

# libhomeradar Online API

## Documentation

### Version 1.02

#### Release Notes / Document History

<b>Date</b>	<b>Autor</b>	<b>Notes</b>
15. July 2008	Kai-jens Meyer < <a href="mailto:support@libhomeradar.org">support@libhomeradar.org</a> >	Document creation, first release
16. July 2008	Kai-jens Meyer < <a href="mailto:support@libhomeradar.org">support@libhomeradar.org</a> >	Added informations about database and sources
29. October 2008	Kai-jens Meyer < <a href="mailto:support@libhomeradar.org">support@libhomeradar.org</a> >	Added new request type: 'byflight'
31. January 2009	Kai-jens Meyer < <a href="mailto:support@libhomeradar.org">support@libhomeradar.org</a> >	Information for API request 'lastseen' updated, 'acinfo' updated, new errorcode (4) added
19. September 2012	Kai-jens Meyer < <a href="mailto:support@libhomeradar.org">support@libhomeradar.org</a> >	Added new errorcodes

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## **1. What is the Online API?**

The XML API is a simple gateway to our database. You can request a lot of informations with normal HTTP POST or GET requests.

All output of the API will be send as XML document with an easy structure.

Since September 2012 all anonymous API requests will be blocked.

### **1.1 Communication with the Online API**

The communication between your program and the libhomeradar API is very simple. You have to create a HTTP POST (or GET) request with 2-5 parameters.

Currently the communication is 'one-way' - this means:

- you can get any informations from our database
- you cannot add informations to our database

You must be registered as API user to request data from our API.

Anonymous requests are disabled since September 2012.

### **1.2 Is this service free of charge?**

The API communication service is absolutly free for everyone. Since September 2012 the only requirement to use our API service for free is, to provide your radar contacts to our database.

### 1.2.1. Send your own radar contacts

Since September 2012 the unlimited API access requires that you send you own radar contacts to our database. **If you are not an owner** of an SBS or RadarBox, please contact us with the reason why you need unlimited access and for which project/product do you need our data.

Users with SBS or Radarbox should also contact us. They will got a small program called FlightShare which must be installed under Windows to provide contacts from your own system. Based on the number of provided contacts the API access will be limited.

<b>Provided contacts / hour</b>	<b>API request limit</b>
no contribution	30
< 10	300
< 30	500
< 50	750
> 50	unlimited

Our contribution tool 'FlightShare' runs under all Windows versions since Windows XP.

With your help we can improve the quality and quantity of our database. Your contribution will help us and all other API users to get even better data.

### 1.3. Availability of this service

The API service should be reachable 24 hours a day, 7 days a week. In some cases (problems with our hardware or network congestions) the service can be unreachable or very slow.

## 2. Creation of HTTP POST / GET request

To request informations from our database you have to create an HTTP POST or GET request. There are two type of requests:

### 2.1. API requests

All API requests have 4 required parameters.

Parameter	Description	required
n=<API username>	Your API username	YES
p=<API password>	Your API password	YES
t=<API function>	API request type	YES
r=<requested item>	Your request	YES
a=<additional values>	Additional values for your request	NO

#### Small example:

To get informations about the last contact to the Condor aircraft 'D-ABOM' you can do this by entering the following URL in your browser:

<http://www.libhomeradar.org/assets/lhr.api?n=APIUser&p=letmein&t=lastseen&r=D-ABOM>

The answer will be:

```
<APISearchResults>
  <Hits>1</Hits>
  <Results>
    <Item>
      <Flightnumber>DE0840</Flightnumber>
      <Callsign>CFG840</Callsign>
      <Contacted>20080715091343</Contacted>
      <Routing>-</Routing>
      <LAT>45.39551</LAT>
      <LON>17.15321</LON>
    </Item>
  </Results>
  <AccountInformation>
    <DailyLimit>150</DailyLimit>
    <RequestsToday>2</RequestsToday>
    <LastRequest>20080715143212</LastRequest>
  </AccountInformation>
</APISearchResults>
```

Another example:

Request informations about the MALEV aircraft 'HA-LOA'

<http://beta.libhomeradar.org/assets/lhr.api?n=APIUser&p=letmein&t=acinfo&r=HA-LOA>

The answer will be:

```
<APISearchResults>
  <Hits>1</Hits>
  <Results>
    <Item>
      <FrameID>47161A</FrameID>
      <Registration>HA-LOA</Registration>
      <Manufacturer>Boeing</Manufacturer>
      <Model>B737</Model>
      <Details>B737-7Q8</Details>
      <cn>28254</cn>
      <Added>20080220182013</Added>
      <Updated>19700101010000</Updated>
    </Item>
  </Results>
  <AccountInformation>
    <DailyLimit>150</DailyLimit>
    <RequestsToday>3</RequestsToday>
    <LastRequest>20080715171631</LastRequest>
  </AccountInformation>
</APISearchResults>
```

**NOTE:** If the aircraft is registered to the manufacturer, the element 'MReg' will be included. Aircrafts which are no longer activ (wfu, crashed, sold or other reason) are flagged with the XML element 'Old'.

Known ICAO24 miscoded airframes will contain the element 'Miscoded'

### **2.1.1. Info for PHP or (C, C++) Developers**

PHP Developers should use the cURL Extension to communicate with the libhomeradar API. See the online documentation at <http://hu.php.net/manual/en/ref.curl.php>

If you write a tool in C or C++, you should also use the cURL API. More informations at <http://curl.haxx.se>

## 2.2 Registered requests

Registered requests have 2 up to 5 parameters.

For every request you have to send your username and your password which you have received from us.

Parameter	Description	required
n=<username>	Your username	YES
p=<password>	Your password	YES
t=<API function>	API request type	YES
r=<requested item>	Your request	YES
a=<additional values>	Additional values for your request	NO

If the username cannot be found or the password is wrong (*we check case sensitive*) you'll get an error message from our online API

```
<APISearchResults>
  <Error>
    <ErrorCode>254</ErrorCode>
    <ErrorText>Unknown API account</ErrorText>
  </Error>
</APISearchResults>
```

## 2.3 Account informations

For every request you'll get account informations as part of the XML. Here you'll see your daily limit and how many requests are already send and the timestamp of your last request.

```
<APISearchResults>
[... ]
  <AccountInformation>
    <DailyLimit>1000</DailyLimit>
    <RequestsToday>3</RequestsToday>
    <LastRequest>20080715171631</LastRequest>
  </AccountInformation>
</APISearchResults>
```

## 2.4 Error messages

In case of errors you'll get a XML answer with a detailed error description. You can use the errormessage for your clients or you can create your own errormessage depending on the errorcode.

Some examples:

```
<APISearchResults>
  <Error>
    <ErrorCode>254</ErrorCode>
    <ErrorText>Unknown API account</ErrorText>
  </Error>
</APISearchResults>
```

```
<APISearchResults>
  <Hits>0</Hits>
  <Error>
    <ErrorCode>2</ErrorCode>
    <ErrorText>Aircraft not found in database</ErrorText>
  </Error>
  <AccountInformation>
    <DailyLimit>100</DailyLimit>
    <RequestsToday>1</RequestsToday>
    <LastRequest>20080713112614</LastRequest>
  </AccountInformation>
</APISearchResults>
```

```
<APISearchResults>
  <Error>
    <ErrorCode>255</ErrorCode>
    <ErrorText>Wrong username or password</ErrorText>
  </Error>
</APISearchResults>
```

```
<APISearchResults>
  <Error>
    <ErrorCode>253</ErrorCode>
    <ErrorText>Anonymous access disabled</ErrorText>
  </Error>
</APISearchResults>
```



## 2.5. Possible errorcodes

Here is a short overview of the possible errorcodes

Errorcode	Description
1	Unknown aircraft model ( <i>only for fleet function</i> )
2	Aircraft not found in database
3	No country assigned to the given ICAO24 address
4	Aircraft is known but not contacted by libhomeradar.org
200	Daily request limit reached
201	Unknown API function requested
253	Anonymous access disabled
254	Unknown API account
255	Wrong username or password
999	Internal database error

### 3. Possible request types

The following table will show all possible request types and (if available for the request type) the additional parameters.

Request keyword means the keyword which have to be send as value of the variable 't' (see example above)

Request keyword	Function description	Possible values for variable 'r'	Additional Parameter in variable 'a'	Description
acinfo	sends all informations (if available) for the requested aircraft. Included manufacturer regs, old regs and miscodes	aircraft reg or ICAO24 address	none	-
route	send routing informations for the given flightnumber	flightnumber	none	-
flights	show all flights from the requested airline for the last 3 days	airline IATA or ICAO code	1-30	set a different day limit for this request
airline	get airline informations	airline IATA or ICAO code	none	-
airport	get airport informations	airport IATA or ICAO code	none	-
aclist	lists all contacted aircrafts on the given flightnumber for the last 3 days	flightnumber	1-30	set a different day limit for this request
fleet	sends a list of aircrafts for the requested airline	airline IATA or ICAO code	aircraft model (like: B733 or A320)	get only informations if aircraft model will match
lastseen	get last contact information for the given aircraft. Activity index is now included (see below)	aircraft registration or ICAO24 address	none	-
aplist	get a list of airports for the requested country	country as IATA assigned code (D =	none	-

		germany, SE = sweden)		
country	get country of aircraft registration	ICAO24 address	none	-
byflight	get a/c tailnumber which was last contacted on the given flightnumber	flightnumber	none	If you need the information which a/c was last seen on flight XY0123, this function will be your friend

### 3.1. Activity index

Since API 1.02 (January 31<sup>th</sup>, 2009) the aircraft activity index is included in the following API functions as XML element '**Activity**': (*lastseen*)

The activity index is an integer between 1 and 14. The following table will show you how the index will be created

Activity Index Value	Description
14	daily or more contacts
13	contacted appr. every 2 days
12	contacted appr. every 4 days
11	contacted appr. every 5 days
10	contacted appr. every 10 days
9	contacted appr. every month
8	contacted appr. once in 2 month
7	contacted appr. once in 3 month
6	contacted appr. once in 4 month
5	once in half year
4	contacted appr. once in 9 month
3	one contact / year
2	last contact was 2 years ago
1 <sup>1</sup>	last contact was more than 2 years ago

<sup>1</sup> - This value will also be used by aircrafts which are contacted first.

## 4. How to register for unlimited data access?

Its very simple. The anonymous and the registered access is created to have a little bit flow controll over our database requests.

You can register for free. Please send us a mail to [api@libhomeradar.org](mailto:api@libhomeradar.org) where you describe for which service you'll need unlimited access or for which reason.

*Please note, that registered access can also be limited!*

## 5. Our data sources

Our database informations are collected from different sources. The main part comes from libhomeradar (SBS and Radarbox) users and from users of the acarsd ([www.acarsd.org](http://www.acarsd.org)) ACARS decoder. A lot of information are also taken from logfiles which are send to our collector at [collector@libhomeradar.org](mailto:collector@libhomeradar.org) by mail.

Aircraft informations are also collected from different sources. The main source is [www.airframes.org](http://www.airframes.org) followed by the MODE-S group at Yahoo! and [www.planepictures.net](http://www.planepictures.net). All other are small sources (aviation forums, newsletters, blogs, search engines and the Skyliner Aviation website ([www.skyliner-aviation.de](http://www.skyliner-aviation.de)))

We are also supporter of the big aircraft database at [www.airframes.org](http://www.airframes.org)

New contacts (which are first contacted by libhomeradar) will also be added to the [www.airframes.org](http://www.airframes.org) database.

## 6. More data quality and quantity

To get more informations (worldwide) we need supporters which have a SBS-1 or Radarbox hardware. With our small online tool (see <http://www.libhomeradar.org/download/example.html>) you can add your contacts to our database and help us to get more data and flight informations. This will also increase the quality of our data feed.

## 7. Important notice

All informations from our database are free and will not be sold to other companies for statistic or other reasons.

If you need access to our data collection, please send us a short mail (as requested in point 4 of this documentation)

**Do NOT use these information for navigation, flight planning or for use in flight.**