mEDRA Web Service:
Http Callback User Guide
version 1.0

This User Guide describes the "HTTP-callback" notification service provided by mEDRA to facilitate the integration and communication with users' publishing platforms.

How to be notified

Since the procedure for processing requests is asynchronous, mEDRA users can be notified about the outcome of their submissions in two different ways:

1. e-mail
2. HTTP callback

The notification mode can be specified for each single message, properly setting the `NotificationResponse` element in the `Header`:

- **01** for e-mail notification
- **02** for notification via HTTP-calback

In the message, email address (`FromEmail` element in the `Header`) must be specified anyway, even if the notification mode selected is HTTP-callback. In this way, the system is able to send the report of the request to the user via e-mail even when the system encounters some difficulties in replying to the user endpoint service via HTTP callback.

E-mail notification

This is the default notification mode: the system sends the report with the outcome of the submission in HTML format to the email address specified in the `FromEmail` element (mandatory) in the request `Header`.

HTTP-callback notification

HTTP-callback notification allows users to automatically process the outcome of their submissions. For this purpose, the user must provide a service that can receive an XML document via HTTP POST.

When the system is ready to communicate the outcome of a submission, it queries the HTTP service passing it the report in XML format as a parameter and waits for confirmation of receipt. That response, coming from user side, is a simple XML message compliant with the following schema:

http://www.medra.org/schema/callback/doiHttpCallbackResponse.xsd

In case the system does not receive any reply, or the response has a negative outcome, the report will be forwarded by e-mail, as specified in the "E-mail notification" section above.

Requirements of the HTTP-callback service

The HTTP service provided by the user for HTTP-callback notification should be able to:

- receive a POST HTTP request, via POST method conveying submission report in XML format (described later)
- validate the received report according to the schema:
  http://www.medra.org/schema/callback/doiWSResponse.xsd
- reply with an XML document (HTTP Response with `Content-type:text/xml` and `charset=UTF-8`) with the outcome of the received report, according to the schema
  http://www.medra.org/schema/callback/doiHttpCallbackResponse.xsd

For example, if the report is not valid according the schema `doiHttpCallbackResponse.xsd`, it should be returned an XML document like the following:

```
<HttpCallbackResponse xmlns="http://www.medra.org/httpCallbackResponse">
        <operation>DOIUpload</operation>
        <failureDescription>record not valid</failureDescription>
        <status>failure</status>
</HttpCallbackResponse>
```

Instead, if the report is valid according to the schema, but the user cannot bind the value of the `submission-id` element from the report to the one returned previously at the time of submission, the XML document returned should be:

```
<HttpCallbackResponse xmlns="http://www.medra.org/httpCallbackResponse">
        <operation>DOIUpload</operation>
        <failureDescription>submission-id not valid</failureDescription>
        <status>failure</status>
</HttpCallbackResponse>
```

In general, if the report is not valid, the user has to create an XML document with a `<status>` equals to 'failure'. In the `<failureDescription>` the user can then enter a text description of the error. If the user does not find any error, the XML document will be like:

```
<HttpCallbackResponse xmlns="http://www.medra.org/httpCallbackResponse">
        <operation>DOIUpload</operation>
        <status>success</status>
</HttpCallbackResponse>
```

In order to use this notification mode, the user must communicate to mEDRA details of its own HTTP service, such as the URL and access credentials (if any).

The XML report

When the request is processed and completed, the system generates a report with the description of the request outcome. If the user chooses to receive the report via HTTP-callback (by specifying properly the `NotificationResponse` element) the system produces an XML document compliant to the schema:

http://www.medra.org/schema/callback/doiWSResponse.xsd

An example of the XML report looks like the following:

```xml
<report xmlns="http://www.medra.org/doiWSResponse">
        <submission-id>ANGIOLINIREG_20150421144254_en</submission-id>
        <operation>DOIUpload</operation>
        <submitted-tot>3</submitted-tot>
        <success-record>
                <DOI>10.1404/79198</DOI>
                < notification-type>06</notification-type>
        </success-record>
        <success-record>
                <DOI>10.1404/79199</DOI>
                < notification-type>07</notification-type>
        </success-record>
        <failure-record>
                <DOI>10.1402/79226</DOI>
                <notification-type>06</notification-type>
                <error>10.1402/79226 (error code DOI_ALREADY_EXISTS)</error>
                <status>nothing was uploaded/updated</status>
                <status-code>10</status-code>
        </failure-record>
        <success-tot>2</success-tot>
        <failure-tot>1</failure-tot>
</report>
```

As you can see from the above example, the XML report is structured as follows:

- `<submission-id>`: contains the identifier that mEDRA system assigned to the request (this code is sent in the synchronous SOAP response). This value allows the user to correctly associate the report with the request;
- `<submitted-tot>`: the total number of records contained in the original message;
- `<success-record><failure-record>`: description of the processing outcome of a single record;
- `<success-tot>`: the total number of records successfully completed
- `<failure-tot>`: the total number of records completed with failure