

DBTool Usage Instructions

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Preface

Overview

This document describes how to modify the web database through DBTool

Product Version

Chipset	Kernel Version
RV1109, RV1126	Linux 4.19
RK1808, RK1806	Linux 4.4

Intended Audience

This document (this guide) is mainly intended for:

Technical support engineers

Software development engineers

Revision History

Version	Author	Date	Change Description
V1.0.0	Allen Chen	2020-09-23	Initial version
V1.1.0	Allen Chen	2020-12-30	Add common modification examples
V1.1.1	Ruby Zhang	2021-03-15	Update product version information
V1.1.2	Ruby Zhang	2021-09-09	Fix some expression

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1. Tool's Path and Usage Environment

【Path】

The tool is located in the app/dbserver/dbtool directory.

【Usage environment】

The tool only can be used under Ubuntu system.

2. Command Introduction

2.1 Help Command

Command: --help [option] / -h [option].

Usage of basic commands: when option is empty, the help content can be displayed directly.

Display db specification: --help db / -h db.

Display json file specification: --help json / -h json.

Display capability set specification: --help sys / -h sys.

2.2 Mode Setting

The running mode of DBTool is set by --mode <option> / -m <option>.

The default mode: when the mode setting command is not used, the default mode of DBTool is converting json file to db file.

Convert json file to db file: --mode js2db / -m js2db.

Convert db file to json file: --mode db2js / -m db2js.

Standardization of json files: --mode js2js / -m js2js.

Get the json diff file between the record file and the original file: --mode getdiff / -m getdiff.

Modify the json file to generate a patch file according to the diff file automatically: --mode getdiff / -m getdiff.

According to the file recorded in file.json, find the diff file and execute the patch automatically: --mode diffwork / -m diffwork.

2.3 File Path Setting

Use `--jsonpath | -j [option]` to set the json file path, where option is the path. The default path of the json file is `"sysconfig.json"`.

Use `--dbpath | -d [option]` to set the db file path, where option is the path. The default path of the db file is `"./sysconfig.db"`.

Use `--comparepath | -c [option]` to set the path of the comparison json file, where option is the path, and the default path of the comparison file is `"./compare.json"`.

Use `--diffpath | -f [option]` to set the diff file path, where option is the path, and the default diff path is `"./sysconfig.json.diff"`.

Use `--difffile | -df [option]` to set the diff record file path, where option is the path, and the default diff path is `"../diff/file.json"`.

2.4 Automatic Mode

In the automatic calibration mode, when the json file is different from the capability set specification, the data will be calibrated directly without inquiry.

When the running mode of DBTool is set to converting json file to db file, add `--auto | -a` to will enter automatic calibration mode.

2.5 Character Mode

In the generated json file under character mode, the para parameter of the capability set will be displayed as a string instead of a json object.

The generated string can be used in dbserver.

When the running mode of DBTool is set to converting db file to json file or when json file is standardization, add `--string | -s` to enter character mode.

3. Usage Examples

The following examples are all used in the linux environment, and the DBTool file name is dbtool.

3.1 Convert json to db

3.1.1 Basic Mode

Enter the following command in the path where DBTool is located to convert the sysconfig.json file in the same path to the sysconfig.db file.

```
1 | ./dbtool -j sysconfig.json -d sysconfig.db
```

If the sysconfig.db file already exists in this path, the newly generated sysconfig.db file will overwrite the original file.

During the process of generating the db file, if the data in the sysconfig.json file conflicts with the capability set settings, there will be a prompt as follows:

【Adjustment Prompts】

in video id 2,sStreamType="thirdStream" is wrong, autoModify(a)/ignore(i)/delete(d)?

Note:

video is the name of the database table,

id is the id of the row in the database,

sStreamType="thirdStream" is an item that conflicts with the capability set.

At this time, there are three options for users: autoModify|a, ignore|i, delete|d.

If you enter autoModify|a, the conflicting items will be automatically adjusted according to the capability set. See the adjustment rules [Detailed Introduction to Capability Set para](#) for details.

If you enter ignore|i, this conflict will be ignored.

If you enter delete|d, the entire row of data containing conflicting items will be deleted.

3.1.2 Automatic Mode

Enter the following command in the path where DBTool is located to convert the sysconfig.json file in the same path to the sysconfig.db file.

```
1 | ./dbtool -j sysconfig.json -d sysconfig.db -a
```

If the sysconfig.db file already exists in this path, the newly generated sysconfig.db file will overwrite the original file.

During the process of generating the db file, if the data in the sysconfig.json file conflicts with the capability set settings, there will not be prompts like [Adjustment Prompts](#), and automatic adjustment is selected by default.

Automatic processing rules (for type introduction, please refer to the detailed introduction of capability set para):

When the type is range, if the actual value is greater than the maximum value, the actual value will be adjusted to the maximum value; if the actual value is less than the minimum value, the actual value will be adjusted to the minimum value.

When the type is options, and the actual value is out of the range of options, the actual value will be change to be the the first one in the options.

When the type is dynamicRange, the same type as range.

When the type is options/dynamicRange, if the actual value is greater than the maximum value, the actual value will be adjusted to the qualified option closest to the maximum value; if the actual value is less than the minimum value, the actual value is adjusted to the qualified option closest to the minimum value.

3.2 Convert db to json

3.2.1 Normal Mode

Enter the following command in the path where DBTool is located to convert the sysconfig.db file in the same path to a sysconfig.json file.

```
1 | ./dbtool -m db2js -j sysconfig.json -d sysconfig.db
```

The para parameter in the capability set in the json file generated in this mode will be in the form of json, as follows.

```
1 | {
2 |   "id": 1,
3 |   "name": "screenshotSchedule",
4 |   "para": [
5 |     {
6 |       "color": "#87CEEB",
7 |       "name": "timing"
8 |     }
9 |   ]
10 | }
```

3.2.2 Character Mode

```
1 | ./dbtool -m db2js -j sysconfig.json -d sysconfig.db -s
```

The para parameter in the capability set in the json file generated in this mode will be in the form of a json string, as follows.

```
1 | {
2 |   "id": 1,
3 |   "name": "screenshotSchedule",
4 |   "para": "[{\"color\":\"#87CEEB\",\"name\":\"timing\"}]"
5 | }
```

3.3 The json File Specification

Essentially, the json file specification is to convert the corresponding db file into a json file after the json file is converted to a db file.

3.3.1 Normal Mode

Enter the following command in the path where DBTool is located to convert the sysconfig.json file in the same path to a sysconfig.json.modify file.

```
1 | ./dbtool -m js2js -j sysconfig.json -d sysconfig.db
```

3.3.2 Other Modes

Since the json file specification is json->db->json essentially, the automatic mode of converting json to db and the character mode of converting db to json are both applicable.

See the corresponding examples for detailed usage.

3.4 getdiff Mode

Enter the following command in the path where DBTool is located to compare the difference between the compare.json file and sysconfig.json to generate the compare.json.diff file.

```
1 | ./dbtool -m getdiff -j sysconfig.json -c compare.json
```

In this mode, sysconfig.json and compare.json in the original json array format will be converted to json objects before comparison. Therefore, please do not modify the generated diff file at will.

3.5 patchdiff Mode

Enter the following command in the path where DBTool is located, and modify sysconfig.json according to [previously generated diff file](#) to generate sysconfig.json.patch. The actual content of sysconfig.json.patch is consistent with compare.json.

```
1 | ./dbtool -m patchdiff -j sysconfig.json -c compare.json.diff
```

This mode converts the json array in sysconfig.json into a json object, modifies the json object according to the diff file, and then converts the json object into a json array and stores it in the sysconfig.json.patch file.

3.6 diffwork Mode

In diffwork mode, patchdiff work will be done in large quantities according to the files recorded in file.json.

```
1 | ./dbtool -m diffwork -j sysconfig.json -df ../build/file.json
```

4. Introduction to json File

4.1 Common json File

The json file is a json array, and each unit in the array is a json object, which includes three attributes: tableName, items, and default.

1. tableName: its type is a string, and its content is the table name, corresponding to the table name of the database.
2. items: its type is a json array, and each unit is a data item, corresponding to a row of data in the database.
3. default: default is used to create a data table. Its type is a json array, each unit is a json object, its columnName corresponds to the column name in the database, and it used to set the data type of the column, the default value and other settings.

Examples are as follows:

```
1  [
2    {
3      "1.tableName": "EventSchedules",
4      "2.items": [
5        {
6          "id": 0,
7          "sSchedulesJson": ""
8        }
9      ],
10     "3.default": [
11       {
12         "columnName": "id",
13         "setting": "INTEGER PRIMARY KEY AUTOINCREMENT"
14       },
15       {
16         "columnName": "sSchedulesJson",
17         "setting": "TEXT"
18       }
19     ]
20   }
21 ]
```

4.1.1 Increase Row Data

Add a json object to items, the object key is the column name of the data table, and the object value is the corresponding column data. You can add row data to the newly generated database. The example is as follows, increase the data id to 1, and sSchedulesJson is empty.

```
1  [
2    {
3      "1.tableName": "EventSchedules",
4      "2.items": [
5        {
6          "id": 0,
7          "sSchedulesJson": ""
8        },
9        {
10         "id": 1,
11         "sSchedulesJson": ""
12       }
13      ]
14    }
15  ]
```

```

12     }
13   ],
14   "3.default": [
15     {
16       "columnName": "id",
17       "setting": "INTEGER PRIMARY KEY AUTOINCREMENT"
18     },
19     {
20       "columnName": "sSchedulesJson",
21       "setting": "TEXT"
22     }
23   ]
24 }
25 ]

```

4.1.2 Increase Column Data

Add columns on the basis of the original data table json. If you did not set the default value, you need to modify items and default at the same time. If you set the default value, you only need to modify the default. As shown below, if the default value is not set, the sName column is added as follows, and the definition of sName should be added in items.

```

1  [
2    {
3      "1.tableName": "EventSchedules",
4      "2.items": [
5        {
6          "id": 0,
7          "sSchedulesJson": "",
8          "sName": "test1"
9        }
10     ],
11     "3.default": [
12       {
13         "columnName": "id",
14         "setting": "INTEGER PRIMARY KEY AUTOINCREMENT"
15       },
16       {
17         "columnName": "sSchedulesJson",
18         "setting": "TEXT"
19       },
20       {
21         "columnName": "sName",
22         "setting": "TEXT"
23       }
24     ]
25   }
26 ]

```

As shown below, when setting the default value, if the newly added sName is not defined in items, the default value will be used. Use the definition if sName is defined:

```

1  [
2    {

```

```

3      "1.tableName": "EventSchedules",
4      "2.items": [
5          {
6              "id": 0,
7              "sSchedulesJson": ""
8          }
9      ],
10     "3.default": [
11         {
12             "columnName": "id",
13             "setting": "INTEGER PRIMARY KEY AUTOINCREMENT"
14         },
15         {
16             "columnName": "sSchedulesJson",
17             "setting": "TEXT"
18         },
19         {
20             "columnName": "sName",
21             "setting": "TEXT DEFAULT 'TEST'"
22         }
23     ]
24 }
25 ]

```

4.1.3 The default Attribute Introduction

The default is the table creating attribute, the columnName specifies the column name, and the setting specifies the data type, default value, and special attributes.

See [Naming Rules](#) for the standard of column name.

Data type: currently, table supports two data types, TEXT character type, NUMBER numeric type, other types may exist conflicts with cgi or other application . The number type is recommended to be placed in the default header.

Default value: begin with DEFAULT and followed by default value, if the data type of the column is a character type, the default value needs to be surrounded by single quotation marks, if it is numeric data type, single quotation marks is not needed. Examples are as follows:

```

1  # Primary key is not set
2  "setting": "TEXT DEFAULT 'test1'"
3  "setting": "NUMBERL DEFAULT 0"

```

Special attributes: the same as other special attribute settings of SQL, this document only introduces the primary key and self-increasing attributes.

Primary key: each data table should be with items, and there must be no duplicate values. If it is not set, it will be automatically generated by the database (not recommended). Generally, the id is used as the primary key. Usage example is shown as follows: Add PRIMARY KEY after the pre-specified setting to set this column as the primary key.

```

1  # Primary key is not set
2  {
3      "columnName": "id",
4      "setting": "INTEGER"
5  }
6  # Primary key is set
7  {
8      "columnName": "id",
9      "setting": "INTEGER PRIMARY KEY"
10 }

```

Self-increasing attribute: only numeric columns can set this attribute. Add AUTOINCREMENT at the end of the attribute to set this attribute. For adding new items, if the column attribute is not specified, +1 will be added to the previous result. The example is as follows. When adding the second items, due to the id is not specified, the id will be +1 on the basis of the last item, that is, the id of the last second item is 1.

```

1  [
2      {
3          "1.tableName": "EventSchedules",
4          "2.items": [
5              {
6                  "id": 0,
7                  "sSchedulesJson": ""
8              },
9              {
10                 "sSchedulesJson": ""
11             }
12         ],
13         "3.default": [
14             {
15                 "columnName": "id",
16                 "setting": "INTEGER PRIMARY KEY AUTOINCREMENT"
17             },
18             {
19                 "columnName": "sSchedulesJson",
20                 "setting": "TEXT"
21             }
22         ]
23     }
24 ]

```

4.2 Introduction to json Capability Set

4.2.1 Introduction to Capability Set

TableName is the capability set of SystemPara, and the capability set must be the first one in the json file array.

The composition of the capability set is the same as other tables, and each capability set has three parameters: id, name, and para.

id: is the serial number of the capability set in SystemPara.

name: is the table name restricted by the capability set. If there is no table with the same name as the name, the capability set will not take effect. There is no table with the same name in the capability set used for mapping on the web side.

para: is the json object, including detailed parameters of the capability set.

There are five attributes of the para object: static, dynamic, relation, disabled, and layout.

static: is a static attribute, a condition that all forms must meet in any case. The following shows that iImageQuality is only allowed to be 1, 5, and 10.

```
1  "static": {
2    "iImageQuality": {
3      "options": [
4        1,
5        5,
6        10
7      ],
8      "type": "options"
9    }
10 }
```

dynamic: dynamic attribute, a condition that should be met under specified cases. As shown below, when id is 0, the maximum value of the iShotInterval column is 604800000 and the minimum value is 1000.

```
1  "dynamic": {
2    "id": {
3      "0": {
4        "iShotInterval": {
5          "for": "timing",
6          "range": {
7            "max": 604800000,
8            "min": 1000
9          },
10         "type": "range"
11       }
12     }
13   }
14 }
```

relation: mapping relation, only used for web front-end mapping, no practical restriction function. As shown below, on the web side, when iImageQuality is 1, the displayed value is low.

```
1  "relation": {
2    "iImageQuality": {
3      "1": "low",
4      "5": "middle",
5      "10": "high"
6    }
7  }
```

disabled: disable condition. Similar to dynamic, the value is limited under specified cases. The disabled function is used by the web front-end. As shown below, when sStreamType is subStream, sOutputDataType is limited to H.264 and is forbidden to change.

```

1  "disabled": [
2      {
3          "name": "sStreamType",
4          "options": {
5              "subStream": {
6                  "sOutputDataType": "H.264",
7                  "sSmart": "close"
8              },
9              "thirdStream": {
10                 "sSmart": "close"
11             }
12         },
13         "type": "disabled/limit"
14     }
15 ]

```

layout: Web front-end attributes, used for layout. As shown below, the web front-end will display the entries in an array order.

```

1  "layout": {
2      "encoder": [
3          "sStreamType",
4          "sVideoType",
5          "sResolution",
6          "sRCMode",
7          "sRCQuality",
8          "sFrameRate",
9          "sOutputDataType",
10         "sSmart",
11         "sH264Profile",
12         "sSVC",
13         "iMaxRate",
14         "iMinRate",
15         "iGOP",
16         "iStreamSmooth"
17     ]
18 }

```

4.2.2 Detailed Introduction to Capability Set para

4.2.2.1 Static/Dynamic

The smallest unit of static and dynamic is as follows:

```

1  <column_name>: {
2      <type>: type_name,
3      [for]: for_name,
4      <type_name>: detail
5  }

```

The key <column_name> on the outside corresponds to the name of the column that should be restricted; the inner <type> is the restricted type; [for] is optional, indicating the purpose of restriction with no practical effect; the restriction type is the key <type_name>, used to store details of the restricted contents.

1. type: mainly include options, range, dynamicRange, options/dynamicRange, and refer five types.

options: option type, the value in the column must be in the options array. As shown below, iImageQuality is only allowed to be 1, 5, and 10.

```
1  "static": {
2    "iImageQuality": {
3      "options": [
4        1,
5        5,
6        10
7      ],
8      "type": "options"
9    }
10 }
```

range: value range type, the attributes in the corresponding detail include min, max, step (optional). When the step is specified, it will be displayed as a slider on the web front end; when the step is not specified, it will be displayed as a number input box on the web end. Examples are as follows:

```
1  "iShotInterval": {
2    "for": "timing",
3    "range": {
4      "max": 604800000,
5      "min": 1000
6    },
7    "type": "range"
8  }
```

dynamicRange: dynamic value type, as shown below, iMinRate is a dynamic value, the maximum value is 1 time of the iMaxRate of the same row, and the minimum value is 1 time of 100. If there is only a minimum value and no maximum value, max and maxRate may not be given.

```
1  "iMinRate": {
2    "dynamicRange": {
3      "max": iMaxRate,
4      "maxRate": 1,
5      "min": 100,
6      "minRate": 1
7    },
8    "type": "dynamicRange"
9  }
```

options/dynamicRange: options and specifies the value range. As shown below, the value of sFrameRate must be specified in options, and the maximum value is twice the sFrameRateIn of the same row. The options must be all strings or all numbers. Scores is supported when options is a string.

```
1  "sFrameRate": {
2    "dynamicRange": {
3      "max": "sFrameRateIn",
4      "maxRate": 1
5    },
6    "options": [
7      "1/16",
8      "1/8",
```

```

9      "1/4",
10     "1/2",
11     "1",
12     "2",
13     "4",
14     "6",
15     "8",
16     "10",
17     "12",
18     "14",
19     "16",
20     "18",
21     "20",
22     "25",
23     "30"
24 ],
25 "type": "options/dynamicRange"
26 }

```

refer: reference type, which will search the restriction conditions based on the content in the refer array. As shown below, the restriction conditions of sStreamType will be the same as the sStreamType under the static type in the para column of the table with id 4 in the SystemPara table. That is, after SystemParajson, will search according to the order and key in the refer, and the searched conditions are assigned to the object that initiates the search.

```

1  "sStreamType": {
2    "refer": [
3      4,
4      "para",
5      "static",
6      "sStreamType"
7    ],
8    "type": "refer"
9  }

```

4.2.2.2 disabled

There are only two types in disabled: disabled, disabled/limit.

disabled: only used on the web side, the option will be disabled when meeting the conditions.

disabled/limit: when disabled, certain columns will be restricted. It takes effect during the file conversion process. For examples, see Introduction to Capability Set [disabled](#).

4.3 WebPage

WebPage is a special capability set used to regulate the authority of each function of the web and whether it is displayed or not. The basic units are as follows.

auth: authority level, the higher the number, the lower the authority is required. With the authority greater than or equal to auth, you can access the corresponding functional interface. -1 is forbidden to access, generally it is a function that the product does not have; 0 is the administrator; 1 is the operator; 2 is the ordinary user; 3 is reserved; 4 is any user;

name: unit name;

item: optional, subunit;

Note: If the upper-level authority requirements are not met, the sub-units cannot be accessed directly.

```
1  # Basic unit
2  {
3      "auth": 4,
4      "item": [],
5      "name": ""
6  }
7  # Example
8  {
9      "id": 0,
10     "name": "webPage",
11     "para": {
12         "auth": 4,
13         "item": [
14             {
15                 "auth": 4,
16                 "name": "preview"
17             },
18             {
19                 "auth": 4,
20                 "item": [
21                     {
22                         "auth": 4,
23                         "item": [
24                             {
25                                 "auth": 0,
26                                 "name": "delete"
27                             }
28                         ],
29                         "name": "videoRecord"
30                     },
31                     {
32                         "auth": 4,
33                         "item": [
34                             {
35                                 "auth": 0,
36                                 "name": "delete"
37                             }
38                         ],
39                         "name": "pictureRecord"
40                     }
41                 ],
42                 "name": "download"
43             },
44             {
45                 "auth": 4,
46                 "item": [
47                     {
48                         "auth": 4,
49                         "item": [
50                             {
51                                 "auth": 4,
52                                 "item": [
```

```

53         {
54             "auth":1,
55             "name":"modify"
56         }
57     ],
58     "name":"ListManagement"
59 },
60 {
61     "auth":1,
62     "name":"AddOne"
63 },
64 {
65     "auth":1,
66     "name":"BatchInput"
67 }
68 ],
69 "name":"MemberList"
70 },
71 {
72     "auth":4,
73     "item":[
74         {
75             "auth":4,
76             "item":[
77                 {
78                     "auth":0,
79                     "name":"modify"
80                 }
81             ],
82             "name":"SnapShot"
83         }
84     ],
85     "name":"SnapShot"
86 },
87 {
88     "auth":4,
89     "item":[
90         {
91             "auth":4,
92             "item":[
93                 {
94                     "auth":0,
95                     "name":"modify"
96                 }
97             ],
98             "name":"Control"
99         }
100     ],
101     "name":"Control"
102 },
103 {
104     "auth":1,
105     "item":[
106         {
107             "auth":1,
108             "name":"ParaConfig"
109         }
110     ],

```

```
111         "name": "Config"
112     }
113 },
114     "name": "face"
115 },
116 {
117     "auth": -1,
118     "item": [
119         {
120             "auth": 1,
121             "item": [
122                 {
123                     "auth": 1,
124                     "name": "FacePara"
125                 },
126                 {
127                     "auth": 1,
128                     "name": "ROI"
129                 }
130             ],
131             "name": "Config"
132         }
133     ],
134     "name": "face-para"
135 },
136 {
137     "auth": -1,
138     "item": [
139         {
140             "auth": 4,
141             "item": [
142                 {
143                     "auth": 4,
144                     "item": [
145                         {
146                             "auth": 1,
147                             "name": "modify"
148                         }
149                     ],
150                     "name": "MemberList"
151                 },
152                 {
153                     "auth": 1,
154                     "name": "AddOne"
155                 },
156                 {
157                     "auth": 1,
158                     "name": "BatchInput"
159                 },
160                 {
161                     "auth": 4,
162                     "item": [
163                         {
164                             "auth": 0,
165                             "name": "modify"
166                         }
167                     ],
168                     "name": "SnapShot"
```

```

169         },
170         {
171             "auth": 4,
172             "item": [
173                 {
174                     "auth": 0,
175                     "name": "modify"
176                 }
177             ],
178             "name": "Control"
179         }
180     ],
181     "name": "Manage"
182 }
183 ],
184 "name": "face-manage"
185 },
186 {
187     "auth": 1,
188     "item": [
189         {
190             "auth": 1,
191             "item": [
192                 {
193                     "auth": 1,
194                     "item": [
195                         {
196                             "auth": 1,
197                             "name": "basic"
198                         },
199                         {
200                             "auth": 1,
201                             "name": "time"
202                         }
203                     ],
204                     "name": "Settings"
205                 },
206                 {
207                     "auth": 1,
208                     "item": [
209                         {
210                             "auth": 1,
211                             "name": "upgrade"
212                         },
213                         {
214                             "auth": -1,
215                             "name": "log"
216                         }
217                     ],
218                     "name": "Maintain"
219                 },
220                 {
221                     "auth": -1,
222                     "item": [
223                         {
224                             "auth": -1,
225                             "name": "authentication"
226                         },

```



```

285         {
286             "auth":-1,
287             "name":"FTP"
288         },
289         {
290             "auth":-1,
291             "name":"eMail"
292         },
293         {
294             "auth":-1,
295             "name":"Cloud"
296         },
297         {
298             "auth":-1,
299             "name":"Protocol"
300         },
301         {
302             "auth":-1,
303             "name":"QoS"
304         },
305         {
306             "auth":-1,
307             "name":"Https"
308         }
309     ],
310     "name":"Advanced"
311 }
312 ],
313 "name":"Network"
314 },
315 {
316     "auth":1,
317     "item":[
318         {
319             "auth":1,
320             "name":"Encoder"
321         },
322         {
323             "auth":1,
324             "name":"AdvancedEncoder"
325         },
326         {
327             "auth":1,
328             "name":"ROI"
329         },
330         {
331             "auth":1,
332             "name":"RegionCrop"
333         }
334     ],
335     "name":"Video"
336 },
337 {
338     "auth":1,
339     "item":[
340         {
341             "auth":1,
342             "name":"AudioParam"

```

```

343         }
344     ],
345     "name": "Audio"
346 },
347 {
348     "auth": 1,
349     "item": [
350         {
351             "auth": 1,
352             "name": "DisplaySettings"
353         },
354         {
355             "auth": 1,
356             "name": "OSDSettings"
357         },
358         {
359             "auth": 1,
360             "name": "PrivacyCover"
361         },
362         {
363             "auth": 1,
364             "name": "PictureMask"
365         }
366     ],
367     "name": "Image"
368 },
369 {
370     "auth": 1,
371     "item": [
372         {
373             "auth": 1,
374             "name": "MotionDetect"
375         },
376         {
377             "auth": 1,
378             "name": "IntrusionDetection"
379         },
380         {
381             "auth": -1,
382             "name": "AlarmInput"
383         },
384         {
385             "auth": -1,
386             "name": "AlarmOutput"
387         },
388         {
389             "auth": -1,
390             "name": "Abnormal"
391         }
392     ],
393     "name": "Event"
394 },
395 {
396     "auth": 1,
397     "item": [
398         {
399             "auth": 1,
400             "item": [

```

```

401         {
402             "auth":1,
403             "name":"VideoPlan"
404         },
405         {
406             "auth":1,
407             "name":"ScreenshotPlan"
408         },
409         {
410             "auth":1,
411             "name":"ScreenshotPara"
412         }
413     ],
414     "name":"PlanSettings"
415 },
416 {
417     "auth":1,
418     "item":[
419         {
420             "auth":1,
421             "name":"HardDiskManagement"
422         },
423         {
424             "auth":-1,
425             "name":"NAS"
426         },
427         {
428             "auth":-1,
429             "name":"CloudStorage"
430         }
431     ],
432     "name":"StorageManage"
433 }
434 ],
435 "name":"Storage"
436 },
437 {
438     "auth":1,
439     "item":[
440         {
441             "auth":1,
442             "name":"MarkCover"
443         },
444         {
445             "auth":-1,
446             "name":"MaskArea"
447         },
448         {
449             "auth":-1,
450             "name":"RuleSettings"
451         },
452         {
453             "auth":-1,
454             "name":"AdvancedCFG"
455         }
456     ],
457     "name":"Intel"
458 },

```



```

459         {
460             "auth":-1,
461             "item":[
462                 {
463                     "auth":-1,
464                     "name":"GateConfig"
465                 },
466                 {
467                     "auth":-1,
468                     "name":"ScreenConfig"
469                 }
470             ],
471             "name":"Peripherals"
472         }
473     ],
474     "name":"config"
475 },
476 {
477     "auth":4,
478     "name":"about"
479 }
480 ],
481 "name":"header"
482 }
483 }

```

5. Common Modifications

5.1 The db File Path in the SDK

Product	Path
Gate/access control	device/rockchip/oem/oem_facial_gate/sysconfig.db
IPC products with 2K resolution	device/rockchip/oem/oem_ipc/sysconfig-2K.db
IPC products with 4K resolution	device/rockchip/oem/oem_ipc/sysconfig-4K.db
IPC products with 1080P resolution	device/rockchip/oem/oem_ipc/sysconfig-1080P.db

5.2 Modification Ways

Use [Converting json to db](#) to generate the db file corresponding to json, modify the required modification parameters, use [Converting db to json](#), replace the original db, and re-build by the following way.

```

1  # In the SDK root directory, execute the following commands to re-build oem,
   re-flash oem and userdata
2  make rk_oem-dirclean && make rk_oem target-finalize
3  ./mkfirmware.sh

```

Note: the userdata partition needs to be re-flash, otherwise the new database will not take effect.

5.3 Wi-Fi is Enabled by Default

【Modify table name】

NetworkPower.

【Parameter modification】

Modify the iPower in the Wi-Fi corresponding data unit to 1.

【Capability set modification】

Without capability set.

5.4 Resolution Modification

【Modify table name】

video.

【Parameter modification】

The modified code stream is determined by sStreamType, and sResolution is the default resolution.

【Capability set modification】

Modify [Capability Set Table](#), video/dynamic/sStreamType/</corresponding stream>/sResolution/options.

5.5 ISP Parameters Modification

【Table name modification】

Table Name	Web Corresponding Function
image_adjustment	Configuration/Display Settings/Image Adjustment
image_exposure	Configuration/Display Settings/Exposure
image_night_to_day	Configuration/Display Settings/Day and Night Conversion
image_blc	Configuration/Display Settings/Backlight
image_white_blanca	Configuration/Display Settings/White Balance
image_enhancement	Configuration/Display Settings/Image Enhancement
image_video_adjustment	Configuration/Display Settings/Video Adjustment

【Parameter modification】

Refer to the web interface to modify the corresponding properties.

【Capability set modification】

It is not recommended to modify.

6. Naming Rules

Table name: use the Upper Camel Case first, such as TableName.

Column name: must use Lower Camel Case. If the data type is number, it must start with i, such as iPeopleNumber. When the data type is TEXT, it is recommended to start with s, such as: sName. Other types of data are not currently supported.

7. Frequently Occurring Errors

1. XXX isn't a table: any one of items or default is missing in the json file, and XXX is the table name.
2. json file doesn't exist!: the json file does not exist, it only appears in the js to db mode and the json standardized mode.
3. db is empty!: the database file is empty.
4. json file is empty: when the json file is empty, the prompt is as above, which only appears in the js to db mode and the json standardized mode.
5. json file lose SystemPara: the first item in the json file is not SystemPara.