# Nuki Bridge API

V1.8

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#### 1. Introduction

The REST API on the Nuki Bridge offers simple endpoints to list all available Nuki Smart Locks, retrieve their current lock state and perform lock operations.

When using the Nuki Software Bridge, all configuration is done inside the Nuki Bridge App instead of the Nuki App.

#### 2. Calling URL

This is the address used to call the available services of the internal webserver.

The IP address is shown in the bridge settings within the Nuki App or can be retrieved from the bridge discovery URL.

The server is listening for incoming requests either on default port 8080 or the configured one if it has been modified within the Nuki App.

#### 2.1 Example

The following base url will be used in upcoming examples:

http://192.168.1.50:8080/

## 3. Bridge discovery & API activation

Calling the URL https://api.nuki.io/discover/bridges returns a JSON array with all bridges which have been connected to the Nuki Servers through the same IP address than the one calling the URL within the last 30 days. The array contains the local IP address, port, the ID of each bridge and the date of the last change of the entry in the JSON array.

#### 3.1 Example

```
{
  "bridges": [
     {
        "bridgeId":2117604523,"ip":"192.168.1.50","port":8080,"dateUpdated":"2017-06-14
T06:53:44Z"
     }
],
     "errorCode":0
}
```

Once a bridge has been discovered on the LAN the API can be activated and the API token retrieved by calling the /auth command. The user has to confirm this request by pressing the button on the bridge. For more details see the description of the /auth command. Alternatively you can activate the API and set the token by managing the bridge in the Nuki App.

If discovery is disabled via /configAuth or through the Nuki App, the IP is 0.0.0.0 and the port 0. In this case the /auth command fails with HTTP error 403.

#### 3.2 Token

We offer two ways of verifying calls to endpoints with a token:

Method	Usage
Plain token	You can use the plain token for testing and in private, secured WIFIs or VLANs.
Hashed token	Use if you do not want to send the plain token within your API-calls.
	Note: Only available for the hardware bridge for now.

#### Parameters:

Name	Parameter	Values	Example
Plain token	token	uint8[20]	123456
Timestamp	ts	YYYY-MM-DD <b>T</b> HH:MM:SS <b>Z</b>	2019-03-05T01:06:53Z
Random Number	rnr	number from 0 to 65535	4711
Hash	hash	sha256("ts,rnr,token")	f52eb5ce382e356c4239f8f b4d0a87402bb95b7b3124f 0762b806ad7d0d01cb6

#### Example-Calls:

#### Plain token:

http://192.168.1.50:8080/info?token=123456

#### Hashed token:

http://192.168.1.50:8080/info?ts=2019-03-05T01:06:53Z&rnr=4711&hash=f52eb5ce382e356c42 39f8fb4d0a87402bb95b7b3124f0762b806ad7d0d01cb6

A hashed token will only be valid with a sufficiently current timestamp and can not be reused, to prevent replay attacks. So making two calls with the exact same timestamp will only work with different random numbers.

To debug problems with non synchronous times you can check the current time on the bridge via bridge discovery.

#### 4. Lock states

Possible lock states (used in Endpoints below):

ID	name
0	uncalibrated
1	locked
2	unlocking
3	unlocked
4	locking
5	unlatched
6	unlocked (lock 'n' go)
7	unlatching
254	motor blocked
255	undefined

## 4.1 Lock actions

Possible lock actions (used in Endpoints below):

ID	name
1	unlock
2	lock
3	unlatch
4	lock 'n' go
5	lock 'n' go with unlatch

# 5. Endpoints

#### /auth

URL	http://192.168	http://192.168.1.50:8080/auth		
Usage	Enables the api (if not yet enabled) and returns the api token. If no api token has yet been set, a new (random) one is generated.			
	When issuing this API-call the bridge turns on its LED for 30 seconds.  The button of the bridge has to be pressed within this timeframe.  Otherwise the bridge returns a negative success and no token.			
Response	JSON list containing the success of the authorization			
	token The api token			
	success Flag indicating the success of the authorization			
Errors	HTTP 403 Returned if the authentication is disabled			

Example-Call	http://192.168.1.50:8080/auth
Example-Response	{   "token": "token123",   "success": true }

# /configAuth

URL	http://192.168.1.50:8080/configAuth		
Usage	Enables or disables the authorization via /auth and the publication of the local IP and port to the discovery URL (https://api.nuki.io/discover/bridges).		
URL-Parameters	enable Flag (0 or 1) indicating whether or not the authorization should be enabled		
	token or hash, rnr, ts	The api token configured via the Nuki app when enabling the API as plain token or hashed token.	
Response	JSON list containing the success of the operation		
	success	Flag indicating the success of the authorization	
Errors	HTTP 400	Returned if the given value for <b>enable</b> is invalid (neither 0 nor 1)	
	HTTP 401	Returned if the given <b>token</b> is invalid or a <b>hashed token</b> parameter is missing.	
Example-Calls	http://192.168.1.50:8080/configAuth?enable=0&token=123456		
	http://192.168.1.50:8080/configAuth?enable=0&ts=2019-03-05T01:06:53Z &rnr=4711&hash=f52eb5ce382e356c4239f8fb4d0a87402bb95b7b3124f07 62b806ad7d0d01cb6		
Example-Response	{     "success": true		
	}		

URL	http://192.168.1.50:8080/list			
Usage	Returns a list of all paired Smart Locks			
URL-Parameters	token or hash, rnr, ts  The api token configured via the Nuki app when enabling the API as plain token or hashed token.			
Response	JSON array. O	ne it	em of the follo	owing per Smart Lock
	nukild		ID of the Sm	art Lock
	name		Name of the	Smart Lock
	lastKnownSta	te	JSON list co Smart Lock	ntaining the last known lock state of the
			state	ID of the lock state (see Lock states)
			stateName	Name of the lock state (see Lock states)
			batteryCrit ical	Flag indicating if the batteries of the Smart Lock are at critical level
			timestamp	Timestamp of the retrieval of this lock state
Errors	HTTP 401		turned if the grameter is mis	iven <b>token</b> is invalid or a <b>hashed token</b> sing.
Example-Calls	http://192.168.1.50:8080/list?token=123456 http://192.168.1.50:8080/list?ts=2019-03-05T01:06:53Z&rnr=4711&hash=f5 2eb5ce382e356c4239f8fb4d0a87402bb95b7b3124f0762b806ad7d0d01cb6			
Example-Response	[{     "nukild": 1,     "name": "Home",     "lastKnownState": {         "state": 1,         "stateName": "locked",         "batteryCritical": false,         "timestamp": "2016-10-03T06:49:00+00:00" }     },{     "nukild": 2,			

```
"name": "Grandma",
    "lastKnownState": {
        "state": 3,
        "stateName": "unlocked",
        "batteryCritical": false,
        "timestamp": "2016-10-03T06:49:00+00:00"
     }
}
```

## /lockState

URL	http://192.168.1.50:8080/lockState		
Usage	Retrieves and returns the current lock state of a given Smart Lock		
URL-Parameters	nukild	The ID of the Smart Lock from which the lock state should be retrieved	
	token or hash, rnr, ts	The api token configured via the Nuki app when enabling the API as plain token or hashed token.	
Response	JSON list contai	nining the retrieved lock state	
	state	ID of the lock state (see Lock states)	
	stateName	Name of the lock state (see Lock states)	
	batteryCritical	Flag indicating if the batteries of the Smart Lock are at critical level	
	success	Flag indicating if the lock state retrieval has been successful	
Errors	HTTP 401	Returned if the given <b>token</b> is invalid or a <b>hashed token</b> parameter is missing.	
	HTTP 404	Returned if the given Smart Lock is unknown	
	HTTP 503	Returned if the given Smart Lock is offline	
Example-Calls	http://192.168.1.50:8080/lockState?nukild=1&token=123456 http://192.168.1.50:8080/lockState?nukild=1&ts=2019-03-05T01:06:53Z&r nr=4711&hash=f52eb5ce382e356c4239f8fb4d0a87402bb95b7b3124f0762		

	b806ad7d0d01cb6
Example-Response	{   "state": 1,   "stateName": "locked",   "batteryCritical": false,   "success": true }

## /lockAction

URL	http://192.168.1.50:8080/lockAction			
Usage	Performs a lock operation on the given Smart Lock			
URL-Parameters	nukild	The ID of the Smart Lock which should execute the lock action		
	action	Th	e desired lock action (see Lock states)	
	nowait		ag (0 or 1) indicating whether or not to wait for the lock tion to complete and return its result (optional; defaults to	
	token or hash, rnr, ts	The api token configured via the Nuki app when enabling the API as plain token or hashed token.		
Response	JSON list containing the result of the lock action			
	batteryCritica		Flag indicating if the batteries of the Smart Lock are at critical level	
	success		Flag indicating if the lock action has been executed successful	
Errors	HTTP 400	Returned if the given <b>action</b> is invalid		
	HTTP 401	Returned if the given <b>token</b> is invalid or a <b>hashed token</b> parameter is missing.		
	HTTP 404	Returned if the given Smart Lock is unknown  Returned if the given Smart Lock is offline		
	HTTP 503			

Example-Calls	http://192.168.1.50:8080/lockAction?nukild=1&action=1&token=123456 http://192.168.1.50:8080/lockAction?nukild=1&action=1&ts=2019-03-05T0 1:06:53Z&rnr=4711&hash=f52eb5ce382e356c4239f8fb4d0a87402bb95b7b 3124f0762b806ad7d0d01cb6
Example-Response	{     "success": true,     "batteryCritical": false }

# /unpair

#### not available on the software bridge

URL	http://192.168.1.50:8080/unpair		
Usage	Removes the pairing with a given Smart Lock		
URL-Parameters	nukild	The ID of the Smart Lock which should be unpaired	
	token or hash, rnr, ts	The api token configured via the Nuki app when enabling the API as plain token or hashed token.	
Response	JSON list conta	JSON list containing the result of the operation	
	success	Flag indicating if the lock action has been executed successful	
Errors	HTTP 401	Returned if the given <b>token</b> is invalid or a <b>hashed token</b> parameter is missing.	
	HTTP 404	Returned if the given Smart Lock is unknown	
Example-Calls	http://192.168.1.50:8080/unpair?nukild=1&token=123456 http://192.168.1.50:8080/unpair?nukild=1&ts=2019-03-05T01:06:53Z&rnr= 4711&hash=f52eb5ce382e356c4239f8fb4d0a87402bb95b7b3124f0762b80 6ad7d0d01cb6		
Example-Response	{     "success": true }		

## /info

URL	http://192.168.1.50:8080/info			
Usage	Returns all Smart Locks in range and some device information of the bridge itself			
URL-Parameters	token or hash, rnr, ts	The api token configured via the Nuki app when enabling the API as plain token or hashed token.		
Response	JSON list with the	result		
	bridgeType		rdware bridge ftware bridge	
	ids	JSON list conta	aining the ids of the bridge	
		hardwareId Hardware ID (hardware bridge only)		
		serverId	Server ID	
	versions	JSON list containing the versions of bridge		
		firmwareVers ion	Version of the bridges firmware (hardware bridge only)	
		wifiFirmware Version	Version of the WiFi modules firmware (hardware bridge only)	
		appVersion  Version of the bridge appsoftware bridge only  Uptime of the bridge in seconds  Current timestamp		
	uptime			
	currentTime			
	serverConnected	Flag indicating to the Nuki serv	whether or not the bridge is connected ver	
	scanResults	JSON Array. O Lock	ne item of the following per Smart	

			<del>-</del>
		nukild	Smart Lock ID
		name	BLE-Name of the Smart Lock
		rssi	RSSI value
		paired	Flag indicating whether or not a pairing with this Smart Lock has already been established
Errors	HTTP 401	Returned if the give parameter is miss	ven <b>token</b> is invalid or a <b>hashed token</b> ing.
Example-Calls	http://192.168.1.50:8080/info?token=123456		
	http://192.168.1.50:8080/info?ts=2019-03-05T01:06:53Z&rnr=4711&hash=f 52eb5ce382e356c4239f8fb4d0a87402bb95b7b3124f0762b806ad7d0d01c b6		
Example-Response	{     "bridgeType": 1,     "ids": {"hardwareId": 12345678, "serverId": 12345678},     "versions": { "firmwareVersion": "0.1.0", "wifiFirmwareVersion": "0.2.0" },     "uptime": 120,     "currentTime": "2016-04-01T12:10:11Z",     "serverConnected": true,     "scanResults": [ { "nukiId": 10, "name": "Nuki_00000010", "rssi": -87,     "paired": true }, { "nukiId": 11, "name": "Nuki_00000011", "rssi": -93,     "paired": false } ] }		

#### /callback

The following endpoints provides methods to register up to 3 http (no https) url callbacks, which will be triggered once the lock state of one of the known Smart Locks changes.

The new lock state will be sent to the callback url by executing a POST request and posting a JSON list in the following format:

```
{"nukild": 11, "state": 1, "stateName": "locked", "batteryCritical": false}
```

#### /callback/add

URL	http://192.168.1.50:8080/callback/add		
Usage	Registers a new callback url		
URL-Parameters	url The callback url to be added (no https, url encoded, max. 254 chars)		
	token or hash, rnr, ts	The api token configured via the Nuki app when enabling the API as plain token or hashed token.	
Response	JSON list containing the result		
	success	Flag indicating if the url has been added successfully	
	message	Contains the reason for the failure if <b>success</b> is false	
Errors	HTTP 400 Returned if the given URL is invalid or too long		
	HTTP 401	Returned if the given <b>token</b> is invalid or a <b>hashed token</b> parameter is missing.	
Example-Calls	http://192.168.1.50:8080/callback/add?url=http%3A%2F%2F192.168.0.20 %3A8000%2Fnuki&token=123456		
	http://192.168.1.50:8080/callback/add?url=http%3A%2F%2F192.168.0.20 %3A8000%2Fnuki&ts=2019-03-05T01:06:53Z&rnr=4711&hash=f52eb5ce 382e356c4239f8fb4d0a87402bb95b7b3124f0762b806ad7d0d01cb6		
Example-Response	{     "success": true		
	}		

#### /callback/list

URL	http://192.168.1.50:8080/callback/list	
Usage	Returns all registered url callbacks	
URL-Parameters	token or hash, rnr, ts	The api token configured via the Nuki app when enabling the API as plain token or hashed token.

Response	JSON list with the result		
	callbacks	JSON	array. One item of the following per callback
		id	ID of the callback
		url	URL of the callback
Errors	HTTP 401		ed if the given <b>token</b> is invalid or a <b>hashed token</b> eter is missing.
Example-Calls	http://192.168.1.50:8080/callback/list?token=123456 http://192.168.1.50:8080/callback/list?ts=2019-03-05T01:06:53Z&rnr=471 1&hash=f52eb5ce382e356c4239f8fb4d0a87402bb95b7b3124f0762b806a d7d0d01cb6		
Example-Response	{     "callbacks": [		

## /callback/remove

URL	http://192.168.1.50:8080/callback/remove			
Usage	Removes a pre	Removes a previously added callback		
URL-Parameters	id	id The id of the callback to be removed		
	token or hash, rnr, ts	The api token configured via the Nuki app when enabling the API as plain token or hashed token.		
Response	JSON list containing the result			
	success Flag indicating if the url has been added successfully			
	message Contains the reason for the failure if success is false			

Errors	HTTP 400	Returned if the given <b>url</b> is invalid or too long
	HTTP 401	Returned if the given <b>token</b> is invalid or a <b>hashed token</b> parameter is missing.
Example-Calls	http://192.168.1	1.50:8080/callback/remove?id=0&token=123456 1.50:8080/callback/remove?id=0&ts=2019-03-05T01:06:53Z sh=f52eb5ce382e356c4239f8fb4d0a87402bb95b7b3124f07 01cb6
Example-Response	{     "success": true	е

# 6. Maintenance endpoints

The following endpoints are available for maintenance purposes of the hardware bridge. Therefore they are not available on the software bridge.

## /log

URL	http://192.168.1.50:8080/log	
Usage	Retrieves the log of the bridge	
URL-Parameters	offset Offset position where to start retrieving log entries (optional; defaults to 0)	
	count	How many log entries to retrieve (optional; defaults to 100)
	token or hash, rnr, ts	The api token configured via the Nuki app when enabling the API as plain token or hashed token.
Response	JSON array. One item of the following per log entry	
	timestamp Timestamp of the log entry	
	type	Type of the log entry
	some more optional parameters	

Errors	HTTP 401	Returned if the given <b>token</b> is invalid or a <b>hashed token</b> parameter is missing.
Example-Calls	http://192.168.1.50:8080/log?token=123456 http://192.168.1.50:8080/log?ts=2019-03-05T01:06:53Z&rnr=4711&hash=f 52eb5ce382e356c4239f8fb4d0a87402bb95b7b3124f0762b806ad7d0d01c b6	
Example-Response		: "2016-10-06T16:46:05+00:00", "type": "" }, : "2016-10-06T16:46:05+00:00", "type": "" },

# /clearlog

URL	http://192.168.1.50:8080/clearlog		
Usage	Clears the log	Clears the log of the Bridge	
URL-Parameters	token or hash, rnr, ts  The api token configured via the Nuki app when enabling the API as plain token or hashed token.		
Response	No response		
Errors	HTTP 401	Returned if the given <b>token</b> is invalid or a <b>hashed token</b> parameter is missing.	
Example-Calls	http://192.168	http://192.168.1.50:8080/clearlog?token=123456	
	http://192.168.1.50:8080/clearlog?ts=2019-03-05T01:06:53Z&rnr=4711&h ash=f52eb5ce382e356c4239f8fb4d0a87402bb95b7b3124f0762b806ad7d0 d01cb6		
Example-Response	None		

## /fwupdate

URL	http://192.168.1.50:8080/fwupdate
Usage	Immediately checks for a new firmware update and installs it

URL-Parameters	token or hash, rnr, ts	The api token configured via the Nuki app when enabling the API as plain token or hashed token.
Response	No response	
Errors	HTTP 401	Returned if the given <b>token</b> is invalid or a <b>hashed token</b> parameter is missing.
Example-Calls	http://192.168.1.50:8080/fwupdate?token=123456 http://192.168.1.50:8080/fwupdate?ts=2019-03-05T01:06:53Z&rnr=4711& hash=f52eb5ce382e356c4239f8fb4d0a87402bb95b7b3124f0762b806ad7 d0d01cb6	
Example-Response	None	

## /reboot

URL	http://192.168.1.50:8080/reboot	
Usage	Reboots the bridge	
URL-Parameters	token or hash, rnr, ts	The api token configured via the Nuki app when enabling the API as plain token or hashed token.
Response	No response	
Errors	HTTP 401	Returned if the given <b>token</b> is invalid or a <b>hashed token</b> parameter is missing.
Example-Calls	http://192.168.1.50:8080/reboot?token=123456	
	http://192.168.1.50:8080/reboot?ts=2019-03-05T01:06:53Z&rnr=4711&ha sh=f52eb5ce382e356c4239f8fb4d0a87402bb95b7b3124f0762b806ad7d0 d01cb6	
Example-Response	None	

# /factoryReset

URL	http://192.168.1.50:8080/factoryReset
-----	---------------------------------------

Usage	Performs a factory reset	
URL-Parameters	token or hash, rnr, ts	The api token configured via the Nuki app when enabling the API as plain token or hashed token.
Response	No response	
Errors	HTTP 401	Returned if the given <b>token</b> is invalid or a <b>hashed token</b> parameter is missing.
Example-Calls	http://192.168.1.50:8080/factoryReset?token=123456 http://192.168.1.50:8080/factoryReset?ts=2019-03-05T01:06:53Z&rnr=47 11&hash=f52eb5ce382e356c4239f8fb4d0a87402bb95b7b3124f0762b806 ad7d0d01cb6	
Example-Response	None	

# 7. Changelog

## Changelog v 1.8

07.03.2019

• Introducing the hashed token as a more secure alternative to send the plain token

## Changelog v 1.7

30.03.2018

• Small changes in bridge discovery information

# Changelog v 1.6

21.06.2017

Added Bridge discovery