Slack Events

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SAP Cloud Platform Open Connectors currently supports events via **polling** or **webhooks** depending on the endpoint.

- **Polling** is a mechanism where SAP Cloud Platform Open Connectors executes the configured query every `n` minutes and captures the changed information.
- **Webhooks** are when the provider lets SAP Cloud Platform Open Connectors know what information has changed. Note that additional endpoint setup may be required prior to creating your connector instance.

> **Note:** SAP Cloud Platform Open Connectors normalizes only the objectId, objectType, and eventType event data. Event data also contains raw data, which the provider returns. The raw data varies based on the endpoint.

If you would like to see more information on our Events framework, please see Events Overview.

Webhooks

Slack requires an extra specification to be entered once a connector instance has been created. The Slack Instance ID must be base 64 encoded, then included in the webhook callback URL. This document will walk you through the entire workflow:

1. Get connector Oauth Information
2. Creating an instance
3. Webhook setup

Step 1. Get Connectors OAuth Information

- HTTP Header: None
- HTTP Verb: GET
- Request URL: /elements/{keyOrId}/oauth/url
- Request Body: None

- Query Parameters:

- **apiKey**– the key obtained from registering your app with the provider

- **apiSecret** – the secret obtained from registering your app with the provider
- **callbackUrl** – the URL that you supplied to the provider when registering your app, state – any custom value that you want passed to the callback handler listening at the provided callback URL.

> **Note:** API key and API secret are mandatory to enable Webhooks for Slack.

The result of this API invocation is an OAuth redirect URL from the endpoint. Your application should now redirect to this URL, which in turn will present the OAuth authentication and authorization page to the user. When the provided callback URL is executed, a code value will be returned, which is required for the Create Instance API.

Example cURL Command:

```
curl -X GET
-H 'Content-Type: application/json'
'https://api.openconnectors.us2.ext.hana.ondemand.com/elements/api-v2/eleme
nts/slack/oauth/url?apiKey=slack_client_id&apiSecret=slack_client_secret&ca
llbackUrl=https%3A%2F%2Fwww.mycoolapp.com%2Fauth&scope=scope=users%3Awrite%
2C+users%3Aread%2C+users.profile%3Aread%2C+users.profile%3Awrite%2C+search%
3Aread%2C+files%3Aread%2C+files%3Awrite%3Auser%2C+channels%3Aread%2C+groups
%3Aread&response_type'
```

Response:

```
{
  "oauthUrl": "https://slack.com/oauth/authorize?scope=users%3Awrite%2C+use
rs%3Aread%2C+users.profile%3Aread%2C+users.profile%3Awrite%2C+search%3Aread
%2C+files%3Aread%2C+files%3Awrite%3Auser&response_type=code&redirect_uri=ht
tps%3A%2F%2Fwww.mycoolapp.com%2Fauth&state=slack&client_id=slack_client_id"
,
  "element": "slack"
}
```

Handle Callback from the Endpoint: Upon successful authentication and authorization by the user, the endpoint will redirect to the callback URL you provided when you setup your application with the endpoint, in our example, https://www.mycoolapp.com/auth. The endpoint will also provide two query string parameters: “state” and “code”. The value for the “state” parameter will be the name of the endpoint, e.g., "slack" in our example, and the value for the “code” parameter is the code required by SAP Cloud Platform Open Connectors to retrieve the OAuth access and refresh tokens from the endpoint. If the user denies authentication and/or authorization, there will be a query string parameter called “error” instead of the “code” parameter. In this case, your application can handle the error gracefully.

Step 2. Create an Instance

To provision your Slack connector, use the `/instances` API.

Below is an example of the provisioning API call.

- **HTTP Headers**: Authorization- User , Organization
- **HTTP Verb**: POST
- **Request URL**: /instances
- **Request Body**: Required – see below
- **Query Parameters**: none

token is returned upon successful execution of this API. This token needs to be retained by the application for all subsequent requests involving this connector instance.

A sample request illustrating the `/instances` API is shown below.

HTTP Headers:

```
Authorization: User , Organization
```

This instance.json file must be included with your instance request. Please fill your information to provision. The “key” into SAP Cloud Platform Open Connectors Slack is "slack". This will need to be entered in the “key” field below depending on which connector you wish to instantiate.

```
{
  "element": {
    "key": "slack"
  },
  "providerData": {
    "code": ""
  },
  "configuration": {
    "oauth.api.key": "",
    "oauth.api.secret": "",
    "oauth.callback.url": "",
    "oauth.scope": "users:write, users:read, users.profile:read, users.prof
ile:write, search:read, files:read, files:write:user, channels:read, groups
:read",
    "event.notification.enabled": "true",
    "event.notification.callback.url": ""
  },
  "tags": [
    ""
  ],
  "name": ""
}
```

Here is an example cURL command to create an instance using /instances API.

Example Request:

```
curl -X POST
-H 'Authorization: User , Organization '
-H 'Content-Type: application/json'
-d @instance.json
'https://api.openconnectors.us2.ext.hana.ondemand.com/elements/api-v2/insta
nces'
```

If the user does not specify a required config entry, an error will notify which entries are missing.

Below is a successful JSON response:

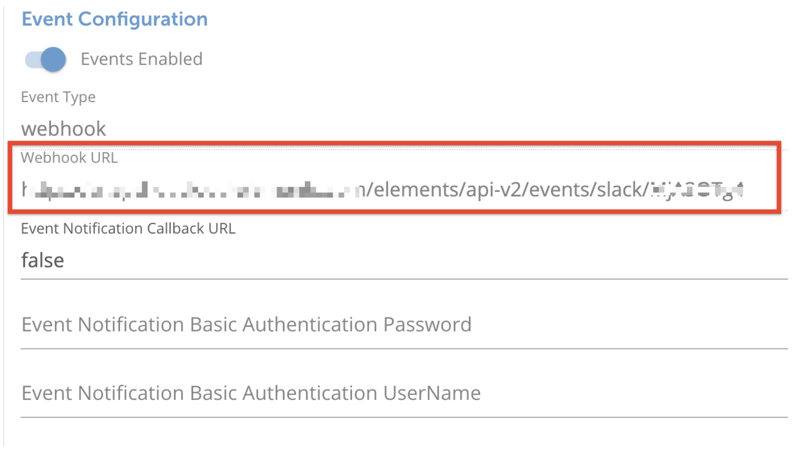
```
{
  "id": 123,
  "name": "Test",
  "token": "5MOr3Sl/E4kww6mTjmjBYV/hAUAzz1g=",
  "element": {
    "id": 2103,
    "name": "Slack",
    "key": "slack",
    "description": "Slack brings all your communication together in one pla
ce. It's real-time messaging, archiving and search for modern teams.",
    "image": "https://a.slack-edge.com/0180/img/icons/app-256.png",
    "active": true,
    "deleted": false,
    "typeOauth": false,
    "trialAccount": false,
    "resources": [],
    "transformationsEnabled": true,
    "bulkDownloadEnabled": false,
    "bulkUploadEnabled": false,
    "cloneable": true,
    "authentication": {
      "type": "oauth2"
    },
    "hub": "collaboration",
    "protocolType": "http",
    "private": false
  },
  "provisionInteractions": [],
  "valid": true,
  "disabled": false,
  "maxCacheSize": 0,
  "cacheTimeToLive": 0,
  "configuration": {
    "base.url": "https://slack.com/api",
    "oauth.api.secret": "CLIENT_SECRET",
    "event.notification.subscription.id": null,
    "oauth.token.url": "https://slack.com/api/oauth.access",
    "pagination.max": "100",
    "event.vendor.type": "webhooks",
    "oauth.scope": "users:write, users:read, users.profile:read, users.prof
ile:write, search:read, files:read, files:write:user",
    "oauth.user.token": "99845548065-3df640f4b74a86416895b3f9af42bc2b",
    "oauth.authorization.url": "https://slack.com/oauth/authorize",
    "event.notification.instance.finder": "",
    "pagination.type": "page",
    "event.notification.callback.url": "false",
    "oauth.callback.url": "https://www.mycoolapp.com/auth",
    "scope": "users:write, users:read, users.profile:read, users.profile:wr
ite, search:read, files:read, files:write:user",
    "oauth.user.refresh_token": null,
    "oauth.token.revoke_url": "https://slack.com/api/auth.revoke",
    "oauth.user.refresh_interval": "3600",
    "oauth.api.key": "CLIENT_ID",
    "oauth.user.refresh_time": null,
    "oauth.basic.header": "true",
    "pagination.page.startindex": "1",
    "event.notification.enabled": "false"
  },
    },
    "eventsEnabled": false,
    "eventsNotificationCallbackUrl": "false",
    "traceLoggingEnabled": false,
    "cachingEnabled": false,
    "externalAuthentication": "none",
    "user": {
      "id": 372
    }
  }
```

Your instance is now created.

Webhook Setup

Once the instance is created, **Edit** your instance to get a webhook URL.

Here's where you'll find the webhook URL -



Event Configuration

Events Enabled

Event Type

webhook

Webhook URL

h[redacted]n/elements/api-v2/events/slack/[redacted]

Event Notification Callback URL

false

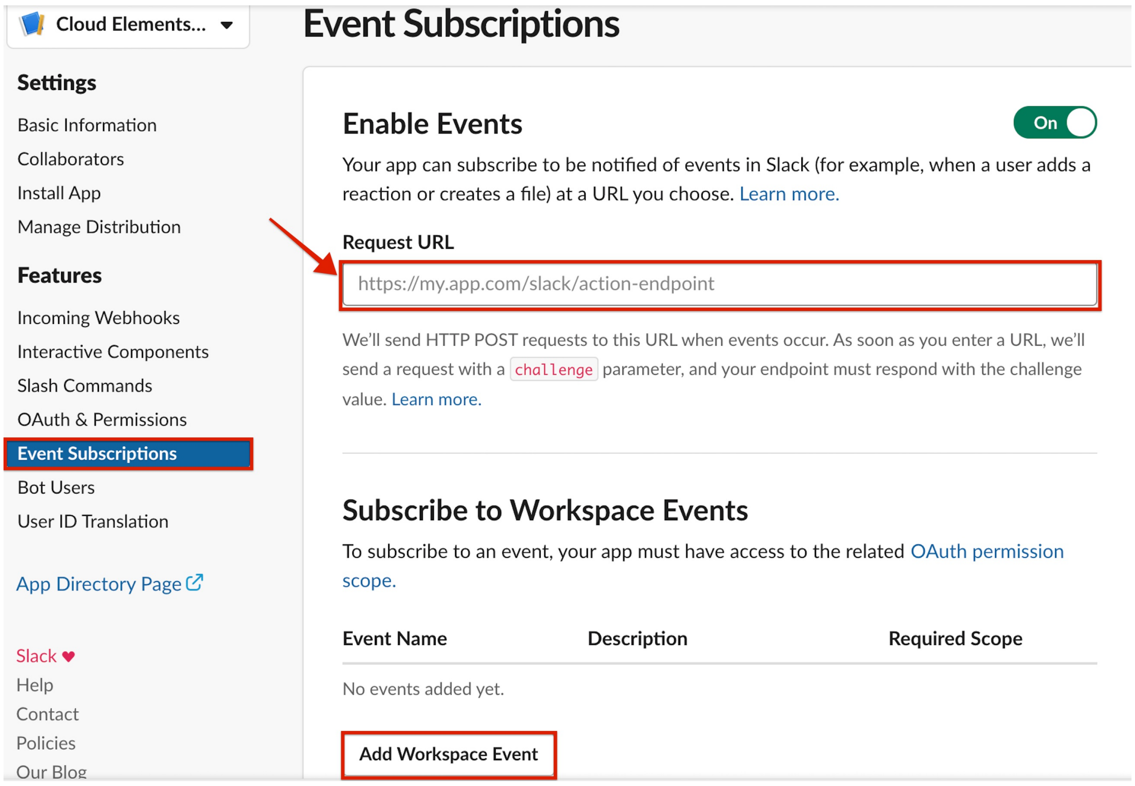
Event Notification Basic Authentication Password

Event Notification Basic Authentication UserName

Now log in to your Slack profile. Select the app from "Your Apps".

Under Event Subscriptions:

- Toggle Events On
- Insert the webhook URL you received after creating the instance in the **Request URL** field as shown below.



Cloud Elements...

Settings

Basic Information
Collaborators
Install App
Manage Distribution

Features

Incoming Webhooks
Interactive Components
Slash Commands
OAuth & Permissions
Event Subscriptions
Bot Users
User ID Translation

App Directory Page

Slack ♥
Help
Contact
Policies
Our Blog

Event Subscriptions

Enable Events On

Your app can subscribe to be notified of events in Slack (for example, when a user adds a reaction or creates a file) at a URL you choose. Learn more.

Request URL

https://my.app.com/slack/action-endpoint

We'll send HTTP POST requests to this URL when events occur. As soon as you enter a URL, we'll send a request with a `challenge` parameter, and your endpoint must respond with the challenge value. Learn more.

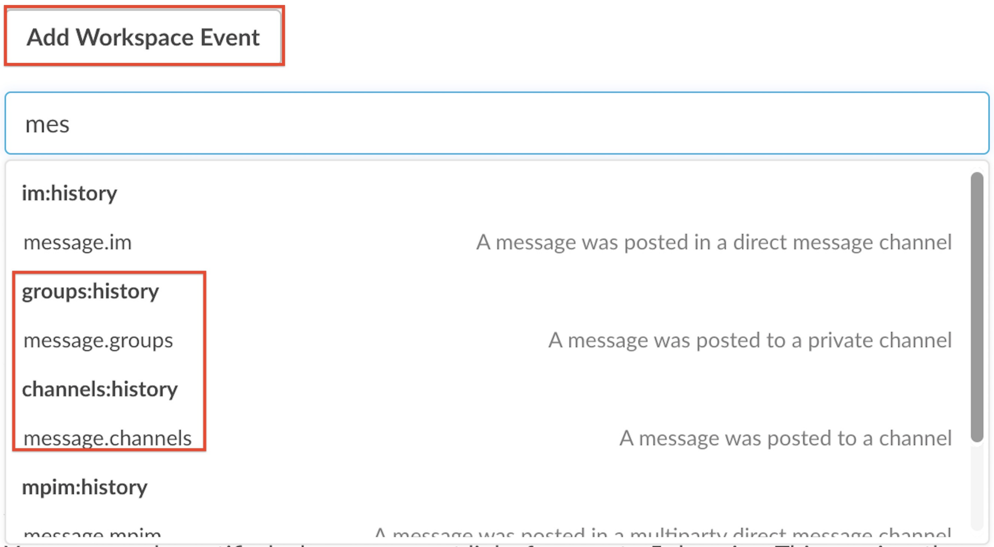
Subscribe to Workspace Events

To subscribe to an event, your app must have access to the related OAuth permission scope.

Event Name	Description	Required Scope
No events added yet.		

Add Workspace Event

- Add Workspace Event > select which events to enable. Here's a picture for your reference.



Add Workspace Event

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im:history	
message.im	A message was posted in a direct message channel
groups:history	
message.groups	A message was posted to a private channel
channels:history	
message.channels	A message was posted to a channel
mpim:history	
message.mpim	A message was posted in a multiparty direct message channel

Your app can be notified when users post links from up to 5 domains. This requires the `links:read` scope and a subscription to the `link_shared` event.

- Save Changes

Events are now implemented for Slack.