

Customs Declaration Service

Full Declaration API

v0.4

Document Version

Please note: This is a working document and is subject to change. Please check back periodically to ensure you have the latest version of this spec.

Overview

This API allows the submission of UK CDS XML (WCO 3.6) compliant declarations for asynchronous processing by the Customs Declarations Service (CDS). All declarations supported by the UK implementation of the WCO XML model can be submitted for processing via this API.

This API provides an immediate synchronous response indicating the success or failure of initial XML validation of the request payload, and confirmed delivery to the core CDS system for onward processing. Subsequent responses from core CDS will be returned via an asynchronous push notifications process (detailed below).

Versioning

Specific versions are requested by providing an Accept header. When backwards-incompatible API changes are made, a new version will be released. Backwards-compatible changes are released in the current version without the need to change your Accept header. See our reference guide for more on versioning.

Errors

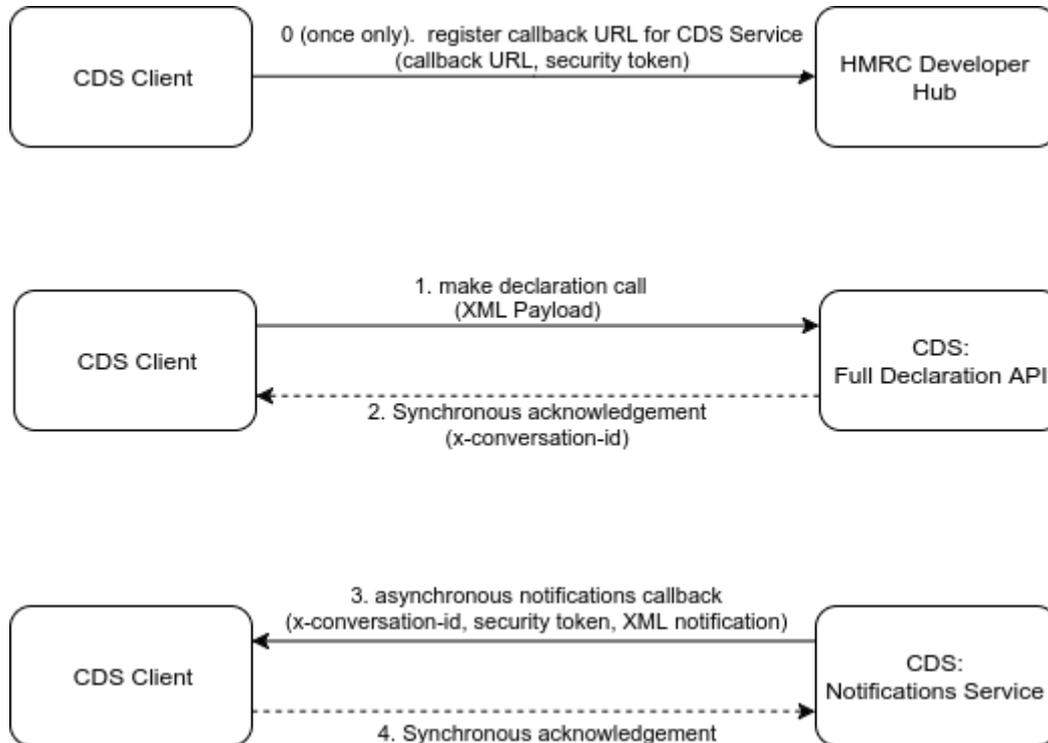
HMRC uses standard HTTP status codes to indicate the success or failure of an API request. In general, status codes in the 2xx range indicate success. Status codes in the 4xx range indicate a client error, and have a consistently formed XML response body. Codes in the 5xx range indicate errors on the HMRC server. API-specific errors are shown in the relevant resource's response detail. See our reference guide for more on errors.

Authorisation

Access to the service, and identification of the originating CDS client system is managed by the OAuth framework. A request to this service must include a server token or OAuth 2.0 Bearer Token. See our reference guide for more on authorisation and authentication.

Generic Messaging Pattern

The general messaging pattern for the full request / sync response / async response cycle is as follows:



0. **CDS client** registers for the **CDS Full Declaration API**, on the **Developer Hub**, supplying a call-back URL for all future service notifications (e.g. declaration notifications), and a security token (generated and owned by the CDS Client) – *this is done only once for each CDS service*.
1. **CDS Client** makes a request to **CDS Full Declaration API**
2. **CDS Full Declaration API** sends a synchronous acknowledgment response to **CDS Client**
3. **CDS Notifications Service** submits an asynchronous notification request to **CDS Client** via call-back URL
4. **CDS Client** sends a synchronous acknowledgment response to **CDS Notifications Service**

Call-back URL Registration and Authentication

The CDS Client will register for the CDS Full Declaration service on the HMRC Digital Developer Hub website. When registering the client will provide both the call-back URL and a security token.

The security token will be provided in all subsequent asynchronous requests (made from HMRC to the client's call-back URL) as a way of the client identifying that the call-back request originates from HMRC.

Request

POST : api.service.hmrc.gov.uk/customs/full/declaration

Request Headers:

Name	Value	Description
Accept	application/vnd.hmrc.1.0+xml	Specifies the version of the API that you want to call.
Content-Type	application/xml	Specifies the format of the request body, which must be XML.
Authorization	<OAuth bearer token>	See API developer Hub authorisation guidelines.

Payload:

Fully compliant (well-formed and valid) CDS declaration XML as per published CDS declarations XML specifications and associated XML Schema. *These are in-turn WCO 3.6 compliant – see companion XML specifications and associated documentation for details.*

Synchronous Response

There will be a synchronous response to the initial declaration submission. This response will indicate 1 of 3 main scenarios, using the following HTTP status codes:

Response Codes

HTTP Status	Code	Scenario	Action
202	ACCEPTED	XML validation was successful. Request confirmed as delivered to core CDS for further processing.	Await asynchronous push notifications
400	BAD_REQUEST	XML Validation failed. Body will contain detailed validation errors. See error section below	Correct payload and resubmit.
500	INTERNAL_SERVER_ERROR	The server encountered an unexpected condition that prevented it from fulfilling the request. Body will contain additional details.	The request will not have been delivered to core CDS. Resubmit after service issue have been resolved.

Response Headers

Name	Value	Description
Content-Type	application/xml	Specifies the format of the response body (there will be a response body in the case of an error, and this will be XML.)
X-Conversation-ID	Class 4 UUID	A unique reference identifying this declaration. Subsequent asynchronous pushed notification request to the CDS clients call-back URL will include this same header, and value, and can be used to identify the declaration to which that notifications is associated (this is in addition to any declaration references contained within the XML payload of either the original request or subsequent notifications).

Payload

For 202 response there will be no body content

Error responses

In the case of an error during processing of the request (either a validation issue, a problem passing the request to core CDS, or some other internal error) an XML object will be returned along with an appropriate HTTP status code.

Invalid Request

The client sends invalid data (i.e. the payload XML is malformed, or invalid) the system returns HTTP status 400 with this payload, e.g.

```
<?xml version="1.0" encoding="UTF-8"?>
<error_response>
  <status>400</status>
  <code>BAD_REQUEST</code>
  <errors>
    <error>
      <name>xml_validation_error</name>
      <details>Some specific xml validation error message</details>
    </error>
    <error>
      <name>xml_validation_error</name>
      <details>A second specific xml validation error message</details>
    </error>
  </errors>
</error_response>
```

Internal Server Error

The server fails to process the request, such as server down, system errors, etc., e.g.:

```
<?xml version="1.0" encoding="UTF-8"?>
<error_response>
  <status>500</status>
  <code>INTERNAL_SERVER_ERROR</code>
  <errors>
    <error>
      <name>cds_comms_error</name>
      <details>The declaration was not successfully delivered to core CDS
due to a communications error. Please resubmit.</details>
    </error>
  </errors>
</error_response>
```

Asynchronous Responses

Following the synchronous response to the initial request there will be **one or more** asynchronous responses (aka. Notifications) sent from core CDS to the CDS client via the Digital service.

The “responses” will be HTTPS requests to the CDS Clients registered call-back URL.

Call-back Service

The CDS client’s call-back service *must* meet the following specification:

- It must be accessible via the internet (HMRC cannot guarantee the originating IP address of call-back requests)
- It must use HTTPS protocol (HTTP URLs will not be accepted at time of registration)
- The server certificate must be valid and from a CA recognised by HMRC
- It must not require client certificates
- It must accept a POST operation
- It must accept application/xml payload
- It should accept the x-request-id header, and return it unchanged
- It should return a 2XX status for successful receipt of the notification (*no further attempts will be made to deliver the same notification*)
- It should return any other status for unsuccessful receipt of the notification (*the same notification will be redelivered after a delay*)

Request Headers:

Name	Value	Description
Content-Type	application/xml	Specifies the format of the response body, in the case of an error, which will be XML.
X-Conversation-ID	Class 4 UUID	The reference identifying the parent declaration. To which this notification belongs.
X-Request-ID	Class 4 UUID	A unique reference identifying this particular request / response pair. Should (optional) be returned by the CDS client's call back handler.
Authorization	Token: <token value>	The security token provided by the CDS Client at the time of registering the call-back URL on the developer hub.

Payload:

Fully compliant (well-formed and valid) CDS declaration notification XML as per published CDS XML specifications and associated XML Schema. *These are in-turn WCO 3.6 compliant – see companion XML specifications and associated documentation for details.*