KBRA CMBS Research API

Contents

1) OVERVIEW

The KBRA CMBS Research API is designed to allow our clients to programmatically download the KCP KWIRE and other KBRA CMBS Research Reports.

2) ACCESSING THE CMBS RESEARCH API

In order to access the CMBS Research API, a client must have KBRA provided credentials. Please email kcp-datafeed@kbra.com to request a set of credentials.

You will then receive a Client ID and Client Secret. These client credentials are what you will need to exchange for an Access Token.

The CMBS Research API access implementation is based on the Client Credentials Grant flow of the OAuth2 specification.

3) AUTHENTICATION & ACCESS

The CMBS Research API access authorization flow follows these basic steps:

1. Client makes a request to the **POST /oauth** endpoint to exchange their client credentials for an Access Token.
2. Once in possession of the Access Token, the Client can then access resources behind the **/oauth** endpoint.

There are a few technical limitations that should be noted:

- The Client must provide the given Access Token as a query parameter on the endpoint every time they are making a call behind the **/oauth** endpoint.
- All Access Tokens have an expiration time of 120 seconds from initial issuance.
- In order to communicate with the CMBS Research API, SSL is required

Step 1: Obtain an Access Token

Your client key and secret must be exchanged for an access token by issuing a request to **POST /oauth**:

- The request must be a HTTP POST request.
- The body of the request must include the client key, client secret, and grant type.
    - Ex:
      grant_type=client_credentials&client_id=test_client&client_secret=test_se cret
- The request must include a **Content-Type** header with the value of: application/x-www-form-urlencoded

Example Request:

```
POST /oauth
Host: kcp.krollbondratings.com
User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64) AppleWebKit/537.36 (KHTML, l
```

```
        ike Gecko) Chrome/36.0.1985.125 Safari/537.36
Content-Type: application/x-www-form-urlencoded
Accept: */*

grant_type=client_credentials&client_id= client_1_20_1406828366&client_secret=
MGIvwmk2jgE9oQyiJebV
```

Example Response:

```
Status: 200 OK
Content-Type: application/json
...
Content-Length: 111
```

```
{"access_token":"4ee0eec5250e729d3ae8f85c6a385dc82e91146f","expires_in":120,"token_typ
e":"Bearer","scope":null}
```

Step 2: Authenticate API endpoints with provided access token

Once the Client is in possession of the Access Token, it may be used to issue requests to the CMBS Research API endpoint described in this document. To use the access token, construct a normal HTTPS GET request with an access_token query parameter containing the token.

Example Request:

```
GET /oauth/research?access_token=4ee0eec5250e729d3ae8f85c6a385dc82e91146f
Host: kcp.krollbondratings.com
User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/36.0.1985.125 Safari/537.36
Content-Type: text/plain; charset=utf-8
Accept: */*
```

4) ENDPOINTS

The CMBS Research API contains two primary endpoints through which you may obtain resources. The first one is the Research RSS Feed, which provides details on recent research publications. Once the Client knows which Reports are available, they can then query the second endpoint, the Research Report Download endpoint for downloading actual reports.

In all cases, the Client needs to include an Access Token in any call they are making behind the **/oauth** endpoint.

4.1) RESEARCH RSS FEED ENDPOINT (/OAUTH/RESEARCH)

The Research RSS Feed endpoint provides a RSS feed of information as reports are published. The feed itself follows the RSS 2.0 specification of required fields, as well as a pubDate field at the Channel and Item levels.

4.1.1) RESEARCH RSS ENDPOINT PARAMETERS

PARAMETER	REQUIRED	REQUIREMENTS	DESCRIPTION
SINCE	No	*Format*: RFC822 *Ex*: Mon, 15 Aug 14 15:52:01 +0000	Include this query parameter to specify

			the start date for this feed.

Note: We recommend that you initially call this end point without a SINCE date specified, to receive all the publication events currently available. For subsequent calls, you should specify the pubDate value from the RSS feed as the SINCE value. This will ensure that you only see new events since your last request.

When calling without a SINCE date specified, you will only receive reports published in the previous ten (10) days.

4.1.2) RESEARCH RSS FEED ENDPOINT – CHANNEL
The primary channel serves as a container for items and provides basic information about the RSS feed.

FIELD NAME	DESCRIPTION
title	Research RSS Feed title
link	Research RSS Feed location – this is the authenticated REST API endpoint for accessing the feed.
description	Sentence describing the channel and our contact information.
pubDate	The RFC822 formatted date of the most recent report publication date. This defaults to today's date if there have been no deals updated since the 'since' date.

4.1.3) RESEARCH RSS FEED ENDPOINT – ITEM
Each item represents a Research Report published since the given (or default) 'since' date.

FIELD NAME	DESCRIPTION
Title	Research Report Title
Link	Link to Research Report. This is an id appended to the Research Report Download endpoint.
pubDate	The RFC822 formatted date this report was published.
kcp:reports	A collection of kcp:report elements representing any supporting documents underlying the Research Report (as an example this would include the Auction Data Spreadsheet for KWIREs). Each of these elements consists of a report *name* attribute, and the primary element content is a link to a Report Download endpoint for the given report.

Note: *report* elements are defined in the KCP namespace as allowed for by the RSS specification and described by the W3C.

4.1.4) RESEARCH RSS FEED ENDPOINT – ELEMENTS

Example Response:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<rss xmlns:kcp="http://schema.kbra.com/kcp/rss" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" version="2.0">
    <channel>
        <title>KCP Report Feed</title>
        <link>https://kcp.krollbondratings.com/oauth/research</link>
        <description>Please contact kcphelp@kbra.com with any questions or
concerns.</description>
        <pubDate>Sat, 04 Mar 17 12:38:44 -0500</pubDate>
        <item>
            <title>
        <![CDATA[CMBS: HYDRA Summit Recap]]>
    </title>
            <link>https://kcp.krollbondratings.com/oauth/research/6450</link>
            <pubDate>Fri, 10 Mar 17 00:00:00 -0500</pubDate>
            <kcp:coverage xsi:nil="true"/>
        </item>
        <item>
            <title>
        <![CDATA[KCP Week In REview (KWIRE) Research Report]]>
    </title>
            <link>https://kcp.krollbondratings.com/oauth/research/6430</link>
            <pubDate>Tue, 07 Mar 17 00:00:00 -0500</pubDate>
            <kcp:coverage xsi:nil="true"/>
            <kcp:reports>
                <kcp:report name="KCP Week In REview (KWIRE)
Spreadsheet">https://kcp.krollbondratings.com/oauth/research/6431</kcp:report>
            </kcp:reports>
        </item>
    </channel>
</rss>
```

4.2) RESEARCH REPORT DOWNLOAD ENDPOINT (/OAUTH/RESEARCH/{REPORT-ID}

The Research Report Download endpoint provides access to all of the KBRA CMBS Research reports via links provided in the Research RSS feed. The primary link at the item level will download that particular Report. You can access any of the other supporting documents available via the download links specified in the Research RSS feed. There are no optional query parameters. The id route parameter is required and provided with the link to the download.

As a reminder, the Client needs to include an Access Token in any call they are making behind the **/oauth** endpoint.

5) STATUS CODES

HTTP Status Code	Reason
200	Success - A PDF or Excel File
400	Authentication Error
401	Unauthorized
404	The report could not be found.

6) API INTEGRATION: SWAGGER UI

In order to ensure that you are able to interact with the CMBS Research API, we are providing you with link to access Swagger UI for the API. Swagger provides a visual and interactive documentation of the API's resources. We hope this will make it easier to understand and implement the API. https://kcp.krollbondratings.com/assets/swagger-ui.

7) SUPPORT

Support for all questions is available at kcp-datafeed@kbra.com. This mail box is monitored by a combination of business and technical team members to ensure a prompt and accurate reply.