

Table of Contents

summarize	1.1
android	1.2
ios	1.3
Main flow	1.4
QNbleApi	1.5
QNbleApi	1.5.1
initSdk	1.5.1.1
setBleDeviceDiscoveryListener	1.5.1.2
startBleDeviceDiscovery	1.5.1.3
stopBleDeviceDiscovery	1.5.1.4
connectDevice	1.5.1.5
disconnectDevice	1.5.1.6
setBleConnectionChangeListener	1.5.1.7
setDataListener	1.5.1.8
getConfig	1.5.1.9
convertWeightWithTargetUnit	1.5.1.10
buildUser	1.5.1.11
buildDevice	1.5.1.12
QNResultCallback	1.5.2
QNbleDevice	1.5.3
QNUser	1.5.4
QNDataListener	1.5.5
QNConfig	1.5.6
QNbleConnectionChangeListener	1.5.7
QNbleDeviceDiscoveryListener	1.5.8
QNScaleData	1.5.9
QNScaleStoreData	1.5.10
QNScaleItemData	1.5.11
Attachment	1.6
Body index constant	1.6.1
Body type comparison table	1.6.2
Error code	1.6.3
Scan error code	1.6.4
Scale state definition	1.6.5
Update log	1.6.6

Overview

中文版本请参看[这里](#)

This document is used to guide access to QingNiu customers.

Access step

1. Sign a cooperation agreement with QingNiu sales staff
2. Download the SDK and recommend the developer [star](#) our SDK project so that you can receive the newest update notification.
3. Add the development profile provided by QingNiu
4. Checking SDK help documentation and demo,integrate the SDK
5. Submit your application market online

SDK download link

[iOSDemo](#)

[AndroidDemo](#)

QN Android SDK

SDK file introduce

Unified introduction

Introduce the jar file(qnsdk-xxx.jar) and it's lib(.so) file from lib folder in demo project

proguard rule configuration(proguard-rules)

```
-keep class com.qingniu.scale.model.BleScaleData{*;}
```

Operation

QNBlleApi

This class is the main interface of the SDK, providing operations for various methods of the SDK.

Configuration

QNConfig

This class is the setting class of the SDK, including the configuration of the discovering devices, connection, the display of the scale unit display, etc.

The main method used during measuring

QNBlleDeviceDiscoveryListener

The callback method of discovering scales. The target scale class is QNBlleDevice when it appears.

QNBlleDevice

Scale device class

QNUser

The user profile class provided by SDK from app which needed during setting connection

QNBlleConnectionChangeListener

Provides callback of various Bluetooth status during use of the scale and measurement status of the scale during measurement

QNDataListener

Provide callbacks for measurement data, including real-time weight, measurement results, and stored data

QNScaleData

Measuring data model class

QNScaleStoreData

Storage data object,which can get `QNScaleData` by `(QNScaleStoreData)generateScaleData`

Scale will store the data when custom use the scale without connecting phone/pad

QNScaleItemData

The model class of item data in measuring data.

Wrong message

CheckStatus

Show all wrong message from SDK

SDK calling step

1. Initiate SDK with `(QNbleApi)initSdk`
2. Discover bluetooth device with `(QNbleApi)startBleDeviceDiscovery`
 - o Please set the monitoring device to scan first before enable scanning `(QNbleApi)setBleDeviceDiscoveryListener`
 - o Please setting scan object QNConfig before start scanning ,You can create a new object or get the last set object `(QNbleApi)getConfig`
3. Set the scan configuration (the setting object in step 2)
 - o Get configuration information `(QNConfig)new QNConfig()`
 - o Setting whether only scan the turned on scale `onlyScreenOn`
 - o Setting whether return multiple times after scale be scanned `allowDuplicates`
 - o setting scanning time `duration`
 - o setting unit display in LED `unit`
4. Setting listener for connecting status `(QNbleApi)setBleConnectionChangeListener`
5. Setting listener for measuring data `(QNbleApi)setDataListener`
6. Build user object for connecting scale `(QNbleApi)buildUser:String userId,int height,String gender,Date birthday,QNResultCallback callback`
7. Connecting device `connectDevice:QNbleDevice device,QNUser user,QNResultCallback callback`

Notice

- You must apply for Bluetooth permissions, location permissions, network permissions in the manifest file (not required for offline SDK)
- The resources of the v4 package are used in the SDK, and the dependency of the v4 package needs to be introduced in the developer project.
- The service that the SDK needs to use must be added to the manifest file.:
`com.qingniu.qnble.scanner.BleScanService, com.qingniu.scale.ble.ScaleBleService`
- `targetSdkVersion` in 23 or above, you need to obtain the positioning permission before you can scan the device.and apply for it by developer self.

FAQ

1. Initialization appid error
 - Check if the initialization file can match with the used appid
 - checking if its the newest SDK version
2. call device scan succeeded, but no device callback
 - Check if the scanned device is connected by someone else
 - Some mobile phones need to turn on GPS to scan the device, please check if the mobile phone GPS is turned on.
3. The connected device has been unsuccessful or has been disconnected soon after success.
 - Check if the device is connected by someone else
 - Check if the currently connected device has been paired in the system Bluetooth, if you have already paired, you need to unpair
 - Some phones need to be scanned before they can connect successfully. Scan the device before connecting.
4. The obtained indicators are different from the number of indicators negotiated with the business.
 - Check the problem device first, also check the name displayed during scanning is correct.
 - the SDK will send heart rate indicators regardless of whether the heart rate indicator is open in Heart rate scales
5. Data or device listening for callbacks, callback multiple times at the same time
 - Please check if you have set up multiple monitors. do set to null when the listener is not in use
 - Please check if user measuring in a shoe, which may result in multiple measurements being completed in a short period of time

Tips : Please ask your developer provide the log to us once there have no located problems so that we can help find the problem as soon as possible.

Qingniu Bluetooth iOS SDK

It is recommended to star our github project updates and track the newest SDK updates.

The operation of the SDK requires appid and configuration files. you can use the test appid and test configuration file provided by the QingNiu to accesses demo first. but need get formal appid and configuration file from QingNiu team if you wanner get more value

[Demo click here](#)

SDK file description

Generation

QNDeviceSDK.h

The .h file contains all header file information

Operation

QNBleApi.h

This class is the main working class of the SDK which can providing operations for various methods of the SDK.

Configure

QNConfig.h

This class is the setting class of the SDK, including the configuration of the scan, the configuration of the connection, the display of the scale unit display, etc.

Delegate

QNBleConnectionChangeProtocol.h

This protocol mainly provides callback of various states during the use of the scale.

QNBleDeviceDiscoveryProtocol.h

The protocol mainly provides a re-call when scanning the scale, and saves the callback of the app when stop scanning.

QNBleStateProtocol.h

This protocol mainly provides a callback of the system Bluetooth status.

QNDataProtocol.h

The protocol mainly provides callbacks for measurement numbers, including real-time weight, measurement results, and stored data.

Data

QNBleDevice.h

This class mainly displays information of scales.

QNScaleData.h

This class mainly provides measurement result data information.

QNScaleStoreData.h

This class mainly provides storage data information.

QNUser.h

This class mainly contain the user information from SDK which was provided from APP.

QNScaleItemData

This class mainly displays detailed data information for each parameter.

Error message

QNErrorCode.h

This header file shows all the types of error messages in the SDK.

SDK callback steps

1. Engineering configuration

- Get Instructions of using Bluetooth for "Privacy - Bluetooth Peripheral Usage Description" key from Info.plist
- Introducing the SDK path **【TARGETS】 -> 【Build Setting】 -> 【Search Paths】 -> 【LibrarySearch Paths】** adding SDK path
- Configuration linker **【TARGETS】 -> 【Build Setting】 -> 【Linking】 -> 【Other Linker Flags】** adding **-ObjC** , **-all_load** , **-force_load [SDKpath]** (Choose one of them)

2. Method call step

1. Initialize SDK **+ (QNBleApi *)sharedBleApi;**
2. Configure the system Bluetooth Pop-ups switch
 - Get configuration information **- (QNConfig *)getConfig;**
 - Setting switch value for Pop-ups **showPowerAlertKey**
3. Register SDK **- (void)initSdk:(NSString *)appId firstDataFile:(NSString *)dataFile callback:(QNResultCallback)callback;**
4. Obey and achieve the required delegate
5. Set the scan configuration (can also be set in step 2) Set the scan configuration (can also be set in step 2)
 - Get configuration information **- (QNConfig *)getConfig;**
 - Setting whether to scan the turned on scale **onlyScreenOn**
 - Setting whether to return multiple times when scanning to the scale **allowDuplicates**

- Setting the scan time duration
6. Scan scale - (void)startBleDeviceDiscovery:(QNResultCallback)callback;
 7. Setting the connection configuration (can also be set in step 2 or step 45)
 - Get configuration information - (QNConfig *)getConfig;
 - Setting scale units display unit
 8. Building a user object that connects the scale - (QNUser *)buildUser:(NSString *)userId height:(int)height gender:(NSString *)gender birthday:(NSDate *)birthday callback:(QNResultCallback)callback
 9. Connecting device - (void)connectDevice:(QNBleDevice *)device user:(QNUser *)user callback:(QNResultCallback)callback;

Precautions

- SDK adaptation 8.0 or above
- iOS10.0 or above must configure Bluetooth usage data in Info.plist, otherwise the system's Bluetooth function cannot be used.
- The linker must be configured for the SDK or the SDK will not function properly

Main flow

Initialize

Use the initial file provided by QingNiu to initialize, and to verify that the client is approved by the company and synchronize some configuration information of the server.

Scanning

Call Bluetooth scan, return the app to connect device , and configure whether return to turned on device, or only return to specific models, etc.

Connecting

Call the Bluetooth connection, call back to the status of the Bluetooth connection, start connect, connect successful, connection broken, connection fails.

Communication

Bluetooth data communication, SDK notification client real-time weight data.

Measurement finished

At the end of the measurement, SDK delivers the final data to the client

QNBlleApi

API

Method

initSdk

Initialize the SDK by appid, identity the validity

Parameter

Name	Type	Note
appId	String	The app_id is provided from QN company, identity by initialize the local data package.
firstDataFile	String	The file path of initialize of data package can transfer by uri or transfer the full path of this data package
callback	QNResultCallback	The initialize results for android are return by port, and IOS by callback method using block or closure, checking error code by attachments.

setBleDeviceDiscoveryListener

Setting discovery callback object, it will return at listener method you set if discovery device, SDK only support one callback object, it will cover the previous results for repeat setting , you can setting by null if you do not use or may leak memory.

Parameter

Name	Type	Note
listener	QNBlleDeviceDiscoveryListener	Listener which including an method, it will callback the object after device are scanned.

startBleDeviceDiscovery

It will only return by QN device when start discovery bluetooth device, and auto stop if error or bluetooth are turned off.

The discovery results Callback by [QNBlleDeviceDiscoveryListener](#)

Please refer to the discovery setting by [getConfig](#) or [QNConfig](#)

Parameter

Item	Type	Note
callback	QNResultCallback	callback object, return results of discovery

stopBleDeviceDiscovery

stop discovery bluetooth device, this method called from system's stop discovery method, you need call this stop discovery even discovery did not start to make sure no discovery callback after called this method

Parameter

Item	Type	Note
callback	QNResultCallback	callback object,return results for this stop discovery

connectDevice

Connect QN bluetooth device,it will callback at [QNbleConnectionChangeListener](#) during connecting, and measuring results callback at [QNDataListener](#)

parameter

Item	Type	Note
device	QNbleDevice	The bluetooth device waiting for connecting
user	QNUser	The user model during device connected which including userid and user profile , build by buildUser
callback	QNResultCallback	return the callback results for connecting (it does not mean connecting successfully)

disconnectDevice

Disconnect the connected QN bluetooth device, it will callback at [QNbleConnectionChangeListener](#) during disconnecting

Parameter

Item	Type	Note
device/mac	QNbleDevice/String	the device or mac address for disconnect, can work only by transfer one of it
callback	QNResultCallback	return the callback results for connecting (it does not mean connecting successfully)

setBleConnectionChangeListener

setting bluetooth connection change listener, SDK only support one callback object, it will cover the previous results for repeat setting

parameter

Item	Type	Note
listener	QNbleConnectionChangeListener	connect change listener

setDataListener

set data transfer listener

Parameter

Item	Type	Note
listener	QNDataListener	Measuring data listener , all data callback from this listener.

getConfig

Get the SDK config state

return value

Type: [QNConfig](#)

SDK setting object,the setting method is setting by [QNConfig](#)

convertWeightWithTargetUnit

convert weight value with target unit by the weight value in kg

scale led unit do not support display in st, it will return value in lb if transferred by st, which means it will convert same value from st to lb, app will directly convert into st, 1st=14lb, example: 145.2lb=10 st 5.2 lb.

Parameter

Item	Type	Note
kgWeight	double	weight value in kg
unit	int	0 = kg, default value 1 = lb,lb, all scale support this unit 2 = 斤, it will display in kg if scale do not support 3 =st, stone, it will display in lb if scale do not support

return value

type: double

return target weight value number

buildUser

create user object

Parameter

Item	Type	Note
userId	String	The only User ID identify for each user , user can not be empty which determine different data receive.
height	int	Height, Units cm, from 40 to 240, or callback error if value out of this range
gender	String	gender, M: male, F: female,or callback error if setting other value
birthday	Date	Birthday, for age calculate, which can accurate for day, range from=> 3 to <=80, we default Min or Max if value above this range. or callback

		error if value larger then current time
athleteType (optional)	int	determine athlete mode(0 means normal mode,1 means athlete mode), this filed only valid if age >= 18 years old.
callback	QNResultCallback	return build user result, it will return error code and reason if failed

Return value

Type [QNUser](#)

Return the QN object created by build user, it will return NULL if build fail

buildDevice

Build SDK bluetooth object (only android)

Parameter

Item	type	Note
device	BluetoothDevice	return bluetooth object after calling system scanning
rssi	int	return signal strength after calling system scanning
scanRecord	byte[]	return bluetooth broad casting data after calling system scanning
callback	QNResultCallback	return results for build device object,it will return error code and reason if failed

Return value

Type [QNBlleDevice](#)

Return the QN object created by device, it will return NULL if build fail

QNResultCallback

Unified method callback method

onResult

Parameter

Name	Type	Note
errorCode	int	Callback successfully only Error code return 0, checking more in attachments
errorMsg	string	Error message , return ok after successfully

QNBlleDevice

QNBlle device object, only apply for smart scale at the moment, we may adding smart band later

Property

Name	type	note
mac	String	MAC address, the unique ID for each device, sdk will analys according to the monitor infro that scanned, results return same for IOS & Android for same device.
name	String	Mode name, SDK will identify the mode name that scanned , it will return a default model name Scale if identity failed
modeld	String	mode name identity
bluetoothName	String	Bluetooth name, the board casting for bluetooth name, APP recog by name which different from name
RSSI	int	signal strength , in an negative number usually range by -30--100, it means better signal strength if value larger, same device may callback multi times and got a different signal strength value each time
isScreenOn	Boolean	detect device on or off state , it means on if LED on , otherwise off

QNUser

QN User Object

Property

Item	Type	Note
userId	String	The only User ID identify for each user , user can not be empty which determine different data receive.
height	int	Height, Units cm, Min 40, Max 240
gender	String	gender, M: male, F: female
birthday	Date	Birthday, for age calculate, which accurate to day. Age range is 3~80, we default Min or Max if value above this range.
athleteType	int	determine athlete mode(0 means normal mode,1 means athlete mode), this filed only valid if age >= 18 years old.

QNDataListener

Data monitor, measurement data callback here

Method

onGetUnsteadyWeight

Receiving real time weighing data from scale, which can used for update value display in scale

Parameter

Name	Type	Note
device	QNbleDevice	scale which can real time upload data.
weight	double	When the APP is connected during measurement, the value above the scale changes, APP will synchronous callback weight data which displayed in LED, this value only displays in UI and is not saved as the last data.

onGetScaleData

Data will callback when measuring after APP connected and get the stable real time data

Parameter

Name	Type	Note
device	QNbleDevice	Device which upload data.
data	QNScaleData	QN measuring data which including weight, BMI and body fat etc

onGetStoredScale

This Data Callback in this condition: This stored data in scale will auto upload to app when user connected with APP next time if when end user measuring without connect a APP

Parameter

Name	Type	Note
device	QNbleDevice	Device which upload data.
storedDataList	List<QNScaleStoreData>	Old scale can store max 20 set of data, new scale can store max 40 set of data if user did not connect app during measuring. QNScaleStoreData can generate QNScaleData after input user profile in APP (QNUser)

onGetElectric

Device battery callback

only supports the scale of the charging. When the power is less than 20%, the battery is considered to be low

Name	Type	Note
device	QNbleDevice	Device which upload data.
electric	int	electric unit %

QNConfig

SDK configuration object, which controls the behavior of scan, and sets behaviors of the SDK through it.

Property

Name	Type	Note
onlyScreenOn	Boolean	Whether to only return the turned on device (LED on), default by false means can return the scale both turned on or turn off.
allowDuplicates	Boolean	Determine whether same device returns multiple times.the device will keep Bluetooth broadcasting usually. the system will call back the same device multiple times during scanning. The SDK will make one device only returns once for one scanning. this parameter can be set to allowDuplicates, and the SDK will return directly every time default by false
duration	int	Scanning duration, unit in ms, defaults by 0, which means keep scanning unless APP calls stopBleDeviceDiscovery. If not default by 0, minimum value is 3000ms, and it will automatically stop after the duration ms time delay.
scanOutTime	long	(安卓专属)扫描不到任何设备的回调时间,单位 ms, 默认为6000, 即6秒之内, 如果没有扫描到任何设备, 就会停止扫描并回调错误;设置的值小于0时, 表示不进行回调.如果在扫描超时之前, 已经停止了扫描, 即使期间没有扫描到任何设备也不会有错误回调.(Android exclusive) can not scan the callback time of any device, unit in ms, default by 6000, it will stop scanning and [callback error] (./api/QNbleDeviceDiscoveryListener.md#onScanFail) if no device is scanned within 6 seconds; it will not callback if value <= 0, it wont upload error callback even if no devices are scanned If the scan has been stopped before the scan timeout.
connectOutTime	long	(安卓专属)连接设备限定时间,单位 ms, 默认为10000, 即调用连接开始10秒之内, 如果无法完成整个连接过程, 就会停止连接并回调错误;设置的值小于等于0时, 表示不进行回调;设置的值小于3000且大于0时, 表示超时时间为3000ms.如果在连接超时之前, 已经停止了连接, 即使期间没有成功连接设备也不会有错误回调.(Android exclusive) limited time for device connected, unit in ms, default by 10000,it will stop connecting and callback error if connecting can not finished,it will not callback if value <= 0,when 0 < setting value< 3000 which means time out 3000ms, it wont upload error callback even if not connecting successfully when it stopped connecting before connecting time out.
unit	int	0 = kg, default value 1 = lb,lb, all scale support this unit 2 = 斤, it will display in kg if scale do not support 3 = st, stone, it will display in lb if scale do not support
showPowerAlertKey	bool	Default by false. system will prompt the box to indicate Bluetooth status when the SDK is initialized and Bluetooth is off under value in true. more details please refer to Apple Developer Documentation => CoreBluetooth => CBCentralManager => Central Manager Initialization Options

unit

Unit displayed on scale LED, the SDK units default by kg if no special setting, unit will save in local after the setting. the unit display of the scale will be updated in real time if currently already connected with scale.

SDK only return value in KG。value needs to be convert by APP。

Method

save

saving the settings after changed

Parameter

Name	Type	Note
callback	QNResultCallback	Results callback

QNBLConnectionChangeListener

bluetooth connection change listenser

onConnecting

under connecting device, it will callback once called connected device

Parameter

Name	Type	Note
device	QNBLDevice	Bluetooth device object during state change

onConnected

Device on connected It will callback object

onServiceSearchComplete

Usually it will callback after onConnected if device searching completed

onDisconnecting

on disconnecting, it will callback after calling disconnected

onDisconnected

Bluetooth on disconnected

onScaleStateChange

Change of scale connecting or measuring

Parameter

Name	Type	Note
device	QNBLDevice	Object for bluetooth device
scaleState	int	Refer to scale state code

onConnectError

connecting error

Parameter

Name	type	note
device	QNBLDevice	
errorCode	int	Error code please refer to attachment-error code the second parameter of IOS using system error object

QNBLedDeviceDiscoveryListener

Scan device monitor callback

Method

onDeviceDiscover

Parameter

Name	Type	Note
device	QNBLedDevice	Ble device that be scanned

onStartScan

This method active after scan successfully

onStopScan

Callback after scan stopped

This method will active after auto stopped(timed) or stop after callback stopScan

onScanFail

Callback only after scan failed (Only apply for Android)

Parameter

Name	Type	Note
code	int	Refer to scan status code

QNScaleData

QN smart scale measuring data which including Weight, BMI, body fat etc.

Property

user	QNUser	Measuring user including userId,gender, birthday, height etc.
measureTime	Date	Measuring time ,Accurate to seconds

Method

getItem

Getting single parameter, return to NULL if no specified type

Parameter

Name	Type	Note
type	int	Parameter description, checking attachments

Return value

Type: [QNScaleItemData](#)

Single parameter object which including value, English name, standard or not .

getItemValue

Getting single parameter value, only return value for this parameter.

Parameter

Name	Type	Note
type	int	parameter type, checking attachments

Return value

Type: double

Return the type of floating point number, the value of some indicators is actually int type, the APP needs to convert itself.

getAllItem

Return all the indicators in the form of a list. If the measurement data is invalid, the value of the other indicator data is 0 except for the weight and BMI indicators.

Return value

Type: List<[QNScaleItemData](#)>

List of indicators, it will be sorted by TYPE, if the APP needs to redefine, you need to sort by yourself.

QNScaleStoreData

QN data store object, You will receive this message if you connect app after measurements (but did not connect app during measuring)

Property

Item	Type	Note
weight	double	save weight data for different user
measureTime	Date	Measuring time

Method

Setting Measuring User

Item	Type	Note
user	QNScaleItemData	User profile ,for measuring body data.

generateScaleData

Generate measurement data based on stored data and user data, the method returns NULL if user data did not set.

Return value

Type: [QNScaleData](#)

It will return to NULL after error

QNScaleItemData

QN scale single parameter object,contains the basic data for the report generated by this indicator.

Property

Name	Type	Note
type	int	Type of parameter, check more info for attachments
value	double	The value of this parameter,For general purpose, this field will return double directly. If the value type is int, the app needs to determine the type and convert it.
valueType	int	parameter value type, 0 : double, 1 : int
name	String	English Name of this parameter

Body parameters

Type	Value	Meaning	Note	Unit	Data type	Min age
TYPE_WEIGHT	1	weight	Weight	Kg	Double	0
TYPE_BMI	2	BMI	BMI		Double	4
TYPE_BODYFAT	3	body fat rage	Body fat	%	Double	10
TYPE_SUBFAT	4	subcutaneous fat	subcutaneous fat	%	Double	10
TYPE_VISFAT	5	visceral fat	Visceral fat		Int	18
TYPE_WATER	6	body water rate	body water	%	Double	10
TYPE_MUSCLE	7	muscle rate	Muscle rate	%	Double	18
TYPE_BONE	8	bone mass	Bone mass	Kg	Double	18
TYPE_BMR	9	BMR	BMR	Kcal	Int	10
TYPE_BODY_SHAPE	10	body type	body type		Int	10
TYPE_PROTEIN	11	protein	Protein	%	Double	18
TYPE_LBM	12	lean body weight	Fat-free Body Weight	Kg	Double	10
TYPE_MUSCLE_MASS	13	muscle mass	muscle mass	Kg	Double	18
TYPE_BODY_AGE	14	metabolic age	Metabolic age	age	Int	18
TYPE_SCORE	15	health score	Health score		Double	10
TYPE_HEART_RATE	16	heart rate	heart rate	bp/m	Int	10
TYPE_HEART_INDEX	17	heart index	heart index		Double	10

Body shape comparison table

Value	Note
0	No body shape value(usually under no body fat measured)
1	Invisible obesity
2	Lack of exercise
3	Under weight
4	Standard
5	Slim muscular
6	Obese
7	Over weight
8	Standard muscular
9	Muscular well

Error code

Normal operation

Error constant	Error code	meaning	note	solution
OK	0	success	Successful operation	no

Initialization related errors

Error constant	Error code	Meaning	note	solution
ERROR_INVALIDATE_APP_ID	1001	app id is invalidate	invalid APPID	Use a valid APPID
ERROR_NOT_INIT_SDK	1002	please call the method "initSdk" first	InitSDK method not called	call initSDK
ERROR_FIRST_DATA_FILE_URI	1003	the first data file uri is error, please provide the correct one	The Uri of the initial data file is incorrect.	Provide the correct path
ERROR_PACKAGE_NAME	1004	the Android Package Name is Error ,Please Check it Or Contact the SDK Provider	Android's Package name incorrect	Check if the package name is correct or contact the SDK provider
ERROR_BUNDLE_ID	1005	the IOS APP Bundle Id is Error ,Please Check it Or Contact the SDK Provider	IOS's Bundle Id incorrect	Check if the package name is correct or contact the SDK provider
ERROR_INIT_FILE	1006	The config file content is wrong ,Please provide the correct one	The initial configuration file is incorrect	Ask SDK provider offer correct initial file

Bluetooth errors

Error constant	Error code	Meaning	Note	Solution
ERROR_BLUETOOTH_CLOSED	1101	the bluetooth is closed,please enable it first	Bluetooth disconnect	ask user to open Bluetooth, android car call to open Bluetooth
		your app		

ERROR_LOCATION_PERMISSION	1102	need the android authorize the location permission	require Authorized location permission	Ask User authorization positioning
ERROR_BLE_ERROR	1103	bluetooth internal error occurred	A system error occurred while calling Bluetooth.	Try to re-operate or ask user to restart Bluetooth.
ERROR_CONNECT_WHEN_CONNECTING	1104	bluetooth under connecting, you should not call connect right now	Bluetooth connection is called again when connecting	Do not call the Bluetooth connection multiple times before Bluetooth is disconnected
ERROR_CONNECT_WHEN_HAS_CONNECTED	1105	bluetooth is connected another scale, please disconnect it first	A device has been connected and the Bluetooth connection is called again.	Call the connection after disconnect the previous Bluetooth connection
ERROR_BLUETOOTH_UNKNOWN	1106	the bluetooth state is unknown, this state may appear when the bluetooth is not prepared on the IOS	Bluetooth status unknown	May be that the device is not initialized and may appear on the IOS platform.
ERROR_BLUETOOTH_RESETTING	1107	the system is resetting the bluetooth, try again later	Restarting Bluetooth system	Try again later
ERROR_BLUETOOTH_UNSUPPORTED	1108	the phone/pad is not support BLE, try another phone/pad	Bluetooth function disable in this phone	Try other device which support bluetooth
ERROR_BLUETOOTH_UNAUTHORIZED	1109	bluetooth is unauthorized, ask user authorize	Unauthorized use of Bluetooth devices	Ask user authorize bluetooth in APP
ERROR_BLE_CONNECT_FAIL	1110	failed to connect scale, try reconnect	Bluetooth connection error	Reconnect scale
ERROR_BLE_DISCONNECTING	1111	it is disconnecting the scale, try again later	Bluetooth disconnecting now	Try again later
ERROR_BLE_NONE_SCAN	1112	No bluetooth device has been scanned	No any device are scanned	try to reset bluetooth on scale

ERROR_BLE_CONNECT_OVERTIME	1113	Connect device timeout	Device failed to connect within the specified connection time	Re-connect
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Call method call error

Error constant	Error code	Meaning	Note	Solution
ERROR_ILLEGAL_ARGUMENT	1201	illegal argument, please check the api document	Wrong parameters	Checking API documentation, put correct parameters
ERROR_MISS_DISCOVERY_LISTENER	1202	miss the discovery listener, please set the listener first	Scanning method is not set when scanning	Set monitor first and then scan the Bluetooth.
ERROR_MISS_DATA_LISTENER	1203	miss the data listener, please set the listener first	Data monitor did not set when the device is connecting	Setting data monitor first
ERROR_USER_ID_EMPTY	1204	the user id argument is null or empty	user_id can not be empty	
ERROR_USER_GENDER	1205	the gender argument is wrong, please pass the "male" or "female"	Wrong user gender value	male or female
ERROR_USER_HEIGHT	1206	the height argument is wrong, please pass the value within 40 and 240 cm	Wrong height value	Please put value between 40~240cm
ERROR_USER_BIRTHDAY	1207	the birthday argument is wrong, please pass the date before today	Wrong birthday	Please do not put age value later than today
ERROR_START_SERVICE_BACKGROUND	1208	after Android O, not allowed to start service in background	after Android O, Background startup error	app start service when it is active
ERROR_USER_ATHLETE_TYPE	1209	the athleteType argument is wrong, only allow 0 or 1	Only allow value between 0 or 1	Checking type
ERROR_USER_SHAPE_GOAL_TYPE	1210	the shape or goal argument is wrong	shapeType or goalType param error	Checking type

Scan status definitions

Status	Value	Note	Solution
FAIL_BLE_IS_OFF	1	Bluetooth off	Open Bluetooth
FAIL_BLE_NOT_SUPPORT	2	Can not support BLE 4.0	Upgrade your phone system or phone
FAIL_BLE_INTERNAL_ERROR	3	Error	Restart scanning
FAIL_BLE_NO_BLUETOOTH	4	Missing Bluetooth permissions	Apply Bluetooth permissions in the manifest file
FAIL_BLE_NO_LOCATION	5	Missing location permissions	Apply for location permissions
FAIL_BLE_NONE_DEVICE	6	No any Bluetooth device	Re-open bluetooth

Scale status definitions

Status	Value	Note	Bluetooth Value
STATE_DISCONNECTED	0	Disconnected	Disconnected
STATE_CONNECTED	1	connected	Connected
STATE_CONNECTING	2	connecting	connecting
STATE_DISCONNECTING	3	Disconnecting	Disconnecting
STATE_START_MEASURE	5	Measuring	Connected
STATE_REAL_TIME	6	Measuring weight	Connected
STATE_BODYFAT	7	Measuring bioimpedance	Connected
STATE_HEART_RATE	8	Measuring heart rate	Connected
STATE_MEASURE_COMPLETED	9	Measurement completed	Connected

Update record

2018-06-20 [Adding scale's modelID](#)

2018-08-13 [Increase scan timeout setting](#)

2018-08-23 [Increase the method of building an SDK Bluetooth object](#)

2018-08-27

- [Increase the connection timeout setting](#)
- [Increase the body type comparison table](#)

2018-10-11

- [Increase the field of the athlete mode athleteType](#)
- [User model add field athleteType](#)
- [Adding error code ERROR_USER_ATHLETE_TYPE](#)