# Application Integration Guide

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# 1. Introduction

The ComplianceAssist API is available for use where a client wishes to process a higher volume of requests and would like these to be submitted automatically from their own systems rather the entered via the available web portal.

The purpose of this document is to detail exactly how to undertake this integration and the requirements of the ComplianceAssist systems.

The API will expect to receive an encrypted array of data via HTTP Post. A unique encryption key will be provided to ensure the same high level of security that is offered to users of the web portal.

# 2. Preparation

Our team will supply a unique encryption key, Client ID and User ID to be used in the creation of the HTTP posts.

The following table gives details of the API URLs which to post requests to:

| | |
|---|---|
| Testing | https://demo.complianceassist.co.uk/api/index.php |
| Production | https://portal.complianceassist.co.uk/api/index.php |

During development of your integration you should ensure that HTTP Posts are only sent to our testing server.

The ComplianceAssist systems are restricted to permit posts from specified IP addresses and will reject HTTP posts from other servers for security reasons. To prepare for the integration process you will be required to supply details of the IP addresses for your Test and Production servers. The ComplianceAssist systems will then be configured to allow requests to be posted.

In addition to supplying the required IP addresses a Return URL must be supplied. This will be set as the default URL for the posting of any return messages. Should different URLs be required for testing and production then both should be supplied.

## 2.1. Data Preparation and Encryption

In order to send data to the API first create a data array containing all of the mandatory fields. Next create a JSON encoded string from your data array then encrypt using a XOR cipher with the unique encryption key followed by Base64 encoding. (code examples for this process can be provided upon request)

The encrypted fields should be submitted as field name “crypt” in the HTTP post.

The HTTP Post must supply one unencrypted field that identifies the Client ID which has been provided. The client field should be submitted as field name “client_id”.

Note: Data within each field must not exceed 245 characters.

### 2.2. Mandatory Information to be Encrypted

Whilst each different screening profile will provide feedback at the point of submission regarding any missing fields or errors in data submission, there are certain fields which are mandatory regardless of request type;

| Description | Field | Content |
|---|---|---|
| Client ID | client_id | Numerical field |
| User ID | user_id | Numerical field |
| Return URL | http_url | URL for response messages to be sent to |
| Screening Profile Short Code | request_type | Code relating to Request Type |
| Subject of Search | search_subject | “individual” or “company” |
| Reference | reference | Your unique reference |

A Return URL is required within the encrypted data (http_url field) for future communication about the request (i.e. status updates). The provided URL will be used to provide a return HTTP Post once processing is complete. Upon submission of a request using the API an immediate response will be provided and the results will also be communicated separately back to the Return URL. Subsequent changes to a request will be sent to the Return URL provided.

Should any issues occur when decrypting a message a response will be posted to the default return URL.

### 2.3. Request Information to be Encrypted for Individuals

| Description | Field | Type | AML |
|---|---|---|---|
| Title | title | String | O |
| First Name | firstname | String | M |
| Middle Name | middle_name | String | O |
| Last Name | surname | String | M |
| Previous Last Name | previous_surname | String | O |
| Gender | gender | “Male” or “Female” | M |
| Date of Birth | date_of_birth | DD/MM/YYYY | M |
| Flat Number | flat | String | M* |
| House Name | house_name | String | M* |
| House Number | house_number | String | M* |
| Address line 1 | addr_1 | String | M |
| Address line 2 | addr_2 | String | O |
| City | city | String | M |
| County | county | String | O |
| Country | country | “United Kingdom” | M |
| Post Code | postcode | String | M |
| Resident From | resident_from | DD/MM/YYYY | O |
| Previous Address Flat Number | previous_flat | String | O |
| Previous Address House Name | previous_house_name | String | O |
| Previous Address House Number | previous_house_number | String | O |
| Previous Address line 1 | previous_addr_1 | String | O |
| Previous Address line 2 | previous_addr_2 | String | O |
| Previous Address City | previous_city | String | O |
| Previous Address County | previous_county | String | O |
| Previous Address Country | previous_country | “United Kingdom” | O |
| Previous Address Post Code | previous_postcode | String | O |
| Previous Address Resident From | previous_resident_from | DD/MM/YYYY | O |
| Previous Address Resident To | previous_resident_to | DD/MM/YYYY | O |
| Home Telephone | telephone_home | String | O |
| Work Telephone | telephone_work | String | O |
| Nationality | nationality | String | O |
| Notes | notes_text | String | O |

| | | | |
|---|---|---|---|
| Consent (ID verification only) | Consent | "Yes" | M |

### 2.4. Request Information to be Encrypted for Companies

| Description | Field | Type | AML |
|---|---|---|---|
| Company Name | company_name | String | O |
| Address line 1 | addr_1 | String | M |
| Address line 2 | addr_2 | String | O |
| City | city | String | M |
| County | county | String | O |
| Country | country | String | M |
| Post Code | post_code | String | M |
| Domicile | domicile | String | O |
| Notes | notes_text | String | O |

**M = Mandatory** **M* = At least one field must be provided** **O = Optional**

## 3. Handling Response Messages

Once a request has been processed, the API will provide an immediate reply as well as posting an encrypted string back to the Return URL. Decrypting the information will be the reverse process of the encryption, your unique encryption key will be used by the API when sending information back.

Appendix A contains an example message structure displaying the fields that will be returned. Where a submitted request is not fully automated the structure will be the same with the exception of no results array.

Any errors generated will be returned in the array under the key "errors". An example message is included in Appendix E. A selection of these errors should only be encountered during the development phase but some may require action to be taken to resolve in the production environment. A list of the possible error codes can be found in Appendix F. If the error is related to authentication a standard HTTP response will be received and the error message sent to the return URL only.

You will receive a "unique_api_ref" each time a submission is made, regardless of whether errors are generated or the request submission has been successful. This API reference can be traced by our team when diagnosing any technical support issues.

When the request submission successfully generates a new request, the array will contain a "request_id" value which relates to the new request within the ComplianceAssist web portal along with a multilevel "results" array explaining the results from the screening.

The following table shows the possible combinations of results for the checks undertaken and the status that will be assigned to the request.

| ID Validation | Sanctions and PEPs | Request Status |
|---|---|---|
| Authenticated | No Matches | Complete |
| Refer | No Matches | Escalated to Client |
| Not Authenticated | No Matches | Complete |
| Authenticated | Potential Matches | Processing |
| Refer | Potential Matches | Processing |
| Not Authenticated | Potential Matches | Processing |

Should the ID Validation response come back as Refer then additional refer codes are returned. An example message is included in Appendix B and a list of the refer codes in Appendix C.

## 4. Future status updates

When the API needs to communicate updates to a request at a later date, it will use the http_url defined in the original request. Similar to the output from the initial submission, an encrypted array of data will be received. The “request_id” and “reference” will be the key identifiers with the new status forming part of the “update” array. An example status update message is included in Appendix D.

All status changes are sent as an update, however not all updates my require action to be undertaken. The possible status updates are:

| Status |
|---|
| Submitted |
| Processing |
| Information Requested |
| Escalated |
| Escalated to Client |
| Complete |
| Cancelled |

## Appendix A – Sample Response Message

```
Array
(
    [reference] => OCT1234
    [request_id] => 25124
    [results] => Array
        (
            [sanctions_peps] => Array
                (
                    [results] => Array
                        (
                            [level] => success
                            [msg_txt] => Search completed - No matches found
                            [sanctions_peps_result] => No Matches
                        )
                )
            [experian] => Array
                (
                    [results] => Array
                        (
                            [level] => success
                            [msg_txt] => Search completed - Identity Confirmed
                            [experian_result] => Authenticated
                        )
                )
        )
    [current_status] => Complete
    [timestamp] => 2012-10-22 16:12:17
    [unique_api_ref] => 34
)
```

## Appendix B – Sample Refer Message

```
Array
(
    [reference] => OCT1235
    [request_id] => 25125
    [results] => Array
        (
            [sanctions_peps] => Array
                (
                    [results] => Array
                        (
                            [level] => success
                            [msg_txt] => Search completed - No matches found
                            [sanctions_peps_result] => No Matches
                        )
                )
            [experian] => Array
                (
                    [results] => Array
                        (
                            [level] => warning
                            [msg_txt] => Search completed - Refer - Caution. One o
r more conditions have been returned that apply to this request based on the rules
implemented in the selected query.
                            [experian_result] => Refer
                            [ref_code] => Array
                                (
                                    [0] => U018
                                )
                        )
                )
        )
    [current_status] => Escalated to Client
    [timestamp] => 2012-10-22 16:22:13
    [unique_api_ref] => 35
)
```

## Appendix C – Referral Codes

| | |
|---|---|
| U000 | No trace of supplied addresses, or manual authentication required by the Applicant |
| U001 | Applicant name found on the mortality file |
| U004 | Current address found on the Experian Accommodation Address File - Highlights non-residential addresses, including houses and addresses providing secretarial support. This data is updated monthly. |
| U007 | Potential developed identity |
| U018 | Significant application data inconsistencies present |

## Appendix D – Sample Status Update Message

```
Array
(
    [reference] => OCT1234
    [request_id] => 25130
    [current_status] => Escalated
    [new_status] => Escalated to Client
    [timestamp] => 2012-10-22 16:35:30
)
```

## Appendix E – Sample Error Message

```
Array
(
    [reference] => DHAPI0701
    [errors] => Array
        (
            [0] => country is not a valid country (requires ISO code for Experian
searches)
            [1] => date_of_birth field missing
            [2] => gender field missing
        )
    [error_codes] => Array
        (
            [CA0003] => 3
        )
    [timestamp] => 2012-11-07 12:39:16
    [unique_api_ref] => 300
)
```

## Appendix F – Error Codes

| | |
|---|---|
| CA0001 | Only n requests remaining |
| CA0002 | You do not have enough remaining requests for this type of search |
| CA0003 | *Field error message – See example in Appendix E* |
| CA0004 | Request timed out – Try again |
| CA0005 | An error has occurred while processing you request – Contact support quoting ***nnnn*** |
| CA0006 | Unable to decrypt data provided / IP address not permitted to submit to API handler |
| CA0007 | Provider errors (critical) |