DYNESS[Europe] Open API interface protocol document(V1.1.0)

Open API Protocal Document（1.1.0）

General Description

1) All interfaces are Encrypted via https method

2) Data updating frequncy: 5mins, accept max 1-min request frequency

3) Data request Method: POST

4) Data request pattern: application/json;charset=UTF-8

5) For all requests, Need add Content-MD5, Content-Type、Date、Authorization to the header

6) Data response Type:json

7) All the responded data is to be used with individual measuring units

Port/Interface Information

1. Port/Interface Address and Key

Type	Contents
API URL	https://open-api.dyness.com/openapi/ems-device/
API ID	Log in to your Dyness Platform account and obtain it via the ‘**Developer Center**’ - ‘**API Management**’ menu
API Secret	

2. Data requesting format

POST [API URL]

Content-MD5: [Content-MD5]

Content-Type: application/json;charset=UTF-8

Date: [Date]

Authorization: API {apiId}: [sign]

Body: [Body]

Name	Description	Sample
API URL	Interface addr.	https://apacopen-api.dyness.com/openapi/ems-device/v1/group/addGroup

Content-MD5	1. Encrypt “Body” by MD5;
	2. Convert the encrypted data to binary
	combination
	3. Encode the binary combinations by Base64
		public static String getDigest(String test) {
		String result = "";
		try {
		MessageDigest md = MessageDigest.getInstance("MD5");
		md.update(test.getBytes());
		byte[] b = md.digest();
		result = Base64.encodeBytes(b);
		} catch (NoSuchAlgorithmException
		e) {
		e.prIntegerStackTrace();
		}
		return result;
		}

Content-Type	Fixed value	application/json;charset=UTF-8
Date	1. Get real-time local GMT time 2. Convert GMT to a character string format : EEE, d MMM yyyy HH:mm:ss 'GMT' Note: max +/- 15mins is allowed	public static String getGMTTime() { Calendar cd = Calendar.getInstance(); SimpleDateFormat sdf = new SimpleDateFormat("EEE, d MMM yyyy HH:mm:ss 'GMT'", Locale.US);

		sdf.setTimeZone(TimeZone.getTimeZone("GMT"
		));
		String str =
		sdf.format(cd.getTime());
		return str;
		}

Authorization	Confirmation on validity of requests : apiId: accesser/visitor ID apiSecret: Signing key CanonicalizedResource: the API interface path (eg. "/ems-device/third/aio/addGroup ") Sign: digital signature (Encrypted by HmacSHA1 key and encoded by base64) \n : line separator	Authorization : "API " + apiId + ":" + Sign Sign = base64(HmacSHA1(apiSecret,POST+ "\n" + Content-MD5 + "\n" + Content-Type + "\n" + Date + "\n" + CanonicalizedResource))
Body	/	{ "id": "1122331122331", "sn": "SN112211" }

3. Data Respond format

Content-Type: application/json;charset=UTF-8

Date: [Date]

Body: [Body]

Name	Description	Examples:
Content-Type	FIxed Value	application/json;charset=UTF-8
Date	GMT Time (Character string)	Fri, 26 Jul 2019 06:00:46 GMT
Body	Body data includes: { code, info, data}	{"code":"200","data":{},"info":"操作成功"}

	"code": 0 means success, otherwise means fail "info": information on request failure "data": refer to the response on each interface	

4. Samples of Interface Calling /Request

Request:

POST /v1/device/getLastPowerDataBySn

Content-MD5: kxdxk7rbAsrzSIWgEwhH4w== Content-Type: application/json

Date: Fri, 26 Jul 2019 06:00:46 GMT

Authorization: API {apiId}:nBYQWeuzy3Y+gp67BN8zXTmvSDk= Body:
{"pageNo":1,"pageSize":10}

Response:

{

"success": true, "code": "0", "msg": "success", "data": { }

}

JAVA sample（Download Directly）:

https://web-static.dyness.com/doc/Authorization.java

Encreption tool reference

Web: https://dinochiesa.github.io/hmachash/index.html

Content-MD5 computering sample: {"pageNo":1,"pageSize":10}

Detailed Open API Documentation

https://open-api.dyness.com/swagger-ui/index.html