Event Retry and Queueing

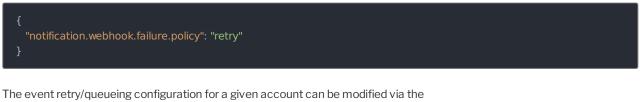Last Modified on 03/24/2022 8:27 am EDT

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There may be times when the service behind the URL provided by the user for SAP Open Connectors to push events to, is down or undergoing maintenance. In this scenario, SAP Open Connectors has a mechanism to retry the event push and/or queue the event to be retrieved at a later time, say after the user's service endpoint is back up.

In such a scenario, the user can choose between two mechanisms to receive events after the user's event reception service is back up

1. Retry the push of the events
2. Queue the events for the user to pull/retrieve at a later time

Each account with SAP Open Connectors can be configured to either retry event notification upon failure or to queue the event for later retrieval. After creation of the account, the mechanism can be configured by using the `POST /accounts/{accountId}/settings` API. The payload posted to this API is -

```
{
  "notification.webhook.failure.policy": "retry"
}
```

The event retry/queueing configuration for a given account can be modified via the `PATCH /accounts/{accountId}/settings` API. Say that the account was configured use an event `retry` mechanism and needs to be modified to use event `queueing`. The payload for this API call is -

```
{
  "notification.webhook.failure.policy": "queue"
}
```

The default, if neither of the above APIs is invoked after the account is created is to retry the events notification.

Retry Logic

If an account is configured to retry event notifications, the web hook URL provided by the user (e.g.,) is retried up to 5 times. The interval uses the following equation: 2^3x, where x is the retry attempt.

Based on the above, the first attempt is retried after 8 seconds, the second attempt after 64 seconds and so on. The 5th and final attempt will be made a little under 9.5 hours after the original failed attempt.

As soon as a retry attempt is successful, the notification is deemed completed and all is good to go. In the case where all 9 attempts fail, then the event subscription is deactivated, and future events are queued for retrieval by the user until the subscription is reactivated.

> **Note**: Even though the events are queued after 9 retry attempts, the account configuration is NOT changed to queue events.

If deactivated, the subscription can be reactivated and the queued events delivered via the

`PUT /notifications/subscriptions/deliveries?where=channel='webhook' and status='queued'` API. As documented in the following section, an addition `where` clause parameter can be added to redeliver events only specific to a given subscription URL.

Queueing Logic

If the account is configured to queue events, or if the maximum number of retries (9) for a given push subscription is reached, then the event is queued for retrieval by the user.

If the user's web hook receiver url is ‾, then queued events for this endpoint can be retrieved by calling the `GET /notifications/subscriptions/deliveries?where=channel='webhook' and status='queued' and config.url= "` API.

The above API requires the user to provide the Organization and User secrets, like most other Platform APIs, and will retrieved the `queued` events for a given URL, for the given account. Each returned `delivery` object consists among other attributes, the event payload, including the event ID and the event data.