API for QNAP QTS Authentication

Version: 4.2

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1. Overview

This document provides API for authentication .

2. System API

2.1 Authentication

Description:

Get sid for authentication by password.

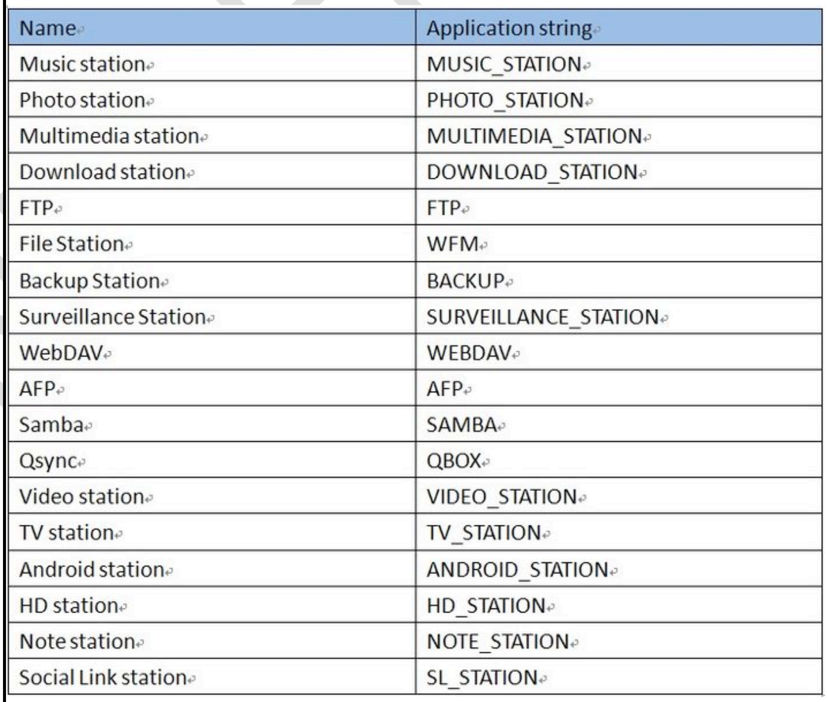
use Remember me, get qtoken for authentication.

Command:

http://IP:8080/cgi-bin/authLogin.cgi?user=${username}&pwd=${encode_string}&remme=${remme}&service=${service}&remote_ip=${remote_ip}&device=${device}&force_to_check_2sv={force_to_check_2sv}

http://IP:8080/cgi-bin/authLogin.cgi?user=${username}&plain_pwd=${pwd_in_plain_text}&remme=${remme}&service=${service}&remote_ip=${remote_ip}&device=${device}&force_to_check_2sv={force_to_check_2sv}

Variable	Description
${username}	Login user name
${encode_string}	Password (Please refer to attached 「get_sid.js」 to get ezEncode function)
${pwd_in_plain_text}	Password in plain text
${remme}	Optional: 1:return qtoken 0:clean qtoken
${force_to_check_2sv}	Optional: 1: Force to check 2-step verification including query from 127.0.0.1 Others: no force
${service}	Username/ Password authentication by specifying service name. When the value>=100, sid will NOT be generated.

<table>
<tr><td></td><td>101: Photo Station
102: Music Station
103: Video Station
100: Others
99: Force to check 2-step verification including query from 127.0.0.1</td></tr>
<tr><td>${remote_ip}</td><td>Optional; Only for localhost(127.0.0.1), specify the remote address</td></tr>
<tr><td>${device}</td><td>Optional;
Specify the client' device name</td></tr>
<tr><td>${check_privilege}</td><td>Optional;
Specify the application string to check

<table>
<tr><th>Name</th><th>Application string</th></tr>
<tr><td>Music station</td><td>MUSIC_STATION</td></tr>
<tr><td>Photo station</td><td>PHOTO_STATION</td></tr>
<tr><td>Multimedia station</td><td>MULTIMEDIA_STATION</td></tr>
<tr><td>Download station</td><td>DOWNLOAD_STATION</td></tr>
<tr><td>FTP</td><td>FTP</td></tr>
<tr><td>File Station</td><td>WFM</td></tr>
<tr><td>Backup Station</td><td>BACKUP</td></tr>
<tr><td>Surveillance Station</td><td>SURVEILLANCE_STATION</td></tr>
<tr><td>WebDAV</td><td>WEBDAV</td></tr>
<tr><td>AFP</td><td>AFP</td></tr>
<tr><td>Samba</td><td>SAMBA</td></tr>
<tr><td>Qsync</td><td>QBOX</td></tr>
<tr><td>Video station</td><td>VIDEO_STATION</td></tr>
<tr><td>TV station</td><td>TV_STATION</td></tr>
<tr><td>Android station</td><td>ANDROID_STATION</td></tr>
<tr><td>HD station</td><td>HD_STATION</td></tr>
<tr><td>Note station</td><td>NOTE_STATION</td></tr>
<tr><td>Social Link station</td><td>SL_STATION</td></tr>
</table></td></tr>
</table>

Note: encode_string = ezEncode(utf16to8('${real_password}'))

Example:

http://IP:8080/cgi-bin/authLogin.cgi?user=admin&pwd=YWRtaW4%3D&remme=1

(if real_password is "admin", it will be encoded as "YWRtaW4%3D")

Authentication by service

http://127.0.0.1:8080/cgi-bin/authLogin.cgi?plain_pwd=admin&user=admin&remote_ip=172.17.20.49&device=richardnb

Return value:

Example of successful authentication:

```
<?xml version="1.0" encoding="UTF-8" ?>
        <QDocRoot version="1.0">
        <qtoken><![CDATA[1e29b890910e8135f1692ed4030256fe]]></qtoken>  <= here is qtoken, if remme=0 hide
        <authPassed><![CDATA[1]]></authPassed>
        <authSid><![CDATA[ral08opo]]></authSid>              <= here is sid, generated when service>=100 was not
set
        <isAdmin><![CDATA[1]]></isAdmin>
        </QDocRoot>
```

Example of failed authentication:

```
         <QDocRoot version="1.0">
         <qtoken>1e29b890910e8135f1692ed4030256fe</qtoken>
        <authPassed>0</authPassed>
        <errorValue>-1</errorValue>
        </QDocRoot>
```

Authorisation by service

http://${ip}:8080/cgi-bin/authLogin.cgi?plain_pwd=admin&user=aix&remote_ip=172.17.20.49&service=104&device=aixchou&check_privilege=VIDEO_STATION

Return value:

Example of permission deny:

```
<?xml version="1.0" encoding="UTF-8" ?>
         <QDocRoot version="1.0">
         <doQuick><![CDATA[]]></doQuick>
         <is_booting><![CDATA[0]]></is_booting>
         <mediaReady><![CDATA[1]]></mediaReady>
         <SMBFW><![CDATA[0]]></SMBFW>
         <PermissionDeny><![CDATA[1]]></PermissionDeny>     <= permission deny
```

```
<authPassed><![CDATA[0]]></authPassed>
<errorValue><![CDATA[-1]]></errorValue>
<username><![CDATA[aix]]></username>
<ts><![CDATA[85022350]]></ts>
<fwNotice><![CDATA[0]]></fwNotice>
<title><![CDATA[]]></title>
<content><![CDATA[]]></content>
<psType><![CDATA[1]]></psType>
<showVersion><![CDATA[0]]></showVersion>
<show_link><![CDATA[1]]></show_link>
</QDocRoot>
```

2.2 Authentication with qtoken

Description:

Get sid for authentication by qtoken

Command:

http://IP:8080/cgi-bin/authLogin.cgi?user=${username}&qtoken=${qtoken}&remme=${remme}

Variable	Description
${username}	Login user name
${qtoken}	qtoken
${remme}	Optional: 1:when login by qtoken without return qtoken tag 0:clean qtoken

Example:

http://IP:8080/cgi-bin/authLogin.cgi?user=admin&qtoken=1e29b890910e8135f1692ed4030256fe&remme=1

Return value:

Example of successful authentication:

```
<?xml version="1.0" encoding="UTF-8" ?>
      <QDocRoot version="1.0">
      <authPassed><![CDATA[1]]></authPassed>
      <authSid><![CDATA[ral08opo]]></authSid>          <= here is sid
      <isAdmin><![CDATA[1]]></isAdmin>
      </QDocRoot>
```

Example of failed authentication:

```
 <QDocRoot version="1.0">
<authPassed>0</authPassed>
<errorValue>-1</errorValue>
</QDocRoot>
```

2.3 Authentication with 2 step verification

Description:

If 2-step verification enabled, get sid for 1st authentication by password and 2nd authentication by security code(6 digits) / emergency security code(8 digits) / emergency answer.

In 4.2.0, only support QTS system / File Station login.

HTTP Request from 127.0.0.1 can get sid without 2-step verification.

2.3.1. 1st verification

Description:

1st verification

Command:

http://172.17.20.20:8080/cgi-bin/authLogin.cgi?pwd=${encode_string}&r=0.802557202605028&remme=${remme}&serviceKey=1&user=${username}

Variable	Description
${username}	Login user name
${encode_string}	Password (Please refer to attached 「get_sid.js」 to get ezEncode function)
${remme}	Optional: 1:return qtoken 0:clean qtoken

Note: encode_string = ezEncode(utf16to8('${real_password}'))

Example:

http://172.17.20.20:8080/cgi-bin/authLogin.cgi?pwd=YWRtaW4%3D&r=0.02297725847566645&remme=1&serviceKey=1&user=admin

(if real_password is "admin", it will be encoded as "YWRtaW4%3D")

Return value:

Example of successful for 1st authentication:

```
<QDocRoot version="1.0">
        <doQuick></doQuick>
        <is_booting>0</is_booting>
        <mediaReady>1</mediaReady>
        <SMBFW>0</SMBFW>
        <authPassed>0</authPassed>
        <need_2sv>1</need_2sv>
        <lost_phone>1</lost_phone>
        <emergency_try_count>0</emergency_try_count>
        <emergency_try_limit>5</emergency_try_limit>
        <username>admin</username>
        <groupname>administrators</groupname>
        <ts>88323841</ts>
        <fwNotice>0</fwNotice>
        <title></title>
        <content></content>
        <psType>0</psType>
        <showVersion>0</showVersion>
        <show_link>1</show_link>
</QDocRoot>
```

Example of failed for 1st authentication:

```
<QDocRoot version="1.0">
        <doQuick></doQuick>
        <is_booting>0</is_booting>
        <mediaReady>1</mediaReady>
        <SMBFW>0</SMBFW>
        <authPassed>0</authPassed>
        <errorValue>-1</errorValue>
        <username>admin</username>
        <ts>88323841</ts>
        <fwNotice>0</fwNotice>
        <title></title>
        <content></content>
        <psType>0</psType>
        <showVersion>0</showVersion>
        <show_link>1</show_link>
</QDocRoot>
```

Below are the tags inside process list.

Tag name	Type	Description
authPassed	int	authentication result 0:fail 1:success
need_2sv	int	whether user need 2-step verification 1:need 2-step verification if need_2sv not return, please refer general Authentication
lost_phone	int	click "Verify another way" will lead to the following Optional: 1:send emergency e-mail that contains emergency security code(8 digits) 2:emergency question handler
emergency_try_count	int	if "lost_phone" is 1, it means the number of send emergency mail if "lost_phone" is 2, it means the number of answer incorrectly
emergency_try_limit	int	if "lost_phone" is 1, it means the maximum number of send emergency mail if "lost_phone" is 2, it means the maximum number of answer incorrectly so far, we define "emergency_try_limit" is 5

2.3.2. 2nd verification

Description:

verify security code(6 digits) or emergency security code(8 digits)

Command:

http://172.17.20.20:8080/cgi-bin/authLogin.cgi?pwd=${encode_string}&r=0.3938051044582034&remme=${remme}&security_code=${security_code}&serviceKey=1&user=${username}

Variable	Description
${username}	Login user name
${encode_string}	Password (Please refer to attached 「get_sid.js」 to get ezEncode function)
${remme}	Optional: 1:return qtoken 0:clean qtoken
${security_code}	security code(6 digits) while emergency handler is "Send emergency e-mail", it can be emergency security code(8 digits)

Note: encode_string = ezEncode(utf16to8('${real_password}'))

Example:

http://172.17.20.20:8080/cgi-bin/authLogin.cgi?pwd=YWRtaW4%3D&r=0.3938051044582034&security_code=215238&serviceKey=1&user=admin

(if real_password is "admin", it will be encoded as "YWRtaW4%3D")

Return value:

Example of successful for 2nd authentication:

```
<QDocRoot version="1.0">
        <doQuick></doQuick>
        <is_booting>0</is_booting>
        <mediaReady>1</mediaReady>
        <SMBFW>0</SMBFW>
        <authPassed>1</authPassed>
        <authSid>mxz01een</authSid>
        <need_2sv>1</need_2sv>
        <lost_phone>1</lost_phone>
        <emergency_try_count>0</emergency_try_count>
        <emergency_try_limit>5</emergency_try_limit>
        <isAdmin>1</isAdmin>
        <username>admin</username>
        <groupname>administrators</groupname>
        <ts>88323841</ts>
        <fwNotice>0</fwNotice>
        <title></title>
        <content></content>
        <psType>0</psType>
        <showVersion>0</showVersion>
        <show_link>1</show_link>
</QDocRoot>
```

Example of failed for 2nd authentication:

```
<QDocRoot version="1.0">
        <doQuick></doQuick>
        <is_booting>0</is_booting>
        <mediaReady>1</mediaReady>
        <SMBFW>0</SMBFW>
        <authPassed>0</authPassed>
        <need_2sv>1</need_2sv>
        <lost_phone>1</lost_phone>
        <emergency_try_count>0</emergency_try_count>
        <emergency_try_limit>5</emergency_try_limit>
        <date_time>
                <timezone>(GMT+08:00) Taipei</timezone>
                <timestamp>1432803710</timestamp>
                <date_format_index>1</date_format_index>
                <time_format>24</time_format>
        </date_time>
        <username>admin</username>
        <groupname>administrators</groupname>
        <ts>97469902</ts>
        <fwNotice>0</fwNotice>
        <SUID>6801bd1901459a79a9a39eb6c24da8fb</SUID>
        <title></title>
        <content></content>
        <psType>1</psType>
        <showVersion>0</showVersion>
        <show_link>1</show_link>
</QDocRoot>
```

most parameter can refer 1st verification

Below are the other tags inside process list.

Tag name	Type	Description
timezone	string	Time Zone, ex."(GMT+08:00) Taipei"
timestamp	int	seconds since Jan 01 1970
date_format_index	int	date format index

		1 : year/month/day, 2 : year.month.day, 3 : year-month-day, 4 : month/day/year, 5 : month.day.year, 6 : month-day-year, 7 : day/month/year, 8 : day.month.year, 9 : day-month-year
time_format	int	time format : 24 / 12

2.3.3. Send Emergency E-mail

Description:

send emergency e-mail request (while 1st verification or 2nd verification return value "lost_phone" is 1)

Command:

http://172.17.20.20:8080/cgi-bin/authLogin.cgi?pwd=${encode_string}&r=0.3938051044582034&remme=${remme}&send_mail=1&serviceKey=1&user=${username}

Variable	Description
${username}	Login user name
${encode_string}	Password (Please refer to attached 「get_sid.js」 to get ezEncode function)
${remme}	Optional: 1:return qtoken 0:clean qtoken

Note: encode_string = ezEncode(utf16to8('${real_password}'))

Example:

http://172.17.20.20:8080/cgi-bin/authLogin.cgi?pwd=YWRtaW4%3D&r=0.3938051044582034&send_mail=1&serviceKey=1&user=admin

(if real_password is "admin", it will be encoded as "YWRtaW4%3D")

Return value:

```
<QDocRoot version="1.0">
        <doQuick></doQuick>
        <is_booting>0</is_booting>
        <mediaReady>1</mediaReady>
        <SMBFW>0</SMBFW>
        <send_result>1</send_result>
        <emergency_try_count>3</emergency_try_count>
        <emergency_try_limit>5</emergency_try_limit>
        <username>admin</username>
        <groupname>administrators</groupname>
        <ts>88323841</ts>
        <fwNotice>0</fwNotice>
        <title></title>
        <content></content>
        <psType>0</psType>
        <showVersion>0</showVersion>
        <show_link>1</show_link>
</QDocRoot>
```

Below are the tags inside process list.

Tag name	Type	Description
send_result	int	send mail result 1:success 0:fail -1:the email notification service is not enabled
emergency_try_count	int	it means the number of send emergency mail
emergency_try_limit	int	it means the maximum number of send emergency mail so far, we define "emergency_try_limit" is 5

2.3.4. Get Security Question

Description:

get security question (while 1st verification or 2nd verification return value "lost_phone" is 2)

Command:

http://172.17.20.20:8080/cgi-bin/authLogin.cgi?pwd=${encode_string}&r=0.3938051044582034&remme=${remme}&get_question=1&serviceKey=1&user=${username}

Variable	Description
${username}	Login user name
${encode_string}	Password (Please refer to attached 「get_sid.js」 to get ezEncode function)
${remme}	Optional: 1:return qtoken 0:clean qtoken

Note: encode_string = ezEncode(utf16to8('${real_password}'))

Example:

http://172.17.20.20:8080/cgi-bin/authLogin.cgi?get_question=1&pwd=YWRtaW4%3D&r=0.3938051044582034&serviceKey=1&user=admin

(if real_password is "admin", it will be encoded as "YWRtaW4%3D")

Return value:

```
<QDocRoot version="1.0">
        <doQuick></doQuick>
        <is_booting>0</is_booting>
        <mediaReady>1</mediaReady>
        <SMBFW>0</SMBFW>
        <security_question_no>4</security_question_no>
        <security_question_text>how are you?</security_question_text>
        <username>admin</username>
        <groupname>administrators</groupname>
        <ts>88323841</ts>
        <fwNotice>0</fwNotice>
        <title></title>
        <content></content>
        <psType>0</psType>
        <showVersion>0</showVersion>
        <show_link>1</show_link>
```

</QDocRoot>

Below are the tags inside process list.

Tag name	Type	Description
security_question_no	int	question no 1: frontend will show "What is your pet's name?" 2: frontend will show "What is your favorite sport?" 3: frontend will show "What is your favorite color?" 4: Custom question
security_question_text	string	Custom question (only for "security_question_no" is 4)

2.3.5. Get Security Question for Mobile App

Description:

get security question for Mobile App (while 1st verification or 2nd verification return value "lost_phone" is 2)

Command:

http://172.17.20.20:8080/cgi-bin/authLogin.cgi?pwd=${encode_string}&r=0.3938051044582034&remme=${remme}&get_question=1&serviceKey=1&user=${username}&q_lang=${q_lang}

Variable	Description
${username}	Login user name
${encode_string}	Password (Please refer to attached 「get_sid.js」 to get ezEncode function)
${remme}	Optional: 1:return qtoken 0:clean qtoken

${q_lang}	Languages for seucruty question {CZE, DAN, DUT, ENG, ESM, FIN, FRE, GER, GRK, HUN, ITA, JPN, KOR, NOR, POL, POR, ROM, RUS, SCH, SPA, SWE, TCH, THA, TUR}

Note: encode_string = ezEncode(utf16to8('${real_password}'))

Example:

http://172.17.20.20:8080/cgi-bin/authLogin.cgi?get_question=1&pwd=YWRtaW4%3D&r=0.3938051044582034&serviceKey=1&user=admin&q_lang=ENG

(if real_password is "admin", it will be encoded as "YWRtaW4%3D")

Return value:

```
<QDocRoot version="1.0">
        <doQuick></doQuick>
        <is_booting>0</is_booting>
        <mediaReady>1</mediaReady>
        <SMBFW>0</SMBFW>
        <security_question_no>4</security_question_no>
        <system_question_text>how are you?</system_question_text>
        <security_question_text>how are you?</security_question_text>
        <username>admin</username>
        <groupname>administrators</groupname>
        <ts>88323841</ts>
        <fwNotice>0</fwNotice>
        <title></title>
        <content></content>
        <psType>0</psType>
        <showVersion>0</showVersion>
        <show_link>1</show_link>
</QDocRoot>
```

Below are the tags inside process list.

Tag name	Type	Description
security_question_no	int	question no 1: frontend will show "What is your pet's name?" 2: frontend will show "What is your favorite sport?" 3: frontend will show "What is your favorite color?" 4: Custom question

system_question_text	string	security question text (for mobile app)
security_question_text	string	Custom question (only for "security_question_no" is 4)

2.3.6. Security Question Authentication

Description:

verify security answer (while 1st verification or 2nd verification return value "lost_phone" is 2)

Command:

http://172.17.20.20:8080/cgi-bin/authLogin.cgi?pwd=${encode_string}&r=0.3938051044582034&remme=${remme}&security_answer=${security_answer}&serviceKey=1&user=${username}

Variable	Description
${username}	Login user name
${encode_string}	Password (Please refer to attached 「get_sid.js」 to get ezEncode function)
${remme}	Optional: 1:return qtoken 0:clean qtoken
${security_answer}	string

Note: encode_string = ezEncode(utf16to8('${real_password}'))

Example:

http://172.17.20.20:8080/cgi-bin/authLogin.cgi?pwd=YWRtaW4%3D&r=0.4000929836850201&security_answer=fine&serviceKey=1&user=admin

(if real_password is "admin", it will be encoded as "YWRtaW4%3D")

Return value: Example of successful for security question authentication:

```
<QDocRoot version="1.0">
        <doQuick></doQuick>
        <is_booting>0</is_booting>
        <mediaReady>1</mediaReady>
        <SMBFW>0</SMBFW>
        <authPassed>1</authPassed>
        <authSid>m9x71gxw</authSid>
        <emergency_try_count>1</emergency_try_count>
        <emergency_try_limit>5</emergency_try_limit>
        <isAdmin>1</isAdmin>
        <username>admin</username>
        <groupname>administrators</groupname>
        <ts>88323841</ts>
        <fwNotice>0</fwNotice>
        <title></title>
        <content></content>
        <psType>0</psType>
        <showVersion>0</showVersion>
        <show_link>1</show_link>
</QDocRoot>
```

Example of failed for security question authentication:

```
<QDocRoot version="1.0">
        <doQuick></doQuick>
        <is_booting>0</is_booting>
        <mediaReady>1</mediaReady>
        <SMBFW>0</SMBFW>
        <authPassed>0</authPassed>
        <emergency_try_count>1</emergency_try_count>
        <emergency_try_limit>5</emergency_try_limit>
        <username>admin</username>
        <groupname>administrators</groupname>
        <ts>88323841</ts>
        <fwNotice>0</fwNotice>
        <title></title>
        <content></content>
        <psType>0</psType>
        <showVersion>0</showVersion>
        <show_link>1</show_link>
</QDocRoot>
```

here's parameter can refer 1st verification