



RouteSms Solutions Limited

HLR Lookup HTTP Specification

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1. Overview

The HLR Lookup system allows clients to lookup the status of an MSISDN (mobile number) by performing a lookup.

This document describes using the HTTP Interface of the HLR Lookup system to send requests to the HLR Server.

The HLR Lookup Request is initiated by the client by sending the necessary parameters for lookup to the HLR Server. The HLR Server returns a unique requestID for each of the successful numbers in the request as a response of the lookup being taken up successfully. The Lookup response is then sent to the client in either of the two ways – Email or HTTP Posting – as requested by the client in the initial request. As a third mechanism of response, the client can specify the web account as a return type in the initial request, in which case the results are stored in the clients web account.



2. Receiver

2.1 Receiver URL

<http://hrllookup2.routesms.com:8080/HLR/ReceiverC>

In case if port 8080 is blocked then only use port 8000

The Receiver URL should be used with the Receiver parameters as mentioned below.

2.2 Receiver Input Parameters

Parameter Name	Description	Valid Values
username	Username assigned to the user account.	Since usernames & passwords are assigned by us, all values are inherently valid.
password	Password assigned to the user account.	
msisdn	There can be upto 100 MSISDNs in a single request separated by the commas.	Numbers [0-9] and comma charcater (,)
reference	A reference that would allow the user to group all these lookups under a single name.	Alphanumeric characters from a minimum of 4 to a maximum of 30 characters. Should start with a letter from the alphabet [a-zA-Z]
returntype	Specifies the return type for the lookup request, where responses for the lookup are to be sent. * Note : Values are case sensitive and should be in exactly the same format as mentioned.	HTTP - HTTP Address Email - Email/SMTP Address Web Account – WebAccount (Includes the space between “Web” & “Account”)
returnaddress	Specifies the address either a URL or Email address where the response of the query will be returned to.	for Return Type = HTTP should start with 'http://' for Return Type = Email should be a valid email address for Web Account <i>returnaddress</i> will be ignored



NOTE :

- MSISDNs larger than 16 digits are treated as invalid and the corresponding error code is returned. MSISDNs should not start with the '+' (international) sign. Leading zeroes in MSISDNs are trimmed.
- The number of MSISDNs allowed to be queried with a single HTTP Request is 100 (Max.) when more than 100 MSISDNs are found in the MSISDN field only the first 100 MSISDNs will be accepted for lookup all remaining MSISDNs will be discarded.

2.3 Receiver Responses

OK MSISDN:RequestID[| MSISDN:RequestID]*

Here,

[- Specifies optional part

* - Specifies that this part of the response could be repeated 0 or more times.

Example: An example lookup request reply

OK 919833725473 : 975ede34-ce7c-4601-b994-1e61d685575c

Since in a single lookup request to the HLR Server multiple MSISDNs can be submitted, the response from the server can be interpreted as two parts. The first part is the string "OK" (without the speech marks) which specifies that atleast one of the multiple MSISDNs was successfully taken up for lookup.

The second part is a recursive part which can be encountered multiple times in the response and can itself be divided into three parts viz., MSISDN, the separator character (:) and the RequestID. This part is repeated for each individual MSISDN that was successfully taken for lookup, when there are multiple successful MSISDNs taken for lookup this second part will be separated from other such parts by the pipe character (|)

Note : MSISDNs from the request which are absent in the response are supposed to be assumed to have failed due to some reason. Such MSISDNs are listed in the are listed as failed



2.4 Response Example

Request	http://hlrlookup2.routesms.com:8080/HLR/ReceiverC?username=user1&password=pass1&msisdn=919833725473,919869233956,9199&reference=mytest&querytype=1&returntype=Email&returnaddress=test%40mydomain.com
Response	OK 919833725473:4f36b53e-fa4f-475f-b1b2-f2a76608e74e 919869233956:6ea4ad42-de42-4848-a40e-9d1c91f8350f

Where,

The individual request ids uniquely identify the request for the MSISDNs 919833725473 & 919869233956 respectively.

The response is explained below:

Out of these, two MSISDNs would be successfully admitted to the lookup but the third one '9199' would be discarded as an invalid number and hence the response would be as above.



2.5 Receiver Error Codes

Error Code	Error Description	Probable cause for error
2401	Bad URL	Any mandatory parameter not specified. Any M/O parameters misspelled. Wrong sequence of parameters. Malformed URL.
2402	Username/Password Invalid	User account not found. Username invalid OR Password Invalid
2403	MSISDN Invalid	MSISDN(s) specified in the wrong format or contain invalid characters. (Other than digits)
2404	Reference Invalid	Reference field contains invalid characters or empty (NULL) string.
2405	QueryType Invalid	Query Type fields contains an invalid value.
2406	ReturnType Invalid	Return Type fields contains an invalid value.
2407	HTTP Return Address Invalid	Return Address Invalid to be an HTTP Return Address.
2408	Email Return Address Invalid	Return Address Invalid to be an Email/SMTP Return Address.
2409	Error/Retry	This indicates that some internal error occurred while processing this request. This may be a temporary error such as database connections expired, which could be resolved the next time and hence the user can retry this same request again.



3 Callback Response

The client will receive an HTTP POST request from HLR Server on the Callback URL mentioned by him in the initial request. The parameters sent to the clients URL are as mentioned below

3.1 Callback Parameters

Parameter	Description
RequestID	Unique RequestID that was sent when the initial request was submitted
MSISDN	MSISDN queried through the request
Reference	Reference as specified by the user while submitting this request.
Status	The status of the mobile number either Success(subscriber available), Unavailable (subscriber has temporary error) or Invalid (subscriber has a permanent error)
ErrorCode	A hexadecimal GSM error code.
ErrorDescription	A string describing the error code.
IMSI	The International Mobile Subscriber Identity number
Location	The Location(Global Title) number if available.

The client should respond to the HTTP POST request with a HTTP Server status of 200 and the string "OK" without the surrounding speech marks.

3.2 Retry Policy

If the request sent to client fails for some reason, the HLR Server would retry sending of the response a minimum of 10 times.