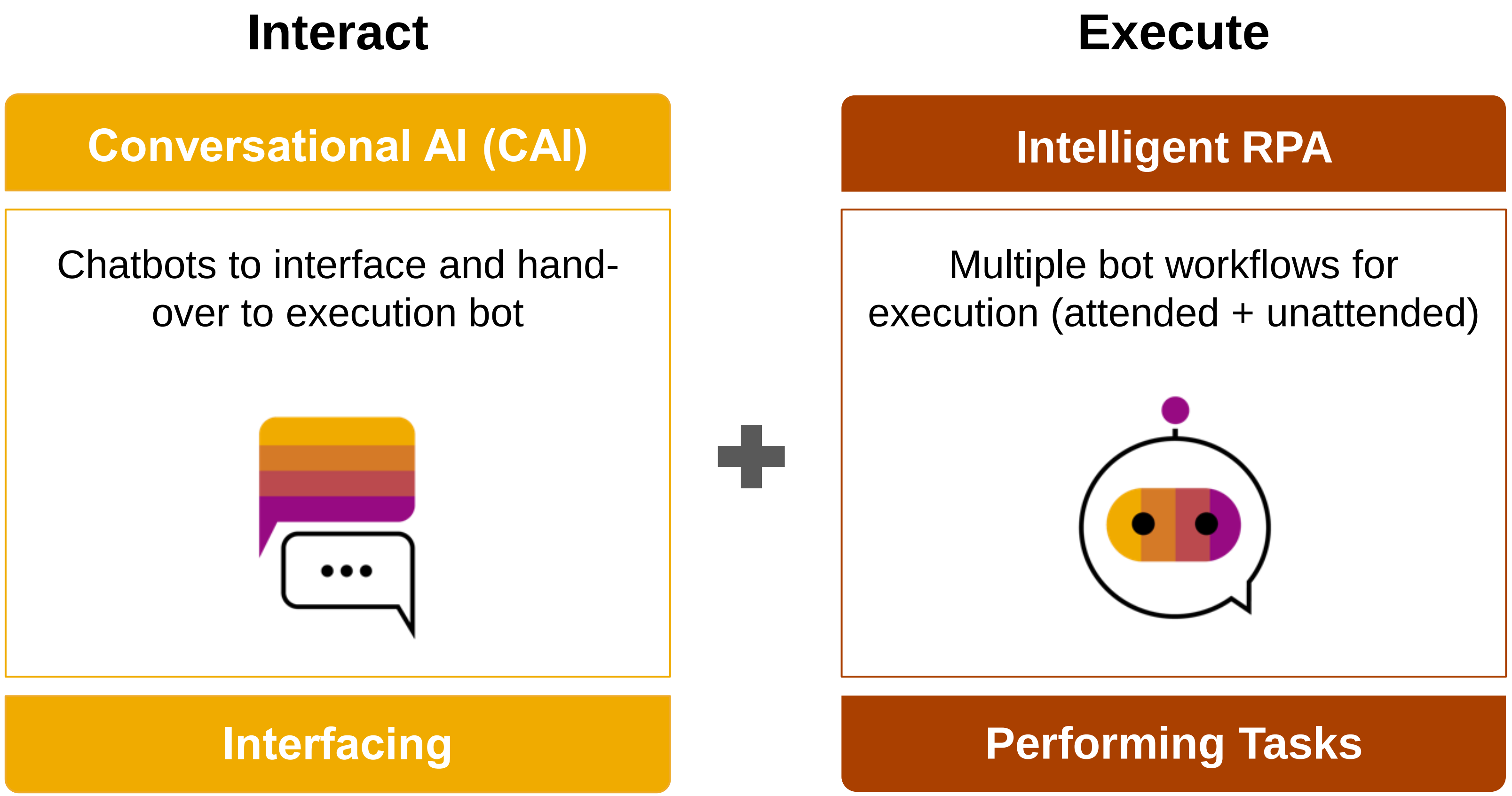
Latest Updates

Demo API trigger and notifier definition



Latest Updates

Integration with SAP Conversational AI



Interact

Conversational AI (CAI)

Chatbots to interface and hand-over to execution bot

Interfacing

Execute

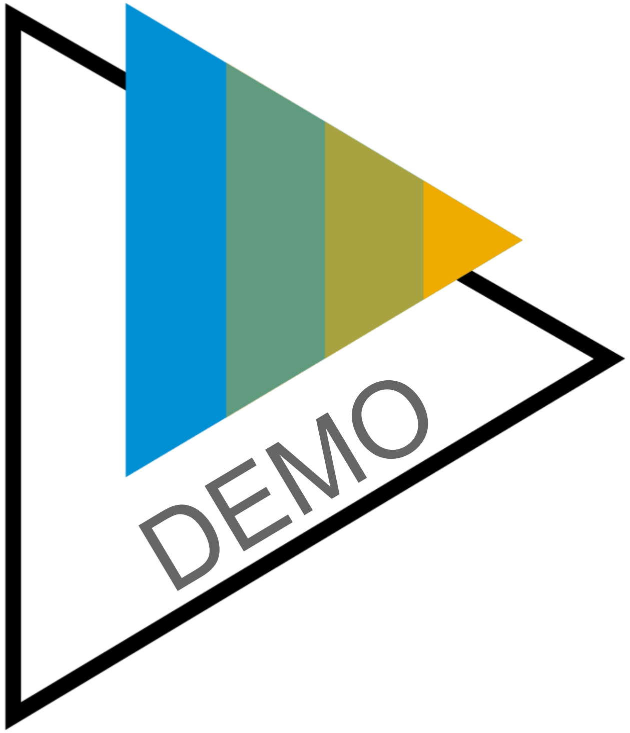
Intelligent RPA

Multiple bot workflows for execution (attended + unattended)

Performing Tasks

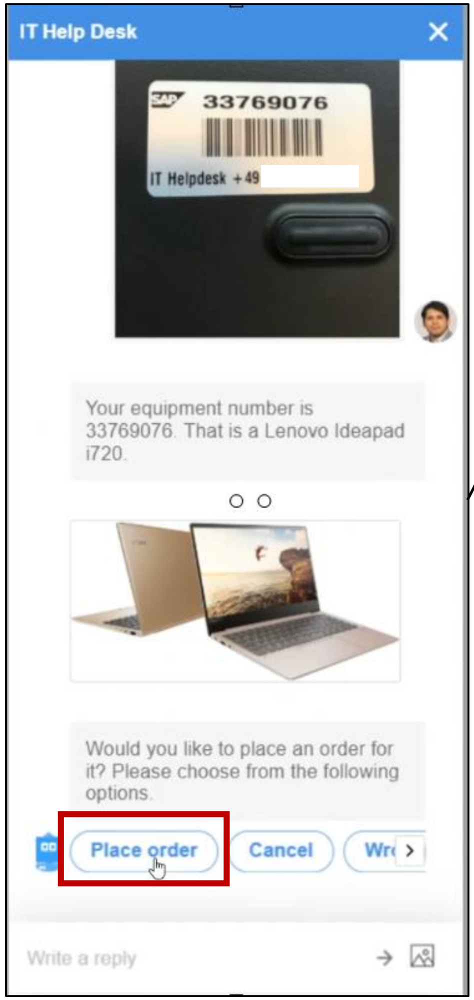
Latest Updates

Demo ChatBot in action



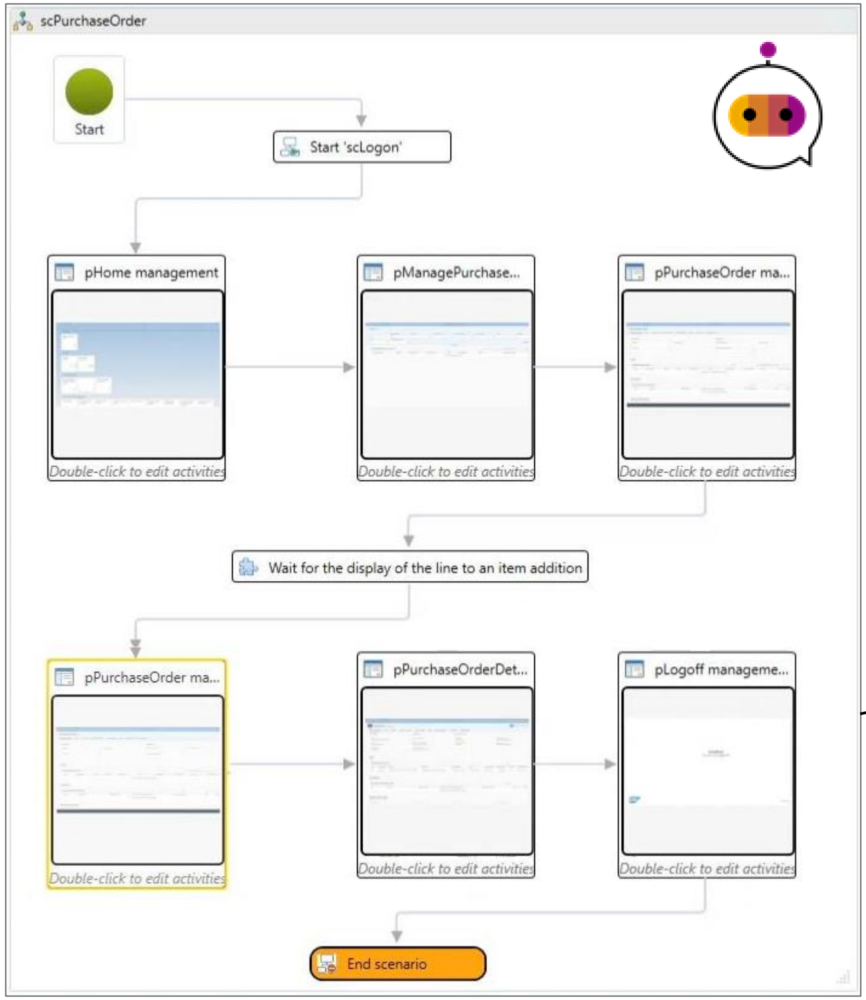
Latest Updates

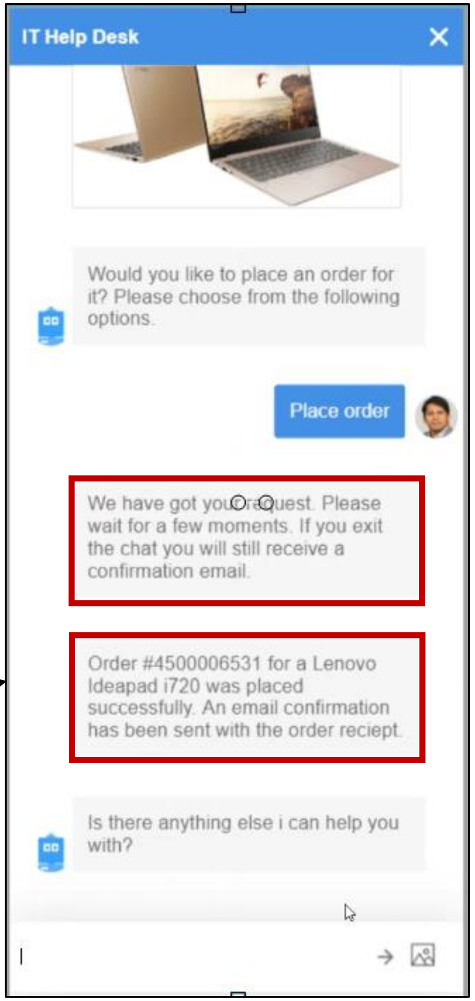
Conversational AI integration: Trigger an Intelligent RPA bot and receive feedback



Your equipment number is 33769076. That is a Lenovo Ideapad i720.

Would you like to place an order for it? Please choose from the following options.





Would you like to place an order for it? Please choose from the following options.

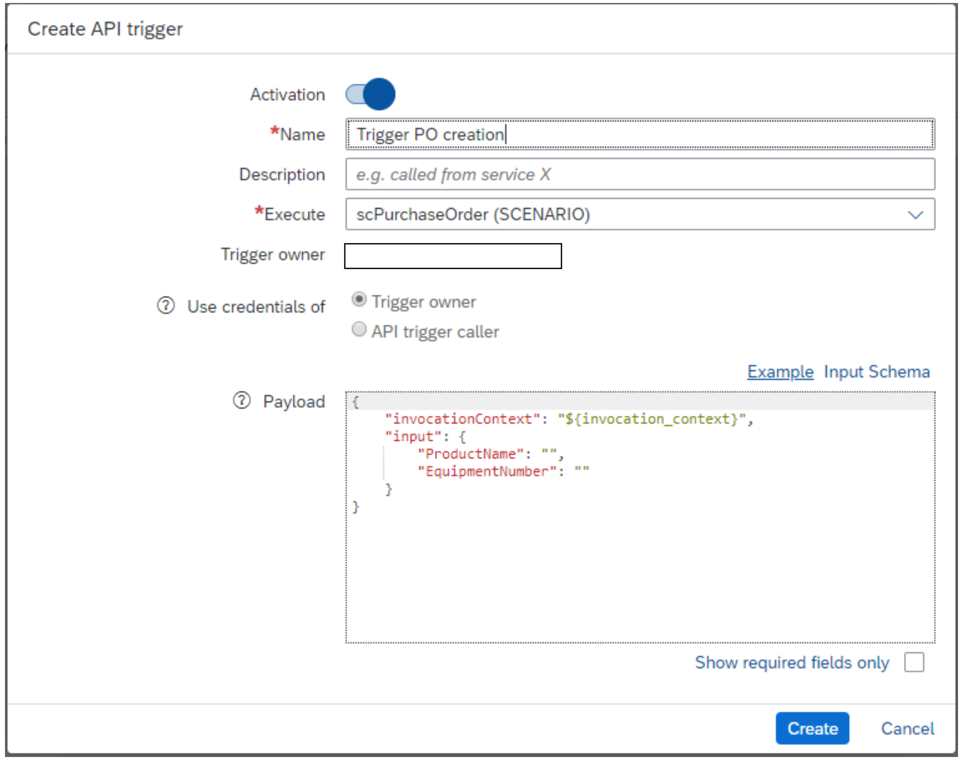
We have got your request. Please wait for a few moments. If you exit the chat you will still receive a confirmation email.

Order #4500006531 for a Lenovo Ideapad i720 was placed successfully. An email confirmation has been sent with the order reciept.

Is there anything else i can help you with?

Latest Updates

Conversational AI integration: API trigger – Open an Intelligent RPA bot endpoint



Create API trigger

Activation

*Name: Trigger PO creation

Description: e.g. called from service X

*Execute: scPurchaseOrder (SCENARIO)

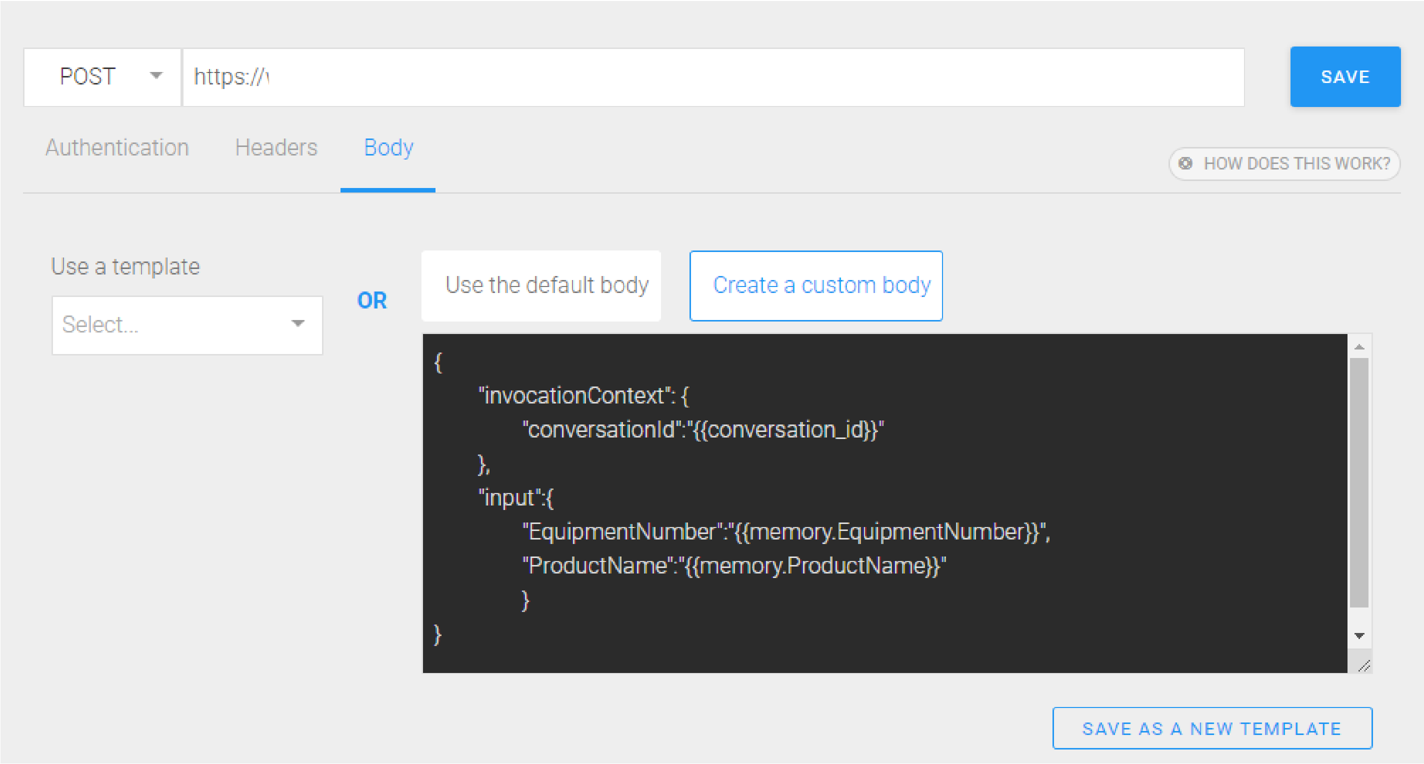
Trigger owner:

Use credentials of: ● Trigger owner ○ API trigger caller

Example Input Schema

Payload

```
{
    "invocationContext": "${invocation_context}",
    "input": {
        "ProductName": "",
        "EquipmentNumber": ""
    }
}
```



POST https://

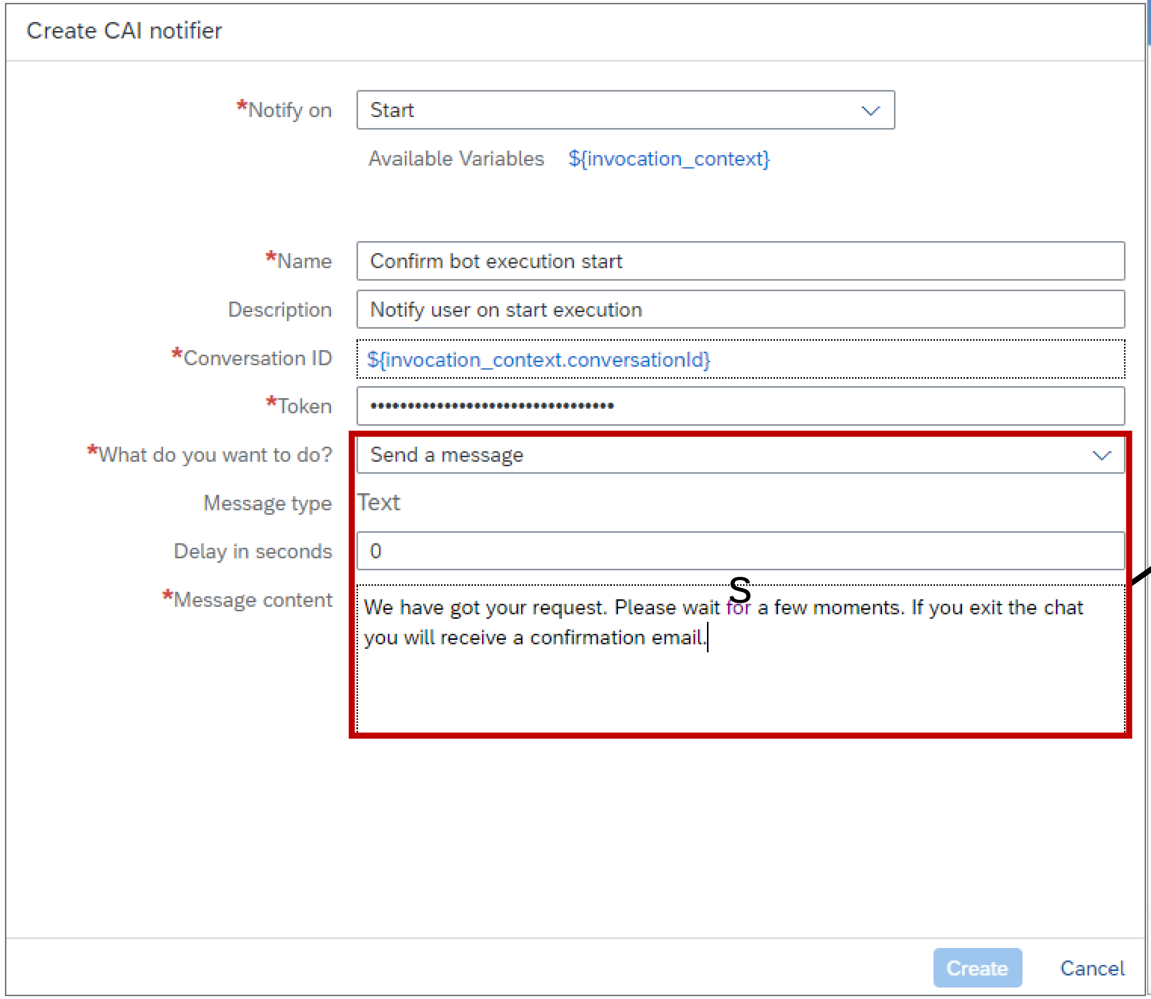
```
{
    "invocationContext": {
        "conversationId":"{{conversation_id}}"
    },
    "input":{
        "EquipmentNumber":"{{memory.EquipmentNumber}}",
        "ProductName":"{{memory.ProductName}}"
        }
}
```

- Collect data from chat bot and pass it as RPA bot input
  – ProductName, EquipmentNumber
- Invocation context provides information for conversation correlation

Latest Updates

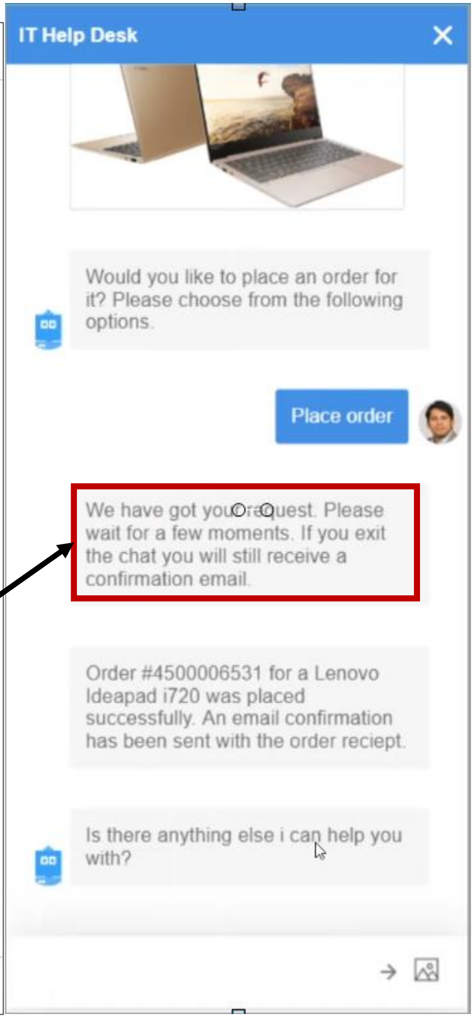
Conversational AI integration: Conversational AI notifier

- Choose a notifier activation event
  - Success/Start/Failure/Cancel
- Configure notifier
  - Conversation ID
  - Chatbot authorization token
- Select an action to be performed
  - Send a text message to conversation
  - Modify conversation state
- Configure the action parameters
  - Message to be sent
  - Memory and language to be updated



Create CAI notifier

*Notify on	Start
	Available Variables ${invocation_context}
*Name	Confirm bot execution start
Description	Notify user on start execution
*Conversation ID	${invocation_context.conversationId}
*Token	••••••••••••••••••••••••••••••••
*What do you want to do?	Send a message
Message type	Text
Delay in seconds	0
*Message content	We have got your request. Please wait for a few moments. If you exit the chat you will receive a confirmation email.



IT Help Desk

Would you like to place an order for it? Please choose from the following options.

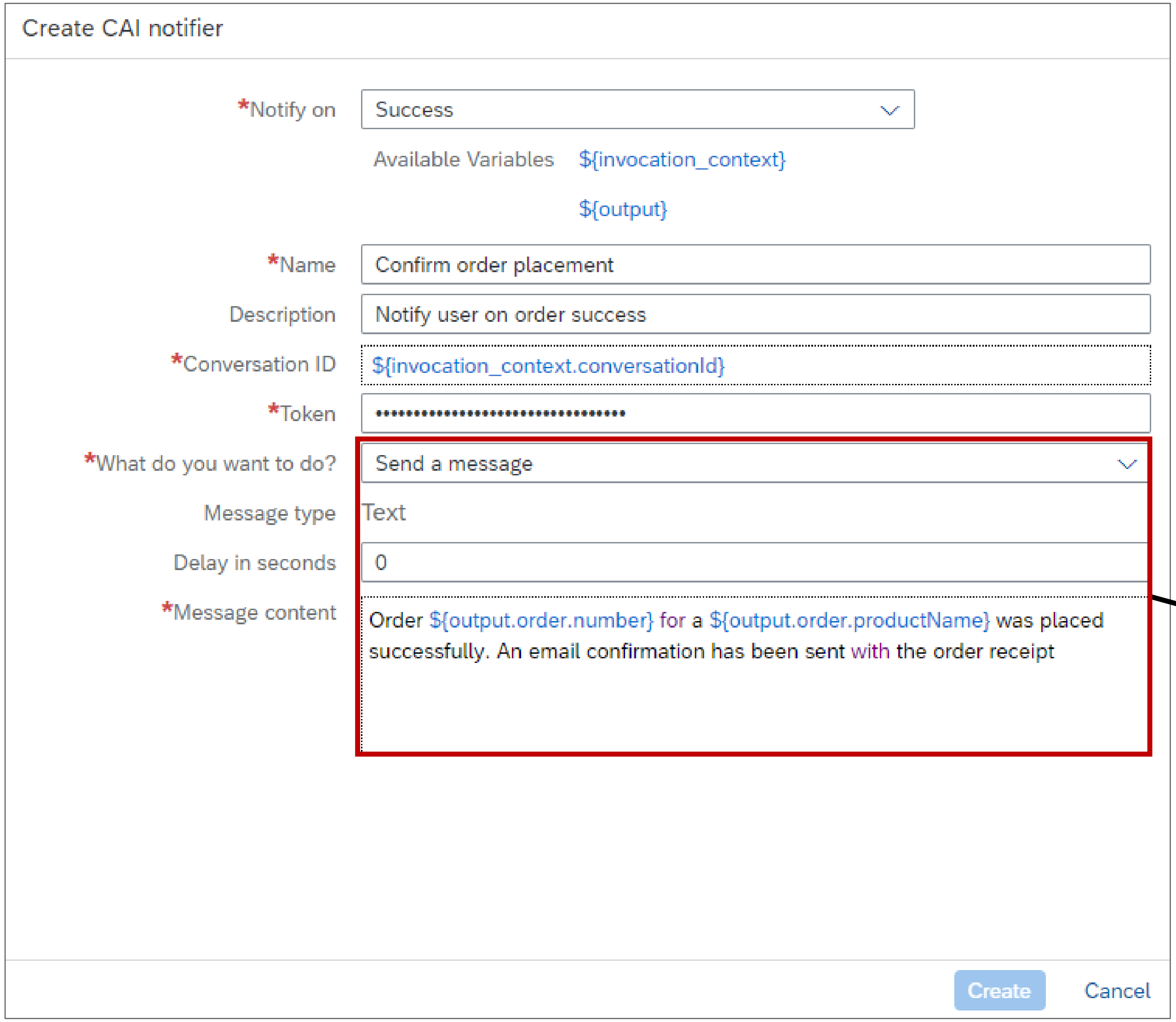
Place order

We have got your request. Please wait for a few moments. If you exit the chat you will still receive a confirmation email.

Order #4500006531 for a Lenovo Ideapad i720 was placed successfully. An email confirmation has been sent with the order reciept.

Is there anything else i can help you with?

Conversational AI integration: CAI notifier – Success notifier



Create CAI notifier

*Notify on: Success

Available Variables: ${invocation_context} ${output}

*Name: Confirm order placement

Description: Notify user on order success

*Conversation ID: ${invocation_context.conversationId}

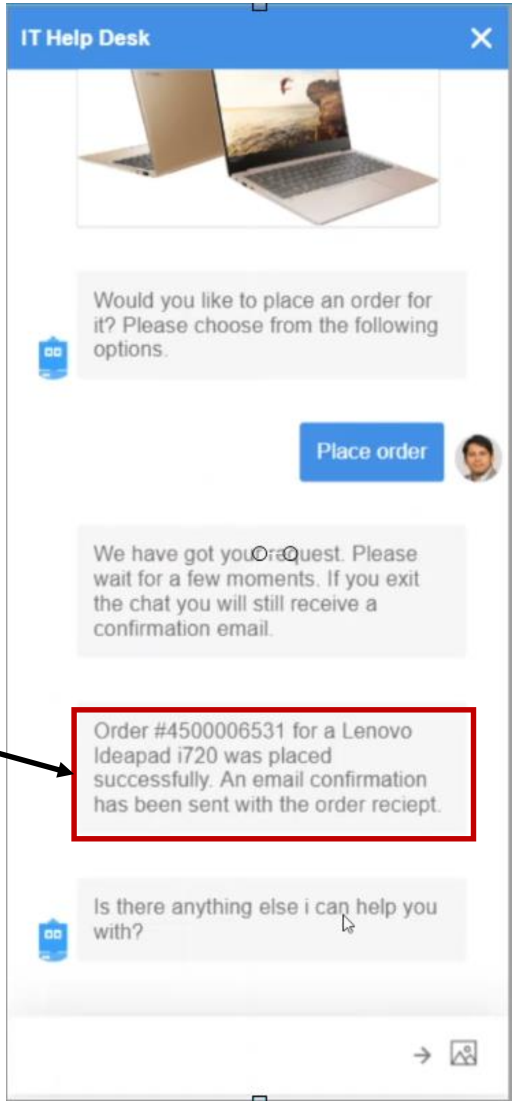
*Token: ••••••••••••••••••••••••••••••••

*What do you want to do?: Send a message

Message type: Text

Delay in seconds: 0

*Message content: Order ${output.order.number} for a ${output.order.productName} was placed successfully. An email confirmation has been sent with the order receipt



IT Help Desk

Would you like to place an order for it? Please choose from the following options.

Place order

We have got your request. Please wait for a few moments. If you exit the chat you will still receive a confirmation email.

Order #4500006531 for a Lenovo Ideapad i720 was placed successfully. An email confirmation has been sent with the order reciept.

Is there anything else i can help you with?

Thank you.

Contact information:

open@sap.com

Follow all of SAP

www.sap.com/contactsap

THE BEST RUN SAP