

FCA Financial Instruments Reference Data System

Instructions on access and download of full, delta
and cancellations reference data files

January 2022

Version Control

Version	Date	Comments
1.0	December 2020	Initial version
1.1	June 2021	Updated timings for full reference data file generation
1.2	January 2022	Added information for cancellation data files, which will be applicable post the FCA's implementation of schema changes to support cancellation of instrument reference data

Contents

1	Introduction	3
2	Description of the reference data files generated by FCA FIRDS	4
3	Instructions to download full, delta and cancellations reference data files from the FCA website	5
4	Example Search Response	16
5	Date Time Format Examples	24
6	Example Queries	0

1 Introduction

The FCA Financial Instruments Reference Data System (FCA FIRDS) has been built to replace the European Securities and Markets Authority (ESMA) FIRDS in the UK as part of the FCA's planning for Brexit. The purpose of this document is to provide:

- details on the instrument reference data files that FCA will publish; and
- instructions on how to access these reference files.

The intended audience is the UK and EU market participants which need to make use of the instrument reference data for the purpose of complying with the Markets in Financial Instruments (Amendment) (EU Exit) Regulations 2018 (UK MiFI Regs) and the associated Binding Technical Standards.

The FCA FIRDS files are a consolidation of instrument reference data collected from:

- UK Trading Venues,
- UK Systematic Internalisers (SIs), and
- the ESMA FIRDS files containing the EU27 instrument reference data downloaded from ESMA's public website.

References, in this document, as to the timings of when files will be made available may be subject to change: any changes will be communicated to firms.

1.1 Acceptable Use

To minimise disruption to the FCA FIRDS service caused by irregular traffic patterns, malicious (e.g. DDOS) or accidental, all requests to both the UI Web Form and the API service will be rate limited. The FCA will use this as a basis to optimise the performance of the system utilising the various tools and techniques that are built into the solution.

Note: the individual file download links will not be subject to throttling as they are served via a separate solution.

2 Description of the reference data files generated by FCA FIRDS

FCA FIRDS makes instrument reference data available in the form of machine-readable files:

- a. **Full file:** this file contains complete instrument reference data received by the FCA before applicable cut-off time (21:00 CET¹) and is consolidated with the ESMA EU27 reference data, for all instruments that are still active.
- b. **Delta file:** this file contains all records of instrument reference data for which a change has occurred (addition, modification, termination, cancellation) since the generation of the last set of files, e.g., in the following situations:
 - I. An instrument starts to trade on a trading venue: new (ISIN, MIC) - <NewRcrd>
 - II. An instrument ceases to trade on a trading venue: the (ISIN, MIC) is terminated - <TermtdRcrd>
 - III. A modification has been made in the reference data fields or in the relevant competent authority field for the instruments that are only traded on EU27 trading venues - <ModfdRcrd>
 - IV. An instrument that has been cancelled by the trading venue: the (ISIN, MIC) is cancelled - <CancRcrd>
 - V. Note that in exceptional cases, some of these records may relate to instruments that have been terminated already, e.g., it may be that an ISIN-MIC is reported for the first time at a very late stage, after it has been terminated, or may undergo a correction in its reference data, after it has been terminated. In these cases, the corresponding record will only be available in the Delta file and will not appear in the Full file
- c. **Cancelled records file:** this file contains cancelled instrument reference data which has been submitted to the FCA before applicable cut-off time (21:00 CET) and is consolidated with the ESMA EU27 cancelled instrument reference data.

The list of reference data fields published by the system are:

- a. Fields described in Tables 1, 2 and 3 of the Annex of onshored Binding Technical Standard (BTS) 23 (*Commission Delegated Regulation (EU) 2017/585 of 14 July 2016 supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council with regard to regulatory technical standards for the data standards and formats for financial instrument reference data and technical measures in relation to arrangements to be made by the European Securities and Markets Authority and competent authorities*);
- b. The RCA field for instrument reference data submitted to FCA FIRDS by UK trading venues and SI will default to GB; for instruments traded on EU27 trading venues only it will be the country code for the relevant RCA.

Given the high volume of data, the Instrument Reference Data records can be split across several files, in particular when the Instrument Reference Data records exceed 500,000 records per file or based on the first letter of the CFI code in the case of the full file.

¹ The time is expressed as CET as it is defined by the Transaction Reporting regime which remains unmodified in respect of timings and reporting obligations.

3 Instructions to download full, delta and cancellations reference data files from the FCA website

3.1 Timing of generation

The files published by the FCA on its website are generated:

- a. on a weekly basis for the Full File – on Saturday morning by 09:00 UTC²;
- b. on a daily basis for the Delta File – every morning by 09:00 UTC.
- c. on a weekly basis for the Cancellations File – on Saturday morning by 09:00 UTC.

3.2 XML Format

The reference data files produced by FIRDS are structured as follows:

- a. Encapsulation of a Business Application Header (BAH), and a Payload as per XML Schema head.003.001.01.xsd;
- b. The Business Application Header is generated as per XML Schema head.001.001.01_ESMAUG_1.0.0.xsd;
- c. The payload is generated as per XML Schema

File type	XSD
Full file	auth.017.001.01_ESMAUG_FULINS_1.1.0.xsd
Delta file	auth.036.001.03_ESMAUG_DLTINS_1.2.0.xsd
Cancellation file	auth.102.001.01_ESMAUG_CANINS_1.2.0.xsd

- d. Link to XML Schema: <https://www.fca.org.uk/markets/market-data-regimes/market-data-reporting-mdp>

3.3 File Naming Conventions

The full file will follow the following naming convention:

FULINS_<CFI 1st letter>_<Date>_<Key1>of<Key2>.zip;

- a. Where:
 - I. <Date> =YYYYMMDD;
 - II. <Key1> = The number of the file in the range produced for that day and that CFI 1st letter;
 - III. <Key2> = The total number of files produced for that day and that CFI 1st letter.

Examples:

- a. FULINS_C_20170625_01of01.zip
- b. FULINS_D_20170625_01of02.zip
- c. FULINS_D_20170625_02of02.zip
- d. FULINS_E_20170625_01of02.zip
- e. FULINS_E_20170625_02of02.zip
- f. FULINS_F_20170625_01of01.zip
- g. FULINS_H_20170625_01of01.zip
- h. FULINS_J_20170625_01of01.zip

² ESMA endeavours to publish IRD data to the public 1 hour after making the data available to the EU27 Competent Authorities. FCA FIRDS data will be made publicly available within 1 hour of receiving the ESMA FIRDS Data

The delta file will follow the following naming convention:

DLTINS_<Date>_<Key1>of<Key2>.zip;

a. Where:

- I. <Date> =YYYYMMDD;
- II. <Key1> = The number of the file within the range produced for that day;
- III. <Key2> = The total number of files produced for that day.

Examples:

- a. DLTINS_20170624_01of01.zip.

The Cancellations file will follow the following naming convention:

FULCAN_<Date>_<Key1>of<Key2>.zip

a. Where:

- I. <Date> =YYYYMMDD
- II. <Key1> = The number of the file within the range produced for that day.
- III. <Key2> = The total number of files produced for that day.

Examples:

- a. FULCAN_20170624_01of01.zip

3.4 Access to the files published (human interface)

Go to <https://data.fca.org.uk>, select the register “Financial Instruments Reference Data System” then click on “Financial Instruments Reference Files”; or go directly to <https://data.fca.org.uk/#/download>

The screenshot shows the FCA website's search interface for the Financial Instruments Reference Data System. On the left, there is a sidebar with a logo and navigation links: "Homepage", "Financial Instruments Reference Data System", and "Financial Instruments Reference Files". The main content area has a title "Basic Information-Register" and a "Selected Register" dropdown set to "Financial Instruments Reference". Below this are sections for "Refine Search" (with a "Keyword Search" input field), "Publication date" (with "From" and "To" date inputs), and "File Type" (with a dropdown menu). At the bottom of the sidebar are "Submit" and "Clear" buttons. To the right, a large panel contains a "Disclaimer" section with legal text about MIFIR and MAR, and a "Instructions on Access and Download of Full and Delta Reference Data Files" link. There are also links to "Legal Notice" and references to EU regulations [1] and [2].

Use the Publication Date filter on the left-hand side and click on "Submit" to list all files published within the specified period:

The screenshot shows the FCA's Financial Instruments Reference Data System interface. On the left, there is a sidebar with filters for 'Selected Register' (set to 'Financial Instruments Reference'), 'Refine Search' (with a keyword search input), 'Publication date' (set to 'From: 29/12/2018' and 'To: dd/mm/yyyy'), and 'File Type' (set to '-- Select --'). Below these are 'Submit' and 'Clear' buttons. The main content area contains a 'Disclaimer' section with links to MiFIR and MAR regulations, a note about FCA's role in collecting data, and a statement about the quality of the information. It also includes a note about EEA/FTA data and legal notices. A table lists 40 FULINS files, each with a download link. The table has columns for 'Publication Date' (sorted by descending date), 'File Type' (all listed as FULINS), and 'Download Link'. The first few rows of the table are as follows:

Publication Date	File Type	Download Link
2018-12-29T00:00:00Z	FULINS	FULINS_D_20181229_02of04.zip
2018-12-29T00:00:00Z	FULINS	FULINS_H_20181229_01of02.zip
2018-12-29T00:00:00Z	FULINS	FULINS_I_20181229_01of01.zip
2018-12-29T00:00:00Z	FULINS	FULINS_J_20181229_01of03.zip
2018-12-29T00:00:00Z	FULINS	FULINS_R_20181229_02of10.zip
2018-12-29T00:00:00Z	FULINS	FULINS_R_20181229_06of10.zip
2018-12-29T00:00:00Z	FULINS	FULINS_R_20181229_07of10.zip
2018-12-29T00:00:00Z	FULINS	FULINS_R_20181229_08of10.zip
2018-12-29T00:00:00Z	FULINS	FULINS_F_20181229_01of01.zip
2018-12-29T00:00:00Z	FULINS	FULINS_S_20181229_03of05.zip

Below the table are navigation buttons for 'First', 'Previous', '1' (selected), '2', '3', '4', 'Next', and 'Last'. To the right are 'Print' and 'Export to CSV' buttons. At the top of the main content area, there is a link to 'Instructions on Access and Download of Full and Delta Reference Data Files'.

Click on the Download Link for any of the files returned, in order to download the corresponding file.

3.5 Search cancelled instruments reference data (human interface)

Go to <https://data.fca.org.uk> select the register "Financial Instruments Reference Data System".

The screenshot shows the FCA's search interface for the Financial Instruments Reference Data System. On the left, there is a sidebar with the FCA logo and navigation links: 'Homepage > Financial Instruments Reference Data System', 'Basic Information-Register' (selected), 'Selected Register: Financial Instruments Reference Data System', 'Refine Search', 'Keyword Search' (empty input field), 'Instrument Identification Code' (empty input field), 'Trading venue' (empty input field), 'Select criteria to add:' (dropdown menu showing '- Select -'), 'Search' (button), 'Clear' (button), and 'Display data' (button). Below the sidebar is a main content area titled 'Notice and Disclaimer'. It contains a link to 'Financial Instruments Reference Files' and a detailed paragraph about the FCA's jurisdiction and the legal basis for the FIRDS. It also includes a note about copyright notice and disclaimer, a warning against unauthorized access and scraping, and information about data protection and privacy.

Link to: [Financial Instruments Reference Files](#)

Notice and Disclaimer

The FCA's jurisdiction for the regulation of trading venues and systematic internalisers, pursuant to which it maintains the FCA Financial Instruments Reference Data System (FCA FIRDS), derives from Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012 (MiFIR), and Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April on market abuse and repealing Directive 2003/6/EC of the European Parliament and of the Council and Commission Directives 2003/124/EC, 2003/125/EC and 2004/72/EC (MAR), as it forms part of domestic law by virtue of section 3 of the EU (Withdrawal) Act 2018, and as it is modified by domestic law from time to time.

Your attention is drawn to the [Copyright Notice and Disclaimer](#) published on the FCA website that applies to use of the FCA FIRDS. For the purposes of FCA FIRDS, clauses 2.2.3, 2.2.5, 2.2.7, 2.3, 2.4, 2.9 and 2.10 of the [Copyright Notice and Disclaimer](#) does not apply. By accessing the FCA FIRDS you will be deemed to have accepted those terms in full. You are responsible for ensuring that all persons who access the FCA FIRDS through any internet connection provided by you are aware of the terms of this Notice and Disclaimer and the Copyright Notice and Disclaimer and that they comply with them.

Users must not violate the security of the site nor attempt to gain unauthorised access to the FCA FIRDS, data, materials, information, computer systems or networks connected to any server associated with the FCA FIRDS either through hacking, password timing or any other improper means; and/or undertake any action that, in the sole discretion of the FCA, may impose an unreasonable or disproportionate burden on the FCA FIRDS site or its structure; and/or use any automated device, program tool, algorithm, process or methodology (including but not limited to any scraper, robot, bot, spider, data mining or computer code) to access or obtain material from the FCA FIRDS site and its structure; and/or forge any headers or otherwise manipulate identifiers to disguise the origin of any content. Any such action may result in the removal of user access and/or other action by the FCA.

Users should be aware that the FCA FIRDS incorporates material supplied to the FCA by third parties and its accuracy or completeness is not warranted by the FCA. Where relevant, users should refer to the third party's terms of use applicable to that material.

The FCA processes personal data in line with the requirements of The General Data Protection Regulation (EU) 2016/679 and the Data Protection Act 2018. For further information about the way we use the personal data collected in this form, please read our privacy notice available on our website: www.fca.org.uk/privacy.

If you have any problems or questions about using the FCA FIRDS you should [contact us](#).

Use the Keyword Search or Instrument Identification Code filters on the left-hand side and click on “Search” to list details of the instrument:

The screenshot shows the FCA's Financial Instruments Reference Data System. On the left, there is a sidebar with a search bar containing 'GBDLTJSON004'. Below it are dropdown menus for 'Instrument Identification Code' (set to 'GBDLTJSON004'), 'Underlying Instrument Code - ISIN' (empty), 'Trading venue' (empty), and 'Publication date' (empty). There is also a section for 'Select criteria to add:' with a dropdown menu set to '- Select -' and buttons for 'Search' and 'Clear'. At the bottom of the sidebar are buttons for 'Display data' and 'Show table columns'.

The main content area contains a notice and disclaimer about the jurisdiction and terms of use of the FCA FIRDS. It includes links to the 'Copyright Notice and Disclaimer' and 'Privacy notice'. Below this is a table with one row of data. The table has columns for: Instrument identification code (GBDLTJSON004), Instrument full name (empty), Instrument classification (empty), Issuer or operator of the trading venue identifier (empty), Trading venue (GB01), Date of admission to trading or date of first trade (empty), Termination date (empty), Publication from date (2021-12-21T00:00:00Z), Publication to date (empty), and More Info (with a link icon).

At the bottom of the page are buttons for 'First', 'Previous', 'Next', 'Last', and 'Print'.

Cancelled instruments can be identified with the details from the search. Only Instrument identification code, Trading venue and publication dates will be made available for Cancelled instruments.

3.6 Access to the files published (machine-to-machine interface)

- To support automated download of the files, it is possible to list the files published on a specific date by sending an HTTP request.
- The following HTTP request will return the list of the files published by the FCA:
 - `https://api.data.fca.org.uk/fca_data_firds_files?q=((file_type:FULINS)%20AND%20(publication_date:[2017-10-15%20TO%202017-12-31]))&from=0&size=100&pretty=true`
- The below table explains each aspect of the above query so that it can be modified as required to meet necessary usage requirements.

Query component	Description
<code>q=</code>	This is the general query part of the request and tells the response to return columns for a given result if one exists

((file_type:FULINS)%20AND%20(publication_date:[2017-10-15%20TO%202017-12-31]))	The filtered query supports the filtering of data. For the filtered query here, the data is filtered by date & file type. Note: both the latest date and earliest date are present and follow the ISO date time format ³ . Change the date to look for files from a different day or range of days. Also change the file type to look for different types.
from=0	The starting from index of the hits to return. Defaults to 0
size=100	The number of results to return. Default is 10
Pretty	Formats the JSON response in pretty format

- The combination of start and row is used to assist cycling over the results when multiple results are returned, e.g., more than 100. To read a secondary list (100+) change start to 100 and leave rows as 100. The number of records that the query returns is given by attributes of the 'resultsFound' list.
- The response is a JSON⁴ document containing the URL for the IRD files in the "download_link" field.

³ See Appendix A for examples of datetime format

⁴ JSON is the only format option available in AWS ElasticSearch

3.7 JSON Response Document

The following JSON document represents the response of a query to the FCA FIRDS API returning a single entry.

```
{  
    "took" : 4,  
    "timed_out" : false,  
    "_shards" : {  
        "total" : 5,  
        "successful" : 5,  
        "skipped" : 0,  
        "failed" : 0  
    },  
    "hits" : {  
        "total" : 01,  
        "max_score" : null,  
        "hits" : [  
            {  
                "_index" : "fca-firds-downloadfiles",  
                "_type" : "_doc",  
                "_id" : "100",  
                "_score" : null,  
                "_source" : {  
                    "download_link": "https://data.fca.org.uk/artefacts/FIRDS/DLTINS_20190216_01of01.zip",  
                    "file_type" : "DLTINS",  
                    "file_name" : "DLTINS_20190216_01of28.zip",  
                    "publication_date" : "2019-02-16",  
                    "last_refreshed" : "2019-02-18T13:33:46.096Z"  
                },  
                "sort" : [  
                    "DLTINS_20190216_01of28.zip"  
                ]  
            }  
        ]  
    }  
}
```

The following table defines the FCA fields defined in the index.

Field Name	Description
publication_date	The date for which the file has been published. This will be identical to the date part of the file name and will align with the value found in the 'AppHdr/CreDt' of FULINS / DLTINS / FULCAN file.
download_link	Fully qualified URL that can be used to download the file.
file_type	The type of file. That is, Full file / Delta file /Cancellations file.
file_name	The file name.
last_refreshed	The date the particular entry was added to the index.

3.8 AWS Elastic Search Parameter Support

The underlying Elastic Search Engine supports a wide range of parameters. However, the FCA will support a subset of all relevant parameters which are listed and explained below.

S. No.	Parameter Name	Description	Supported	Mandatory
1	q	<p>The query string (maps to the query_string query, see Query String Query for more details). The parameter must follow the syntax as defined under:</p> <p>https://www.elastic.co/guide/en/elasticsearch/reference/6.3/query-dsl-query-string-query.html#query-string-syntax</p> <p>The underlying Elastic Search Schema contains the following 3 searchable fields. Therefore, these are the only 3 fields that can be utilised with the q=* query string search type.</p> <ol style="list-style-type: none"> 1. file_type: Could be one of FULINS, DLTINS or FULCAN. Partial values such as F* and *INS* also work. 2. file_name: Examples include *.zip, *C* 3. publication_date: Date in YYYY-MM-DD Format. For range queries please use YYYY1-MM1-DD1 TO YYYY2-MM2-DD2. 4. <p>Search q Strings can utilise all or any of the 3 above fields</p> <p>Example</p> <p>q=F*.</p> <p>q=file_name:F*</p> <p>q=file_name:FULINS_C_20171015_01of01.zip</p>	Yes	Yes
2	from	<p>The starting from index of the hits to return. Defaults to 0</p> <p>Example -</p> <p>q=((file_type:FULINS) AND (publication_date:[2017-10-15 TO 2017-12-31]))&from=0&size=100&pretty=true&sort=publication_date:desc</p>	Yes	Yes

S. No.	Parameter Name	Description	Supported	Mandatory
3	size	<p>The number of hits to return. Defaults to 10</p> <p>Example -</p> <pre>q=((file_type:FULINS) AND (publication_date:[2017-10-15 TO 2017-12-31]))&from=0&size=100&pretty=true&sort=publication_date:desc</pre>	Yes	Yes
4	sort	<p>Sorting to perform. Can either be in the form of fieldName, or fieldName:asc(fieldName:desc). There can be several sort parameters (order is important).</p> <p>Example -</p> <pre>?q=((file_type:FULINS) AND (publication_date:[2017-10-15 TO 2017-12-31]))&from=0&size=100&pretty=true&sort=publication_date:desc</pre>	Yes	No
5	pretty	<p>Pretty Prints the search results</p> <p>Example -</p> <pre>?q=((file_type:FULINS) AND (publication_date:[2017-10-15 TO 2017-12-31]))&from=0&size=100&pretty=true&sort=publication_date:desc</pre>	Yes	No
6	df	<p>The default field to use when no field prefix is defined within the query. Here we have not prefixed the search term, FULINS with any fieldname. So instead of saying ?q=file_type:FULINS we say ?q=FULINS&df=file_type</p>	Yes	No
7	default_operator	<p>The default operator to be used, can be AND or OR. Defaults to OR.</p>	Yes	No

S. No.	Parameter Name	Description	Supported	Mandatory
8	analyzer	The analyser name to be used when analysing the query string.	This parameter will be ignored.	
9	analyze_wildcard	Should wildcard and prefix queries be analysed or not. Defaults to false	This parameter will be ignored.	
10	batched_reduce_size	The number of shard results that should be reduced at once on the coordinating node.	This parameter will be ignored.	
11	stored_fields	The selective stored fields of the document to return for each hit, comma delimited	This parameter will be ignored.	
12	track_scores	When sorting, set to true in order to still track scores and return them as part of each hit.	This parameter will be ignored.	
13	timeout	A search timeout, bounding the search request to be executed within the specified time value and bail with the hits accumulated up to that point when expired. Defaults to no timeout.	This parameter will be ignored.	
14	terminate_after	The maximum number of documents to collect for each shard, upon reaching which the query execution will terminate early. If set, the response will have a Boolean field 'terminated_early' to indicate whether the query execution has actually 'terminated_early'. Defaults to no 'terminate_after'.	This parameter will be ignored.	
15	search_type	The type of the search operation to perform. Can be dfs_query_then_fetch or query_then_fetch. Defaults to query_then_fetch. See Search Type for more details on the different types of search that can be performed.	This parameter will be ignored.	

S. No.	Parameter Name	Description	Supported	Mandatory
16	allow_partial_search_results	Set to false to return an overall failure if the request would produce partial results. Defaults to true, which will allow partial results in the case of timeouts or partial failures. This default can be controlled using the cluster-level setting 'search.default_allow_partial_results'	This parameter will be ignored.	

4 Example Search Response

4.1 Example 1

UK FIRDS JSON response for a single file compared to the equivalent ESMA FIRDS response for the same file:

UK FIRDS JSON Response

```
{  
  "took" : 8,  
  "timed_out" : false,  
  "_shards" : {  
    "total" : 5,  
    "successful" : 5,  
    "skipped" : 0,  
    "failed" : 0  
  },  
  "hits" : {  
    "total" : 1,  
    "max_score" : 1.1823215,  
    "hits" : [  
      {  
        "_index" : "fca-firds-downloadfiles",  
        "_type" : "_doc",  
        "_id" : "102",  
        "_score" : 1.1823215,  
        "_source" : {  
  
          "download_link": "https://data.fca.org.uk/artefacts/FIRDS/DLTINS_20190216_01of02.zip",  
          "file_type" : "DLTINS",  
          "file_name" : "DLTINS_20190216_01of02.zip",  
          "publication_date" : "2019-02-16",  
          "last_refreshed" : "2019-02-18T13:33:46.096Z"  
        }  
      }  
    ]  
  }  
}
```

ESMA FIRDS JSON Response

```
{  
  "responseHeader":{  
    "status":0,  
    "QTime":1,  
    "params":{  
      "q":"*",  
      "indent":"true",  
      "start":"0",  
      "fq":"file_type:DLTINS AND publication_date:[2019-02-16T00:00:00Z TO 2019-02-16T23:59:59Z]",  
      "rows":"1",  
      "wt":"json"}},  
  "response":{  
    "numFound":1,"start":0,"docs": [  
      {  
        "publication_date": "2019-02-16T00:00:00Z",  
  
        "download_link": "http://firds.esma.europa.eu/firds/DLTINS_20190216_01of02.zip",  
        "file_type": "DLTINS",  
        "file_name": "DLTINS_20190216_01of02.zip",  
        "id": "16786",  
        "published_instrument_file_id": "16786",  
        "root": "16786",  
        "version": "1626143855822766083",  
        "timestamp": "2019-02-22T05:00:30.08Z"}]  
    }  
  }  
}
```

4.2 Example 2

The following multi-result queries return identical data sets. The query output in the left-hand column was executed against a Test UK FIRDS ElasticSearch service and the query output in the righthand column was executed against the existing ESMA production FIRDS register.

UK FIRDS AWS Elastic Search Service query:

```
https://api.data.fca.org.uk/fca\_data\_firds\_files?q=\(\(publication\_date:>=2019-02-16T00:00:00Z AND publication\_date:<=2019-02-17T00:00:00Z\)&from=0&size=100&pretty=true&sort=file\_name:asc
```

ESMA FIRDS Solr query:

```
https://registers.esma.europa.eu/solr/esma\_registers\_firds\_files/select?q=\*&fq=publication\_date:\[2019-02-16T00:00:00Z TO 2019-02-16T23:59:59Z\]&wt=json&indent=true&start=0&rows=100&sort=file\_name%20asc
```

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        "file_name" : "FULINS_D_20171118_01of02.zip",
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        "last_refreshed" : "2019-01-24T16:00:00Z"
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    "_id" : "2361",
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        "download_link"
    }
},
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        "file_name" : "FULINS_D_20171118_01of02.zip",
        "id" : "2361",
        "_root_" : 2361,
        "published_instrument_file_id" : "2361",
        "_version_" : 1621961279351554048,
        "timestamp" : "2019-01-07T01:00:14.323Z"
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        "download_link"
    }
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        "download_link"
    }
},
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        "_root_" : 2363,
        "published_instrument_file_id" : "2363",
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        "timestamp" : "2019-01-07T01:00:14.324Z"
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        "download_link"
    }
},
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    "https://firds.esma.europa.eu/firds/FULINS_E_20171118_02of02.zip",
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        "file_name" : "FULINS_E_20171118_02of02.zip",
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        "published_instrument_file_id" : "2364",
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        "publication_date" : "2017-11-18T00:00:00Z",
        "download_link"
    }
}
```

```

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            "file_name" : "FULINS_E_20171118_01of02.zip",
            "last_refreshed" : "2019-01-24T16:00:00Z"
        },
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            "file_name" : "FULINS_E_20171118_02of02.zip",
            "last_refreshed" : "2019-01-24T16:00:00Z"
        },
        "sort" : [
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        ]
    },
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            "file_type" : "FULINS",
            "file_name" : "FULINS_F_20171118_01of01.zip",
            "last_refreshed" : "2019-01-24T16:00:00Z"
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        ]
    }
],
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        "root_": 2367,
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```

```

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        "file_type" : "FULINS",
        "file_name" : "FULINS_J_20171118_01of01.zip",
        "last_refreshed" : "2019-01-24T16:00:00Z"
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        "last_refreshed" : "2019-01-24T16:00:00Z"
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    "file_name" : "FULINS_R_20171118_02of07.zip",
    "id" : "2369",
    "root_" : 2369,
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    "timestamp" : "2019-01-07T01:00:14.324Z"
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{
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    "file_type" : "FULINS",
    "file_name" : "FULINS_R_20171118_03of07.zip",
    "id" : "2370",
    "root_" : 2370,
    "published_instrument_file_id" : "2370",
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},
{
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    "file_name" : "FULINS_R_20171118_04of07.zip",
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    "root_" : 2371,
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```

```

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      "last_refreshed" : "2019-01-24T16:00:00Z"
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    ]
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      "file_type" : "FULINS",
      "file_name" : "FULINS_R_20171118_02of07.zip",
      "last_refreshed" : "2019-01-24T16:00:00Z"
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      "last_refreshed" : "2019-01-24T16:00:00Z"
    },
    "sort" : [
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    ]
  },
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  },
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    "_root_": 2374,
    "published_instrument_file_id": "2374",
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  }
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      "file_name" : "FULINS_R_20171118_04of07.zip",
      "last_refreshed" : "2019-01-24T16:00:00Z"
    },
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        "file_type" : "FULINS",
        "file_name" : "FULINS_R_20171118_05of07.zip",
        "last_refreshed" : "2019-01-24T16:00:00Z"
      },
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      ]
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": https://data.fca.org.uk/artefacts/FIRDS/FULINS_R_20171118_06of07.zip",
          "file_type" : "FULINS",

```

```
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    "sort" : [
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    ]
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        "file_type" : "FULINS",
        "file_name" : "FULINS_R_20171118_07of07.zip",
        "last_refreshed" : "2019-01-24T16:00:00Z"
    },
    "sort" : [
        "FULINS_R_20171118_07of07.zip"
    ]
}
]
```

5 Date Time Format Examples

The formats are as follows: the components shown below must be present, using this exact punctuation. Note that the "T" appears in the string, to indicate the beginning of the time element, as specified in ISO 8601.

Year:

YYYY (e.g. 1997)

Year and month:

YYYY-MM (e.g. 1997-07)

Complete date:

YYYY-MM-DD (e.g. 1997-07-16)

Complete date plus hours and minutes:

YYYY-MM-DDThh:mmTZD (e.g. 1997-07-16T19:20+01:00)

Complete date plus hours, minutes and seconds:

YYYY-MM-DDThh:mm:ssTZD (e.g. 1997-07-16T19:20:30+01:00)

Complete date plus hours, minutes, seconds and a decimal fraction of a second

YYYY-MM-DDThh:mm:ss.sTZD (e.g. 1997-07-16T19:20:30.45+01:00)

where:

YYYY = four-digit year

MM = two-digit month (01=January, etc.)

DD = two-digit day of month (01 through 31)

hh = two digits of hour (00 through 23) (am/pm NOT allowed)

mm = two digits of minute (00 through 59)

ss = two digits of second (00 through 59)

s = one or more digits representing a decimal fraction of a second

TZD = time zone designator (Z or +hh:mm or -hh:mm)

6 Example Queries

AWS ElasticSearch Query	Description
<code>https://api.data.fca.org.uk/fca_data_firms_files?q=((file_type:FULINS)%20AND%20(publication_date:%5b2017-10-15%20TO%202017-12-31%5d))&from=0&size=100&pretty=true&sort=file_name:asc</code>	Query for all 'FULINS' files published between 15th October 2017 and 31st December 2017 and sort the results on file name in ascending order
<code>https://api.data.fca.org.uk/fca_data_firms_files?q=file_name:FULINS_D_20181229_02of04.zip&from=0&size=100&pretty=true</code>	Query for file 'FULINS_D_20181229_02of04.zip'
<code>https://api.data.fca.org.uk/fca_data_firms_files?q=*&_source=last_refreshed&from=0&size=1&pretty=true&sort=last_refreshed:desc</code>	Query for last refresh time Aggregation queries cannot be performed as part of a Query String query. The query shown simply requests all 'last_refreshed' fields, orders them in descending order, and then limits the record return number to 1.