

Flightradar24 Historical Sample Documentation

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CONFIDENTIAL

Introduction

Flightradar24 offer historical snapshot samples of our flight tracking data, for example all ADS-B coverage globally during a 24 hour period. These samples are very similar to the format used in our live feed service but in some cases they are easier to use for reviewing the format details or data quality.

Please note that Flightradar24 work to continuously increase our coverage and data quality, so historical samples may not reflect the latest data available in our live feed. Also note that the frequency of updates for historical data can reduce from around every 5 seconds to a maximum of 60 seconds depending on altitude, since during level cruise we require fewer samples when changes in direction and altitude are expected to be slow.

Our live feed can offer near real-time updates every 5 seconds so please contact Flightradar24 if this increased frequency is of interest.

Sample Format

Sample files are delivered with a link to download to a compressed zip file which can be decompressed with many standard software tools. The decompressed content includes many files with 'comma separated variable' format (CSV) including a header row specifying column names.

There are two formats of CSV file included. The first content format lists all relevant flights per day defined as midnight through midnight in Universal Coordinated time (UTC), with filenames including the numeric date such as 20150829_flights.csv for 29 August 2015. The columns are described below with mandatory fields marked M and optional fields marked O.

- | | | |
|----------------|---|--|
| 1. flight_id | M | unique decimal identifier for the flight leg |
| 2. aircraft_id | O | mode-S address in hexadecimal |
| 3. reg | O | unique aircraft text identifier |
| 4. equip | O | equipment, e.g. B733 |
| 5. callsign | O | e.g. NAX11S |
| 6. flight | O | flight number, e.g. DY311 |
| 7. schd_from | O | departure airport's IATA code, e.g. KKN |
| 8. schd_to | O | arrival airport's IATA code |
| 9. reserved | O | unused |

The second content format includes position data for each flight listed per day, with filenames of the format 20150829_5750884.csv for flight_id 5750884 on 29 August 2015. The included fields are described below.

- | | | |
|----------------|---|---|
| 1. snapshot_id | M | time of sample in seconds since 1 Jan 1970 00:00:00 UTC |
| 2. altitude | M | in feet |
| 3. heading | M | 0-359 degrees |
| 4. latitude | M | floating point |
| 5. longitude | M | floating point |
| 6. radar_id | M | unique identifier of ground receiver |
| 7. squawk | O | code broadcast by airplane |

Please note that although the vertical speed reported by an aircraft's transponder can be provided in Flightradar24's live feed it is not currently available in historic samples, given that such information can be more accurately reconstructed from an altitude history instead.

Example Content

Samples of the two CSV contents formats are displayed below, first the list of flights per day and second the positions.

```
flight_id,aircraft_id,reg,equip,callsign,flight,schd_from,schd_to,reserved
5666305,7964892,SE-ABC,B77W,SAS123,SK123,ARN,LHR,
5705676,9103407,G-DEF,A320,BAW234,BA234,LHR,ARN,
...
```

```
snapshot_id,altitude,heading,latitude,longitude,radar_id,speed,squawk
1399990757,1025,110,40.6219,-73.7569,880,200,12327
1399990764,1225,101,40.621,-73.7513,880,202,12327
1399990770,1575,98,40.6198,-73.7418,880,206,12327
...
```

Delivery Method

Small samples of only a few MB in total can be delivered using email, for larger samples we issue HTTPS links with authorised username and password to allow login.

For very large amounts of history such as months of global data, delivery may be staged into separate time periods as new files become available. For example the first month could be reported as available for download initially with additional months added during following days or weeks as it is uploaded. Flightradar24 would then clear out older periods once partners have confirmed receipt of them.