Nuki MQTT API

V1.0

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1. Introduction

The MQTT API offers the possibility to connect supported Nuki products to an MQTT server in order to allow basic control of them, similar to the functionality available via the Bridge HTTP-API such as retrieving the current lock state and performing lock operations.

Supported product is currently only the Smart Lock 3.0 Pro.

Check for the latest version of this document at our Developer Platform.

2. Provisioning & API activation

Connections will use plain MQTT and do not support encryption (TLS). Connections will only be established to MQTT servers in the local LAN. I.e. either the hostname has to resolve to a local IP or a local IP is given as hostname (10.0.0.0 - 10.255.255.255, 172.16.0.0 - 172.31.255.255, 192.168.0.0 - 192.168.255.255).

2.1 Beta

If the Smart Lock 3.0 Pro runs a beta firmware and if the debug mode of the Smart Lock is enabled, a connection to the MQTT server *mqtt.local* will be automatically established using the following login credentials:

Server: *mqtt.local*, which has to resolve to a local IP via DNS or mDNS
Port: *1883*
Username: *nuki*
Password: SHA256 hash of the WIFI Password stored in the Smart Lock WiFi settings

Example:
WIFI Password = *1234567890*
SHA256 = *c775e7b757ede630cd0aa1113bd102661ab38829ca52a6422ab782862f268646*

Source: https://emn178.github.io/online-tools/sha256.html

How to become a beta tester is described here.
How to enable Debug mode:
Tapping 7x on the Settings > Features & Configuration > "NUKI SMART LOCK" headline.

2.2 Final version (planned for later):

Provisioning of an MQTT server is done via the Nuki App by choosing Administration > Built-in WiFi > Configure MQTT and typing in the server credentials (hostname, port, username, password).

3. States and Actions

3.1 Device Types

Nuki device connected to the bridge.

0 ... smartlock - Nuki Smart Lock 1.0/2.0
2 ... opener - Nuki Opener
3 ... smartdoor - Nuki Smart Door
4 ... smartlock3 - Nuki Smart Lock 3.0 (Pro)

3.2 Modes

mode	smartlock	opener	Description
2	door mode	door mode	Operation mode after complete setup
3	-	continuous mode	Ring to Open permanently active

3.3 Lock States

Possible lock states (used in Endpoints below).

ID	smartlock	opener
0	uncalibrated	untrained
1	locked	online
2	unlocking	-
3	unlocked	rto active
4	locking	-
5	unlatched	open
6	unlocked (lock 'n' go)	-
7	unlatching	opening
253	-	boot run
254	motor blocked	-
255	undefined	undefined

3.4 Lock Actions

Possible lock actions (used in Endpoints below):

ID	smartlock	opener
1	unlock	activate rto
2	lock	deactivate rto
3	unlatch	electric strike actuation
4	lock 'n' go	activate continuous mode
5	lock 'n' go with unlatch	deactivate continuous mode

3.5 Simple Lock Actions

Possible outcome of a simple lock action (mapping handled in the firmware of the device):

action	smartlock / knob	smartlock / handle	opener
lock	lock	lock	deactivate rto and cm
unlock	unlatch	unlock	open

To use this features your Nuki devices need the following firmware version:

Nuki device	Firmware version
Bridge	1.14.0/2.5.0 (or higher)
Smart Lock 1.0	1.8.0 (or higher)
Smart Lock 2.0	2.4.3 (or higher)
Smart Lock 3.0	Supported by all versions
Opener	1.3.0 (or higher)

3.6 Doorsensor States

Possible door sensor states (used in Endpoints below).

ID	name
1	deactivated
2	door closed
3	door opened
4	door state unknown
5	calibrating

4. Topics

4.1 Topic Structure

Each Nuki device publishes to the same structure of topics:

nuki/nuki id_in_hex/Topic

The Nuki ID in hexadecimal format is printed on the device itself and also shown in the device administration. e.g. 2BB28570.

4.2 Published Topics for Device States

The following topic structure is available per device and updated whenever an update to a device state occurs. In addition the "last updated" timestamp is changed with every update. The retain flag is activated with all topics and QOS = 0 is used.

Topic	Description	Example
deviceType	Nuki device type ● 0 => Nuki Smart Lock 1.0/2.0 ● 2 => Nuki Opener ● 3 => Nuki Smart Door ● 4 => Nuki Smart Lock 3.0 (Pro) Beta: Only device Type 4 = Smart Lock 3.0 Pro is supported	4
name	Name of the device	Home door
firmware	Current firmware version of the device	3.2.0
mode	ID of the lock mode (see Modes)	2
state	ID of the lock state (see Lock States)	1
batteryCritical	Flag indicating if the batteries of the	true

	Nuki device are at critical level	
batteryChargeState	Value representing the current charge status in %	18
batteryCharging	Flag indicating if the batteries of the Nuki device are charging at the moment	false
keypadBatteryCritical	Flag indicating if the batteries of the paired Nuki Keypad are at critical level	false
doorsensorState	ID of the door sensor state	2
doorsensorBatteryCritical	Flag indicating if the batteries of the paired Nuki Door Sensor are at critical level	false
ringactionTimestamp	Timestamp of the last ring-action. Only for Nuki Opener.	2018-10-03T06:49:00+00:00
ringactionState	Flag indicating if a ring-action is currently occuring or not (reset after 30 seconds). Only for Nuki Opener.	false
serverConnected	Connection state to the Nuki server. Only Smart Lock 3.0 Pro.	true
timestamp	Timestamp of the retrieval of the last update	2018-10-03T06:49:00+00:00
connected	Indicates if the device is currently connected to the MQTT server or not. Uses "false" as the last will message, which will be set by the mqtt server automatically if the device disconnects.	true

4.3 Published and Subscribed Topics for Device Control

The following topic structure allows to send commands to the device via a topic to which the device subscribes. For all messages QOS = 2 is used. The retain flag is not set.

Topic	Description	Example
lockAction	ID of the desired Lock Action	1
lock	Set to "true" to execute the simple lock action "lock"	true
unlock	Set to "true" to execute the simple lock action "unlock"	true
commandResponse	The Nuki device publishes to this topic the return code of the last command it executed: 0 = Success 1-255 = Error code as described in the BLE API. Note: Nuki devices can only process one command at a time. If several commands are sent in parallel the commandResponses might overlap.	0

5. Changelog

19.7.2022

Initial version v1.0