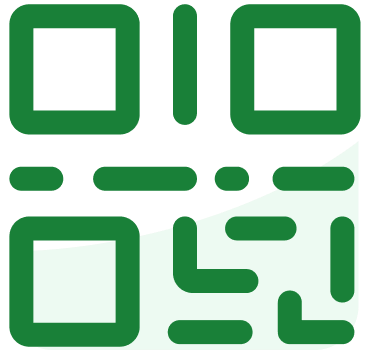


slido



Join at slido.com
#2444177

ⓘ Start presenting to display the joining instructions on this slide.



Webex Contact Center APIs

Kevin Simpson, Technical Leader
Jim Wyatt, Technical Leader

slido



How familiar are you with the Contact Center APIs

ⓘ Start presenting to display the poll results on this slide.

API Fundamentals

Lightning Round – Acronyms!

Demystifying Terms

REpresentational State Transfer

RESTful

Simple ask and answer, like asking for the blue pen on the table.

Going to a website is a “GET” rest call.

Lightning Round – Acronyms!

Demystifying Terms

Full Duplex HTTPS 1.1 Upgrade

Websockets

Is like either listening to the radio (one way) or talking on the phone (two way), it is a dedicated communication channel that is used to stream data.

Lightning Round – Acronyms!

Demystifying Terms

HTTPS POST Event to your App

Webhooks

Like a doorbell to let you know that someone is here, or something happened, and you need to take an action.

Lightning Round – Acronyms!

Demystifying Terms

HTTP 429 – Too Many Requests

Rate Limiting

Like a circuit breaker, it stops the flow of requests to protect the system.

Lightning Round – Acronyms!

Demystifying Terms

JavaScript Object Notation

JSON

Dictionary style list of lists – OR a moving box that can have additional boxes inside which contain other items.

Addressed like `Truck.box[0].officeSupplies.pens.blue`

Lightning Round – Acronyms!

Demystifying Terms

JavaScript Object Notation

JSON



Lightning Round – Acronyms!

Demystifying Terms

Graph Query Language

GraphQL

Enables declarative data fetching where a client can specify exactly what data it needs from an API.
Let's you “ask a question” and only receive the details that you want.

Lightning Round – Acronyms!

Demystifying Terms

Open Authorization 2

OAuth2

Uses Tokens instead of passwords.

Like Airbnb – owner uses their “key” to create a door code.

You use that to access the property.

When the code expires, you no longer have access, and
you never touch the owner’s key!

Available APIs

APIs Available today

Configuration

Reporting

Agent/Supervisor

Contact Control

Events

APIs Available today



Desktop Experience:

- DESKTOP EXPERIENCE
- Multimedia Profiles
- Outdial ANI
- Desktop Layouts
- Dial Plans
- Address Books
- Desktop Profiles
- Idle/Wrap-up Codes

User Management:

- USER MANAGEMENT
- Sites
- Skill Definitions
- Skill Profiles
- Teams
- User Profiles
- Contact Center Users

Customer Experience:

- CUSTOMER EXPERIENCE
- Channels
- Queues
- Business Hours
- Audio Prompts
- Flows
- Call Recording Schedul...

APIs Available today



Desktop Experience:

- Multimedia Profile
- Outdial ANI
- Contact Number
- Desktop Layout
- Dial Plan
- Address Book
- Desktop Profile
- Auxiliary Code
- Work Types

User Management:

- Site
- Skill
- Skill Profile
- Team
- User Profile
- Users

Customer Experience:

- Entry Point
- Dial Number
- Contact Service Queue
- Business Hour
- Holiday List
- Overrides
- Audio Files
- Flow
- Global variables

APIs Available today



Get Queue Statistics:

Retrieve Queue statistics for a given interval of time

Estimated Waiting Time:

Computes the approximate amount of time a task has to wait in a queue before being answered by an agent.

Get Agents statistics:

Retrieve Agent statistics information for specified time duration and interval.

Get Agent Activities:

Retrieve agent activity information for specified time duration and interval.

List Captures:

Retrieve a list of Captures given a set of task IDs

Get Tasks:

Retrieve open and closed tasks for specified time duration and channel type.

APIs Available today



Task Webhooks:

- Task Conference Done
- Task Conferencing
- Task Connect
- Task Connected
- Task Consult Done
- Task Consulting
- Task Ended
- Task Hold Done
- Task New
- Task On Hold
- Task Parked

Agent Webhooks:

- Agent Login
- Agent Logout
- Agent State Change

Captures Webhooks:

- Capture Available

APIs Available today



Search API:

GraphQL endpoint to query declarative data fetching.

- Verbosely query data
- Return only the data you need
- Can return
 - value of
 - aggregation
 - a combination of both

APIs Available today



Agent Control:

- Buddy Agents List
- Login
- Logout
- Reload
- State Change

Call Monitoring:

- Delete Monitoring Request
- Barge In Request
- Fetch Monitoring Request
- Fetch Monitoring Sessions

APIs Available today



Agent Control:

- Buddy Agents List
- Login
- Logout
- Reload
- State Change

Call Monitoring:

- Delete Monitoring Request
- Barge In Request
- Fetch Monitoring Request
- Fetch Monitoring Sessions

Notification:

- Responses to Agent Control
- Responses to Call Monitoring

APIs Available today



Tasks:

- Create Task
- Update Task
- Accept Task
- Consult Task
- Consult Accept Task
- Consult Conference Task
- Consult End Task
- Consult Transfer Task
- End Task
- Hold Task
- Pause Recording Task
- Resume Recording Task
- Reject Task
- Transfer Task
- Resume Task
- Wrap Up Task

APIs Available today



Tasks:

- ~~Create Task~~
- Update Task
- Accept Task
- Consult Task
- Consult Accept Task
- Consult Conference Task
- Consult End Task
- Consult Transfer Task
- End Task
- Hold Task
- Pause Recording Task
- Resume Recording Task
- Reject Task
- Transfer Task
- Resume Task
- Wrap Up Task

Notification:

- Response to all task calls except Create Task

Authenticate my app

OAuth 2.0

Webex OAuth2 Mechanism – Overview

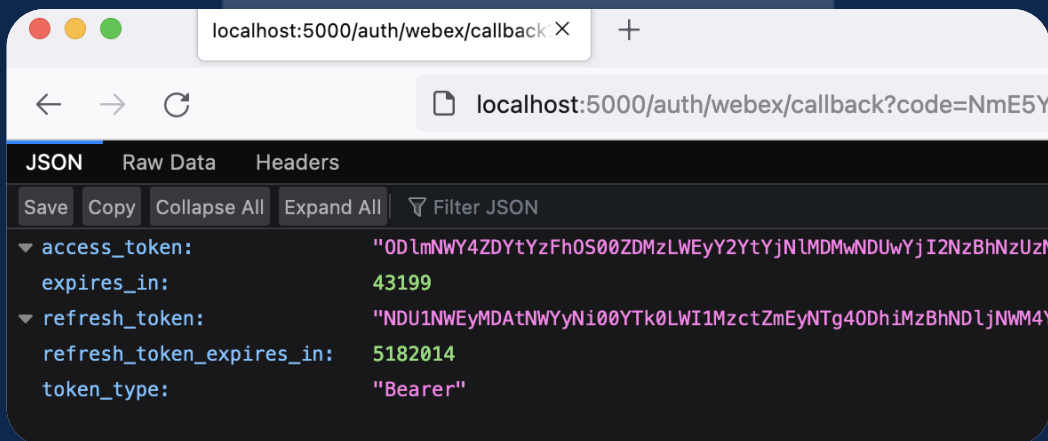


1. Create an integration to obtain client id and client secret.

2. Once you obtain an Org's **access_token** and **refresh_token**, you can access their data.

3. Use the **access_token** (expires after 12 hours) to access the APIs.

4. Use the **refresh_token** (expires after 60 days) to get another **access_token**.



OAuth2 Access Token Flow

Webex Common
Identity
(Login with Webex)

Your
Application

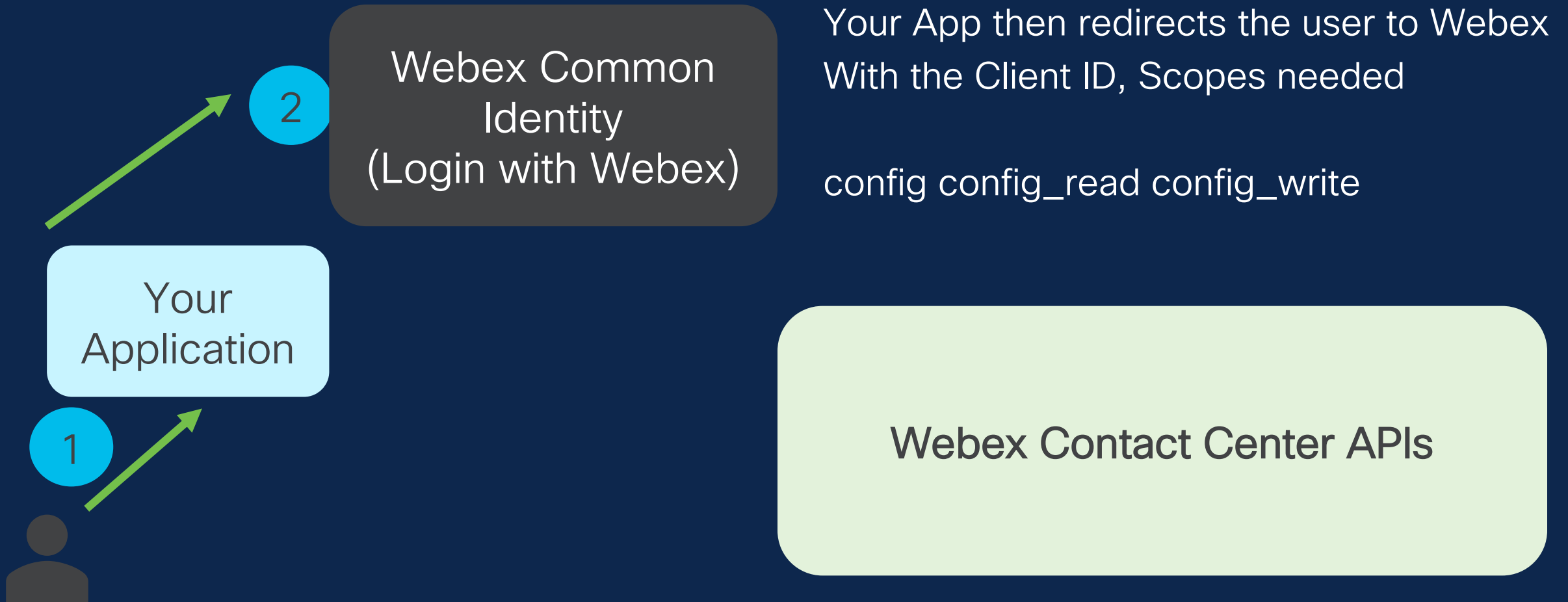
1

Create integration
The User first Reaches Your App
<https://your-app.com>

- User Profiles and Scopes apply.
- You need a Contact Center Administrator Role to Read and Write to all endpoints.

Webex Contact Center APIs

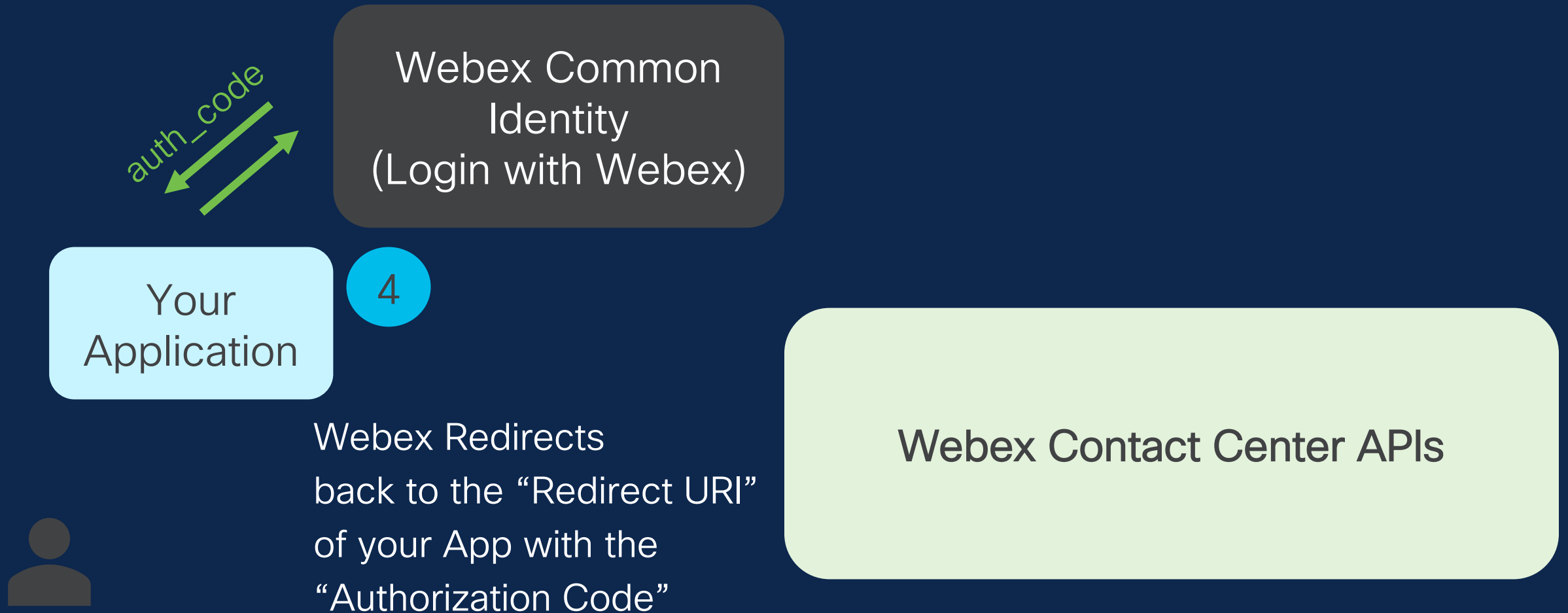
OAuth2 Access Token Flow



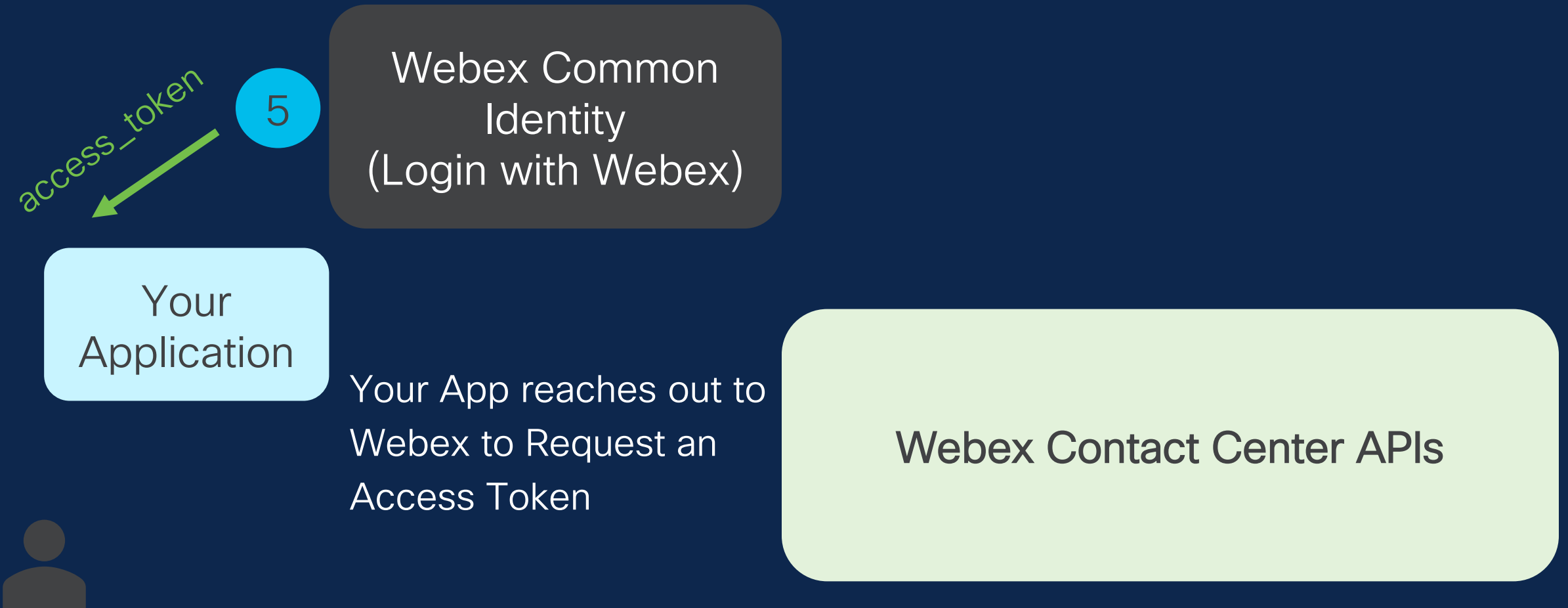
OAuth2 Access Token Flow



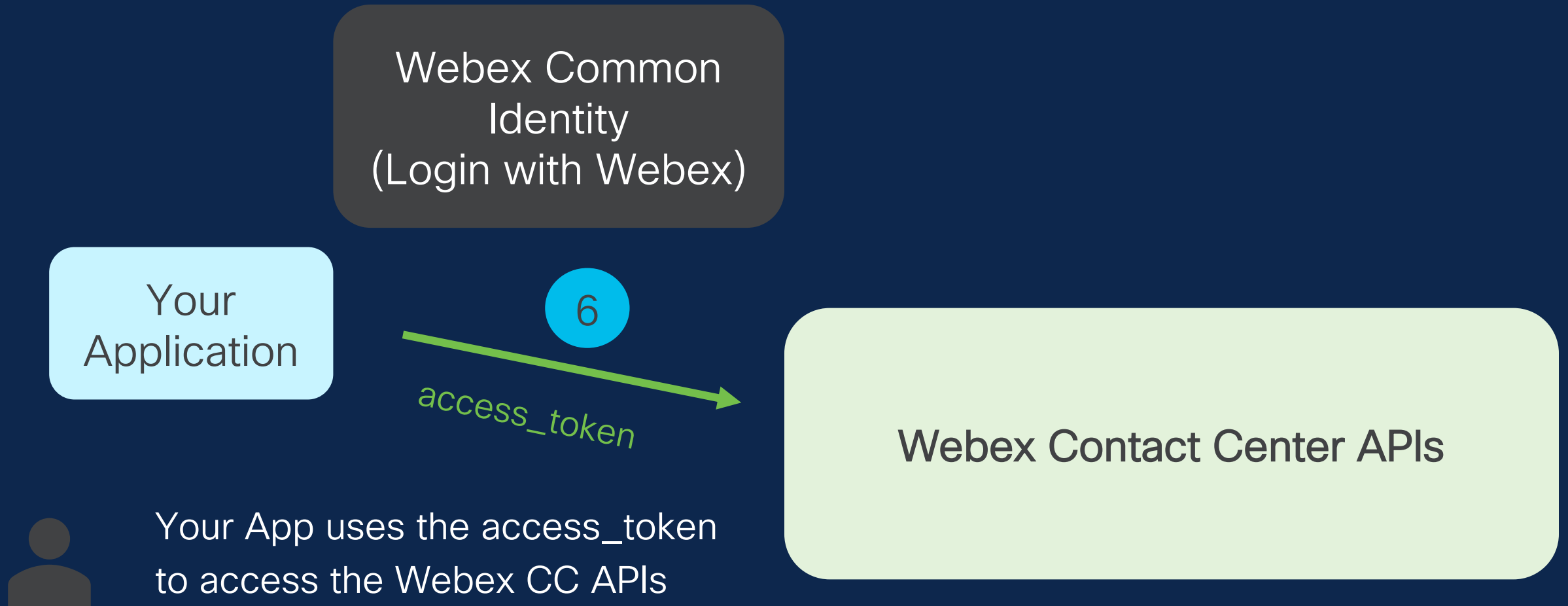
OAuth2 Access Token Flow



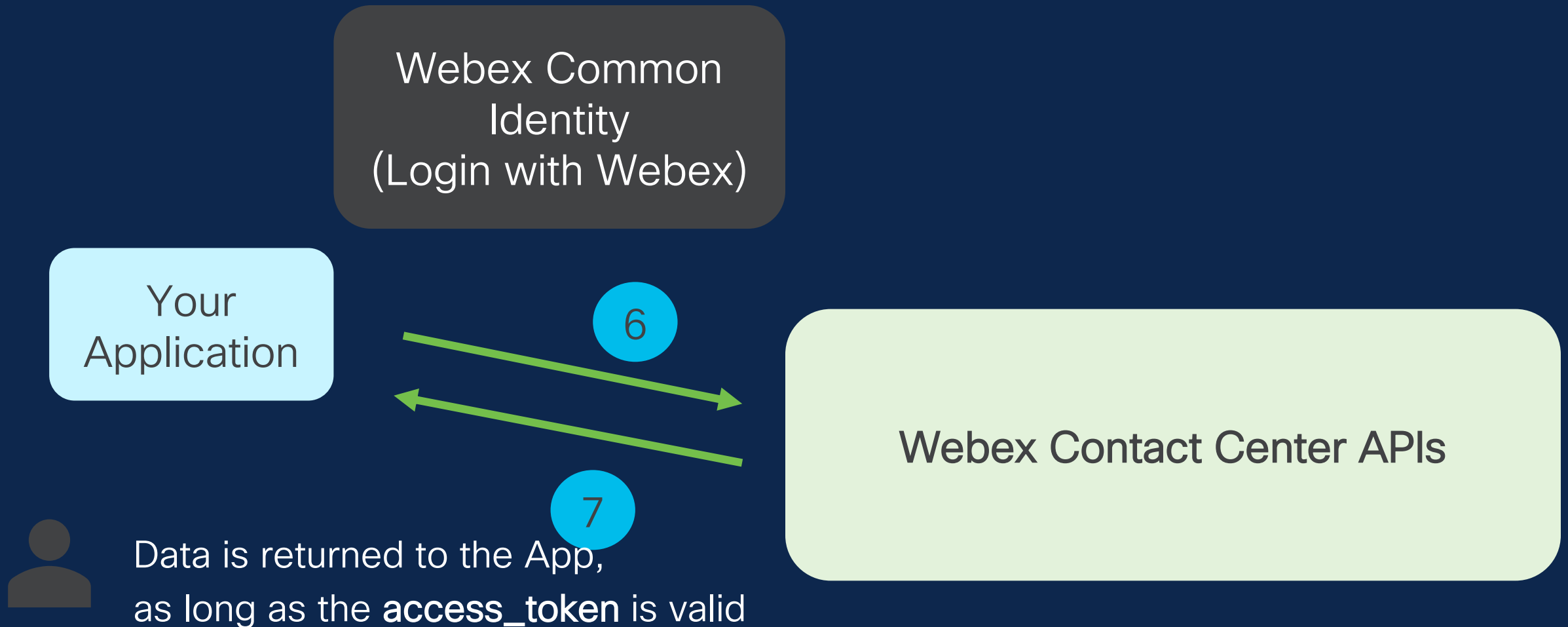
OAuth2 Access Token Flow



OAuth2 Access Token Flow



OAuth2 Access Token Flow



Seem like a lot?

Let's see it in action!

The best API??

one

Search API

From Developer Portal

webex

Contact Center for Developers

Documentation

Support

KS

Search > Search Tasks

Version 1

Search Tasks

POST

/search

The /search API is a GraphQL endpoint that enables customers to fetch data from WxCC. Mandatory parameters are FROM and TO, which accept datetime in epoch format. The FROM parameter cannot be older than 36 months from the current time. The TO parameter, if given as a future time, will be set to the current time. Optional parameters such as filter and aggregation are accepted for each query.

Response Compression: For this API, response compression using gzip can be enabled by including the 'Accept-Encoding' header in the request with its value as 'gzip'. The response will be compressed only if its size exceeds 1 MB. If the header is not present in the request or if gzip is not listed as one of the encodings in the header's value (comma-separated encodings), then the API response will not be compressed, impacting latency as observed from clients.

Query Parameters

orgId string

Organization ID to use for this operation. If unspecified, inferred from token. Token must have permission to interact with this organization.

Example: "97cdbf45-eb2-4687-8341-44d5c7abf101"

Request Body

variables object

The variables definition are the part that looks like task(from: \$startTime, to: \$endTime) in the query. It works just like the argument definitions for a function in a typed language. These

Sample Code

Try Out

Request

Header

Authorization *

Use personal access token

This limited-duration personal access token is hidden for your security.

Parameters

orgId string

0228104d-cc26-442d-a829-5eb403bf919b

GraphQL

Maximize the screen to use the GraphQL editor

Maximize Screen

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From Developer Portal

webex

Contact Center for Developers

Documentation

Support

KS

Sample Code

Try Out

Request

Header

Authorization * ☒ Use personal access token

This limited-duration personal access token is hidden for your security.

Parameters

orgId string 0228104d-cc26-442d-a829-5eb403bf919b

GraphQL

< Docs

1 # Welcome to GraphQL

2 #

3 # GraphQL is an in-browser tool for writing, validating, and

4 # testing GraphQL queries.

5 #

6 # Type queries into this side of the screen, and you will see intelligent

7 # typeaheads aware of the current GraphQL type schema and live syntax and

8 # validation errors highlighted within the text.

9 #

10 # GraphQL queries typically start with a "{" character. Lines that start

11 # with a # are ignored.

QUERY VARIABLES

REQUEST HEADERS



From Postman

GraphQL / https://api.wxcc-us1.cisco.com/search

Save

https://api.wxcc-us1.cisco.com/search

Query

Query Authorization Headers Schema Scripts

Search fields

task TaskList

from Long! 1704926046000 ARG

to Long! 1708126430553 ARG

timeComparator QueryTimeType Select option ARG

filter TaskFilters ARG

aggregation TaskAggregationFilters ARG

aggregations [TaskV2Aggregation] ARG

aggregationInterval IntervalData ARG

pagination Pagination ARG

1 {

2 task(

3 from: 1704926046000

4 to: 1708126430553

5 filter: {

6 and: [{ direction: { equals: "inbound" } }, {

7 channelType: { equals: telephony } }]

8 } aggregations: { field: "id", type: count, name: "Total

9 Contacts by Entry Point" }

10 timeComparator: null

11 } }

12 tasks {

13 lastEntryPoint {

14 name

15 id

16 } aggregation {

17 }

18 }

19 }

20 }

21 }

Variables

Body Headers Test Results

Status: 200 OK Time: 1978.78 ms Size: 2.14 KB Save as Example

Pretty Table

4 "tasks": [

5 {

6 "lastEntryPoint": {

7 "name": "AgentStatus_Test_EP",

8 "id": "25aed277-c76a-42b9-998f-04db56387406"

9 },

10 "aggregation": [

11 {

12 "name": "Total Contacts by Entry Point",

13 "value": 3

14 }]

15 },

16 },

17],

18 {

19 "lastEntryPoint": {

20 "name": "CL2024_BasicFlow",

21 "id": "66193a9a-97fd-4bce-8d32-747dd94cab27"

22 }

23 }

Documentation

aggregations.field	String!	The field on which the aggregation operation is to be done
aggregations.type	AggregationType!	The type of aggregation operation
aggregations.name	String!	The name field of the output aggregation
timeComparator	QueryTimeType	

task.tasks [Task]

task.tasks.lastEntryPoint NameIdInfo

Id, name of the the outdial entry point provisioned for outbound (outdial) customer chats, calls, or email tasks in the Webex Contact Center system.

task.tasks.lastEntryPoint.name String

The name or title associated with an entity.

task.tasks.lastEntryPoint.id String

The unique identifier for an entity

task.tasks.aggregation [AggregationResult]

Aggregation Result for the entity

task.tasks.aggregation.name String

The name or identifier associated with the aggregation result.

task.tasks.aggregation.value Float

The numerical value that represents the result of an aggregation.

task.pageInfo PageInfo

task.pageInfo.hasNextPage Boolean

A boolean value indicating whether there are more pages of data to be retrieved.

task.pageInfo.endCursor String

A cursor that indicates the end of the current page of data.



From Altair

Window 1

+ Add new

No environment

POST

https://api.wxcc-us1.cisco.com/search?orgId=0228104d-cc26-442d-a829-5eb403bf919b

Query

Pre-request

Post-request

Result

Response headers

1

Welcome to Altair GraphQL Client.

2

You can send your request using CmdOrCtrl + Enter.

3

4

Enter your graphql query here.

5

BETA

Ezio my friend, how may I be of service?

VARIABLES

Send Request

Back

Search docs...

Query

The no of fields supported per GraphQL Query is less than or equal to 250 For Aggregation queries, the total number of GroupBy and Aggregations per query shouldn't exceed 250.

FIELDS

None

task (from Long! , to Long! , timeComparator QueryTimeType , filter TaskFilters , aggregation TaskAggregationFilters , aggregations [TaskV2Aggregation] , aggregationInterval IntervalData , pagination Pagination) TaskList

taskDetails (from Long! , to Long! , timeComparator QueryTimeType , filter TaskDetailsFilters , extFilter TaskDetailsSpecificFilters , aggregation TaskAggregationFilters , aggregations [TaskV2Aggregation] , aggregationInterval IntervalData , pagination Pagination) TaskDetailsList

agentSession (from Long! , to Long! , filter AgentSessionFilters , extFilter AgentSessionSpecificFilters , aggregation AgentSessionAggregations , aggregations [AgentSessionV2Aggregation] , aggregationInterval IntervalData , pagination Pagination) AgentSessions

flowInteractions (from Long! , to Long! , filter FlowInteractionFilters! , pagination FlowPagination) FlowInteractionList

flowTraceEvents (from Long! , to Long! , filter FlowTraceFilters! , pagination FlowPagination) FlowTraceList

taskLegDetails (from Long! , to Long! , timeComparator QueryTimeType , filter TaskLegDetailsFilters , aggregations [TaskLegV2Aggregation] , aggregationInterval IntervalData , pagination Pagination) TaskLegDetailsList

Last updated: Feb 20, 2024, 5:02:08 PM

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Data Sources Available

Query

The no of fields supported per GraphQL Query is less than or equal to 250 For Aggregation queries, the total number of GroupBy and Aggregations per query shouldn't exceed 250.

FIELDS

⋮ None

- task (from Long! , to Long! , timeComparator QueryTimeType , filter TaskFilters , aggregation TaskAggregationFilters , aggregations [TaskV2Aggregation] , aggregationInterval IntervalData , pagination Pagination) TaskList
- taskDetails (from Long! , to Long! , timeComparator QueryTimeType , filter TaskDetailsFilters , extFilter TaskDetailsSpecificFilters , aggregation TaskAggregationFilters , aggregations [TaskV2Aggregation] , aggregationInterval IntervalData , pagination Pagination) TaskDetailsList
- agentSession (from Long! , to Long! , filter AgentSessionFilters , extFilter AgentSessionSpecificFilters , aggregation AgentSessionAggregations , aggregations [AgentSessionV2Aggregation] , aggregationInterval IntervalData , pagination Pagination) AgentSessions
- flowInteractions (from Long! , to Long! , filter FlowInteractionFilters! , pagination FlowPagination) FlowInteractionList
- flowTraceEvents (from Long! , to Long! , filter FlowTraceFilters! , pagination FlowPagination) FlowTraceList
- taskLegDetails (from Long! , to Long! , timeComparator QueryTimeType , filter TaskLegDetailsFilters , aggregations [TaskLegV2Aggregation] , aggregationInterval IntervalData , pagination Pagination) TaskLegDetailsList

Relationship between Analyzer repositories and GraphQL queries:

- CSR -> task
- CAR -> taskDetails
- ASR / AAR -> agentSession
- CLR (Queue Records) -> taskLegDetails (coming soon)

Built in Documentation

FIELDS		None
• id (sort SortOrder) String	ID of the task.	
• status (sort SortOrder) String	Current status of the task. Some examples of possible values are: new, parked, connected, ended.	ADD FRAGMENT
• channelType (sort SortOrder) String	The media channel through which the task will be fulfilled. Can be telephony, email, or chat.	
• createdTime (sort SortOrder) Long	Created time of the task (epoch milliseconds).	
• endedTime (sort SortOrder) Long	Time of completion of the task (epoch milliseconds).	
• origin (sort SortOrder) String	Customer's channel-specific identifier. For telephony, this is the phone number. For email and chat, this is the email address.	
• destination (sort SortOrder) String	Destination the customer contacted. For telephony, this is the number the contact called. For chat, this is the URL of the page where the chat takes place. For email, it is the email address contacted.	
• contactReason (sort SortOrder) String	Indicates the category/reason that is selected when initiating an interaction from native digital channels like chat.	
• direction (sort SortOrder) String	Indicates which party initiated the Task. If "inbound", call was initiated by customer. If "outbound", was initiated by system as part of campaign. If "outdial", was initiated by an agent.	
• owner AgentInfo	Current Agent of the task	
• entryPoint [NameIdInfo]	<p>DEPRECATED No longer supported, please use lastEntryPoint instead.</p> <p>[DEPRECATING SOON, please use "lastEntryPoint" instead]</p> <p>Id, name of the the entry point provisioned for tasks in the Webex Contact Center system.</p>	

Data Dictionary provided also for every single available variable in the API

- Available fields
- Definitions of the fields
- Sorting options
- Deprecation warnings with replacement field options

Defining the query

```
task(  
  from: "_____"  
  to: "_____"  
  timeComparator: createTime  
  filter: {}  
  aggregation: {}  
  aggregations: [{ field: "string", type: count, name: "string" }]  
  aggregationInterval: { interval: FIFTEEN_MINUTES }  
  pagination: {}  
)
```

- Define Data source (task)
- Time window (from/to and which time field)
- Filter Criteria
- Aggregations (Count/Sum/Averages/Min/Max/etc)

Defining the data fields you want returned

```
tasks {  
  id  
  status  
  channelType  
  createdTime  
  endedTime  
  origin  
  destination  
  contactReason  
  direction  
  owner  
  entryPoint  
  terminationType  
  channelSubType  
  customer  
  isActive  
  isCampaign  
  outdialType  
  cpaStatus  
  isCallback  
  channelMetaData  
  callbackData  
  recordingLocation  
  lastQueue  
  lastSite  
  lastTeam  
  lastEntryPoint  
  previousQueue  
  preferredAgentSystemId  
  terminationReason  
  ivrScriptName  
  ivrScriptTagName
```

- You pick which fields you want to receive
- Some fields have sub-fields
 - Owner has both a name and ID sub field
- Aggregations

Integrated tooltips

```
tasks {  
  id  
  status  
  channelType  
  createdTime  
  endedTime  
  origin  
  destination  
  contactReason  
  direction  
  owner  
  entryPoint  
  isActive  
  isCampaign  
  outdialType  
  cpaStatus  
  isCallback  
  channelMetaData  
  callbackData  
  recordingLocation  
  lastQueue  
  lastSite  
  lastTeam  
  lastEntryPoint  
  previousQueue  
  preferredAgentSystemId  
  terminationReason  
  ivrScriptName  
  ivrScriptTagName
```

Field "entryPoint" of type "[NameIdInfo]" must have a selection of subfields. Did you mean "entryPoint { ... }"?

The field TaskDetails.entryPoint is deprecated. No longer supported, please use 'lastEntryPoint' instead.

- Tells you what the issue is and provides options to help solve
- Will let you know if a field is being deprecated
- Will provide autocomplete options

Query

```
{
  taskDetails(
    from: "1704926046000"
    to: "1708115861732"
    timeComparator: createTime
    filter: {
      and: [
        { direction: { equals: "inbound" } }
        { channelType: { equals: telephony } }
        { connectedCount: { gte: 1 } }
      ]
    }
    aggregations: { field: "id", type: count, name: "Total Contacts" }
  ) {
    tasks {
      lastQueue {
        name
      }
      lastWrapupCodeName
      aggregation {
        # name
        value
      }
    }
    pageInfo {
      hasNextPage
      endCursor
    }
  }
}
```

- From: Wed Jan 10 2024 17:34:06 GMT-0500
- To: Fri Feb 16 2024 15:37:41 GMT-0500
- Looking at Created Time
- Filtering for inbound, telephony tasks which were connected
- Creating a count of “id”

Fields to Return

```
{
  taskDetails(
    from: "1704926046000"
    to: "1708115861732"
    timeComparator: createTime
    filter: {
      and: [
        { direction: { equals: "inbound" } }
        { channelType: { equals: telephony } }
        { connectedCount: { gte: 1 } }
      ]
    }
  ) {
    aggregations: { field: "id", type: count, name: "Total Contacts" }
  }
}

tasks {
  lastQueue {
    name
  }
  lastWrapupCodeName
  aggregation {
    # name
    value
  }
}

pageInfo {
  hasNextPage
  endCursor
}
}
```

- Last Queue name
- Last Wrapup Code Name
- Count of Session IDs which meet the criteria

Response

```
{
  "data": {
    "taskDetails": {
      "tasks": [
        {
          "lastQueue": {
            "name": "kevsimps_queue_1"
          },
          "lastWrapupCodeName": "AFW_SIARCOT",
          "aggregation": [
            {
              "value": 2
            }
          ]
        },
        {
          "lastQueue": {
            "name": "kevsimps_queue_1"
          },
          "lastWrapupCodeName": "Sale",
          "aggregation": [
            {
              "value": 3
            }
          ]
        }
      ]
    }
  }
}
```

- Last Queue name
- Last Wrapup Code name
- Count of Last Wrapup Code Name in the Last Queue
- In the queue "kevsimps_queue_1"
 - Last Wrapup Code Name: "AFW_SIARCOT": 2
 - Last Wrapup Code Name: "Sale": 3

Let's see it in action

Roadmap

Coming soon

- Call Monitoring API (EA) – GA in FY24 Q4
- Dialer API (GA) – Released May 9, 2024
- Support invoking contact center APIs from Flow Designer
- Flow import and export API – Released May 7, 2024
- Bring your Own Virtual Agent – Phase 1 – FY25 Q1
- Agent Burnout API
- Real time voice streaming API
- Real time transcription
- Bulk Data export API

Changelog: New features

- Changes Portal is going through.
- NEW API being released
- CHANGES to existing API to avoid breakage.
- Information on GUIDES and DOC changes.
- GitHub SAMPLES

Changelog

This page lists recent and upcoming changes to the Webex Contact Center APIs.

February 15, 2024

GraphQL [Update](#)

- The [Search API](#) has moved from Beta to Generally available with updated documentation and [guide](#) . There is no functional change to this API

February 13, 2024

REST [New](#)

- [Barge In API](#) is introduced to create a successful barge-in request for the supervisor to barge in the call that is being monitored already.

January 2, 2024

REST [Update](#)

- The [Captures API](#) response will display specific channel2 value based on callType and number of participants in the call.

 [Subscribe to RSS](#)

Contents

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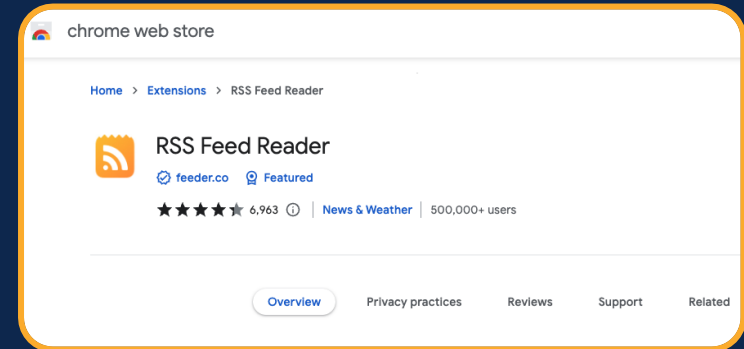
[June](#)

[May](#)

[April](#)

[March](#)

[January](#)



New

Newly released API resources, endpoints, or properties

Warning

API behavior change, usually related to unintended usage of an endpoint or because of unexpected behavior

Deprecation

API resource, endpoint, or property is still available but is no longer recommended to use and won't be updated further.

Major

Change which may effect specific use cases (like a more specific breaking change)

Breaking

Change which will affect all developers, regardless of API usage

Call to Action!

- Try out the [Developer portal](#)
- Attend today's [Advanced lab](#) session
- Follow our [API dedicated lab](#)
- Check out our [GitHub repository](#) with Samples
- Request your [Sandbox](#)
- Evangelism



But Wait There's More!!!!

slido



What are you excited about?

ⓘ Start presenting to display the poll results on this slide.



The bridge to possible