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| WinChatty v2 API | By @electroly  Last update: 2013-12-24 4:09 PM |

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# Introduction

I now have a complete chatty database that is continuously kept up to date as new posts are added. This means an API can be built that hits this database directly rather than accessing shacknews.com for every request. The existing LC.app API at [winchatty.com/chatty](http://www.winchatty.com/chatty) will be updated to hit the new database, but with direct access I can provide a much better API. The existing API was constrained by needing to scrape its data from shacknews.com pages.

It should be possible to write a full client application using only the v2 API. However, version 1 (the original LC.app / stonedonkey API) is not obsolete. The existing API calls will be plugged into the new chatty database. So there is no problem with existing clients continuing to use the v1 API as convenience dictates.

Version 1 root: <https://winchatty.com/chatty/>  
Version 2 root: <https://winchatty.com/v2/>

It's using a self-signed certificate for now. I'll install a real SSL certificate soon. HTTP also works, but clients should definitely use HTTPS for any of the POST operations where passwords are passed. This ensures an encrypted path from the user's desktop to shacknews.com.

This is a work in progress. Please shackmessage your comments to me. It's easy to add new API calls, so send in your ideas.

## Data Types

In order to precisely define the accepted inputs and the expected outputs of the v2 API methods, the following data type shorthands are defined.

|  |  |
| --- | --- |
| **Primitive types** | |
| [INT] | Integer |
| [BIT] | true or false |
| [STR] | String |
| [DAT] | ISO 8601 date and time, in the UTC time zone. Dates passed in as arguments are parsed using PHP's strtotime() which is very lenient. Output dates will always be formatted like this: "2013-12-01T19:39:00Z". In particular, the timezone will *always* be included, the "Z" form of the timezone will *always* be used, and the "+00:00" form will *never* be used (even though ISO 8601 permits both forms). Thus the date string will always be exactly 20 characters long, and you may hardcode character offsets when writing your parser.  **Tip:** Make sure to convert all [DAT] values to the user's local timezone before displaying! |
| [MOD] | One of the following strings:   * "ontopic" * "nws" * "stupid" * "political" * "tangent" * "informative" |
| [MBX] | One of the following strings:   * "inbox" * "sent" |
| [PET] | One of the following strings:   * "nuke" * "unnuke" * "flag" |
| **Complex types** | |
| [\_POST] | In a JSON response, this is the common format for representing a post.  {  "id": [INT],  "threadId": [INT],  "parentId": [INT],  "storyId": [INT], <TODO>  "author": [STR],  "category": [MOD],  "date": [DAT],  "body": [STR]  } |
| [\_POSTS] | In a JSON response, this is the common format for representing a list of posts.  [  [\_POST],  ... // one object for each post  ] |

The following suffixes may appear on any of the primitive data types above:

* The suffix + indicates lists of one or more, separated by comma.
* The suffix ? indicates that the argument may be omitted or empty.
* The suffix \* is the combinaton of + and ?.
* A comma and a number indicates the maximum value for integer arguments, and the maximum count for list arguments.

## Error Handling

If an API call results in an error, it is returned in the following JSON structure.

{  
 "error": true,  
 "code": [STR],  
 "message": [STR]  
}

The documentation for each API call lists which error codes are possible. The following two error codes are possible on any API call, and are thus not listed on each individual call. In both cases it is recommended that the client simply display the error message and then cancel whatever operation caused it.

|  |  |
| --- | --- |
| ERR\_SERVER | Unexpected error. Could be a communications failure, Shacknews outage, PHP exception, etc. The client did not do anything wrong. |
| ERR\_ARGUMENT | Invalid argument. The client passed an argument value that violates a documented constraint. The client contains a bug. |

# Threads and Posts

These API calls relate to the chatty itself. These are the core of the v2 API.

## GET /v2/waitForNewPost

Waits until a new post appears, and then returns the newest post ID. This enables push-based notification of new posts.

**Parameters**

lastId=[INT?]

Wait until any post newer than this ID appears. If a newer post already exists, then the request returns immediately without waiting. If not provided, then it will always wait until a new post appears.

returnPostData=[BIT?] <TODO>

Whether to return the post objects themselves, in addition to the newest post ID. This obviates the need to follow up with a call to getPostRange, which is expected to be the common case. waitForNewPost may return fewer posts than were actually posted since lastId, since it operates from a cache rather than connecting to the main database. Be prepared to call getPostRange as a backup if you know that your lastId is stale.

**Response**

{  
 "id": [INT],  
 "posts": [\_POSTS] // only present if returnPostData = true <TODO>  
}

**Examples**

<http://winchatty.com/v2/waitForNewPostId>   
<http://winchatty.com/v2/waitForNewPostId?lastId=31224456>

## GET /v2/getBumpedThreadIds

Gets the list of recently bumped threads, starting with the most recently bumped. The root ID of each thread is returned, along with the date of the original post.

**Parameters**

count=[INT?]

The number of threads to return. If not specified, then all active (not expired) threads are returned.

expiration=[INT?,36]

The number of hours to keep threads around in this list. If not provided, then the default of 18 (to match Shacknews) is used. The maximum is 36 hours.

storyId=[INT?] <TODO>

Restrict the threads returned to a particular story (OldShack chatty or Weekend Confirmed article). If not provided, then normal chatty threads (story ID of 0) are returned.

**Response**

{  
 "threads":  
 [  
 {  
 "threadId": [INT],  
 "date": [DAT]  
 },  
 ... // one for each thread  
 ]  
}

**Examples**

<http://winchatty.com/v2/getBumpedThreadIds>  
<http://winchatty.com/v2/getBumpedThreadIds?expiration=24>  
<http://winchatty.com/v2/getBumpedThreadIds?count=30>  
<http://winchatty.com/v2/getBumpedThreadIds?count=30&expiration=24>

## GET /v2/getThread

Gets all of the posts in one or more threads. If an invalid ID is passed (or if the ID of a nuked post is passed), then that thread will be silently omitted from the resulting list of threads.

**Parameters**

id=[INT+,50]

One or more IDs. May be any post in the thread, not just the OP.

**Response**

{  
 "threads":  
 [  
 {  
 "threadId": [INT],  
 "posts": [\_POSTS]  
 },  
 ... // one for each thread  
 ]  
}

**Examples**

<http://winchatty.com/v2/getThread?id=31162211,31162001>

## GET /v2/getThreadPostIds

Gets the ID of each post in one or more threads. If an invalid ID is passed (or if the ID of a nuked post is passed), then that thread will be silently omitted from the resulting list of threads.

**Parameters**

id=[INT+,50]

One or more IDs. May be any post in the thread, not just the OP.

**Response**

{  
 "threads":  
 [  
 {  
 "threadId": [INT],  
 "postIds":  
 [  
 [INT],  
 ... // one for each post in the thread  
 ]  
 },  
 ... // one for each thread  
 ]  
}

**Examples**

<http://winchatty.com/v2/getThreadPostIds?id=31162211,31162001>

## GET /v2/getPost

Gets one or more individual posts, specified by ID.

**Parameters**

id=[INT+,50]

The post IDs to retrieve.

**Response**

{  
 "posts": [\_POSTS]  
}

**Examples**

<http://winchatty.com/v2/getPost?id=31161163,31161164,31162308>

## GET /v2/getPostRange

Gets a consecutive range of posts. If any posts in the range do not exist (i.e. nuked, or hasn't been posted yet), then they are silently omitted from the list of posts in the response, rather than raising an error. The nuked posts are not counted against the number of posts requested by the count argument.

**Parameters**

startId=[INT]

The starting ID. This ID is included in the range.

count=[INT,1000]

Maximum number of posts to return, including startId.

reverse=[BIT?]

If true, then post IDs ≤ startId are retrieved. If not specified, or false, then post IDs ≥ startId are retrieved.

**Response**

{  
 "posts": [\_POSTS]  
 }

**Examples**

<http://winchatty.com/v2/getPostRange?startId=31158593&count=100>  
<http://winchatty.com/v2/getPostRange?startId=31158593&count=100&reverse=true>

## GET /v2/getNewestPostInfo

Gets the ID and date of the most recent post in the database.

**Parameters**

None.

**Response**

{  
 "id": [INT],  
 "date": [DAT]  
}

**Examples**

<http://winchatty.com/v2/getNewestPostInfo>

## GET /v2/getParentId

Gets the parent IDs for one or more posts. If a post does not exist, then it is silently omitted from the list of relationships in the response, rather than raising an error. If a post is the OP of a thread, then the ID 0 is returned.

**Parameters**

id=[INT+,50]

List of post IDs. The parent ID of each one will be returned.

**Response**

{  
 "relationships":  
 [  
 {  
 "childId": [INT],  
 "parentId": [INT]  
 },  
 ... // one for each ID  
 ]  
}

**Examples**

<http://winchatty.com/v2/getParentId?id=3,31162309,31162346>

## POST /v2/postComment

Posts a new comment.

**Parameters**

username=[STR]

Shacknews username.

password=[STR]

Shacknews password.

parentId=[INT]

The ID of the post we're replying to, or 0 for a new thread.

text=[STR]

The body of the post.

newThreadStoryId=[INT?] <TODO>

The story ID to use when posting a new thread (*only* applicable for new threads, not new replies). If not specified, then 0 is the default, indicating that a regular chatty thread is desired. This allows threads to be created in Weekend Confirmed articles.

**Response**

{  
 "result": "success"  
}

**Errors**

ERR\_INVALID\_LOGIN  
ERR\_POST\_RATE\_LIMIT  
ERR\_BANNED

**Example**

<https://winchatty.com/v2/postComment.tester>

## GET /v2/search

Performs a comment search.

**Parameters**

terms=[STR?]

Search terms.

author=[STR?]

Author.

parentAuthor=[STR?]

Parent author.

category=[MOD?]

Moderation flag.

offset=[INT?]

Number of results to skip. 0 is the default, which gets the first page of results.

limit=[INT?,500]

Maximum number of results to return. 35 is the default. Larger limits may take a long time to retrieve.

oldestFirst=[BIT?]

Whether to get results oldest first. Default: false.

**Response**

{  
 "posts": [\_POSTS]  
}

**Examples**

<http://winchatty.com/v2/search?terms=xbone>  
<http://winchatty.com/v2/search?author=electroly>   
<http://winchatty.com/v2/search?parentAuthor=electroly>  
<http://winchatty.com/v2/search?category=nws>  
<http://winchatty.com/v2/search?category=nws&oldestFirst=true>

# Post Edits

Shacknews moderators can perform the following actions that affect the state of the chatty:

* Nuke a post
* Un-nuke a post
* Change a post's moderation flag

All three operations are considered "post edits". The WinChatty v2 API logs all post edits and exposes them so that the client can keep its local working copy of the chatty up to date.

## GET /v2/getNewestPostEdit <TODO>

Gets the most recent post edit in the database.

**Parameters**

None.

**Response**

{  
 "postEditId": [INT],  
 "postId": [INT],  
 "editType": [PET],  
 "date": [DAT]  
}

**Examples**

TODO

## GET /v2/getNewerPostEdits <TODO>

Gets a range of post edits newer than a certain action ID.

A maximum of 500 post edits are returned.

**Parameters**

lastPostEditId=[INT]

Returns all post edits with an ID higher than lastPostEditId (exclusive).

**Response**

{  
 "actions":  
 [  
 {  
 "postEditId": [INT],  
 "postId": [INT],  
 "editType": [PET],  
 "date": [DAT]  
 },  
 ... // one for each post edit  
 ]  
}

**Examples**

TODO

# Accounts

This API call assists clients that offer user logins. Passwords are not stored in the WinChatty database to ensure user privacy is maintained.

## POST /v2/verifyCredentials

Checks the validity of the given username and password.

**Parameters**

username=[STR]

Shacknews username.

password=[STR]

Shacknews password.

**Response**

{  
 "isValid": [BIT]  
}

**Examples**

<https://winchatty.com/v2/verifyCredentials.tester>

## GET /v2/getUserRegistrationDate <TODO>

Gets the registration date for one or more users.

**Parameters**

username=[STR+,50]

List of Shacknews usernames.

**Response**

{  
 "users":  
 [  
 {  
 "username": [STR],  
 "date": [DAT]  
 },  
 ... // one for each user  
 ]  
}

**Errors**

TODO

# Shackmessages

The Shackmessage calls go directly to shacknews.com, as they did in the v1 API. Shackmessages are not stored in the WinChatty database to ensure user privacy is maintained.

## POST /v2/getMessages <TODO>

Gets a page of messages in the user’s inbox or sent mailbox.

**Parameters**

username=[STR]

Shacknews username.

password=[STR]

Shacknews password.

folder=[MBX]

The mailbox folder.

page=[INT]

1-based page number.

**Response**

{  
 "page": [INT],  
 "totalPages": [INT],  
 "totalMessages": [INT],  
 "messages":  
 [  
 {  
 "id": [INT],  
 "from": [STR],  
 "to": [STR],  
 "subject": [STR],  
 "date": [DAT],  
 "body": [STR],  
 "unread": [BIT]  
 },  
 ... // one for each message  
 ]  
}

**Response**

<https://winchatty.com/v2/getMessages.tester>

## POST /v2/sendMessage <TODO>

Sends a Shackmessage.

**Parameters**

username=[STR]

Shacknews username.

password=[STR]

Shacknews password.

to=[STR]

Message recipient's username.

subject=[STR]

Subject line.

body=[STR]

Post body.

**Response**

{  
 "result": "success"  
}

## POST /v2/markMessageRead <TODO>

Marks a message as read.

**Parameters**

username=[STR]

Shacknews username.

password=[STR]

Shacknews password.

messageId=[INT]

Message ID.

folder=[MBX]

"inbox" or "sent"

**Response**

{  
 "result": "success"  
}

## POST /v2/deleteMessage <TODO>

Deletes a message.

**Parameters**

username=[STR]

Shacknews username.

password=[STR]

Shacknews password.

messageId=[INT]

Message ID.

folder=[MBX]

"inbox" or "sent"

**Response**

{  
 "result": "success"  
}

# Client Data

The v2 API supports server storage ("cloud synchronization") of client data (primarily user preferences, but it's really just a general purpose store for the client's discretionary use). There are two types of client data associated with each user:

* *Shared* client data is common to all clients. For instance, the user's post filters (nws, political, etc.) are shared because every client supports this filtering feature. These clients can support cloud synchronization of this preference by reading and writing this shared data. All the shared data is available via formalized API methods with well-defined types and formats.
* *Private* client data is different for each client. Here the client can store its own preferences and data which necessarily cannot be shared with other clients. For instance, window positions, client-specific feature preferences, etc. This data is available via generic string read/write methods. It is recommended that you Base64-encode your data before passing it to this API.

Access to client data requires identifying your client application to the API. This is done by choosing a unique identification code to represent your client, which can (and should) simply be your application name. This ensures that you will see your own client's private data, and not some other client's data. You do not need to register this identification code ahead of time; simply call getClientSessionToken with your chosen code to get started. We'll operate by the honor system; choose something that's obviously unique and don't interfere with other clients. Don't be a dick.

## POST /v2/clientData/getClientSessionToken

Verifies the specified credentials and returns a token that can be used with future Client Data API calls. This allows the API to quickly check whether the caller has the rights to access a user's data without needing to hit shacknews.com each time (a 1-2 second operation). It will hit shacknews.com once for this call, and then not again for future API calls.

The token is valid until the expiration date and time specified in the response. If you call this method again before the expiration is up, then the expiration of the existing token is extended and the existing token is returned (as opposed to creating a new token).

**Parameters**

username=[STR]

Shacknews username.

password=[STR]

Shacknews password.

client=[STR]

Client identification code.

version=[STR]

Client version number. You may specify your version number in any format you choose.

**Response**

{  
 "clientSessionToken": [STR],  
 "expiration": [DAT]  
}

**Errors**

ERR\_INVALID\_LOGIN

**Examples**

<https://winchatty.com/v2/clientData/getClientSessionToken.tester>

## POST /v2/clientData/getCategoryFilters

Gets the user's moderation flag filters. A value of true indicates that posts in that category are shown.

**Parameters**

clientSessionToken=[STR]

Client session token.

**Response**

{  
 "filters":  
 {  
 "nws": [BIT],  
 "stupid": [BIT],  
 "political": [BIT],  
 "tangent": [BIT]  
 }  
}

**Errors**

ERR\_INVALID\_TOKEN

**Examples**

<https://winchatty.com/v2/clientData/getCategoryFilters.tester>

## POST /v2/clientData/setCategoryFilters <TODO>

Sets the user's moderation flag filters. A value of true indicates that posts in that category are shown.

**Parameters**

clientSessionToken=[STR]

Client session token.

nws=[BIT]

Not work safe filter.

stupid=[BIT]

Stupid filter.

political=[BIT]

Political/religious filter.

tangent=[BIT]

Tangent filter.

**Response**

{  
 "result": "success"  
}

**Errors**

ERR\_INVALID\_TOKEN

## POST /v2/clientData/getPinnedThreadIds <TODO>

Gets all the user's pinned threads.

**Parameters**

clientSessionToken=[STR]

Client session token.

**Response**

{  
 "threadIds":  
 [  
 [INT],  
 ... // one for each pinned thread  
 ]  
}

**Errors**

ERR\_INVALID\_TOKEN

## POST /v2/clientData/setPinnedThreadIds <TODO>

Clears the user's pinned threads and resets it to the specified list.

**Parameters**

clientSessionToken=[STR]

Client session token.

threadIds=[INT+,1000]

The new list of pinned thread IDs.

**Response**

{  
 "result": "success"  
}

**Errors**

ERR\_INVALID\_TOKEN

## POST /v2/clientData/pinThreadId <TODO>

Pins a single thread.

**Parameters**

clientSessionToken=[STR]

Client session token.

threadId=[INT]

Thread ID.

**Response**

{  
 "result": "success"  
}

**Errors**

ERR\_INVALID\_TOKEN

## POST /v2/clientData/unpinThreadId <TODO>

Unpins a single thread. If the thread was not pinned, it succeeds without error even though no action was taken.

**Parameters**

clientSessionToken=[STR]

Client session token.

threadId=[INT]

Thread ID.

**Response**

{  
 "result": "success"  
}

**Errors**

ERR\_INVALID\_TOKEN

## POST /v2/clientData/getPrivateData <TODO>

Gets the private client data for the specified user.

**Parameters**

clientSessionToken=[STR]

Client session token.

**Response**

{  
 "data": [STR]  
}

**Errors**

ERR\_INVALID\_TOKEN

## POST /v2/clientData/setPrivateData <TODO>

Sets the private client data for the specified user.

**Parameters**

clientSessionToken=[STR]

Client session token.

data=[STR]

Private client data. I recommend Base64-encoding this data.

**Response**

{  
 "result": "success"  
}

**Errors**

ERR\_INVALID\_TOKEN

# Appendix: Database Structure

All of the chatty data is stored in a PostgreSQL database. Searching is done using PostgreSQL's built-in text search functionality.

Threads and posts are stored in the following structure:



The following tables comprise the database schema.

|  |  |  |  |
| --- | --- | --- | --- |
| **indexer** | | | State information for the post indexer. |
| next\_low\_id | INTEGER | NOT NULL | The next oldest ID for the indexer to check. |
| next\_high\_id | INTEGER | NOT NULL | The next newest ID for the indexer to check. |
|  | | |  |
| **thread** | | | A comment thread. |
| id | INTEGER | PRIMARY KEY | The ID of the root post of the thread. |
| date | TIMESTAMP | NOT NULL | The post date of the root post. |
| bump\_date | TIMESTAMP | NOT NULL | The post date of the most recent post. |
|  | | |  |
| **post** | | | A single comment (root or reply) in a thread. |
| id | INTEGER | PRIMARY KEY | Post ID. |
| thread\_id | INTEGER | NOT NULL REFERENCES thread ON DELETE CASCADE | The ID of the root post of this thread. |
| parent\_id | INTEGER | NULL | The ID of the parent post, or 0 if this is the root. |
| author | TEXT | NOT NULL | Author username. |
| category | INTEGER | NOT NULL | Moderation flag. Possible values: 1 = on-topic 2 = not work safe 3 = stupid 4 = political/religious 5 = tangent 6 = informative |
| date | TIMESTAMP | NOT NULL | Post date. |
| body | TEXT | NOT NULL | Post body (including Shacktags in HTML). |
| author\_c | TEXT | NOT NULL | Preprocessed author, for searching. |
| body\_c | TEXT | NOT NULL | Preprocessed body, for searching. |
|  | | |  |
| **post\_index** | | | Contains the tokenized/stemmed body for searching. |
| id | INTEGER | NOT NULL REFERENCES post ON DELETE CASCADE | Post ID. |
| body\_c\_ts | tsvector | NOT NULL | Tokenized and stemmed body. |
| PRIMARY KEY (id) | | |  |
|  | | |  |
| **nuked\_post** | | | A nuked or missing post. |
| id | INTEGER | PRIMARY KEY | Post ID. |
| reattempts | INTEGER | NOT NULL | Number of times the indexer retried. |
| last\_date | TIMESTAMP | NOT NULL | Last time the indexer retried. |
| error | TEXT | NOT NULL | Error message the indexer received. |
|  | | |  |
| **shacker** | | | A Shacknews user. |
| id | SERIAL | PRIMARY KEY | Internal ID. |
| username | TEXT | NOT NULL UNIQUE | Lowercase username. |
| signup\_date | TIMESTAMP | NULL | Signup date (retrieved on demand). |
| filter\_nws | BOOLEAN | NOT NULL | Client shared data: Show NWS posts? |
| filter\_stupid | BOOLEAN | NOT NULL | Client shared data: Show stupid posts? |
| filter\_political | BOOLEAN | NOT NULL | Client shared data: Show political posts? |
| filter\_tangent | BOOLEAN | NOT NULL | Client shared data: Show tangent posts? |
|  | | |  |
| **shacker\_pinned\_threads** | | | Client shared data: pinned threads |
| shacker\_id | INTEGER | NOT NULL REFERENCES shacker ON DELETE CASCADE | Internal shacker ID. |
| post\_id | INTEGER | NOT NULL REFERENCES post ON DELETE CASCADE | Pinned post ID. Should be a thread ID, but the API does not really care. It's up to the client. |
| PRIMARY KEY (shacker\_id, post\_id) | | |  |
|  | | |  |
| **private\_client\_data** | | | Private client-specific data. |
| id | SERIAL | PRIMARY KEY | Internal ID. |
| shacker\_id | INTEGER | NOT NULL REFERENCES shacker ON DELETE CASCADE | Internal shacker ID. |
| client\_code | TEXT | NOT NULL | Client code (selected by the client author). |
| data | TEXT | NULL | Data string (recommended to be base64-encoded). |
|  | | |  |
| **client\_session** | | | An active client session. |
| token | TEXT | PRIMARY KEY | Client token. |
| username | TEXT | NOT NULL | Username (not lowercased). |
| client\_code | TEXT | NOT NULL | Client code (selected by the client author). |
| client\_version | TEXT | NOT NULL | Client version (selected by the client author). |
| expire\_date | TIMESTAMP | NOT NULL | Session expiration date. |