

Developer's Guide



Version 2.0
February 2018

Welcome to the BBSlink.net Developer's Guide

Background

In recent years, there has been an increase in the number of former sysops resurrecting their bulletin board systems (BBS) as an enjoyable, nostalgic pastime. A frequently observed downside is that the BBS community largely comprises of more sysops than callers leading to most boards having few callers. As a consequence of this, most local door games suffered from a small user base which led to poor playability. In addition to this, newly created boards are often found on 64-bit operating systems, prohibiting the easy use of 16-bit DOS doors.

BBSlink was launched as an easily accessible, open-to-all door server in 2014. As of February 2018, there are over 220 registered systems with over 50% of them having connected in the last three months.

Initially, the only connection client was written in JavaScript for Synchronet systems. However, since then, the greater BBS community have developed a Win32 client, a python script, a BASH script and most recently, an Amiga client. All of these have been developed using the following API which is both easy to implement and secure.

System

Initial authentication takes place over HTTP, with HTTPS added in March 2017 by means of *Let's Encrypt*. A system's credentials and other information can be passed either in HTTP headers or, since February 2018, as parameters in a URL. Once successful authentication has been confirmed, simply opening a telnet (preferred) or SSH (without authentication) session to the BBSlink server from the same IP address as the originating HTTP request will drop the user straight into the door without any intermediate stages or need to login. Alternatively, an up-to-date menu of all available doors can be loaded relieving the sysop of the need to add/remove doors as necessary.

In addition to this, ANSI score files are available over HTTP as raw ANSI which can be downloaded and displayed by a BBS or as graphics files generated on-the-fly. A 'oneliner' wall is also available with a client available for Synchronet systems and an Amiga client currently in development. There is no process map available for the BBSlink wall at present, though should there be enough call for it, one could be produced.

I want as many systems as possible to be able to connect to BBSlink so please contact me via e-mail or the contact form on bbslink.net if you have any difficulties or questions when developing a client.

Mark Mearns, February 2018.

Authenticating by HTTP Headers

Client System Credentials:

System Code: up to 8 character string, unique to each BBS.

Authorisation Code: 12 character, case sensitive, alphanumeric string. Unique to each BBS.

Scheme Code: 12 character, case-sensitive, alphanumeric string. Common to all systems.

Generate 'X-Key':

Random 6 character, case-sensitive, alphanumeric string

Request Token over HTTP/HTTPS:

[http\(s\)://games.bbslink.net/token.php?key=\[X-Key\]](http(s)://games.bbslink.net/token.php?key=[X-Key])

Token is valid for 15 seconds

Authenticate by transmitting credentials *in headers* over HTTP/HTTPS:

X-User: [user number on client BBS in plain text]

X-System: [System Code in plain text]

X-Auth: [md5 hash of Authorisation Code + Token]

X-Code: [md5 hash of Scheme Code + Token]

X-Rows: [number of screen rows in plain text - usually 24]

X-Key: [X-Key in plain text]

X-Door: [door code in plain text]

X-Token: [Token requested in step 2 in plain text]

X-Type: [individual client script type in plain text - request from dev [at] bbslink [dot] net]

X-Version: [client script version in plain text]

Send to: [http\(s\)://games.bbslink.net/auth.php?key=\[X-Key\]](http(s)://games.bbslink.net/auth.php?key=[X-Key])

Receive HTTP(S)
Response

"complete"

"Unauthorised"

Authentication Successful:

Open telnet connection to
games.bbslink.net:23

See list of error codes on page 6

Authenticating by Parameters

Client System Credentials:

System Code: up to 8 character string, unique to each BBS.

Authorisation Code: 12 character, case sensitive, alphanumeric string. Unique to each BBS.

Scheme Code: 12 character, case-sensitive, alphanumeric string. Common to all systems.

Generate 'X-Key':

Random 6 character, case-sensitive, alphanumeric string

Request Token over HTTP/HTTPS:

[http\(s\)://games.bbslink.net/token.php?key=\[X-Key\]](http(s)://games.bbslink.net/token.php?key=[X-Key])

Token is valid for 15 seconds

Authenticate by transmitting credentials *in URL parameters* over HTTP/HTTPS:

user: [user number on client BBS in plain text]

system: [System Code in plain text]

auth: [md5 hash of Authorisation Code + Token]

scheme: [md5 hash of Scheme Code + Token]

rows: [number of screen rows in plain text - usually 24]

door: [door code in plain text]

token: [Token requested in step 2 in plain text]

type: [individual client script type in plain text - request from dev [at] bbslink [dot] net]

version: [client script version in plain text]

Send to: [http\(s\)://games.bbslink.net/auth.php?key=\[X-Key\]&user=\[user\]&system=\[system\]&auth=\[auth\]&scheme=\[scheme\]&rows=\[rows\]&door=\[door\]&token=\[token\]&type=\[type\]&version=\[version\]](http(s)://games.bbslink.net/auth.php?key=[X-Key]&user=[user]&system=[system]&auth=[auth]&scheme=[scheme]&rows=[rows]&door=[door]&token=[token]&type=[type]&version=[version])

Receive HTTP(S)
Response

"complete"

"Unauthorised"

Authentication Successful:

Open telnet connection to
games.bbslink.net:23

See list of error codes on page 6

Worked Example (Headers)

Client System Credentials:

System Code: testbbs
Authorisation Code: **b2p3YzN9dMqp**
Scheme Code: **s7GRSPCgmBHP**

Generate 'X-Key':

X-Key: **mKvU9t**

Request Token over HTTP/HTTPS:

[http\(s\)://games.bbslink.net/token.php?key=\[X-Key\]](http(s)://games.bbslink.net/token.php?key=[X-Key])

Token: **10259225961371**

Authenticate by transmitting credentials *in headers* over HTTP/HTTPS:

X-User: 12
X-System: testbbs
X-Auth: 20542959b85319503b9189035e6483be
(md5 hash of **b2p3YzN9dMqp10259225961371**)
X-Code: 8d9930ef0b7b613273b8d9f6203926ff
(md5 hash of **s7GRSPCgmBHP10259225961371**)
X-Rows: 24
X-Key: **mKvU9t**
X-Door: lord
X-Token: **10259225961371**
X-Type: EXAMPLE
X-Version: 1.0.0

Send to: [http\(s\)://games.bbslink.net/auth.php?key=mKvU9t](http(s)://games.bbslink.net/auth.php?key=mKvU9t)

"complete"

Receive HTTP(S)
Response

"Unauthorised"

Authentication Successful:

Open telnet connection to
games.bbslink.net:23

See list of error codes on page 6

Worked Example (Parameters)

Client System Credentials:

System Code: testbbs
Authorisation Code: **b2p3YzN9dMqp**
Scheme Code: **s7GRSPCgmBHP**

Generate 'X-Key':

X-Key: **mKvU9t**

Request Token over HTTP/HTTPS:

[http\(s\)://games.bbmlink.net/token.php?key=\[X-Key\]](http(s)://games.bbmlink.net/token.php?key=[X-Key])

Token: **10259225961371**

Authenticate by transmitting credentials in URL parameters over HTTP/HTTPS:

user: 12
system: testbbs
auth: 20542959b85319503b9189035e6483be
(md5 hash of **b2p3YzN9dMqp10259225961371**)
scheme: 8d9930ef0b7b613273b8d9f6203926ff
(md5 hash of **s7GRSPCgmBHP10259225961371**)
rows: 24
door: lord
token: **10259225961371**
type: EXAMPLE
version: 1.0.0

Send to: [http\(s\)://games.bbmlink.net/auth.php?key=mKvU9t&user=12&system=testbbs&auth=20542959b85319503b9189035e6483be&scheme=8d9930ef0b7b613273b8d9f6203926ff&rows=24&door=lord&token=10259225961371&type=EXAMPLE&version=1.0.0](http(s)://games.bbmlink.net/auth.php?key=mKvU9t&user=12&system=testbbs&auth=20542959b85319503b9189035e6483be&scheme=8d9930ef0b7b613273b8d9f6203926ff&rows=24&door=lord&token=10259225961371&type=EXAMPLE&version=1.0.0)

Receive HTTP(S)
Response

"complete"

"Unauthorised"

Authentication Successful:

Open telnet connection to
games.bbmlink.net:23

See list of error codes on page 6

Error Codes

Error 0: No X-Key passed in URL

Error 1: X-Key header does not match X-Key passed in URL

Error 2: Incorrect Scheme Code

Error 3: Incorrect Authorisation Code (System Code valid)

Error 4: Unknown System Code

Error 5: Unknown door code

Error 6: Expired Token

Error 7: No authentication data found in headers or URL