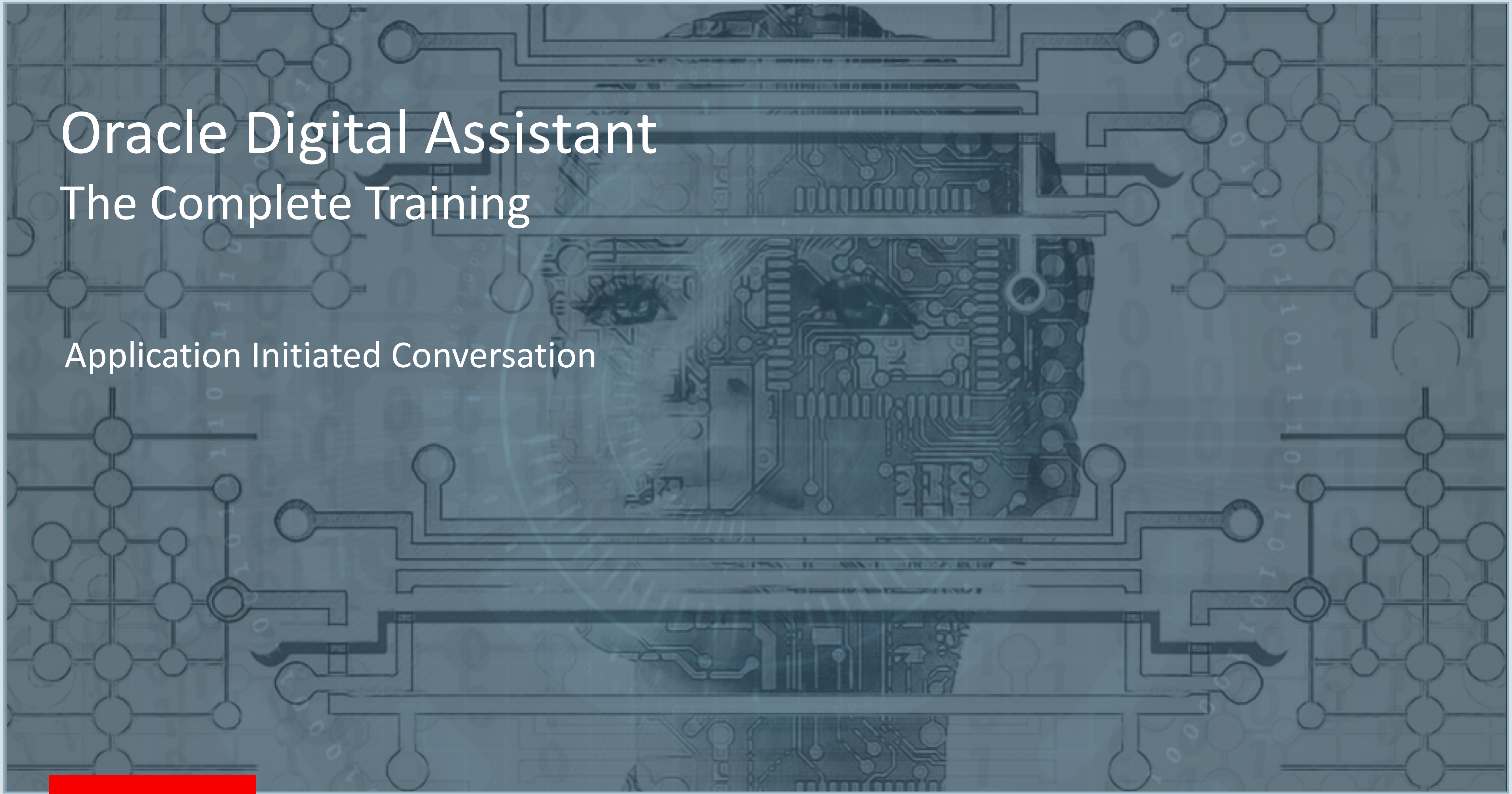
ORACLE®



Oracle Digital Assistant

The Complete Training

Application Initiated Conversation

Image courtesy of pixabay.com

Safe Harbor Statement

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Topic agenda

1 About application initiated conversations

2 How application initiated conversation works

3 Setup

4 Channel configuration

5 Configure external application

6 How to test application initiated conversations

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Topic agenda

1 About application initiated conversations

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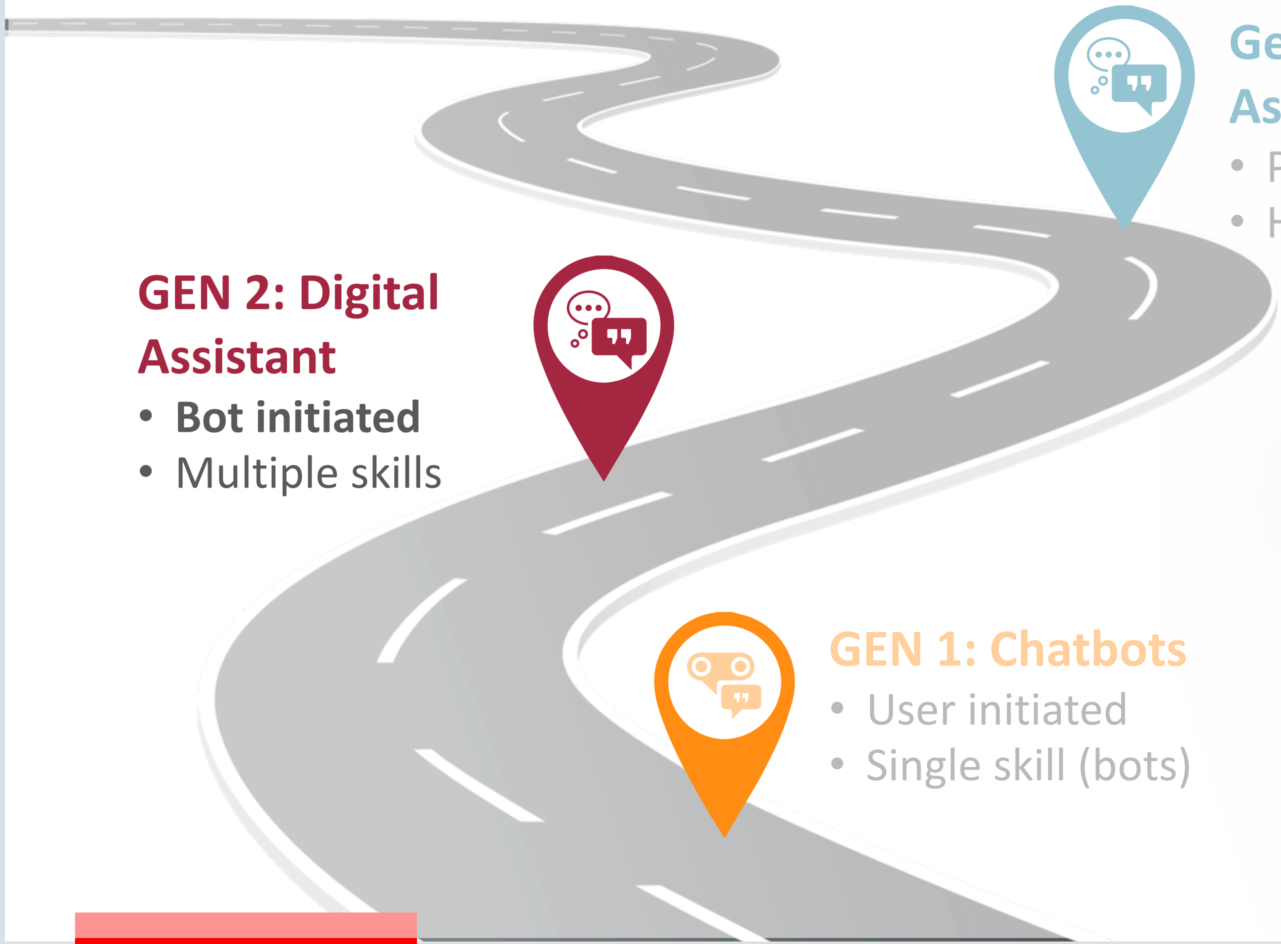
6 How to test application initiated conversations

ORACLE

From chatbots to digital assistants



Gen 3: Digital Assistant

- Proactive
- Headless bots

GEN 2: Digital Assistant

- **Bot initiated**
- Multiple skills

GEN 1: Chatbots

- User initiated
- Single skill (bots)

Digital Assistant can **initiate the conversation** with a user

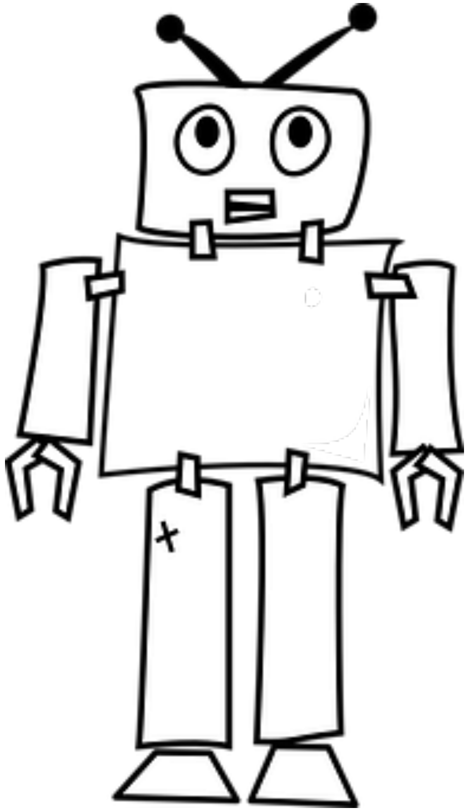


Image courtesy of pixabay.com

Business Usecase

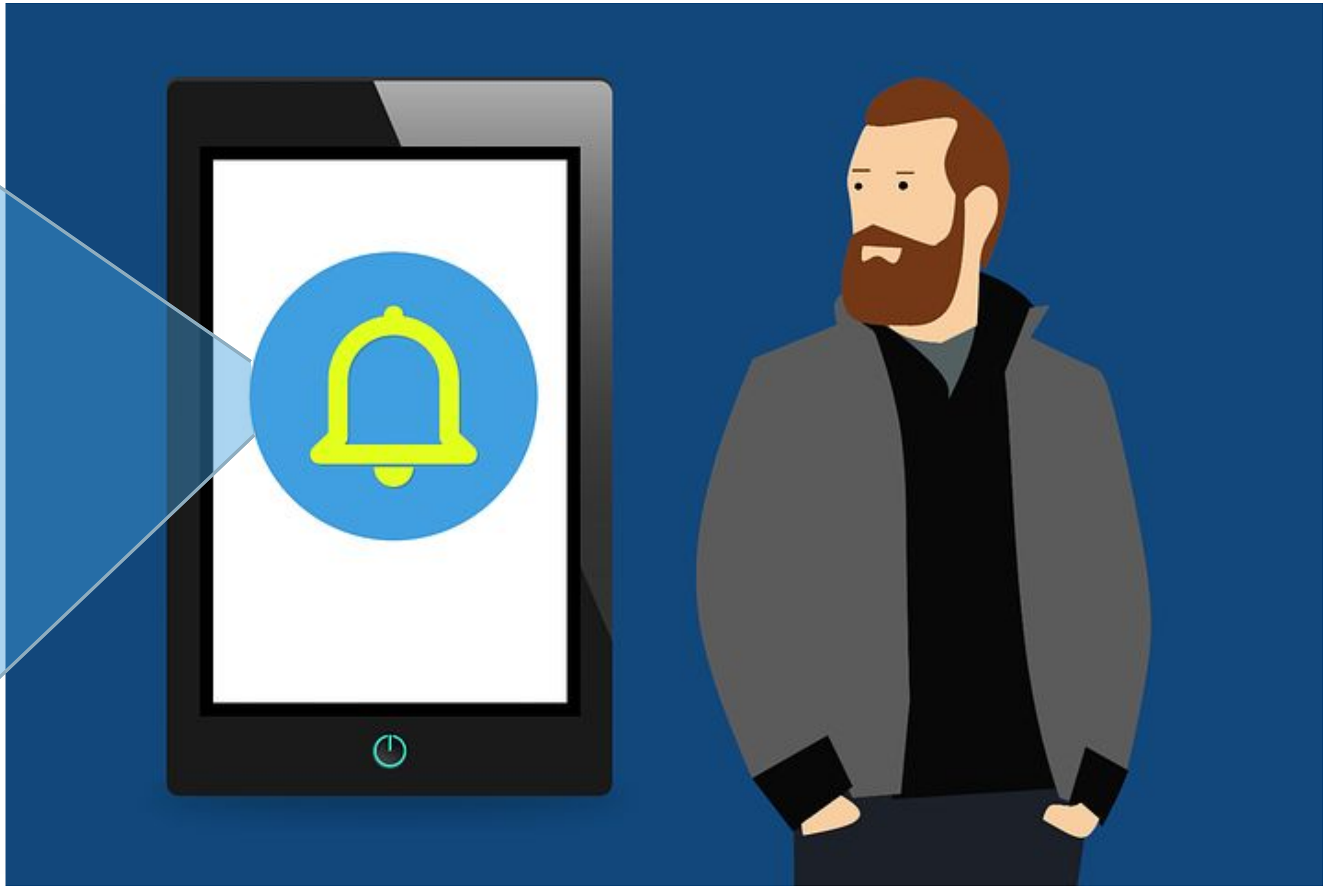
Expense approval:

John Smith

735.00 USD

SFO OOW Hotel

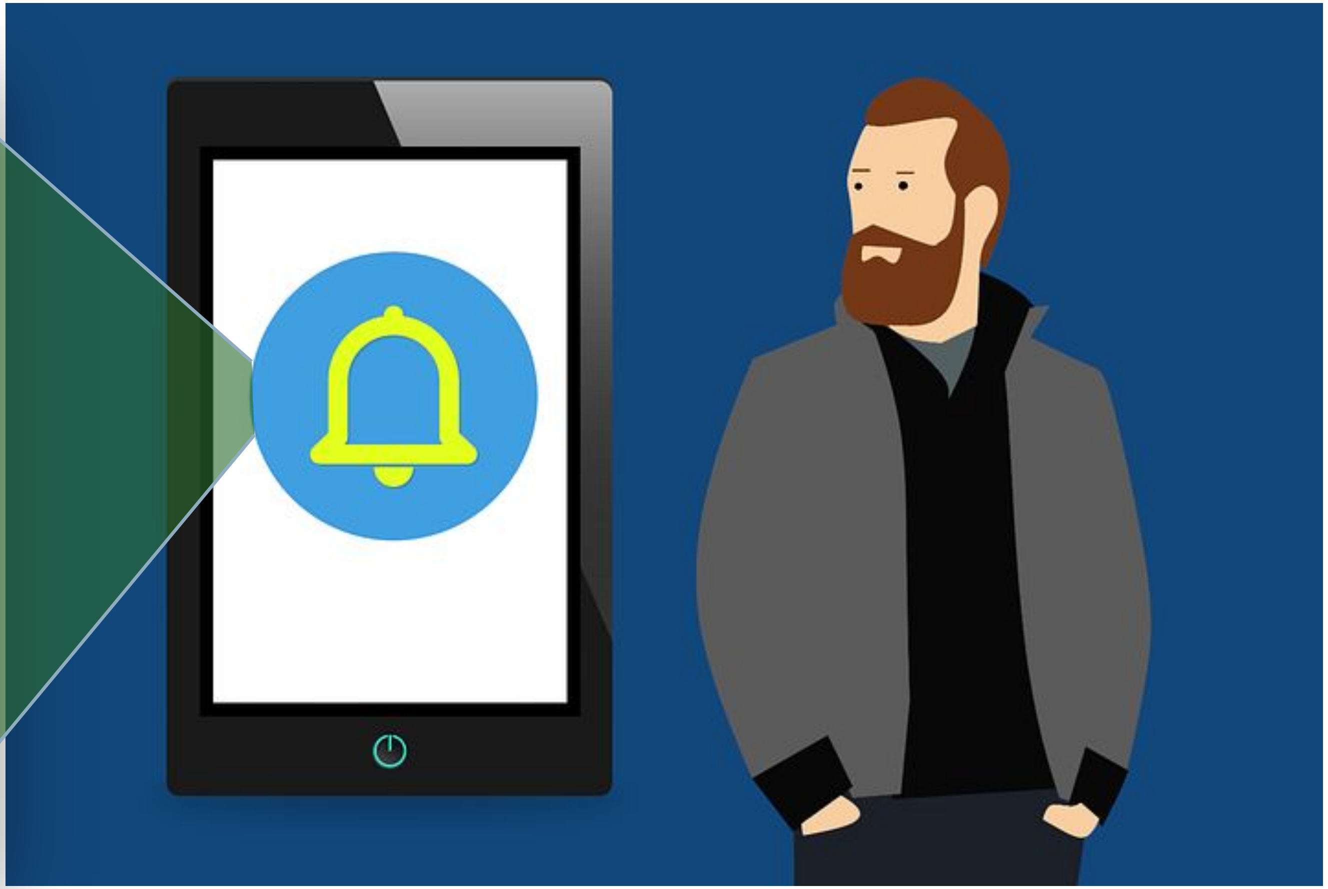
- 1. View
- 2. Approve
- 3. Reject



Consumer Usecase

By June 1, 2019, all Digital Bank customers must get their magnetic stripe cards replaced.

- 1. Detailed Information
- 2. Replace Card
- 3. Remind Later



Users may OR may not **be in a conversation** when receiving a notification.

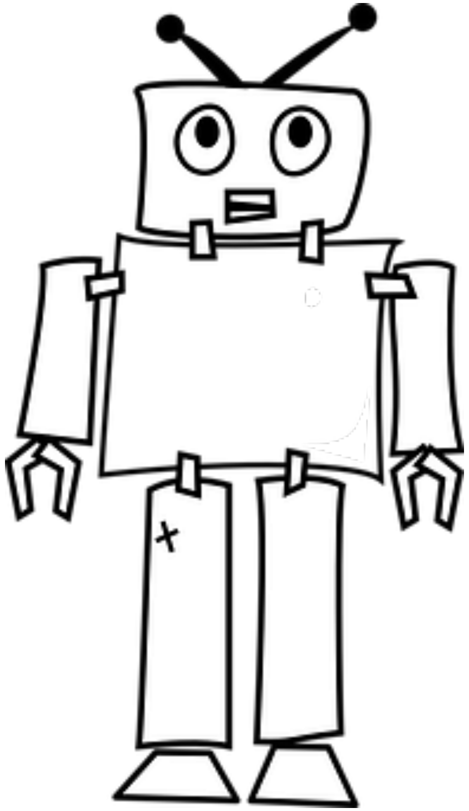
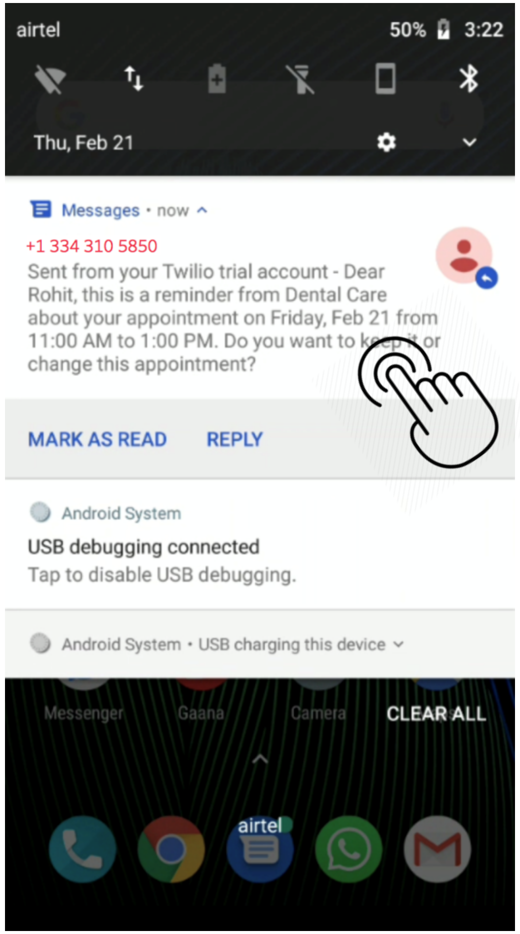


Image courtesy of pixabay.com

No active user conversation



airtel 50% 3:22

Thu, Feb 21

Messages • now

+1 334 310 5850

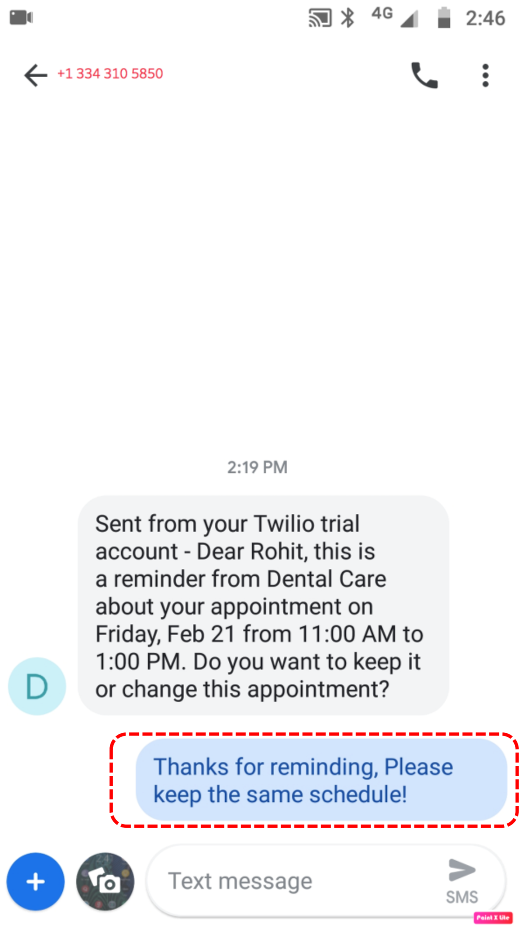
Sent from your Twilio trial account - Dear Rohit, this is a reminder from Dental Care about your appointment on Friday, Feb 21 from 11:00 AM to 1:00 PM. Do you want to keep it or change this appointment?

Android System

USB debugging connected

Tap to disable USB debugging.

Android System • USB charging this device



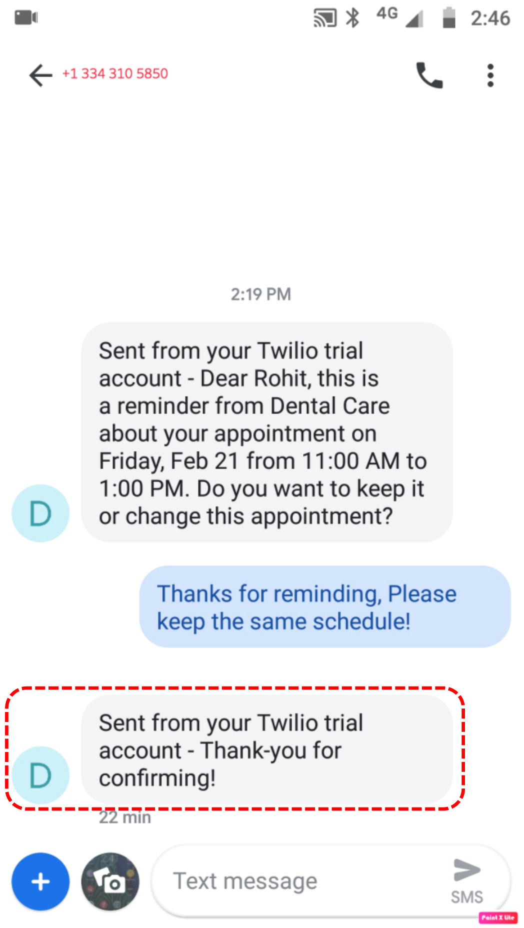
2:46

+1 334 310 5850

2:19 PM

Sent from your Twilio trial account - Dear Rohit, this is a reminder from Dental Care about your appointment on Friday, Feb 21 from 11:00 AM to 1:00 PM. Do you want to keep it or change this appointment?

Thanks for reminding, Please keep the same schedule!



2:46

+1 334 310 5850

2:19 PM

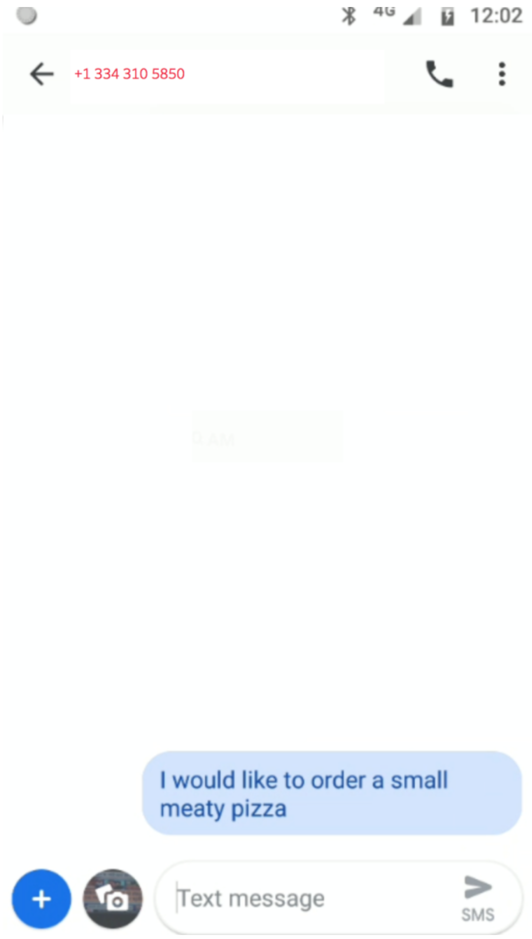
Sent from your Twilio trial account - Dear Rohit, this is a reminder from Dental Care about your appointment on Friday, Feb 21 from 11:00 AM to 1:00 PM. Do you want to keep it or change this appointment?

Thanks for reminding, Please keep the same schedule!

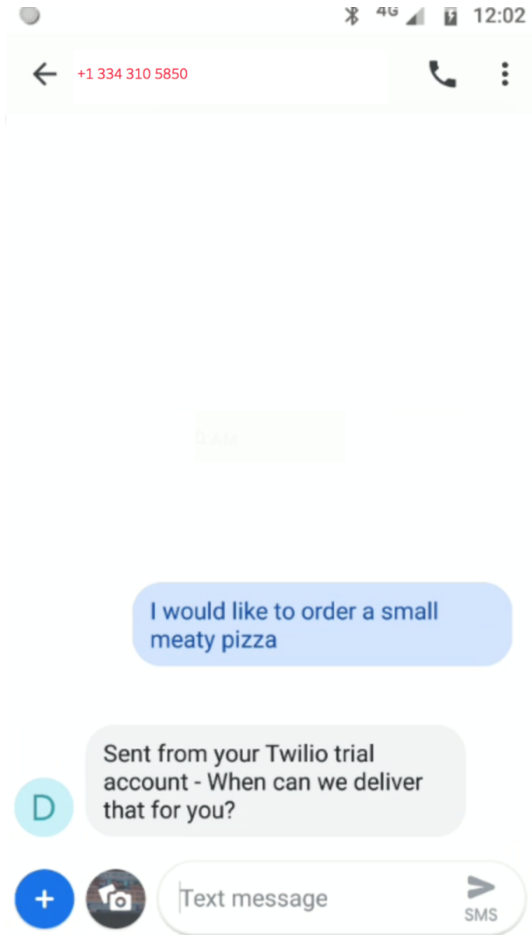
Sent from your Twilio trial account - Thank-you for confirming!

22 min

Active user conversation

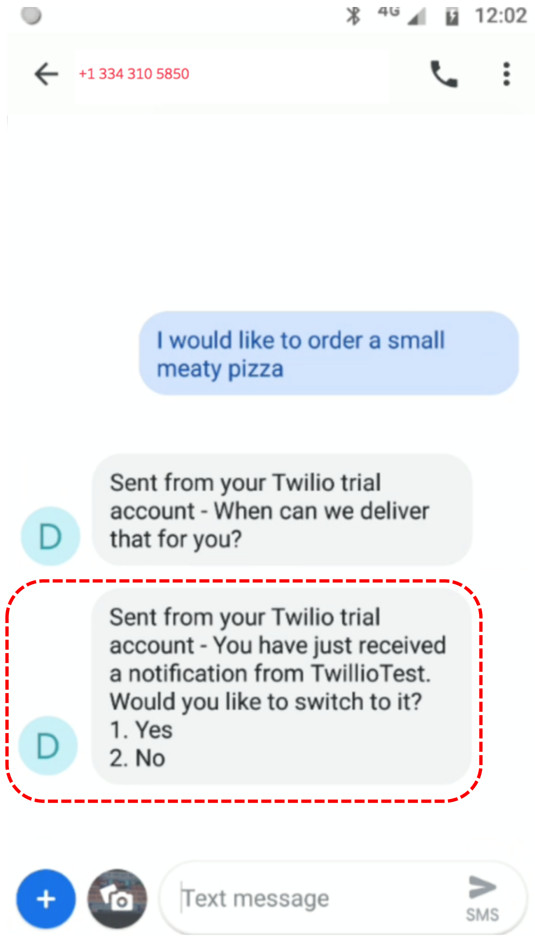


I would like to order a small meaty pizza



I would like to order a small meaty pizza

Sent from your Twilio trial account - When can we deliver that for you?



I would like to order a small meaty pizza

Sent from your Twilio trial account - When can we deliver that for you?

Sent from your Twilio trial account - You have just received a notification from TwillioTest. Would you like to switch to it?
1. Yes
2. No

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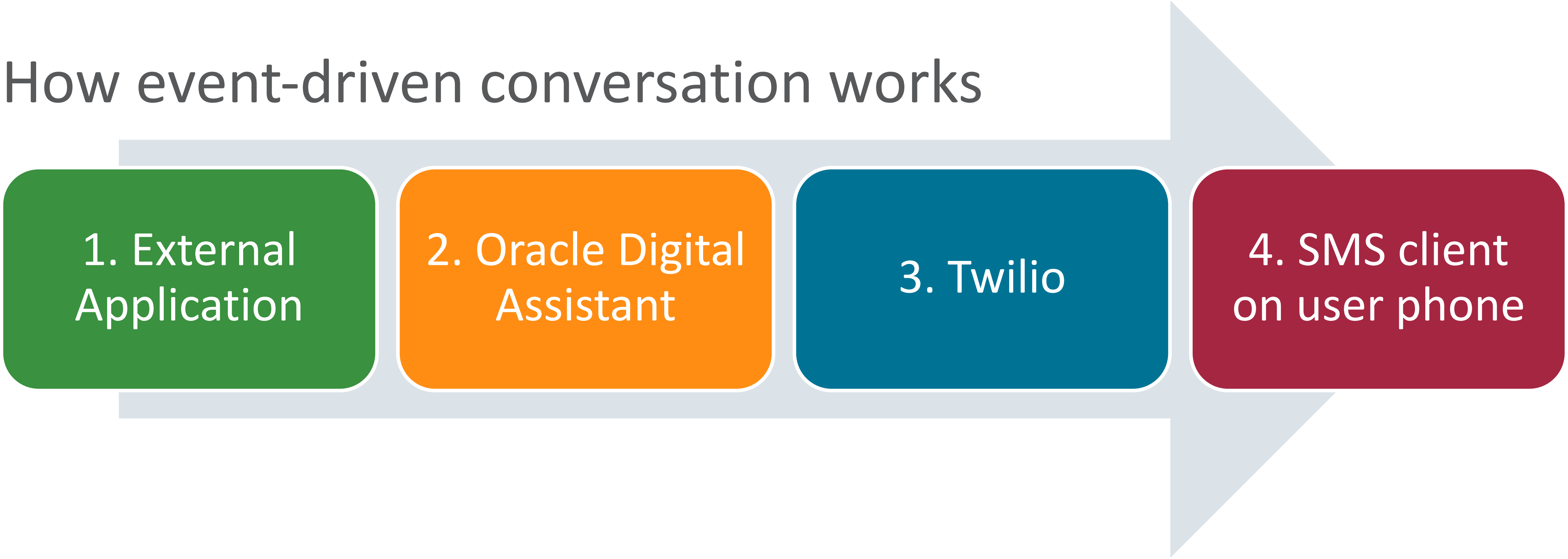
Actors involved

1. External Application
2. Oracle Digital Assistant
3. Twilio
4. SMS client on user phone

How event-driven conversation works



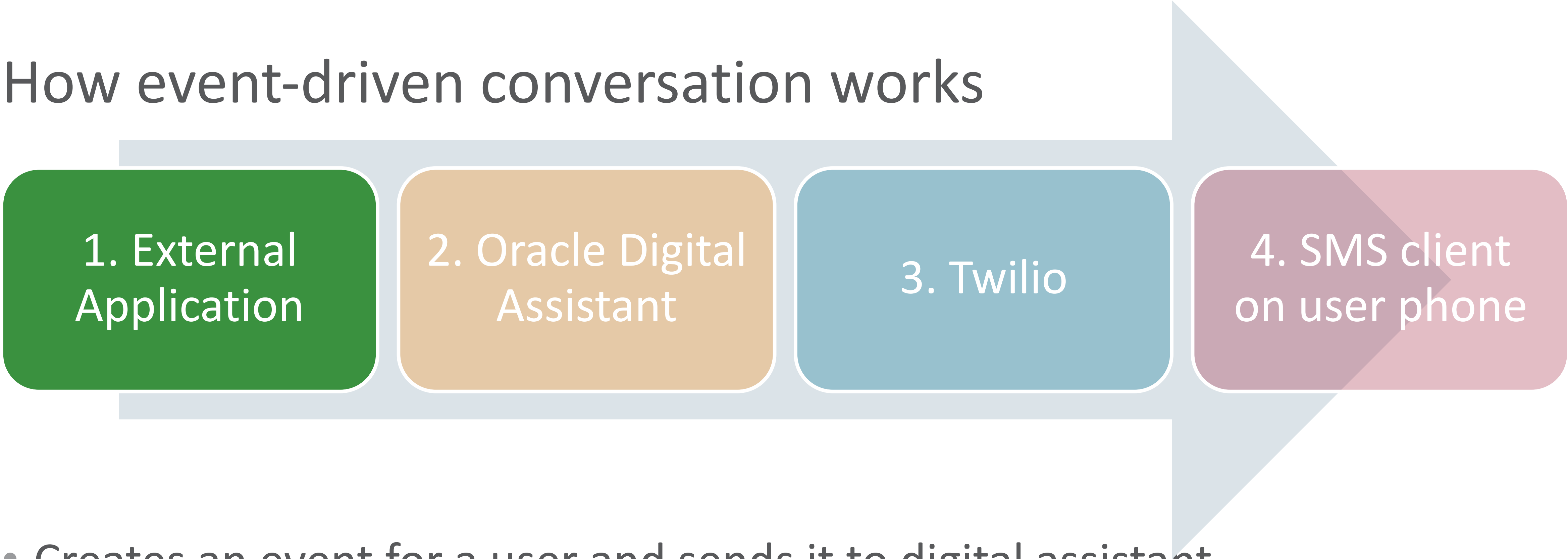
1. External Application

2. Oracle Digital Assistant

3. Twilio

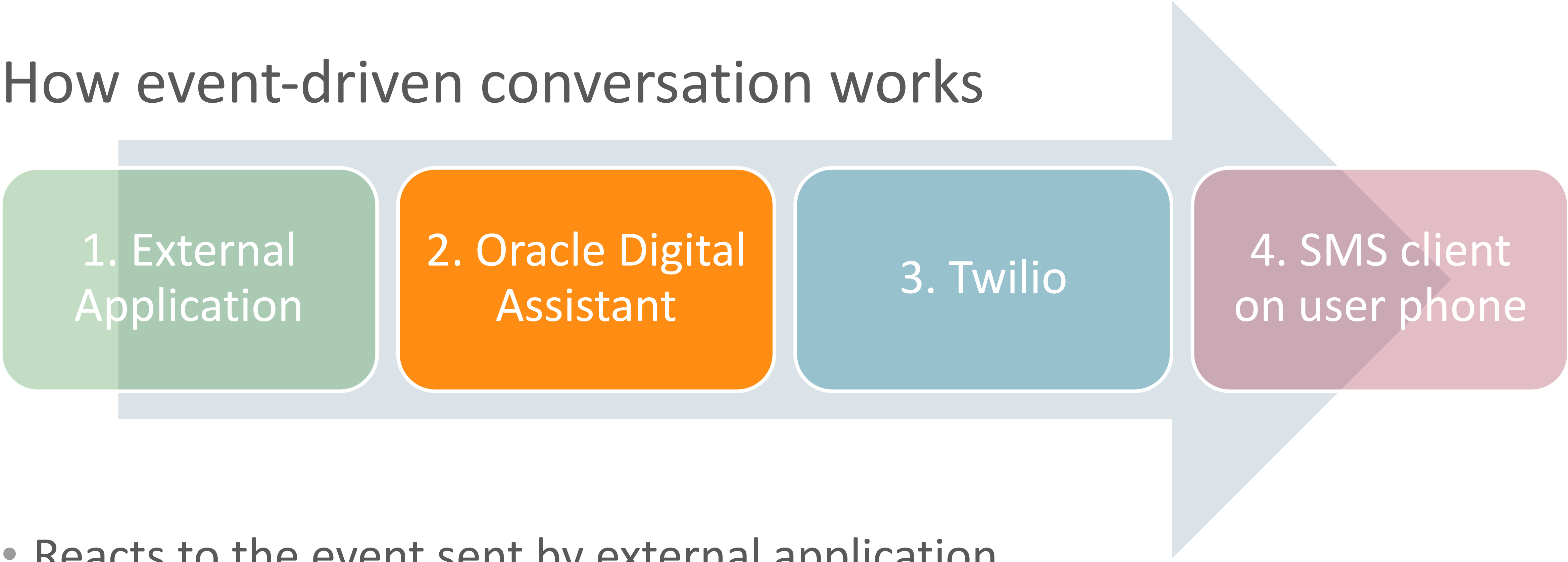
4. SMS client on user phone

How event-driven conversation works



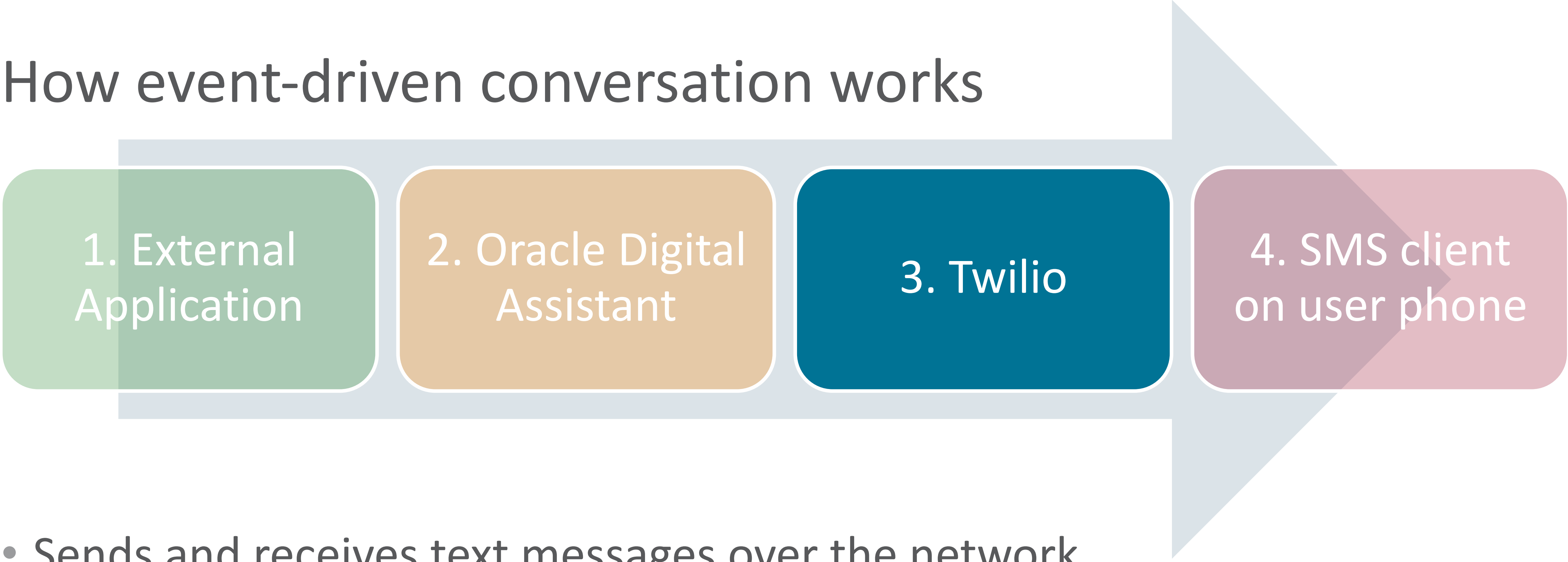
- Creates an event for a user and sends it to digital assistant
  - E.g: Dental care backend system generating appointment reminders for user

How event-driven conversation works



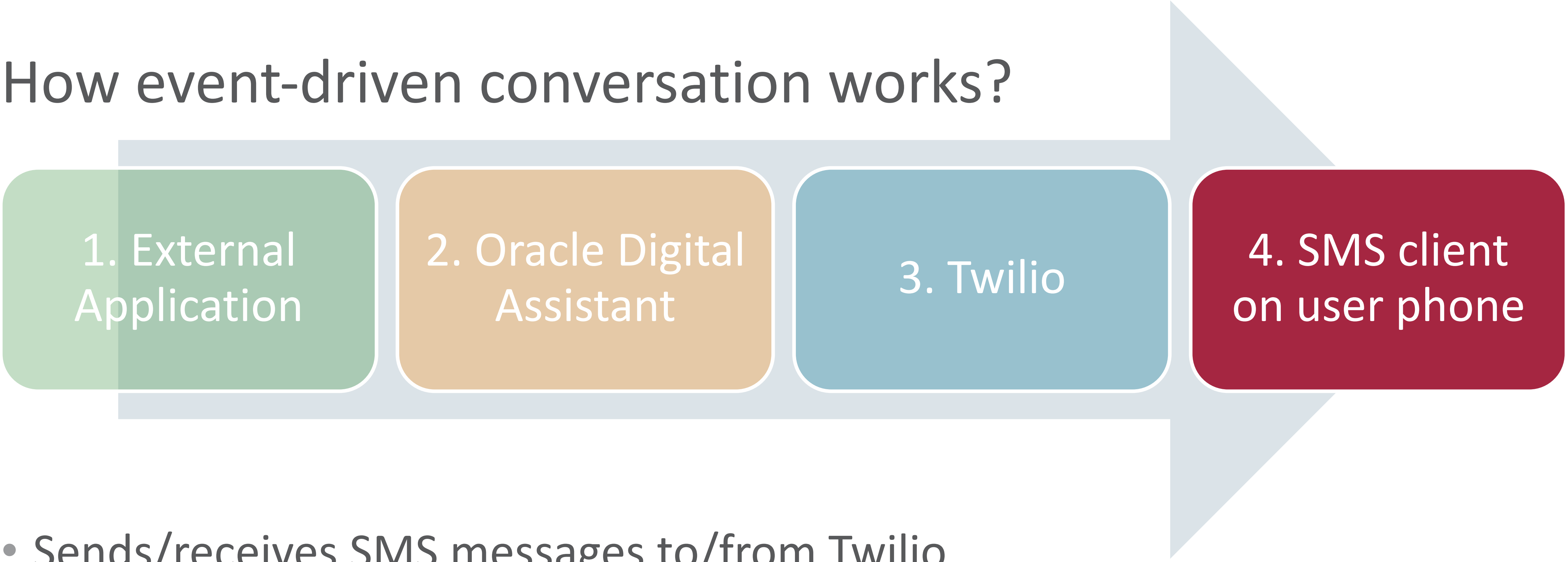
- Reacts to the event sent by external application
- Depending on the event, this app invokes a skill at a specific state
- Sends message to the user and waits at this state

How event-driven conversation works



- Sends and receives text messages over the network

How event-driven conversation works?



- Sends/receives SMS messages to/from Twilio

Application **initiated conversation need to be configured** for the skill and digital assistant.

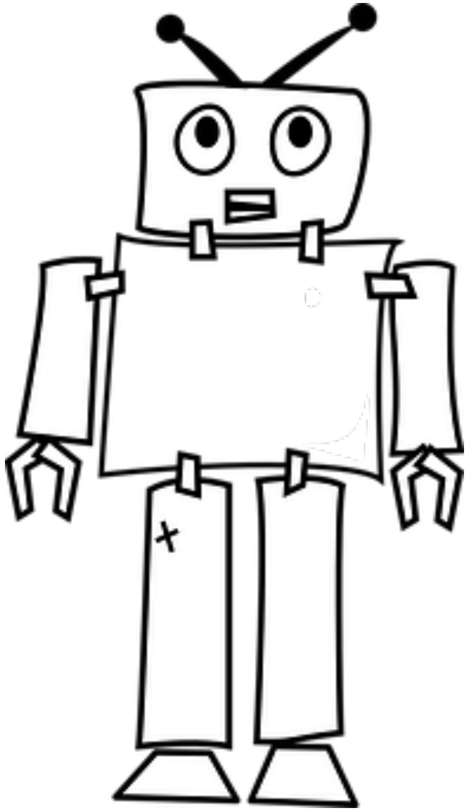


Image courtesy of pixabay.com

Topic agenda

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Application initiated conversation set up

1. Oracle Digital Assistant

2. Twilio

3. External Application

4. SMS client on user phone

Application initiated conversation set up

1. Oracle Digital Assistant

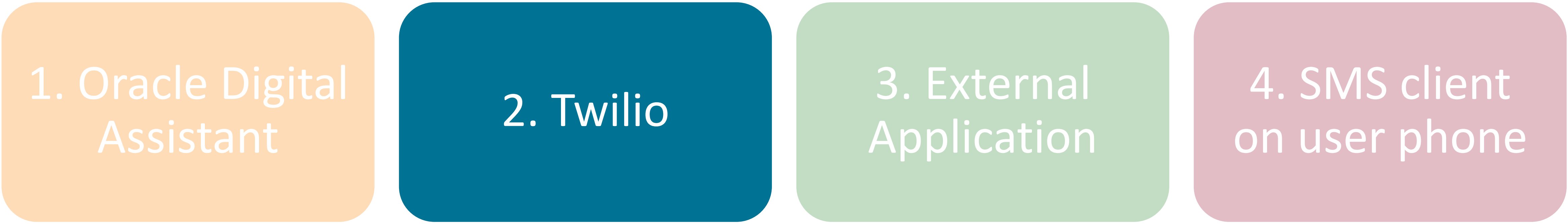
2. Twilio

3. External Application

4. SMS client on user phone

- Configure application channel
  - – Allows the application to talk to Oracle Digital Asssistant
- Configure Twilio SMS channel
  - – Allows Oracle Digital Assistant to communicate on an SMS channel
- Add payload-to-state mapping

Application initiated conversation set up



- Configure SMS enabled Twilio number
- Link skill to the Twilio number

Application initiated conversation set up

1. Oracle Digital Assistant

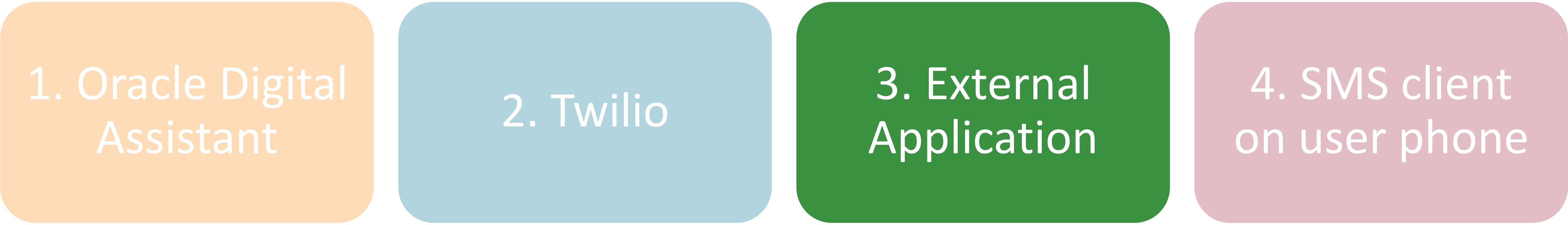
2. Twilio

3. External Application

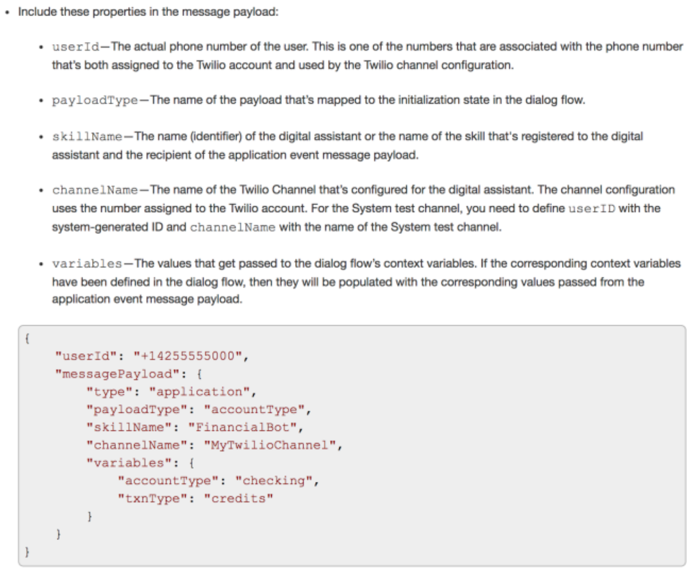
4. SMS client on user phone

- Configure external application
  - External application sends specific event with parameters

Application initiated conversation set up



- Configure external application
  - External application sends specific event with parameters
  - Payload documentation
  - https://docs.oracle.com/en/cloud/paas/digital-assistant/use-chatbot/application-initiated-conversations.html#GUID-5DF067AA-E30B-4711-9C95-CEEE91F5F99B



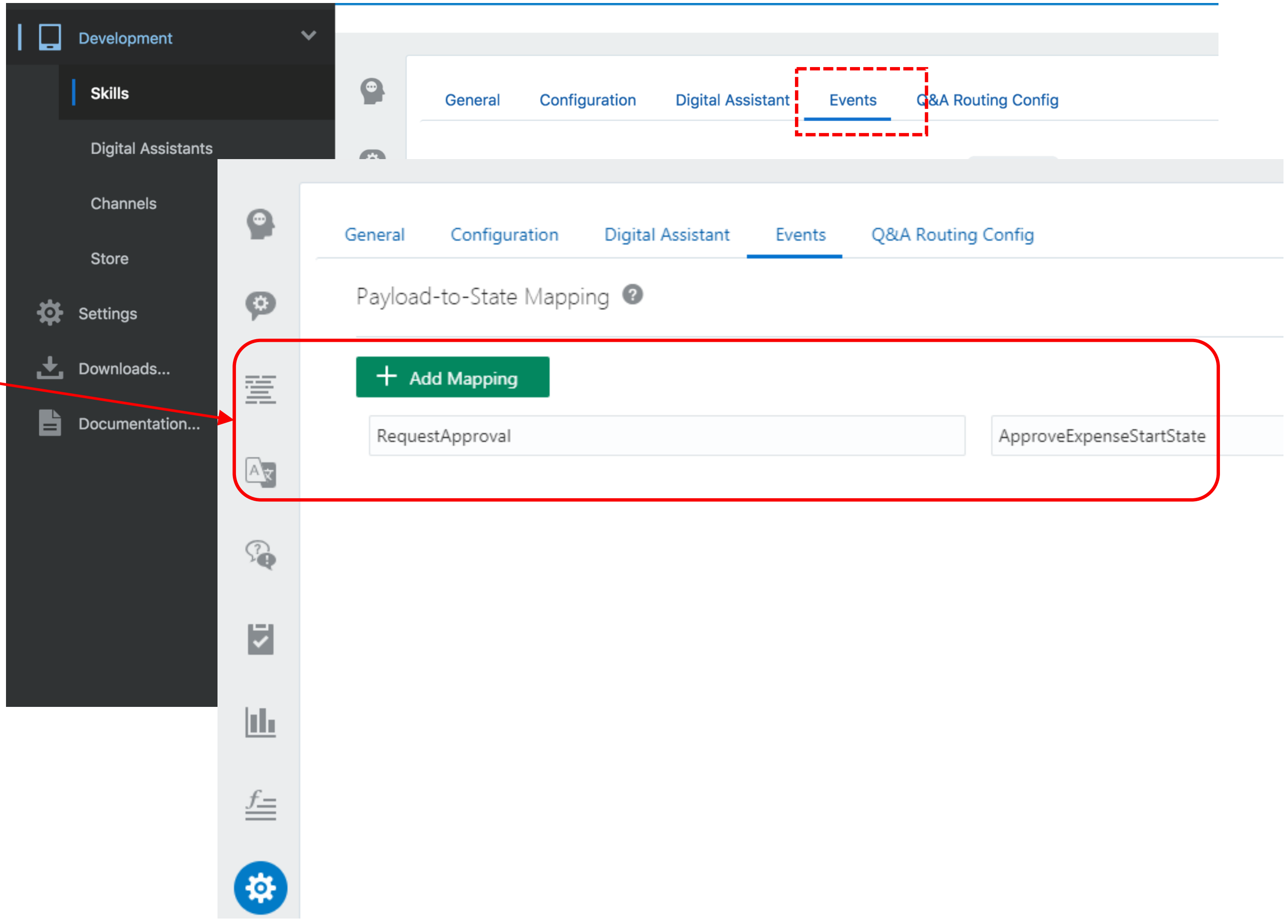
- Include these properties in the message payload:
  - `userId`—The actual phone number of the user. This is one of the numbers that are associated with the phone number that's both assigned to the Twilio account and used by the Twilio channel configuration.
  - `payloadType`—The name of the payload that's mapped to the initialization state in the dialog flow.
  - `skillName`—The name (identifier) of the digital assistant or the name of the skill that's registered to the digital assistant and the recipient of the application event message payload.
  - `channelName`—The name of the Twilio Channel that's configured for the digital assistant. The channel configuration uses the number assigned to the Twilio account. For the System test channel, you need to define `userID` with the system-generated ID and `channelName` with the name of the System test channel.
  - `variables`—The values that get passed to the dialog flow's context variables. If the corresponding context variables have been defined in the dialog flow, then they will be populated with the corresponding values passed from the application event message payload.

```
{
    "userId": "+14255555000",
    "messagePayload": {
        "type": "application",
        "payloadType": "accountType",
        "skillName": "FinancialBot",
        "channelName": "MyTwilioChannel",
        "variables": {
            "accountType": "checking",
            "txnType": "credits"
        }
    }
}
```

Configure skill – add payload to state mapping

What does message payload look like?

```
{
  "userId": "+919871996112",

  "messagePayload": {

    "type": "application",

    "payloadType": "RequestApproval",

    "skillName": "ExpenseBot",

    "channelName": "twiliosms_ch",

    "variables": {
      ”approvalType": "expense"
    }

  }
```



Payload-to-State Mapping

RequestApproval | ApproveExpenseStartState

Image courtesy of pixabay.com

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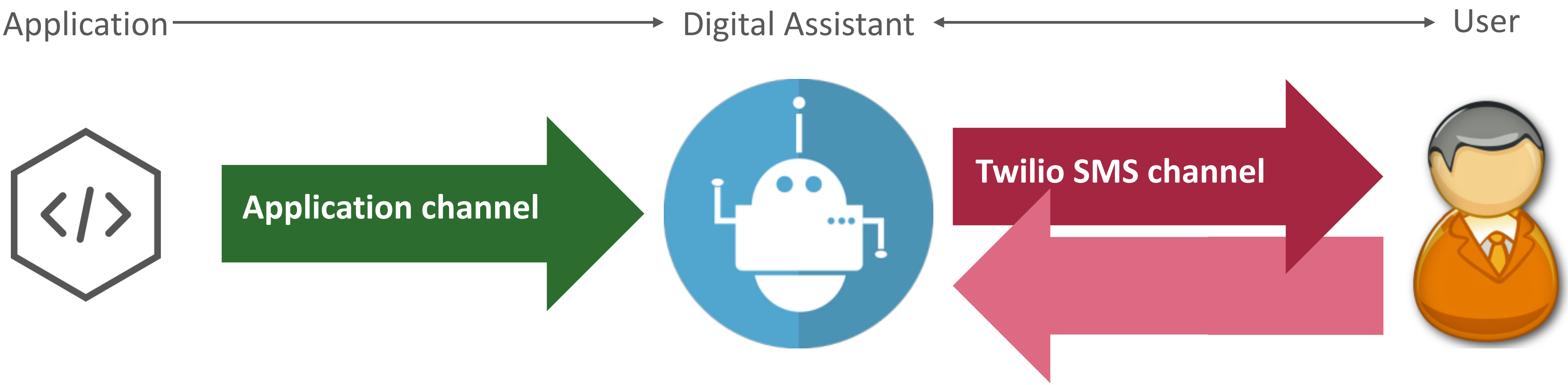
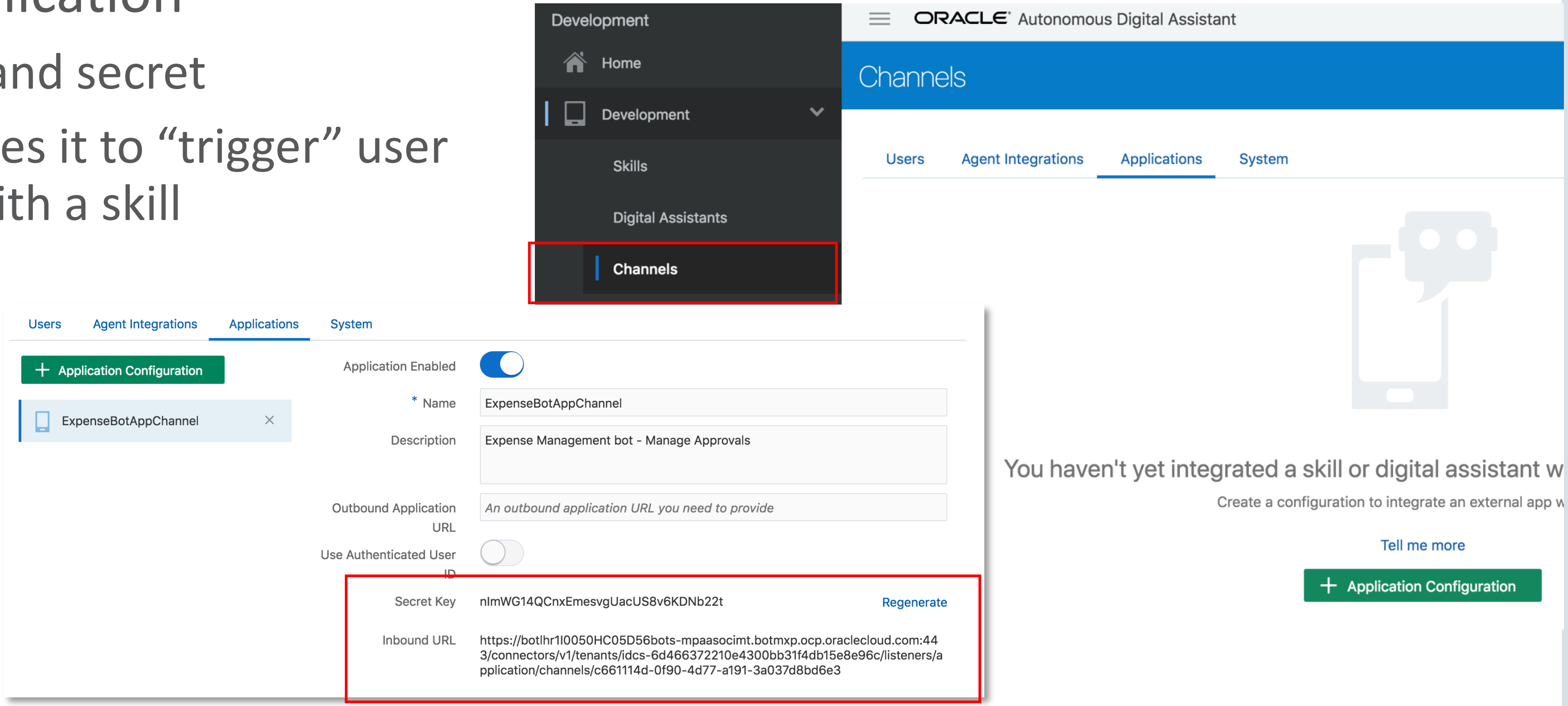
Channels to setup



Application channel configuration

- Application channel exposes skill to external application
  - Results in URL and secret
  - External app uses it to “trigger” user conversation with a skill


Development
Home
Development
Skills
Digital Assistants
Channels
ORACLE Autonomous Digital Assistant
Channels
Users
Agent Integrations
Applications
System
You haven't yet integrated a skill or digital assistant w
Create a configuration to integrate an external app w
Tell me more
+ Application Configuration
Users
Agent Integrations
Applications
System
+ Application Configuration
ExpenseBotAppChannel ×

Application Enabled: ●

* Name: ExpenseBotAppChannel

Description: Expense Management bot - Manage Approvals

Outbound Application URL: *An outbound application URL you need to provide*

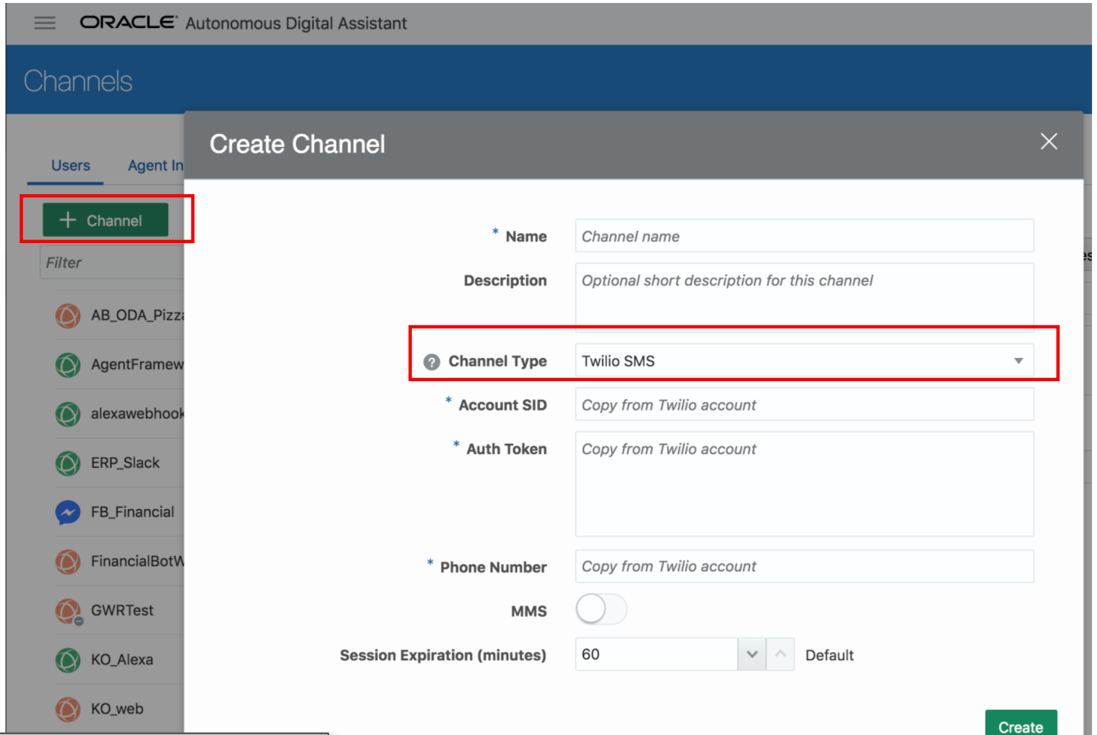
Use Authenticated User ID: ○

Secret Key: nlmWG14QCnxEmesvgUacUS8v6KDNb22t Regenerate

Inbound URL: https://botlhr1I0050HC05D56bots-mpaasocimt.botmxp.ocp.oraclecloud.com:443/connectors/v1/tenants/idcs-6d466372210e4300bb31f4db15e8e96c/listeners/application/channels/c661114d-0f90-4d77-a191-3a037d8bd6e3

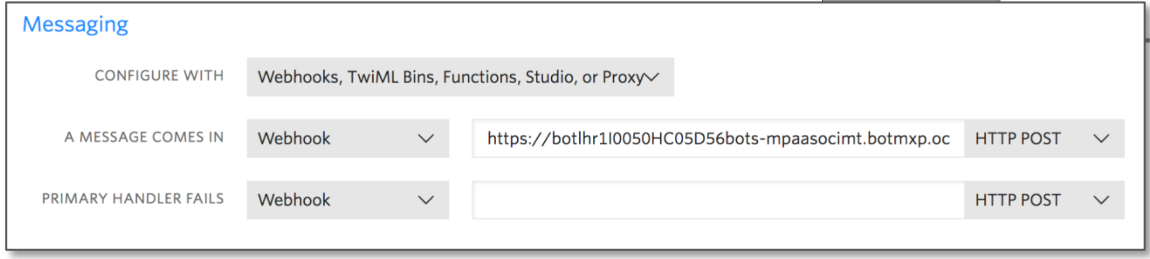
Twilio SMS channel

- User channel exposes skill to Twilio SMS service
  - Allows skill to communicate with user via SMS
  - Twilio account required
  - Provide Twilio account SID and token
- Provide webhook URL to Twilio
  - Added to "A Message Comes In" field



Create Channel

* Name	Channel name
Description	Optional short description for this channel
Channel Type	Twilio SMS
* Account SID	Copy from Twilio account
* Auth Token	Copy from Twilio account
* Phone Number	Copy from Twilio account
MMS	○
Session Expiration (minutes)	60 Default



Messaging

CONFIGURE WITH	Webhooks, TwiML Bins, Functions, Studio, or Proxy		
A MESSAGE COMES IN	Webhook	https://botlhr1I0050HC05D56bots-mpaasocimt.botmxp.oc	HTTP POST
PRIMARY HANDLER FAILS	Webhook		HTTP POST

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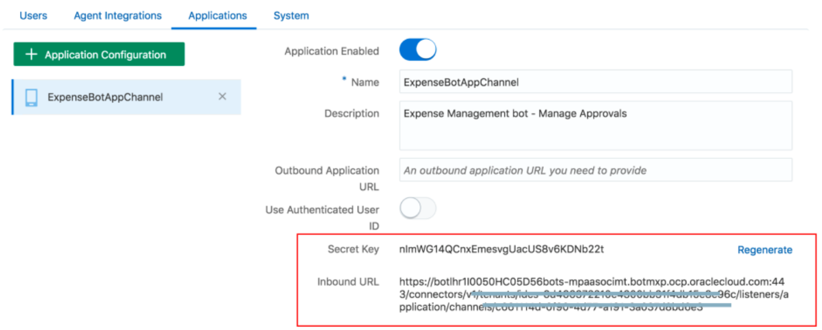
Configuring external application

- External application needs to know
  - Inbound URL and secret from application channel
  - Twilio SMS channel name
  - Phone number of person receiving the SMS
  - Skill payload name
  - Digital assistant or skill name with version



Application Enabled: on

* Name: ExpenseBotAppChannel

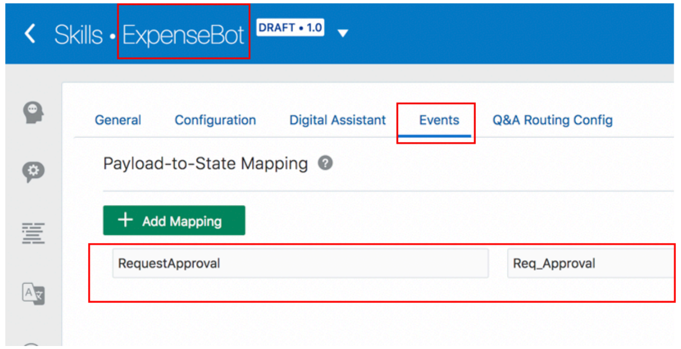
Description: Expense Management bot - Manage Approvals

Outbound Application URL: *An outbound application URL you need to provide*

Use Authenticated User ID: off

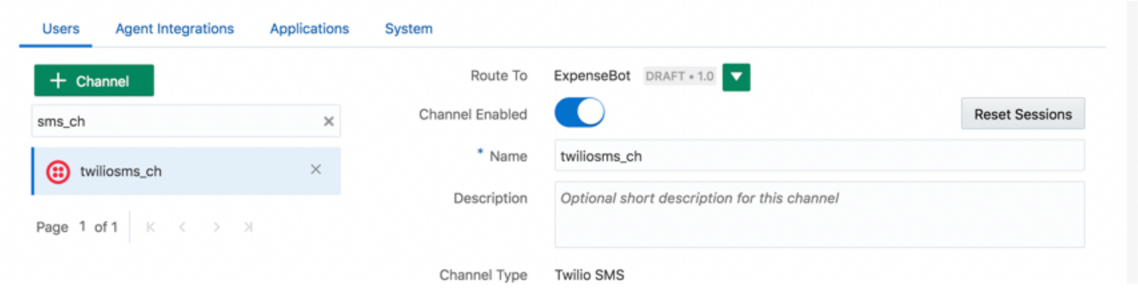
Secret Key: nlmWG14QCnxEmesvgUacUS8v6KDNb22t

Inbound URL: https://botlhr1I0050HC05D56bots-mpaasocimt.botmxp.ocp.oraclecloud.com:443/connectors/v[redacted]96c/listeners/application/channe[redacted]



Payload-to-State Mapping

RequestApproval	Req_Approval



Route To: ExpenseBot DRAFT • 1.0

Channel Enabled: on

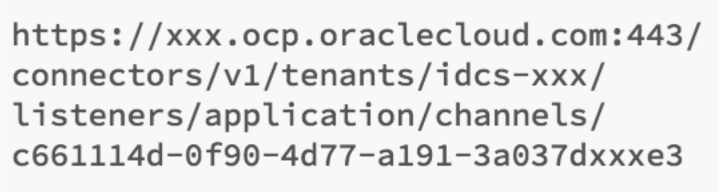
* Name: twiliosms_ch

Description: *Optional short description for this channel*

Channel Type: Twilio SMS

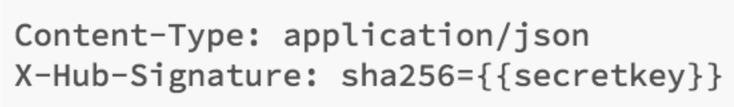
External application inbound message

- POST URL
  - Will be Application type channel’s inbound URL



```
https://xxx.ocp.oraclecloud.com:443/
connectors/v1/tenants/idcs-xxx/
listeners/application/channels/
c661114d-0f90-4d77-a191-3a037dxxxe3
```

- Headers
  - X-Hub-Signature header with the message signature signed with SHA256

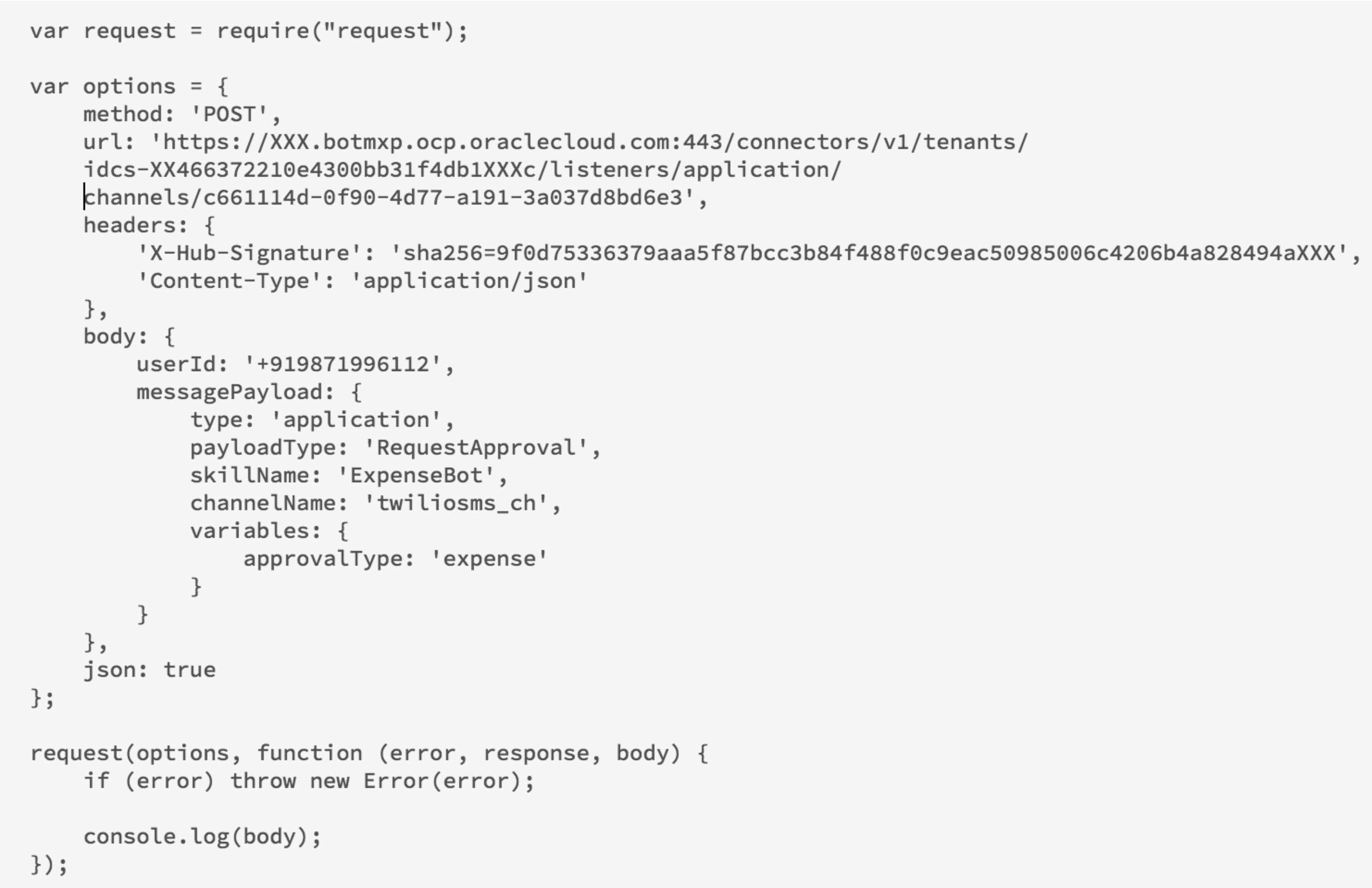


```
Content-Type: application/json
X-Hub-Signature: sha256={{secretkey}}
```

- Message Payload

```
{
 "userId": "+919871996112",
 "messagePayload": {
  "type": "application",
  "payloadType": ”RequestApproval",
  "skillName": “ExpenseBot",
  "channelName": “twiliosms_ch",
  "variables": {
   ”approvalType": ”expense”
  }
 }
}
```

Sample request code snippet



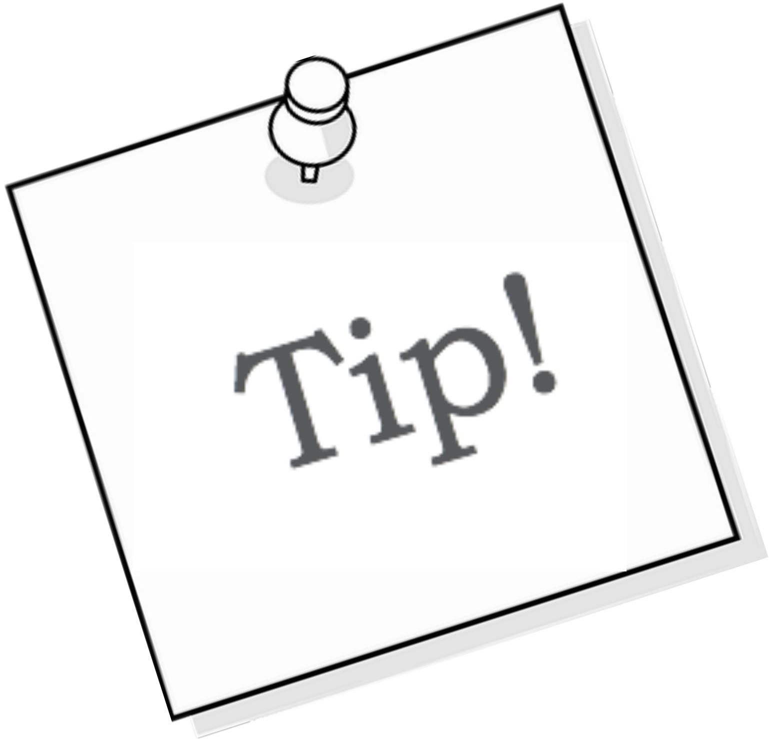
```
var request = require("request");

var options = {
    method: 'POST',
    url: 'https://XXX.botmxp.ocp.oraclecloud.com:443/connectors/v1/tenants/
    idcs-XX466372210e4300bb31f4db1XXXc/listeners/application/
    channels/c661114d-0f90-4d77-a191-3a037d8bd6e3',
    headers: {
        'X-Hub-Signature': 'sha256=9f0d75336379aaa5f87bcc3b84f488f0c9eac50985006c4206b4a828494aXXX',
        'Content-Type': 'application/json'
    },
    body: {
        userId: '+919871996112',
        messagePayload: {
            type: 'application',
            payloadType: 'RequestApproval',
            skillName: 'ExpenseBot',
            channelName: 'twiliosms_ch',
            variables: {
                approvalType: 'expense'
            }
        }
    },
    json: true
};

request(options, function (error, response, body) {
    if (error) throw new Error(error);

    console.log(body);
});
```

Response status codes



- 202 Accepted – Request accepted
- 403 Forbidden – X-Hub-Signature is incorrect
- 404 Not found – POST URL is incorrect

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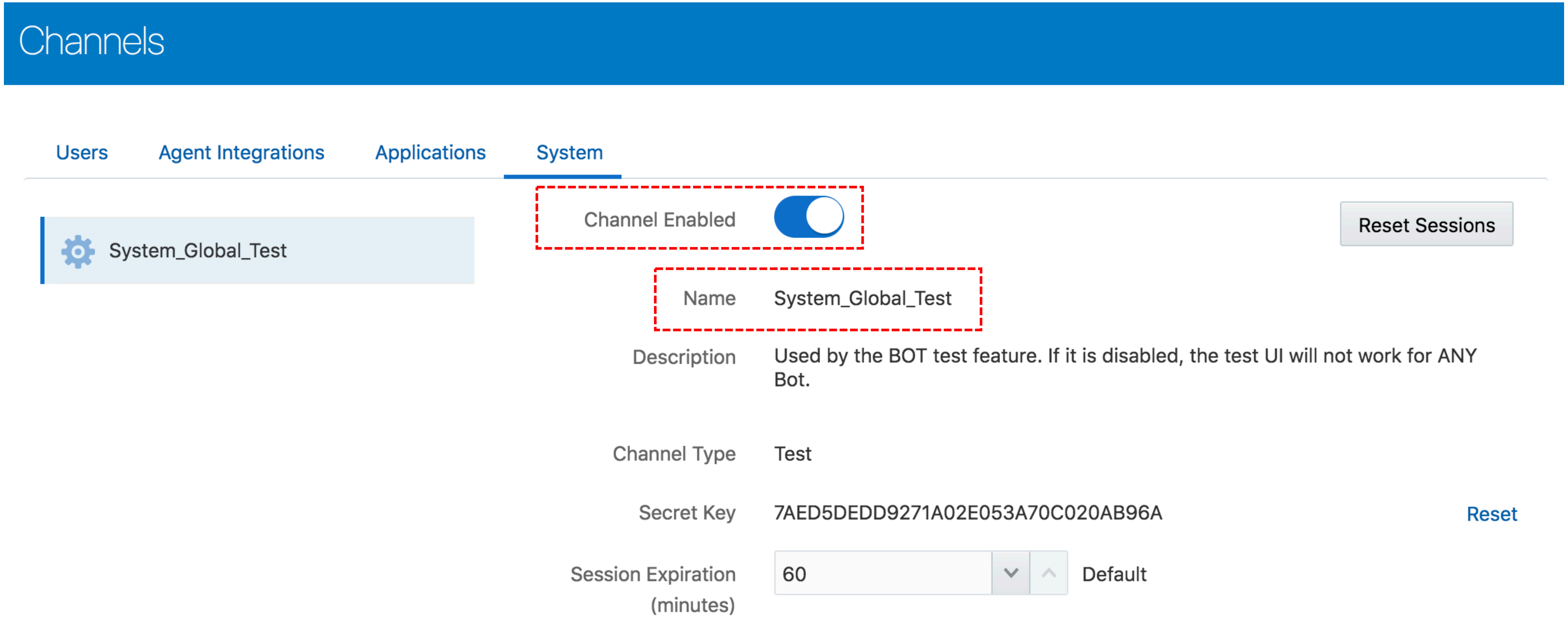
How to use embedded tester to test SMS

Get internal tester name



Channel Enabled

Name System_Global_Test

Description Used by the BOT test feature. If it is disabled, the test UI will not work for ANY Bot.

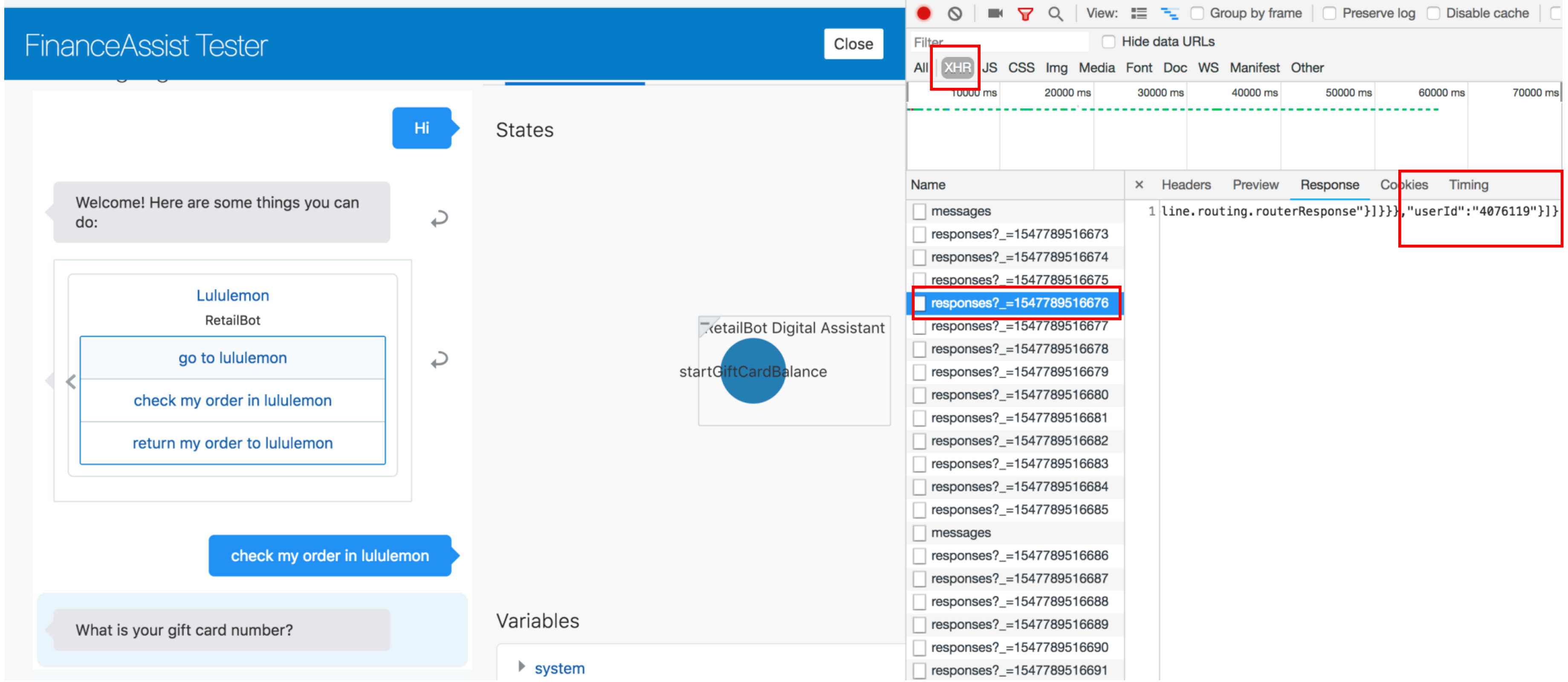
Channel Type Test

Secret Key 7AED5DEDD9271A02E053A70C020AB96A

Session Expiration (minutes) 60 Default

How to use embedded tester to test SMS

Find user ID for system test channel



FinanceAssist Tester

Close

Hi

Welcome! Here are some things you can do:

Lululemon

RetailBot

go to lululemon

check my order in lululemon

return my order to lululemon

check my order in lululemon

What is your gift card number?

States

RetailBot Digital Assistant

startGiftCardBalance

Variables

system

Filter □ Hide data URLs

All XHR JS CSS Img Media Font Doc WS Manifest Other

□ Group by frame □ Preserve log □ Disable cache

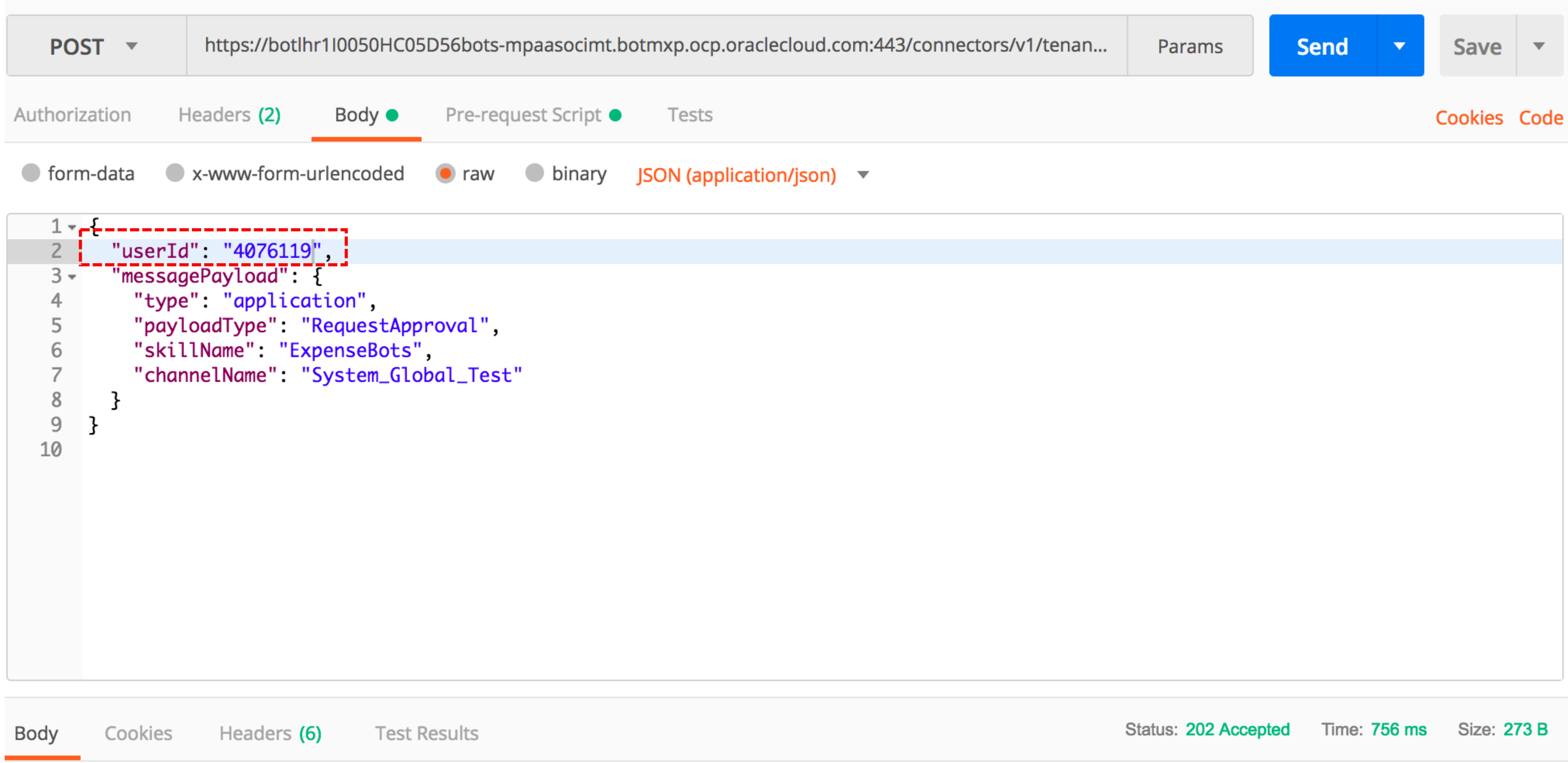
Name | Headers | Preview | Response | Cookies | Timing

```
line.routing.routerResponse"}]}}},"userId":"4076119"}]}
```

messages
responses?_=1547789516673
responses?_=1547789516674
responses?_=1547789516675
responses?_=1547789516676
responses?_=1547789516677
responses?_=1547789516678
responses?_=1547789516679
responses?_=1547789516680
responses?_=1547789516681
responses?_=1547789516682
responses?_=1547789516683
responses?_=1547789516684
responses?_=1547789516685
messages
responses?_=1547789516686
responses?_=1547789516687
responses?_=1547789516688
responses?_=1547789516689
responses?_=1547789516690
responses?_=1547789516691

How to use embedded tester to test SMS

Message payload



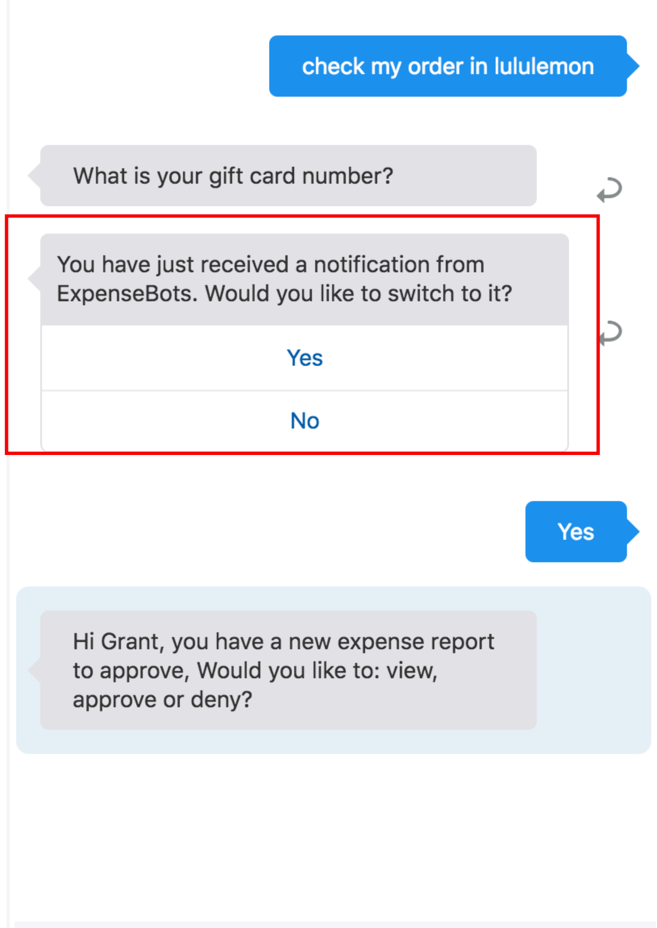
POST https://botlhr1I0050HC05D56bots-mpaasocimt.botmxp.ocp.oraclecloud.com:443/connectors/v1/tenan...

○ form-data ○ x-www-form-urlencoded ● raw ○ binary JSON (application/json)

```
{
  "userId": "4076119",
  "messagePayload": {
    "type": "application",
    "payloadType": "RequestApproval",
    "skillName": "ExpenseBots",
    "channelName": "System_Global_Test"
  }
}
```

Status: 202 Accepted Time: 756 ms Size: 273 B

How to use embedded tester to test SMS



check my order in lululemon

What is your gift card number?

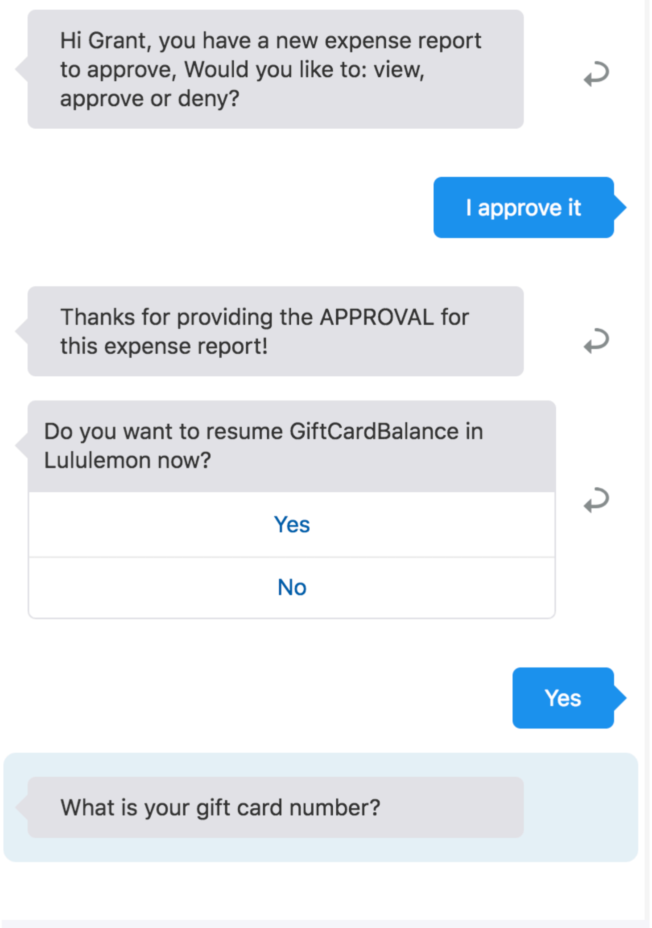
You have just received a notification from ExpenseBots. Would you like to switch to it?

Yes

No

Yes

Hi Grant, you have a new expense report to approve, Would you like to: view, approve or deny?



Hi Grant, you have a new expense report to approve, Would you like to: view, approve or deny?

I approve it

Thanks for providing the APPROVAL for this expense report!

Do you want to resume GiftCardBalance in Lululemon now?

Yes

No

Yes

What is your gift card number?

Integrated Cloud

Applications & Platform Services

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Oracle Digital Assistant Hands-On