

News API Specification

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1. The context

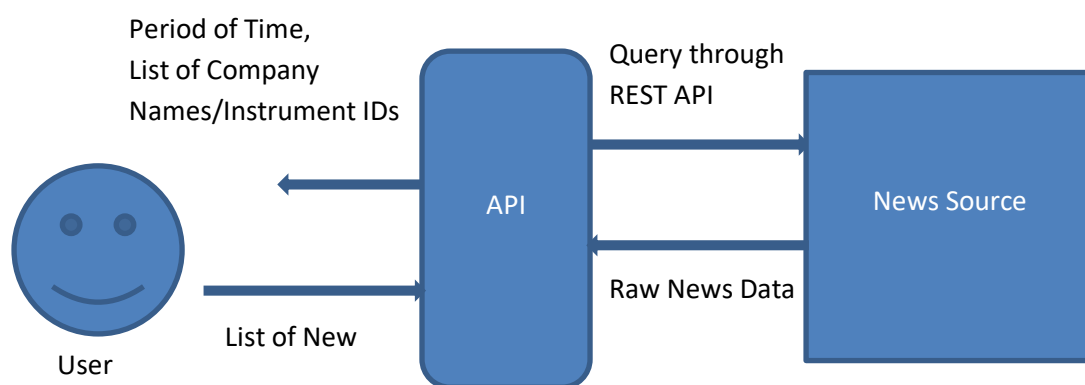
We are a company specialising in commodities trading. We are developing a complex system to provide an analytics platform for our traders. We wish to open our system to third party software houses, offering them ability to “plug-in” independent software modules that implement particular functions. We therefore request all interested companies to provide an independent software module that implements an API as specified in the rest of this document.

2. Function of the News API

This service enables the customers to receive news from all over the world. The source of these news can be Guardians API or other third parties depending on your preference, if it does not affect the functionality of the API.

The objective is to build an API that would easily enable a user to find all the news related to a list of specific company names or their instrument IDs, over for a given period of time.

The figure below illustrates how the API should work:



The language in which the module is to be written is not important as long as there is some way to invoke it from our system. After execution is finished, all results should be returned to users in JSON format. It is important that the module can be used without its source code being revealed.

What the module does

The module aims to isolate some specific news according to the user’s criteria.

The user has to input 2 main information: period of interest, instrument IDs/Company Names of interest

The module will then filter the news first according to the period (start date + end date) entered by the user and the company name or ID.

3. Input Parameters for API

The user has to input the 3 main information:

- period of interest
- instrument IDs /Company Names of interest
- topics of interest

The Period of Time:

It's composed of two inputs:

- *A start date*
- *An end date*

Both dates have the respect the following format: **"yyyy-MM-ddTHH:mm:ss.SSSZ"**.

These inputs can NOT be empty.

For example: if I want to retrieve all the news that were issued between the first of October 2015 at 08:45:10.295 (8:45am 10 seconds and 295 milliseconds) and the first of November 2015 at 19:37:12.193 (7:37pm 12 seconds and 193 milliseconds), my inputs will be:

- start_date = "2015-10-01T08:45:10.295Z"
- end_date = "2015-11-01T19:37:12.193Z"

The list of instruments IDs or Company Names:

This input contains a comma separated list of all the companies/instruments you want to get news about. Each company is identified by a unique code (Instrument ID). *See References for more details.*

This list can be empty in the case where the user doesn't want to restrict his search.

For example: if you want to retrieve news related to ANZ bank, Woolworths Ltd, Index your input list should be :

- CompanyIDs = "ANZ.AX,WOW.AX,"

Alternatively a user should be able to use company names:

- CompanyIDs = "ANZ,Woolworths"

4. Output Format for the API

The module should generate and return a JSON output file to users of the following format. The “CompanyName” field will return an array of companies related to each news item and “InstrumentIDs” field will return an array of instrument IDs of those companies.

```
{
  "NewsDataSet": [
    {
      "InstrumentIDs": <>,
      "CompanyNames":<>,
      "TimeStamp": <>,
      "Headline": <>,
      "NewsText": <>
    }
    {
      "InstrumentIDs": <>,
      "CompanyNames":<>,
      "TimeStamp": <>,
      "Headline": <>,
      "NewsText": <>
    }
    .
    .
    .
  ]
}
```

Another output of the API is a log file must contain the following information:

- Developer team
- Module name and version
- Parameters passed
- An indication if execution has been successful or there is an error
- If error, indicate the nature of the error
- If successful, need to supply
 - Start date and time of execution
 - End date and time of execution
 - Elapsed time
 - Output file name

5. Acquiring the data for API

To get the news data, you can use any available data source to acquire news.

One option is the Rest API provided by The Guardian Open Platform available at: <http://open-platform.theguardian.com/documentation/>

An example call for the Guardian API to get news items related to ANZ and Woolworth is below. You can register to get a free API key and try out the URL below. Output would be provided as a JSON file, containing URLs for each News item.

https://content.guardianapis.com/search?q=ANZ,Woolworths,AppleInc&api-key=<api_key>

Please note that lot's of News sources may not support querying news by instrumentIDs, so your API may need to include a map between instrumentIDs and company names to translate user requests.

6. Appendix

6.1 Additional Information:

Teams have the choice of running their system on two different platforms:

- Standalone Program
 - ♣ PC running Windows
 - ♣ Unix/Linux platform
- Web service (accessible via a REST interface)

Throughout the workshop, each team will need to have a Web page. As a minimum, the page is showing:

- The team name and members
- Consecutive releases of their module. Each release page must include a link to download the module and information about:
 - The date and version of the release
 - What has been implemented so far
 - Differences with previous version
 - Clear instructions on how to run the module in standalone mode
 - Guidelines on how to integrate the module with other systems
 - Any test software or data

6.2 References:

What is an InstrumentID/Ticker Code:

<https://www.asx.com.au/prices/asx-codes.htm>

InstrumentIDs of Australian Companies can be found at following URL. Use the prefix “.AX” to indicate Australian stock exchange.

<https://www.asx.com.au/asx/research/listedCompanies.do>