

IRAS ASR+ Digital Products API Onboarding Guide

This guide applies to:

Submission of Corporate Income Tax Returns (Form C-S)

Submission of GST Returns (F5, F8)

Updated 2 Nov 2021
Version 1.2



INLAND REVENUE
AUTHORITY
OF SINGAPORE

Document Change History

| Revision Date | Version No. | Changes |
|---------------|-------------|--|
| 23 Oct 2021 | 1.0 | Onboarding guide created. |
| 28 Oct 2021 | 1.1 | “Submission of Corporate Tax Returns” is renamed to “Submission of Corporate Income Tax Returns” |
| 2 Nov 2021 | 1.2 | Updated callback url restriction on having query parameters |

Define your Integration Plan

Decide which API to integrate first

- Other than e-invoicing, ASR+ offers two (2) Digital Products (APIs) that you can integrate with. **The onboarding process from start-to-end should apply to each Digital Product (API) distinctively.**



Submission of GST Returns (F5, F8)



Submission of Corporate Income Tax Returns (Form C-S)

- ASR+ APIs leverage on Corppass to secure the submission of tax data by the authorised Corppass user. You will need to **integrate only once with the Corppass API.**



Corppass Authentication

Important Dates

Submission of GST Returns: **Quarterly**

Submission of Corporate Income Tax Returns: **By End Nov**

Refer to the following links for more information on ASR+ and Seamless Filing APIs.

- [IRAS Accounting Software Register Plus \(ASR+\) Website](#)
- [Transmitting GST Return and Listings directly to IRAS using Accounting/Tax Software](#)
- [Using Accounting Software to Prepare and File Form C-S Seamlessly](#)

API Products and Documentation

Submission of GST Returns (F5, F8)

API Integration Requirement

- File GST Return (GST F5 and F8) (Corppass) API

Documentation

Access the following API Specifications and Test Case Scenarios [here](#).

- *IRAS File GST Return (GST F5 and F8) (Corppass) API Services Interface Specification*
- *IRAS GST API Submission Format and Front-End Validations*
- *IRAS GST Submission GST F5F8 Test Case Scenarios*

Submission of Corporate Income Tax Returns (Form C-S)

API Integration Requirement

- Form C-S Submission (Corppass) API

Documentation

Access the following API Specifications and Test Case Scenarios [here](#).

- *IRAS Form C-S Submission API Services Interface Specification*
- *Sandbox TestScript - Submission of Corporate Income Tax Returns (Form C-S) (Corppass)_YA2021*

Corppass Authentication API

API Integration Requirement

- Corppass Authentication API

Documentation

- [IRAS Corppass API Services Interface Specifications](#)



For listing on ASR⁺, you do not need to submit test cases for GST F7 or Pre-Fill API.

API Marketplace

IRAS API Marketplace has **two (2) environments** dedicated to testing and consuming the API respectively:-

- **Sandbox Environment (Testing and Validation)**
<https://apisandbox.iras.gov.sg/iras/devportal/sb>
- **Production Environment (Go LIVE)**
<https://apiservices.iras.gov.sg/iras/devportal>



You are required to complete API validation tests in the Sandbox Environment before moving on to Production.

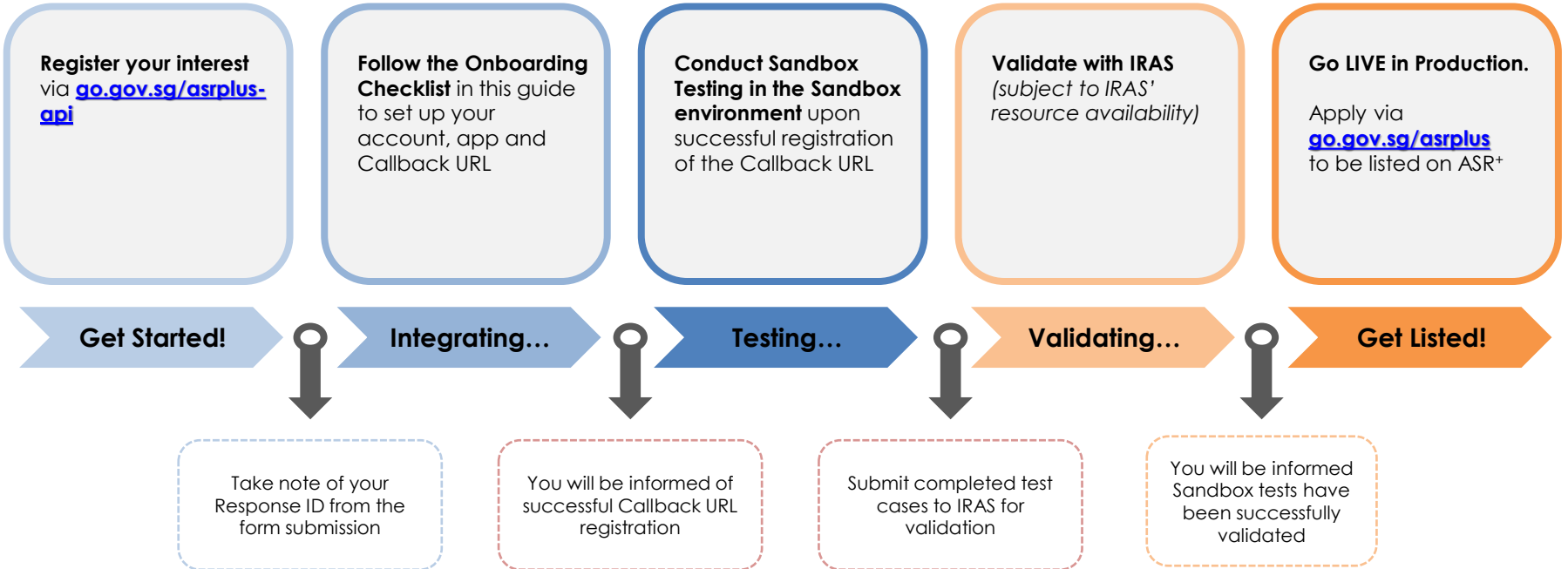


Sandbox API Test

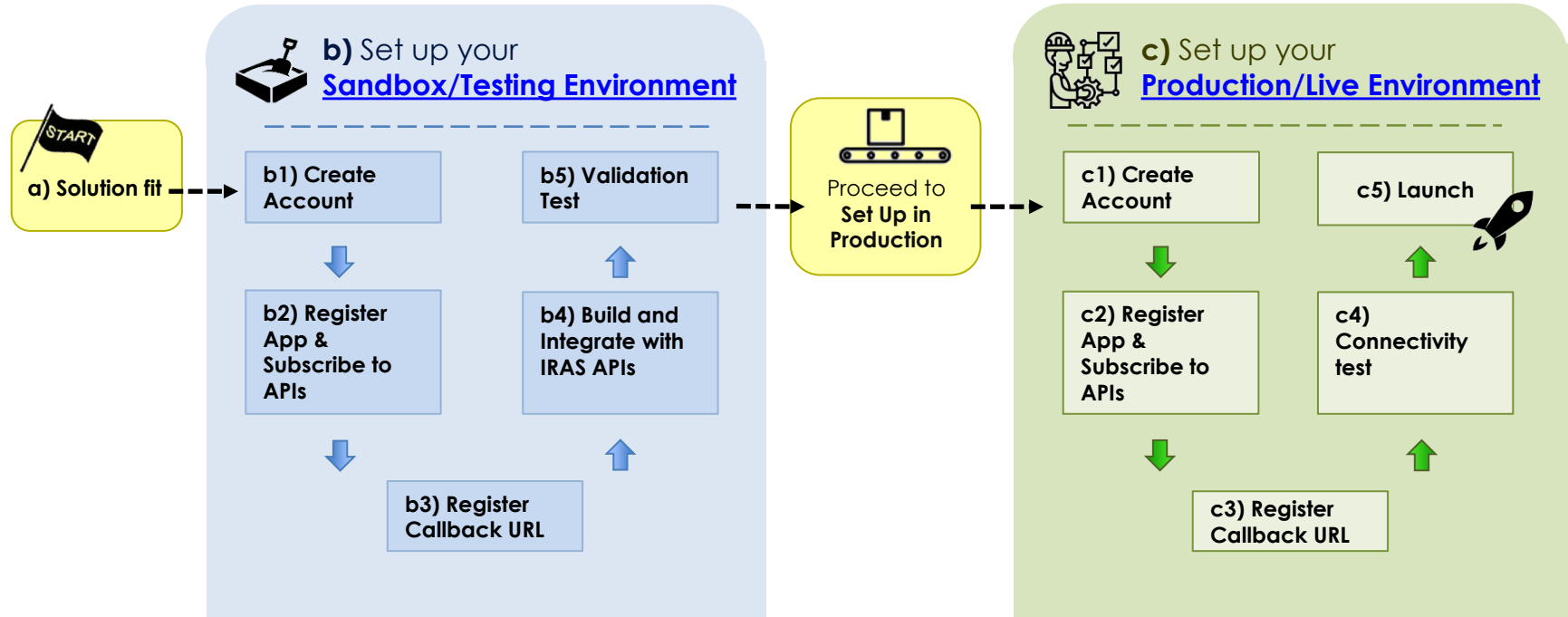


Good to Go!

ASR+ API Onboarding Overview



API Onboarding Checklist



Refer to the [User Guide](#) for more details on setting up your account.

i Please take note of the Maintenance Hours (Singapore Time) for both Sandbox and Production environments in [Annex C](#).

a) Solution Fit



a) Solution Fit

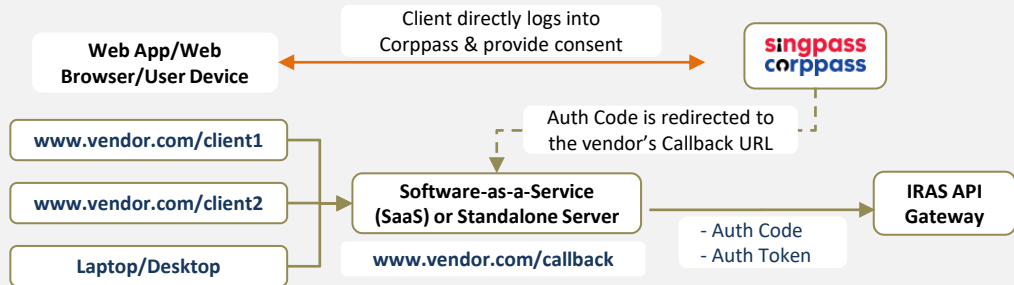
i) Check your that your server/application/solution for these **pre-requisites**

- ❑ Support a **server-to-server connection**
- ❑ Support the following protocols: **HTTP/2, TLS 1.2/1.3**
- ❑ Trigger **HTTP/GET & HTTP/POST** requests
- ❑ **Accessible via internet**

ii) Ensure your system is able to **connect** to IRAS API Gateway

Scenario A (Default):

If your solution is hosted on a Cloud or Standalone Server:



Scenario B:

If your solution is hosted on Sub-Domains or Private Servers:

A **proxy or gateway** is required to manage Auth Code and Access Token exchange for the respective sub-domains or private servers.



Refer to the IRAS CorpPASS and Callback url guide [here](#) for more details on using CorpPASS.

b) Set up your Sandbox/Testing Environment



b1) Create Account



 **Sandbox Environment**
<https://apisandbox.iras.gov.sg/iras/devportal/sb>

i) Create a new account using your **corporate email address**

Activate via email validation

ii) **Log in** using newly set-up account

iii) Update your **organisation name**

i Use your **corporate email address**, whenever possible. If you already have an existing developer account, please re-use the same account.

i Organisation name should (followed by the **reflect your actual company name** ROC or UEN where applicable).
For example: ABC Pte Ltd_20171234X

b) Set up your Sandbox/Testing Environment



b2) Register App & Subscribe to APIs

i) Register **App**



Sandbox (application page)
<https://apisandbox.iras.gov.sg/iras/devportal/sb/application>

Register an App under your account. Ensure that the **name of your registered App reflects the actual name of your software/application** that will use the API.

Developers can use different Apps for different APIs.

i Every registered App will have their own unique Client ID and Client Secret. **Take note of the Client Secret.** If you lose the Secret, please use the reset function.

ii) Subscribe to **APIs**

You will need to be logged in first to access and subscribe to APIs.

Subscribe to the following APIs:

- [Submission of GST Returns \(Corppass\)](#)
- [Submission of Corporate Tax Returns \(Form C-S\)](#)
- [Corppass Authentication API](#)

i **To access and subscribe to Submission of Corporate Tax Returns (Form C-S) API, your account would need to be whitelisted first.** IRAS will inform you once your account has been whitelisted so that you can access and subscribe to the API.

b) Set up your Sandbox/Testing Environment



b3) Register Callback URL

- Register a Callback URL to use Corppass Authentication.
- Submit your Callback URL registration using the form link below. Provide accurate details of the API Subscription, Environment, Email Account, App Name, Client ID and the Callback URL that you are registering for.



Callback URL registration

<https://go.gov.sg/apicallback>

- It will take about **1-2 weeks** to register your Callback URL. IRAS will notify you via email once your Callback URLs have been registered and API subscriptions have been approved.



Developers should **avoid changing the App name, Client ID and Callback URL** where possible, after they have been registered. Developers would need to inform IRAS by email of any changes, which would require at **1-2 weeks to take effect**.



*See [Annex B](#) for **FULL REQUIREMENTS** on Callback URL

b) Set up your Sandbox/Testing Environment



b4) Build and Integrate with IRAS APIs

i) Build and Integrate with **ASR+ APIs**

API Specifications

Accounting & Taxation software must refer to the API specifications to ensure that the software can send and receive the required payload that comply with IRAS' API and data requirements.

ii) Integrate with **Corppass API**

The **CorppassAuth** endpoint has to be triggered from a Server-to-Server connection using HTTP GET request.

The response will be a URL which should be returned to the client for redirection to Singpass Login Page. The intended result after Singpass Login is to obtain the Auth Code that will be used to exchange for the Access Token via the **CorppassToken** endpoint.

b) Set up your Sandbox/Testing Environment



b5) Validation Test

- 1) Perform tests in the Sandbox environment according to the Test Case Scenarios provided for the relevant APIs.
- 2) Compile the test case results (UI screenshots and API responses) in the Test Case Scenarios for the relevant APIs.
- 3) Submit the completed test case scenarios to the Digital Partnerships Team
digital_partnerships@iras.gov.sg
- 4) You will receive an email acknowledgement on the receipt of the submitted test case scenarios.

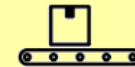


For listing on ASR*, you do not need to submit test cases for GST F7 or Pre-Fill API.

IRAS Validation



- IRAS will validate your submitted test case scenarios.
- IRAS may contact you for clarifications or re-tests on the submitted test cases.
- If all your test scenarios are validated, IRAS will inform you to proceed to Production.



Proceed to **Set Up in Production**

c) Set up your Production/Live Environment



C1 – C4) Set up in Production environment



Production Environment

<https://apiservices.iras.gov.sg/iras/devportal>

Set up your account and App in Production. Follow the same steps previously performed in the Sandbox environment. See slides 9 - 11.

Refer to slide 9:
b1) Create Account



Refer to slide 10:
b2) Register App &
Subscribe to APIs




Refer to slide 11:
b3) Register
Callback URL



C4) Perform a connectivity test. See Annex C.

 **Annex C**
"Connectivity test"

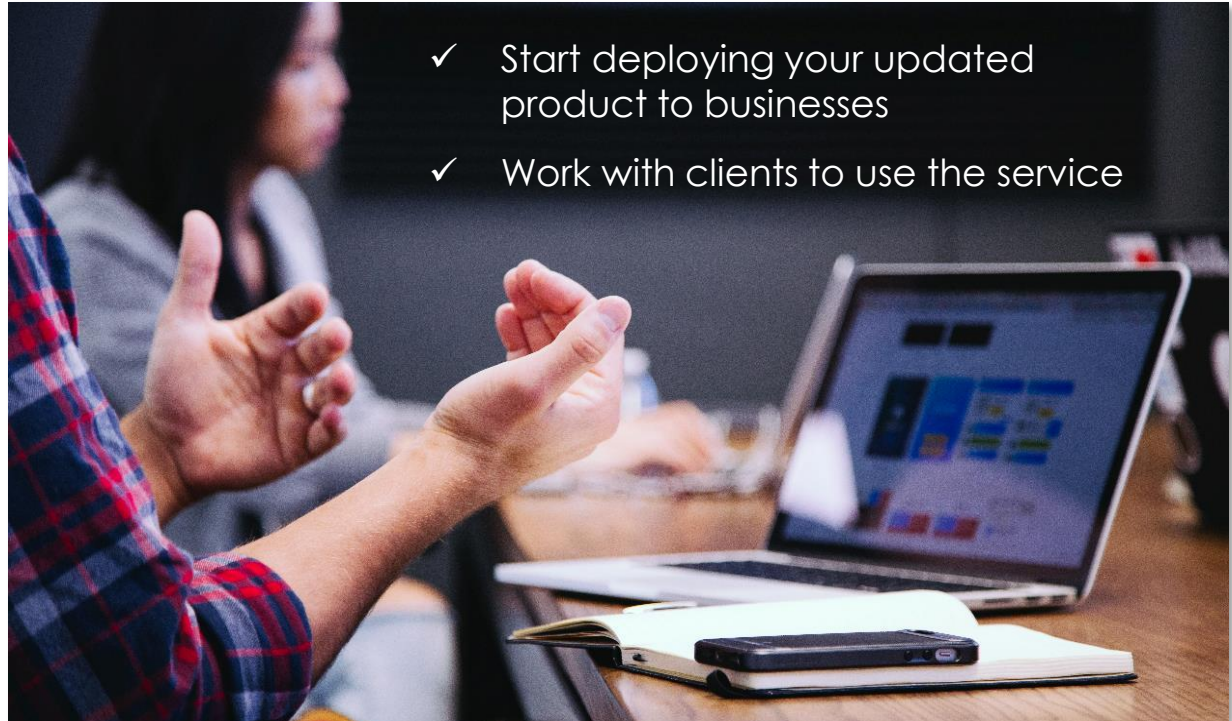
 Software can only be released to clients after the connectivity test has been verified.

c) Set up in Production/Live environment



C5) Launch

- 1) Make arrangements with only one of your clients first to do a LIVE submission to IRAS.
- 2) Inform IRAS when your client will do a LIVE submission so that an output check can be performed by IRAS.
- 3) Once IRAS has verified the first LIVE submission, you may extend the integrated features to your client base.
- 4) Apply to be listed on ASR+ at go.gov.sg/asrplus



- ✓ Start deploying your updated product to businesses
- ✓ Work with clients to use the service

Contact US

IRAS API Marketplace onboarding & account matters



IRAS Digital Partnerships Team

API technical support & enquiries



IRAS API support Team

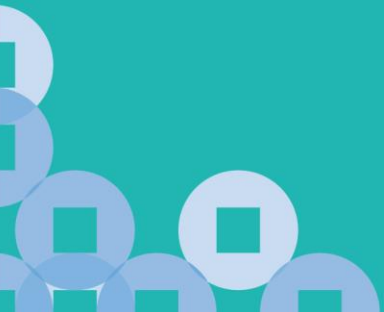
ASR+ enquiries



IRAS ASR+Team

The information presented in the slides aims to provide a better general understanding of taxpayers' tax obligations and is not intended to comprehensively address all possible tax issues that may arise. While every effort has been made to ensure that this information is consistent with existing law and practice, should there be any changes, IRAS reserves the right to vary its position accordingly.

FAQ



Sandbox Testing

Question 1:

In sandbox testing, can the Callback URL be pointed to a our local test server using `http://localhost?` Our development is on the local machine, instead on the public cloud.

Answer:

The use of Corppass Authentication is a collaboration between IRAS and GovTech built on the National Digital Identity (NDI) framework. Currently, we have two (2) environments for Corppass – Staging and Production. The Staging environment is a near-replica of the Production environment, designed to simulate as close as possible the requirements for Production.

Since the requirements to use Corppass includes the use of TLS/SSL encrypted connections from the client via internet, the Sandbox environment also requires an internet-accessible server that Corppass can redirect back to the server that triggered the original call to Corppass, via a Callback URL.

Callback URL

Question 2:

Our company offers the solution to multiple clients that are hosted on their own on-premise servers, or have their own dedicated domain servers. Should we register a different Callback URL for each of those clients?

Answer:

Your main server is expected to manage and handle the various requests and responses for your respective clients whether or not their servers are hosted on their own servers or domains. As such, a single server Callback URL is required to act as a gateway or proxy.

To manage and reconcile the different requests and responses to the respective clients, is to use the **state parameter**. The state parameter can be used to identify which Auth Code and Access token belongs to which client, so that the correct submission is made for the client, through your server.

Please see the [Corppass and Callback URL Guide](#) for more details.

Callback URL

Question 3:

Once we have generated a Client ID for our App and registered the Callback URL, can we change it at a later stage?

Answer:

Changing the App Client ID and Callback URL is possible but not advisable as it will cause disruptions to your subscription and services. Re-registration of new/ updated Client ID and Callback URL may also cause delays to onboarding. It will take up **1-2 weeks** to apply the change.

Self-signed SSL

Question 4:

Can I use a self-signed SSL certificate for my server's domain name that will be used to support the Callback URL required for testing?

Answer:

You cannot use self-signed SSL certificate to support testing with Callback URLs our OAuth servers would need to know which domain to redirect to, on the internet. Ensure that the Callback URL follow the FQDN syntax. (e.g. <https://www.AYP.com/callback>)

Please see the pre-requisites for Callback URL registration here – <https://go.gov/sg/apicallback>.

Private Domain Hosting

Question 5:

Due to the security and sensitivity of our clients' data, our customers' systems do not have access to the internet. How are my clients able to submit their tax data via IRAS API?

Answer:

Where internet is available, the measures taken by Government going forward, is that submission of tax data would need to be authenticated, just like how Tax Payers access IRAS' online digital service at myTax Portal by logging in with Singpass or Corppass.

Please see the [Corppass and Callback URL Guide](#) for more details.

Private Domain Hosting

Question 6:

To support my clients who are hosting the software on their own private domains, can I facilitate the submissions via a file upload service through our own server?

Answer:

The submissions of tax data via API must be authenticated and authorised via Corppass by your clients directly. As such, you can provide a file upload UI facility on your server, as long as they are able to authenticate via Corppass.

This means that during the submission of tax data through your solution, your clients must be able to authenticate with Corppass and provide consent to your solution, to submit the data on their behalf. Corppass API integration is still required on your solution to support this submission.

Misc

Question 7:

Can I use a desktop application (e.g “Windows Program”) on my laptop or computer to integrate with this API and support Corppass authentication too?

Answer:

Corppass Authentication and Authorisation require a server-to-server connection, hereby requiring a need for a server on the internet to handle redirects from Corppass OAuth server via a Callback URL.

You can still use a desktop or laptop application, as long as there is an internet server in between, to handle auth code and token exchanges so that it can support Corppass Authentication via internet.

Please see the [Corppass and Callback URL Guide](#) for more details.

Misc

Question 8:

What is the max length, allowable characters and format of the state parameter used for Corppass Authentication API?

Answer:

Max length: The same max length used string data type.

Allowable characters: Characters supported for string data type.

Format: The state parameter is used to protect against cross-site request attacks ("XSRF") attacks in an OAuth flow. It is also an identifier to reconcile API requests and responses. It must be unique for each API request, and must be the same value used in a single Corppass Authentication call (*i.e, when retrieving the Auth Code via CorppassAuth and access token via CorppassToken API methods*).

Misc

Question 9:

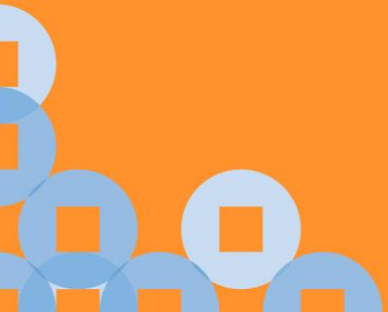
How should the system determine that the records that were submitted via API were processed successfully?

Answer:

An API Response with Status Code "200 OK" will be returned if the API submission is successfully processed.

However, there will be no summary information of the number of records processed. Therefore, it is highly advisable that your system incorporates a way to check and display the status of your submitted records.

Annex



Annex A: Sandbox & Production Maintenance Hours

Please take note of our **Maintenance Hours** (Singapore Time) for both environments:-

| Sandbox (Daily Maintenance Hours) | Sandbox (Corppass Weekly Maintenance Hours) | Production (Weekly Maintenance Hours) |
|---|--|---|
| Everyday 1:00 PM – 3:00 PM Everyday 8:00 PM – 10:00 PM | Every Wednesday 3:00 PM – 11:59 PM | Every Wednesday 2:00 AM – 6:00 AM Every Sunday 2:00 AM – 8:30 AM |

Annex B: Callback URL requirements

Your company's system must support **Callback URL functionalities** including:

- Able to redirect users to the payroll software after Corppass login and consent
- Use Fully Qualified Domain Name (FDQN),
- Able to accept parameters
- Doesn't contain IP address, port number, Hash(#) or Wildcard(*) characters
- Must not contain any query parameters (E.g. <https://yourdomain.com/yourCallbackURL?query1=myquery1&query2=myquery2>)
- Have a different URL set up for IRAS Sandbox & Production environments.
- Must be hosted on a server with a Secure Sockets Layer (SSL) certificate (e.g. <https://yourdomain.com/yourCallbackURL>)



Callback URL registration

<https://go.gov.sg/apicallback>

Annex C: Connectivity Test


To ensure that Corppass/Singpass can redirect to your server's registered Callback URL successfully, perform the following connectivity test **once** in the Production environment.

Connectivity Test

Perform a connectivity test from your software/ application in the Production environment to the API service in Production.

If your software/ application is able to load the Singpass login page within your software/ application, your connectivity test is successfully completed.

You **do not** have to log in and submit any data.

 Please email Digital.Partnerships@iras.gov.sg to let us know that you have performed the above connectivity test. Provide details of your app using the template on the right and include a screenshot of the Singpass Login page.

| | |
|--------------|------------|
| Environment | Production |
| App Name | |
| Client ID | |
| Callback URL | |

Singpass Login Page (sample)

