

# SDK API User's Guide (ETC)

Version 0.7.0

## Display Audio

Solution Team



## Release information

The following changes have been made to this document.

### Change History

| Date         | Change                    |
|--------------|---------------------------|
| 04 Dec. 2017 | First release for v0.6.0  |
| 15 Nov. 2018 | Second release for v0.7.0 |

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## Chap 1. Overview

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### 1.1 Overview

This document describes SDKs for Display Audio development.

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### 1.2 Feature

The SDK provides as below.

- libnxconfig : private configuration ( Android SharedPreference Modeling )
- libnxsqlutils : SQLite database access. ( support reading operation )
- libnxdaudioipc : IPC Server / Client Engine, IPC engine wrapper

## Chap 2. Private Configuration

### 2.1 Overview

The libnxconfig provides to manage application private configuration. This library is not thread-safe. So it is not suitable to share configuration with application.

### 2.2 APIs

#### 2.2.1 Open()

```
virtual int32_t Open(
    const char *pFile
) = 0;
```

##### Description

Open XML configuration file.

##### Parameter

-. pFile : XML Configuration file.

##### Parameter

0 is successful. -1 is failed.

#### 2.2.2 Close()

```
virtual void Open(
    void
) = 0;
```

##### Description

Close XML configuration file.

##### Parameter

None.

##### Parameter

None.

#### 2.2.3 Write()

```
virtual int32_t Write(
    const char *pKey,
    char *pValue
```

|  |  |
|--|--|
| <b>) = 0;</b>  |  |
| <b>Description</b><br>Write Configuration.   |  |
| <b>Parameter</b><br>-. pKey : configuration key.<br>-. pValue : configuration value. |  |
| <b>Parameter</b><br>0 is successful. -1 is failed.                                   |  |

#### 2.2.4 Read()

|   |  |
|---|--|
| <pre>virtual int32_t Read(     const char *pKey,     char **ppValue ) = 0;</pre>      |  |
| <b>Description</b><br>Read Configuration.   |  |
| <b>Parameter</b><br>-. pKey : configuration key.<br>-. ppValue : configuration value. |  |
| <b>Parameter</b><br>0 is successful. -1 is failed.                                    |  |

#### 2.2.5 Remove()

|  |  |
|--|--|
| <pre>virtual int32_t Read(     const char *pKey ) = 0;</pre> |  |
| <b>Description</b><br>Remove Configuration.                  |  |
| <b>Parameter</b><br>-. pKey : configuration key.             |  |
| <b>Parameter</b><br>0 is successful. -1 is failed.           |  |

#### 2.2.6 Dump()

|   |  |
|---|--|
| <pre>virtual void Dump(     void ) = 0;</pre>           |  |
| <b>Description</b><br>Dump configuration for debugging. |  |
| <b>Parameter</b>  |  |

|                  |
|------------------|
| None.            |
| <b>Parameter</b> |
| None.            |

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## Chap 3. SQL

### 3.1 Overview

The SQLite wrapper library provides to read database. This library designs to query table in database. The SQLite is database based file. So this library ensures data integrity.

### 3.2 APIs

#### 3.2.1 NX\_SQLiteGetData()

```
int32_t NX_SQLiteGetData(
    const char *pDatabase,
    const char *pTable,
    int32_t (*cbFunc)(void*, int32_t, char**, char**),
    void *pObj = NULL,
) = 0;
```

##### Description

Access database using SQLite.

##### Parameter

-. pDatabase : database name.

-. pTable : table name.

-. cbFunc : result data callback

int32\_t cbFunc( void \*pObj, int32\_t iColumnNum, char \*\*ppColumnValue, char \*\*ppColumnName )

-. pObj : private handle

-. iColumnNum : column number of table.

-. ppColumnValue: column value of table.

-. ppColumnName: column name of table.

-. pObj : private handle.

##### Return Value

0 is successful, -1 is failed.

## Chap 4. NxLog

### 4.1 How to use NX log macro

```
#define LOG_TAG "Your tag name"
#include <NX_Log.h>

NXLOGV("Verbose : This function is %s", __func__);
NXLOGD("Debug : This function is %s", __func__);
NXLOGN("Notification : This function is %s", __func__);
NXLOGI("Information : This function is %s", __func__);
NXLOGW("Warning : This function is %s", __func__);
NXLOGE("Error : This function is %s", __func__);
```

### 4.2 How to use NX logcat

```
$ adb logcat -h
```

Usage:

On target => nxlogcat or logcat <option> <value>

ex> nxlogcat -t -p -l 5

On pc => adb logcat or adb shell logcat or adb shell nxlogcat <option> <value>

ex> adb logcat -t -p -l 5

Common options:

-h: help

-v: print versions (macro header, this program)

Print options:

-c: clear the log

-t: print with time

-p: print with PID

-f: print only the current log

-x: print without system log (kernel, systemd, etc...)

-l <level>: print the log up to the specified level

Level:

0 : error

1 : warning

```

2 : notice
3 : information
4 : debug
5 : verbose

```

## 4.3 How to use NX logrotate service

```
$ nxlogrotate -h
```

Usage:

```
nxlogrotate <option> <value>
```

```
ex> nxlogrotate -s 100k -r 5 -p /tmp
```

```
ex> nxlogrotate -s 1m -r 5 -p /tmp
```

Common options:

```
-h: help
```

```
-v: print versions
```

Settings options:

```
-s: log limitation size (10k ~ 10m), default 1m
```

```
-r: log rotation count (0 ~ 10), default 5
```

```
-p: backup log path
```

### 4.3.1 Run service (Default)

```
$ vi /lib/systemd/system/nxlogrotate.service
```

```
[Unit]
```

```
Description=NX log rotate daemon
```

```
Wants=syslog.service
```

```
After=syslog.service
```

```
[Service]
```

```
Type=idle
```

```
ExecStart=/usr/sbin/nxlogrotate
```

```
[Install]
```

```
WantedBy=multi-user.target
```

```
$ ln -s /lib/systemd/system/nxlogrotate.service /lib/systemd/system/multiuser.target.wants/nxlogrotate.service
```

## Chap 5. **History**

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### **5.1 Known Issue.**

-. Not Yet.

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### **5.2 To Do List**

-. Not Yet.

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