

HKEX Historical Data

Programmatic Data Download Function

API Interface Specification

Version 1.0

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2. Change History

Version Number	Issue Date	Remarks
1.0	03 Aug 2018	1 st issue

3. Overview

This function allows subscribers to download data products through the Programmatic Data Download API. Product files that can be downloaded from HKEX Historical Data webpage can also be downloaded by using this function.

Subscribers can send an API download request to HKEX Historical Data system with all required parameters (Table 1 in Section 3) to get the file download URL in a JSON format. If there is any issue on the request, a return code will be provided (Table 3 in Section 3). Subscribers can then download the product files using the download URL. Figure 1 below illustrates the flow.

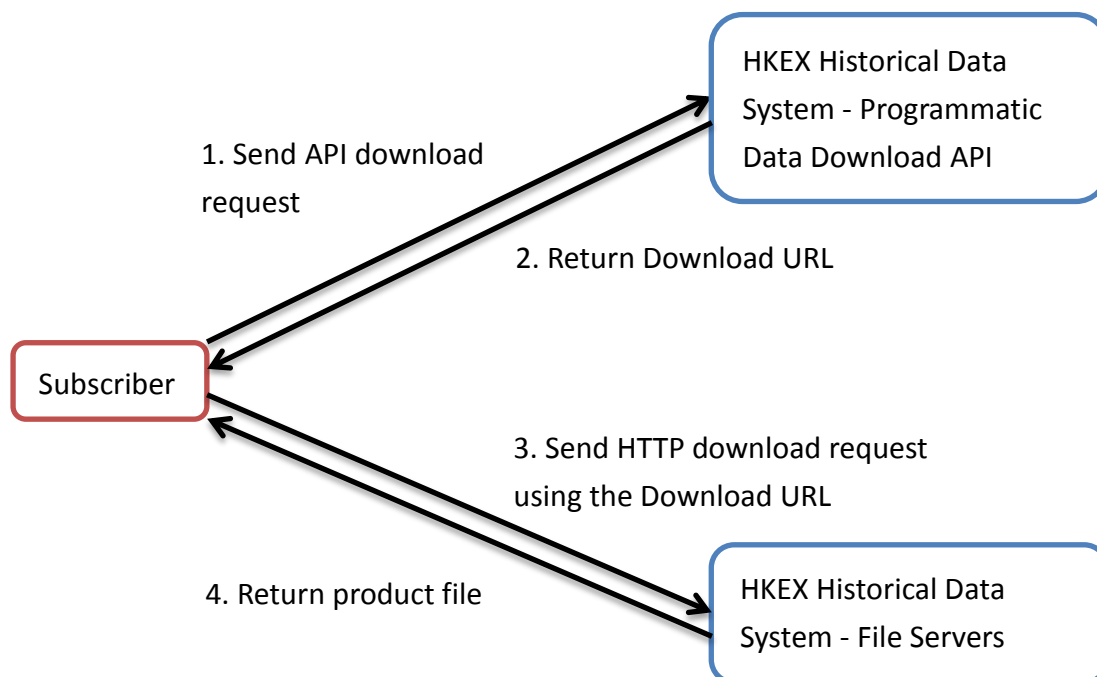


Figure 1. Process Flow of the Programmatic Data Download Function

4. Input and output parameters



All download request to the Programmatic Data Download API need to be sent to the following URL:

<https://www.hkex.com.hk/eng/ods/api/dldp.aspx>

Please note that HKEX Historical Data system **supports POST HTTP request only**. All requests with GET HTTP method will be rejected. Also, there are four required parameters for the request.

Table 1. Input Parameters

(Note: Diagrams below are for illustrative purpose only. User should use the actual values by logging in HKEX Historical Data Services)

Parameter Name	Value Example	Remarks
UserID	odsuser	User ID to login HKEX Historical Data Services .
AccessCode	A9iESbVU	It is a subscriber identification in the Programmatic Data Download API. Access Code can be retrieved or re-generated in My Account page. 
ProductID	000000303	Product ID of requested product. Product ID can be viewed by clicking the "Order No." in My Account page. 

IssueNumber	2018-07-01	<p>Issue Number of requested product. Issue Number can be viewed by clicking the “Data Products” in Data Download page.</p> <div data-bbox="730 409 1353 712" style="border: 1px solid black; padding: 5px;"> <p>Data Download</p> <p>Trade File - Derivatives Market (Non-SOM) (Binary Format)</p> <p>Order No.: A1800295</p> <p>Order Date: 03/07/2018 16:52:12</p> <p>Issue Basis: Daily</p> <p>Subscription Period: 01-Dec-2017 to 31-Jul-2024</p> <p>A subscribed issue can be downloaded for a maximum of 5 times only.</p> <table border="1" data-bbox="767 640 1342 712"> <thead> <tr> <th>Issue Number</th> <th>Status(No. of download)</th> </tr> </thead> <tbody> <tr> <td>2018-06-29</td> <td>Download (1)</td> </tr> <tr> <td>2018-03-21</td> <td>Download (0)</td> </tr> </tbody> </table> </div>	Issue Number	Status(No. of download)	2018-06-29	Download (1)	2018-03-21	Download (0)
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Table 2. Output Parameters

<i>Data Item</i>	<i>Length/ Data Type</i>	<i>Value</i>
ErrorCode	2 chars	Return Code, e.g. 00 Please see table 3 for details.
DownloadURL	Variable length	Download URL generated for product file download.

Table 3. Return Code

<i>Return Code</i>	<i>Error Description</i>
00	Request accepted. Download URL should be generated, please refer to output parameter “DownloadURL” to download the data product.
01	The User ID is not eligible for using Programmatic Data Download Function. Please contact us for more details.
02	Combination of UserID and AccessCode is invalid.
03	The payment of the order is not yet cleared or the order does not exist. Please check the order status in My Account page.
04	Either ProductID or IssueNumber is invalid or the issue is not yet ready for download.
05	The download count of requested Issue Number reaches 5 times. The download count can be checked by clicking the “Data Products” in Data Download page.

5. Example of API Download Request

Please note that this section is for illustrative purpose only which provides subscribers with information regarding the corresponding function. HKEX assumes no responsibility or liability for the use of the codes, conveys no license or title under any patent, copyright, or mask work right to the codes. HKEX also make no representation or warranty that such program codes will be suitable for the specified use without further testing or modification.

The following example written by C# illustrates the steps used to post an API Download Request to the HKEX Historical Data system for reference.

```
using System;
using System.IO;
using System.Net;
using System.Text;
using System.Web.Script.Serialization;

namespace Examples.System.Net
{
    public class ProgrammaticDownloadExample
    {
        public static void Main()
        {
            private static JavaScriptSerializer _Serializer = new JavaScriptSerializer();
            var request =
                (HttpWebRequest)WebRequest.Create("https://www.hkex.com.hk/eng/ods/api/dldp.
                aspx");
            var postData = "UserID =odsuser
                postData += "&AccessCode = A9iESbVU ";
                postData += "&ProductID = 000000303";
                postData += "&IssueNumber = 2018-07-01";
            var data = Encoding.ASCII.GetBytes(postData);
            request.Method = "POST";
            request.ContentType = "application/x-www-form-urlencoded";
            request.ContentLength = data.Length;
```

```

using (var stream = request.GetRequestStream())
{
    stream.Write(data, 0, data.Length);
}
var response = (HttpWebResponse)request.GetResponse();
var responseString = new
StreamReader(response.GetResponseStream()).ReadToEnd();
DownloadAPIRetrunClassModel serializedResult =
    _Serializer.Deserialize<DownloadAPIRetrunClassModel>( responseString);
Console.WriteLine(serializedResult.DownloadURL);
}
}
}

```

For a successfully request, API will respond with the URL:

```

{
    "Errorcode": "00",
    "DownloadURL": "https://www.hkex.com.hk/eng/ods/downloadFile.aspx?
args=Oq6037eI7pggzPdveKrSAMDuT3Kzm6qq3OKsyhGRjck8SbI8l0wp
8O9BsyWuTjCYuEladxKjv6ne4hGUye0PZu2H%2bNpcxAHGEM1OOt%2
b%2bV9Z3WBGZuOkQKrS%2fr8ywkLYv"
}

```

In case of an unsuccessfully request, return code will be returned with an empty Download URL:

```

{
    "Errorcode": "04",
    "DownloadURL": ""
}

```