

NetSocket++

0.1

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# Chapter 1

## Namespace Index

### 1.1 Namespace List

Here is a list of all documented namespaces with brief descriptions:

<a href="#">NetSocketPP</a>	
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## Chapter 2

# Hierarchical Index

### 2.1 Class Hierarchy

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## Chapter 3

# Class Index

### 3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

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## Chapter 4

# File Index

### 4.1 File List

Here is a list of all documented files with brief descriptions:

<a href="#">ClientSocket.h</a>	
An implementation of a client socket . . . . .	25
<a href="#">HTTPClientSocket.h</a>	
An implementation of HTTP Client Socket . . . . .	25
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A library designed to simplify the use of UNIX Network Sockets in the means of OOP . . . . .	26
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## Chapter 5

# Namespace Documentation

### 5.1 NetSocketPP Namespace Reference

A namespace for all library names.

#### Classes

- class [ClientSocket](#)  
*An implementation of a client socket. Inherits from [NetSocket](#).*
- class [HTTPReply](#)  
*A class representing HTTP Reply.*
- class [HTTPClientSocket](#)  
*A class representing HTTP client socket.*
- class [NetSocket](#)  
*A class, that represents network connection - socket.*
- class [NetworkException](#)  
*A class representing an exception with network.*
- class [ServerFunctionArgs](#)  
*A class for storing server function arguments.*
- class [ServerSocket](#)  
*An implementation of the server socket.*
- class [SocketException](#)  
*A class representing an exception with socket classes.*

#### Functions

- `std::string` [CStrToString](#) (char \*cstr)  
*A function, that converts table of chars (a C-style string) into `std::string`.*

#### 5.1.1 Detailed Description

A namespace for all library names.

## 5.1.2 Function Documentation

### 5.1.2.1 NetSocketPP::CStrToString ( char \* *cstr* ) [inline]

A function, that converts table of chars (a C-style string) into std::string.

#### Parameters

<i>cstr</i>	A C-style string to be converted.
-------------	-----------------------------------

#### Returns

A std::string with the content of the input.



## Chapter 6

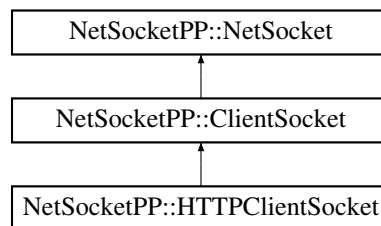
# Class Documentation

### 6.1 NetSocketPP::ClientSocket Class Reference

An implementation of a client socket. Inherits from [NetSocket](#).

```
#include <ClientSocket.h>
```

Inheritance diagram for NetSocketPP::ClientSocket:



#### Public Member Functions

- [ClientSocket](#) (std::string host, std::string service, std::string protocol)  
*A constructor with parameters, that creates and connects the socket.*
- int [send](#) (std::string msg, int flags)  
*A function, that sends data through the socket.*
- int [recv](#) (int flags)  
*A function, that receives data through the socket.*
- std::string [get](#) ()  
*A function returning recently recv-d data.*

#### Protected Attributes

- char [buf](#) [100000]  
*A large buffer for data.*

#### Additional Inherited Members

##### 6.1.1 Detailed Description

An implementation of a client socket. Inherits from [NetSocket](#).

## 6.1.2 Constructor & Destructor Documentation

### 6.1.2.1 ClientSocket::ClientSocket ( std::string *host*, std::string *service*, std::string *protocol* )

A constructor with parameters, that creates and connects the socket.

#### Parameters

<i>host</i>	A hostname or IP address of socket destination.
<i>service</i>	A port or service identifier, where socket is to be opened.
<i>protocol</i>	A protocol of the socket, TCP or UDP.

## 6.1.3 Member Function Documentation

### 6.1.3.1 std::string ClientSocket::get ( )

A function returning recently recv-d data.

#### Returns

Received data as std::string.

### 6.1.3.2 int ClientSocket::recv ( int *flags* )

A function, that receives data through the socket.

#### Parameters

<i>flags</i>	Socket flags, default 0.
--------------	--------------------------

#### Returns

Number of bytes received.

### 6.1.3.3 int ClientSocket::send ( std::string *msg*, int *flags* = 0 )

A function, that sends data through the socket.

#### Parameters

<i>msg</i>	A message to send.
<i>flags</i>	Socket flags, default 0.

#### Returns

Number of bytes sent.

The documentation for this class was generated from the following files:

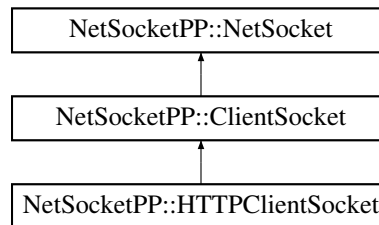
- [ClientSocket.h](#)
- ClientSocket.cpp

## 6.2 NetSocketPP::HTTPClientSocket Class Reference

A class representing HTTP client socket.

```
#include <HTTPClientSocket.h>
```

Inheritance diagram for NetSocketPP::HTTPClientSocket:



### Public Member Functions

- [HTTPClientSocket](#) (std::string host, std::string service, std::string docRequest)  
*A constructor with parameters.*
- [HTTPReply](#) getReply ()  
*A function returning a [HTTPReply](#).*
- std::string getRequest ()  
*A function returning the request used in the socket.*

### Additional Inherited Members

#### 6.2.1 Detailed Description

A class representing HTTP client socket.

#### 6.2.2 Constructor & Destructor Documentation

**6.2.2.1** `HTTPClientSocket::HTTPClientSocket ( std::string host = NULL, std::string service = "http", std::string docRequest = "/" )`

A constructor with parameters.

##### Parameters

<i>host</i>	Hostname or IP of socket destination, defaults to NULL.
<i>service</i>	Service port or identifier, defaults to HTTP.
<i>docRequest</i>	A document to request from the server, defaults to root/index (/).

#### 6.2.3 Member Function Documentation

**6.2.3.1** `HTTPReply HTTPClientSocket::getReply ( )`

A function returning a [HTTPReply](#).

##### Returns

[HTTPReply](#) object containing received data.

### 6.2.3.2 std::string HTTPClientSocket::getRequest ( )

A function returning the request used in the socket.

#### Returns

The HTTP request used to obtain data.

The documentation for this class was generated from the following files:

- [HTTPClientSocket.h](#)
- [HTTPClientSocket.cpp](#)

## 6.3 NetSocketPP::HTTPReply Class Reference

A class representing HTTP Reply.

```
#include <HTTPClientSocket.h>
```

### Public Member Functions

- [HTTPReply](#) ()  
*A constructor.*
- [HTTPReply](#) (std::string raw)  
*A constructor with parameter.*
- [~HTTPReply](#) ()  
*A destructor.*
- void [parse](#) ()  
*HTTP reply parser.*
- void [addToContent](#) (std::string cp)  
*A function, that adds more parts of the content to the reply if necessary.*
- std::string [getRaw](#) ()  
*A function returning raw HTTP reply.*
- std::string [getProtocol](#) ()  
*A function returning HTTP protocol information.*
- std::string [getResponse](#) ()  
*A function returning HTTP response message.*
- std::string [getTimestamp](#) ()  
*A function returning timestamp.*
- std::string [getServer](#) ()  
*A function returning server information.*
- unsigned int [getContentLength](#) ()  
*A function returning length of content.*
- std::string [getConnection](#) ()  
*A function returning connection status.*
- std::string [getContentType](#) ()  
*A function returning type of content.*
- std::string [getContent](#) ()  
*A function returning received content.*

### 6.3.1 Detailed Description

A class representing HTTP Reply.

### 6.3.2 Constructor & Destructor Documentation

#### 6.3.2.1 HTTPReply::HTTPReply ( std::string *raw* )

A constructor with parameter.

##### Parameters

<i>raw</i>	Raw reply from recv.
------------	----------------------

### 6.3.3 Member Function Documentation

#### 6.3.3.1 void HTTPReply::addToContent ( std::string *cp* )

A function, that adds more parts of the content to the reply if necessary.

##### Parameters

<i>cp</i>	Part of the content to be added.
-----------	----------------------------------

#### 6.3.3.2 std::string HTTPReply::getConnection ( )

A function returning connection status.

##### Returns

Connection status.

#### 6.3.3.3 std::string HTTPReply::getContent ( )

A function returning received content.

##### Returns

Received content.

#### 6.3.3.4 unsigned int HTTPReply::getContentLength ( )

A function returning length of content.

##### Returns

Length of content.

#### 6.3.3.5 std::string HTTPReply::getContentType ( )

A function returning type of content.

##### Returns

Type of content.

#### 6.3.3.6 `std::string HTTPReply::getProtocol ( )`

A function returning HTTP protocol information.

##### Returns

HTTP protocol information.

#### 6.3.3.7 `std::string HTTPReply::getRaw ( )`

A function returning raw HTTP reply.

##### Returns

Raw HTTP reply.

#### 6.3.3.8 `std::string HTTPReply::getResponse ( )`

A function returning HTTP response message.

##### Returns

HTTP response message.

#### 6.3.3.9 `std::string HTTPReply::getServer ( )`

A function returning server information.

##### Returns

Server information.

#### 6.3.3.10 `std::string HTTPReply::getTimestamp ( )`

A function returning timestamp.

##### Returns

Timestamp.

The documentation for this class was generated from the following files:

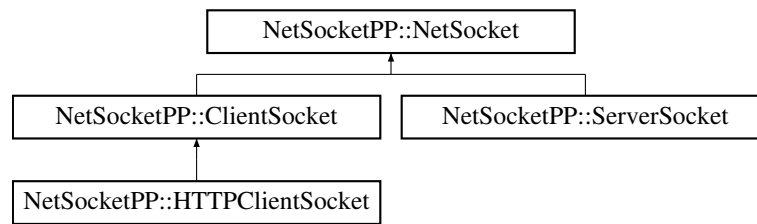
- [HTTPClientSocket.h](#)
- HTTPClientSocket.cpp

## 6.4 NetSocketPP::NetSocket Class Reference

A class, that represents network connection - socket.

```
#include <NetSocket.h>
```

Inheritance diagram for NetSocketPP::NetSocket:



## Public Member Functions

- [NetSocket](#) (std::string host, std::string service, std::string protocol)  
*A constructor with parameters, that creates a socket.*
- std::string [getIP](#) ()  
*A function that returns IP of a host.*
- int [getDesc](#) ()  
*A function that returns socket descriptor.*
- [~NetSocket](#) ()  
*A destructor, that frees the memory.*

## Protected Member Functions

- void \* [get\\_in\\_addr](#) (sockaddr \*sa)  
*Needed for implementation purposes.*

## Protected Attributes

- int [\\_descriptor](#)  
*Socket descriptor.*
- int [\\_yes](#)  
*Needed for implementation purposes.*
- int [\\_status](#)  
*Needed for implementation purposes.*
- char [\\_caddr](#) [INET6\_ADDRSTRLEN]  
*A structure that stores IP address.*
- addrinfo [\\_hints](#)  
*Needed for implementation purposes.*
- addrinfo \* [\\_servinfo](#)  
*Needed for implementation purposes.*
- sockaddr\_storage [\\_their\\_addr](#)  
*Needed for implementation purposes.*
- socklen\_t [\\_addr\\_size](#)  
*Needed for implementation purposes.*
- std::string [\\_host](#)  
*A host to which a socket is connecting to/on which a server socket is opened.*
- std::string [\\_service](#)  
*A port or a string identifying service that socket is connecting to/which server is being opened.*
- std::string [\\_protocol](#)  
*A protocol of the socket: TCP/UDP.*

### 6.4.1 Detailed Description

A class, that represents network connection - socket.

### 6.4.2 Constructor & Destructor Documentation

#### 6.4.2.1 `NetSocket::NetSocket ( std::string host, std::string service, std::string protocol )`

A constructor with parameters, that creates a socket.

##### Parameters

<i>host</i>	A hostname or IP address of socket destination.
<i>service</i>	A port or service identifier, where socket is to be opened.
<i>protocol</i>	A protocol of the socket, TCP or UDP.

### 6.4.3 Member Function Documentation

#### 6.4.3.1 `int NetSocket::getDesc ( )`

A function that returns socket descriptor.

##### Returns

A socket descriptor.

#### 6.4.3.2 `std::string NetSocket::getIP ( )`

A function that returns IP of a host.

##### Returns

IP address of a host as `std::string`.

The documentation for this class was generated from the following files:

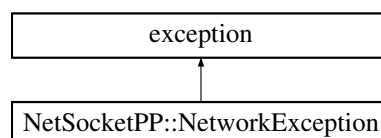
- [NetSocket.h](#)
- [NetSocket.cpp](#)

## 6.5 NetSocketPP::NetworkException Class Reference

A class representing an exception with network.

```
#include <NetworkException.h>
```

Inheritance diagram for `NetSocketPP::NetworkException`:





## Public Member Functions

- [NetworkException](#) (std::string cmd, std::string msg)  
*A constructor with parameters.*
- [~NetworkException](#) () throw ()  
*A destructor, as needed by std::exception.*
- const char \* [what](#) () const throw ()  
*A function, that returns error message, as needed by std::exception.*

### 6.5.1 Detailed Description

A class representing an exception with network.

### 6.5.2 Constructor & Destructor Documentation

#### 6.5.2.1 NetworkException::NetworkException ( std::string cmd, std::string msg )

A constructor with parameters.

#### Parameters

<i>cmd</i>	A command, where exception occurred.
<i>msg</i>	What has happened.

### 6.5.3 Member Function Documentation

#### 6.5.3.1 const char \* NetworkException::what ( ) const throw ()

A function, that returns error message, as needed by std::exception.

#### Returns

Error message.

The documentation for this class was generated from the following files:

- [NetworkException.h](#)
- [NetworkException.cpp](#)

## 6.6 NetSocketPP::ServerFunctionArgs Class Reference

A class for storing server function arguments.

```
#include <ServerSocket.h>
```

## Public Member Functions

- [ServerFunctionArgs](#) ()  
*A constructor.*
- [ServerFunctionArgs](#) (ServerFunctionArgs &sfa)  
*A copy constructor.*
- [~ServerFunctionArgs](#) ()

- A destructor.*
- void [addArgument](#) (std::string arg)  
*Function adding an argument to the list.*
- std::string [getArgument](#) (unsigned int idx)  
*Function returning the argument of given index number.*
- std::string [operator\[\]](#) (unsigned int idx)  
*Operator[] returning the argument of given index number.*

### 6.6.1 Detailed Description

A class for storing server function arguments.

### 6.6.2 Constructor & Destructor Documentation

#### 6.6.2.1 ServerFunctionArgs::ServerFunctionArgs ( ServerFunctionArgs & sfa )

A copy constructor.

##### Parameters

<i>sfa</i>	An object to be copied.
------------	-------------------------

### 6.6.3 Member Function Documentation

#### 6.6.3.1 void ServerFunctionArgs::addArgument ( std::string arg )

Function adding an argument to the list.

##### Parameters

<i>arg</i>	An argument to be added, of type std::string.
------------	---

#### 6.6.3.2 std::string ServerFunctionArgs::getArgument ( unsigned int idx )

Function returning the argument of given index number.

##### Parameters

<i>idx</i>	Index of the argument.
------------	------------------------

##### Returns

The argument.

#### 6.6.3.3 std::string ServerFunctionArgs::operator[] ( unsigned int idx )

Operator[] returning the argument of given index number.

##### Parameters

<i>idx</i>	Index of the argument.
------------	------------------------

**Returns**

The argument.

The documentation for this class was generated from the following files:

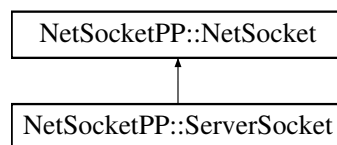
- [ServerSocket.h](#)
- ServerSocket.cpp

## 6.7 NetSocketPP::ServerSocket Class Reference

An implementation of the server socket.

```
#include <ServerSocket.h>
```

Inheritance diagram for NetSocketPP::ServerSocket:

**Public Member Functions**

- [ServerSocket](#) (std::string host, std::string service, std::string protocol)  
*A constructor with parameters.*
- [~ServerSocket](#) ()  
*A destructor.*
- void [startServer](#) (ServerFunctionArgs &functionOutput, ServerFunctionArgs &(\*serverMain)(ServerFunctionArgs, ServerSocket \*), ServerFunctionArgs functionInput, bool infinite, unsigned int iternum, int connectionLimit)  
*A function that starts TCP server.*
- int [send](#) (std::string msg, int flags=0)  
*A function that sends data through the socket.*
- int [recv](#) (int flags=0)  
*A function that receives data through the socket.*
- std::string [get](#) ()  
*A function returning received data.*

**Additional Inherited Members****6.7.1 Detailed Description**

An implementation of the server socket.

**6.7.2 Constructor & Destructor Documentation****6.7.2.1 ServerSocket::ServerSocket ( std::string host, std::string service, std::string protocol )**

A constructor with parameters.

## Parameters

<i>host</i>	A hostname or IP adress of socket destination, defaults to NULL.
<i>service</i>	Port or service that socket should be connected with.
<i>protocol</i>	Socket protocol, TCP or UDP.

### 6.7.3 Member Function Documentation

#### 6.7.3.1 `std::string ServerSocket::get ( )`

A function returning received data.

## Returns

Received data as string.

#### 6.7.3.2 `int ServerSocket::recv ( int flags = 0 )`

A function that receives data through the socket.

## Parameters

<i>flags</i>	Receive flags, defaulting to 0.
--------------	---------------------------------

## Returns

Number of bytes received.

#### 6.7.3.3 `int ServerSocket::send ( std::string msg, int flags = 0 )`

A function that sends data through the socket.

## Parameters

<i>msg</i>	A message/data to send, of type std::string.
<i>flags</i>	Send flags, defaulting to 0.

## Returns

Number of bytes sent.

#### 6.7.3.4 `void ServerSocket::startServer ( ServerFunctionArgs & functionOutput, ServerFunctionArgs &(*) (ServerFunctionArgs, ServerSocket *) serverMain, ServerFunctionArgs functionInput, bool infinite, unsigned int iternum, int connectionLimit )`

A function that starts TCP server.

## Parameters

<i>functionOutput</i>	A <a href="#">ServerFunctionArgs</a> object that will store server function result.
<i>serverMain</i>	An user-defined function, that returns <a href="#">ServerFunctionArgs</a> object - results of the server function with arguments: <a href="#">ServerFunctionArgs</a> object - arguments to the server function and pointer to <a href="#">ServerSocket</a> object - for passing socket information in that order.
<i>functionInput</i>	A <a href="#">ServerFunctionArgs</a> object with server function arguments.
<i>infinite</i>	Determines if server loop should be infinite.

<i>iternum</i>	Number of accept() iterations for non-infinite loops.
<i>connectionLimit</i>	Maximum number of accepted connections.

The documentation for this class was generated from the following files:

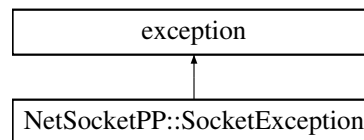
- [ServerSocket.h](#)
- [ServerSocket.cpp](#)

## 6.8 NetSocketPP::SocketException Class Reference

A class representing an exception with socket classes.

```
#include <SocketException.h>
```

Inheritance diagram for NetSocketPP::SocketException:



### Public Member Functions

- [SocketException](#) (std::string msg)  
*A constructor with parameters.*
- [~SocketException](#) () throw ()  
*A destructor, as needed by std::exception.*
- const char \* [what](#) () const throw ()  
*A function, that returns error message, as needed by std::exception.*

#### 6.8.1 Detailed Description

A class representing an exception with socket classes.

#### 6.8.2 Constructor & Destructor Documentation

##### 6.8.2.1 SocketException::SocketException ( std::string msg )

A constructor with parameters.

##### Parameters

<i>msg</i>	What has happened.
------------	--------------------

#### 6.8.3 Member Function Documentation

##### 6.8.3.1 const char \* SocketException::what ( ) const throw ()

A function, that returns error message, as needed by std::exception.

**Returns**

Error message.

The documentation for this class was generated from the following files:

- [SocketException.h](#)
- SocketException.cpp

# Chapter 7

## File Documentation

### 7.1 ClientSocket.h File Reference

An implementation of a client socket.

```
#include "NetSocket.h"
#include "NetworkException.h"
```

#### Classes

- class [NetSocketPP::ClientSocket](#)  
*An implementation of a client socket. Inherits from [NetSocket](#).*

#### Namespaces

- namespace [NetSocketPP](#)  
*A namespace for all library names.*

#### 7.1.1 Detailed Description

An implementation of a client socket.

#### Author

Phitherek\_

#### Date

2012

#### Version

0.1

### 7.2 HTTPClientSocket.h File Reference

An implementation of HTTP Client Socket.

```
#include "ClientSocket.h"
#include "SocketException.h"
```

## Classes

- class [NetSocketPP::HTTPReply](#)  
*A class representing HTTP Reply.*
- class [NetSocketPP::HTTPClientSocket](#)  
*A class representing HTTP client socket.*

## Namespaces

- namespace [NetSocketPP](#)  
*A namespace for all library names.*

### 7.2.1 Detailed Description

An implementation of HTTP Client Socket.

#### Author

Phitherek\_

#### Date

2012

#### Version

0.1

## 7.3 NetSocket.h File Reference

A library designed to simplify the use of UNIX Network Sockets in the means of OOP.

```
#include <sys/socket.h>
#include <sys/types.h>
#include <arpa/inet.h>
#include <netdb.h>
#include <unistd.h>
#include <sys/wait.h>
#include <signal.h>
#include <string>
#include <cerrno>
#include <cstring>
```

## Classes

- class [NetSocketPP::NetSocket](#)  
*A class, that represents network connection - socket.*



## Namespaces

- namespace [NetSocketPP](#)  
*A namespace for all library names.*

## Functions

- `std::string NetSocketPP::CStrToString (char *cstr)`  
*A function, that converts table of chars (a C-style string) into std::string.*

### 7.3.1 Detailed Description

A library designed to simplify the use of UNIX Network Sockets in the means of OOP.

#### Author

Phitherek\_

#### Date

2012

#### Version

0.1

## 7.4 NetSocketPP.h File Reference

A common header for NetSocket++ library.

```
#include "NetSocket.h"
#include "SocketException.h"
#include "NetworkException.h"
#include "ClientSocket.h"
#include "ServerSocket.h"
#include "HTTPClientSocket.h"
```

### 7.4.1 Detailed Description

A common header for NetSocket++ library.

#### Author

Phitherek\_

#### Date

2013

#### Version

0.1

## 7.5 NetworkException.h File Reference

An implementation of network exception.

```
#include <exception>
#include <string>
```

### Classes

- class [NetSocketPP::NetworkException](#)  
*A class representing an exception with network.*

### Namespaces

- namespace [NetSocketPP](#)  
*A namespace for all library names.*

#### 7.5.1 Detailed Description

An implementation of network exception.

##### Author

Phitherek\_

##### Date

2012

##### Version

0.1

## 7.6 ServerSocket.h File Reference

An implementation of a server socket.

```
#include "NetSocket.h"
#include "NetworkException.h"
#include "SocketException.h"
```

### Classes

- class [NetSocketPP::ServerFunctionArgs](#)  
*A class for storing server function arguments.*
- class [NetSocketPP::ServerSocket](#)  
*An implementation of the server socket.*

### Namespaces

- namespace [NetSocketPP](#)  
*A namespace for all library names.*

## Functions

- void [sigchld\\_handler](#) (int s)  
*Signal handler, needed for implementation purposes.*

### 7.6.1 Detailed Description

An implementation of a server socket.

#### Author

Phitherek\_

#### Date

2013

#### Version

0.1

### 7.6.2 Function Documentation

#### 7.6.2.1 sigchld\_handler ( int s ) `[inline]`

Signal handler, needed for implementation purposes.

#### Parameters

s	Needed for implementation purposes
---	------------------------------------

## 7.7 SocketException.h File Reference

An implementation of socket exception.

```
#include <exception>
#include <string>
```

## Classes

- class [NetSocketPP::SocketException](#)  
*A class representing an exception with socket classes.*

## Namespaces

- namespace [NetSocketPP](#)  
*A namespace for all library names.*

### 7.7.1 Detailed Description

An implementation of socket exception.

**Author**

Phitherek\_

**Date**

2012

**Version**

0.1

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