



Full credit is given to the above companies including the Operating System (OS) that this PDF file was generated!

Rocky Enterprise Linux 9.2 Manual Pages on command 'ibd2sdi.1'

\$ man ibd2sdi.1

IBD2SDI(1) MySQL Database System IBD2SDI(1)

NAME

ibd2sdi - InnoDB utility for extracting serialized dictionary information (SDI) from an InnoDB tablespace

SYNOPSIS

ibd2sdi [options] file_name1 [file_name2 file_name3 ...]

DESCRIPTION

ibd2sdi is a utility for extracting serialized dictionary information (SDI) from InnoDB tablespace files. SDI data is present in all persistent InnoDB tablespace files. ibd2sdi can be run on file-per-table tablespace files (*.ibd files), general tablespace files (*.ibd files), system tablespace files (ibdata* files), and the data dictionary tablespace (mysql.ibd). It is not supported for use with temporary tablespaces or undo tablespaces.

ibd2sdi can be used at runtime or while the server is offline. During DDL operations, ROLLBACK operations, and undo log purge operations related to SDI, there may be a short interval of time when ibd2sdi fails to read SDI data stored in the tablespace.

ibd2sdi performs an uncommitted read of SDI from the specified tablespace. Redo logs and undo logs are not accessed.

Invoke the ibd2sdi utility like this:

ibd2sdi [options] file_name1 [file_name2 file_name3 ...]

ibd2sdi supports multi-file tablespaces like the InnoDB system tablespace, but it cannot be run on more than one tablespace at a time. For multi-file tablespaces, specify each file:

ibd2sdi ibdata1 ibdata2

The files of a multi-file tablespace must be specified in order of the ascending page number. If two successive files have the same space ID, the later file must start with the last page number of the previous file + 1.

ibd2sdi outputs SDI (containing id, type, and data fields) in JSON format. ibd2sdi

Options

ibd2sdi supports the following options:

? --help, -h

??

?Command-Line Format ? --help ?

??

?Type ? Boolean ?

??

?Default Value ? false ?

??

Display a help message and exit. For example:

Usage: ./ibd2sdi [-v] [-c <strict-check>] [-d <dump file name>] [-n] filename1 [filenames]

See <http://dev.mysql.com/doc/refman/8.0/en/ibd2sdi.html> for usage hints.

-h, --help Display this help and exit.

-v, --version Display version information and exit.

-#, --debug[=name] Output debug log. See

<http://dev.mysql.com/doc/refman/8.0/en/dbug-package.html>

-d, --dump-file=name

Dump the tablespace SDI into the file passed by user.

Without the filename, it will default to stdout

-s, --skip-data Skip retrieving data from SDI records. Retrieve only id and type.

-i, --id=# Retrieve the SDI record matching the id passed by user.

-t, --type=# Retrieve the SDI records matching the type passed by user.

-c, --strict-check=name

Specify the strict checksum algorithm by the user.

Allowed values are innodb, crc32, none.

-n, --no-check Ignore the checksum verification.

-p, --pretty Pretty format the SDI output. If false, SDI would be not human readable but it will be of less size (Defaults to on; use --skip-pretty to disable.)

Variables (--variable-name=value)

and boolean options {FALSE|TRUE} Value (after reading options)

debug	(No default value)
dump-file	(No default value)
skip-data	FALSE
id	0
type	0
strict-check	crc32
no-check	FALSE
pretty	TRUE

? --version, -v

??

?Command-Line Format ? --version ?

??

?Type ? Boolean ?

??

?Default Value ? false ?

??

Display version information and exit. For example:

ibd2sdi Ver 8.0.3-dmr for Linux on x86_64 (Source distribution)

? --debug[=debug_options], -# [debug_options]

??

?Command-Line Format ? --debug=options ?

??

?Type ? String ?

??

?Default Value ? [none] ?

??

Prints a debug log. For debug options, refer to Section 5.9.4, "The DEBUG Package".

```
ibd2sdi --debug=d:t/tmp/ibd2sdi.trace
```

This option is available only if MySQL was built using WITH_DEBUG. MySQL release binaries provided by Oracle are not built using this option.

? --dump-file=, -d

??

?Command-Line Format ? --dump-file=file ?

??

?Type ? File name ?

??

?Default Value ? [none] ?

??

Dumps serialized dictionary information (SDI) into the specified dump file. If a dump file is not specified, the tablespace SDI is dumped to stdout.

```
ibd2sdi --dump-file=file_name ../data/test/t1.ibd
```

? --skip-data, -s

??

?Command-Line Format ? --skip-data ?

??

?Type ? Boolean ?

??

?Default Value ? false ?

??

Skips retrieval of data field values from the serialized dictionary information (SDI) and only retrieves the id and type field values, which are primary keys for SDI records.

```
$> ibd2sdi --skip-data ../data/test/t1.ibd
```

```
["ibd2sdi"  
,  
{  
  "type": 1,  
  "id": 330  
}]
```

```
,
{
  "type": 2,
  "id": 7
}
]
```

? --id=#, -i #

??

?Command-Line Format ? --id=# ?

??

?Type ? Integer ?

??

?Default Value ? 0 ?

??

Retrieves serialized dictionary information (SDI) matching the specified table or tablespace object id. An object id is unique to the object type. Table and tablespace object IDs are also found in the id column of the mysql.tables and mysql.tablespace data dictionary tables. For information about data dictionary tables, see Section 14.1, "Data Dictionary Schema".

```
$> ibd2sdi --id=7 ../data/test/t1.ibd
```

```
["ibd2sdi"
```

```
,
{
  "type": 2,
  "id": 7,
  "object":
  {
    "mysqlid_version_id": 80003,
    "dd_version": 80003,
    "sdi_version": 1,
    "dd_object_type": "Tablespace",
    "dd_object": {
      "name": "test/t1",
```

```

"comment": "",
"options": "",
"se_private_data": "flags=16417;id=2;server_version=80003;space_version=1;",
"engine": "InnoDB",
"files": [
  {
    "ordinal_position": 1,
    "filename": "./test/t1.ibd",
    "se_private_data": "id=2;"
  }
]
}
}
]

```

? --type=#, -t #

??

?Command-Line Format ? --type=# ?

??

?Type ? Enumeration ?

??

?Default Value ? 0 ?

??

?Valid Values ? ?

? ? 1 ?

? ? ?

? ? 2 ?

??

Retrieves serialized dictionary information (SDI) matching the specified object type.

SDI is provided for table (type=1) and tablespace (type=2) objects.

This example shows output for a tablespace ts1 in the test database:

```
$> ibd2sdi --type=2 ../data/test/ts1.ibd
```

```
["ibd2sdi"
```

```

,
{
  "type": 2,
  "id": 7,
  "object":
  {
    "mysqlId_version_id": 80003,
    "dd_version": 80003,
    "sdi_version": 1,
    "dd_object_type": "Tablespace",
    "dd_object": {
      "name": "test/ts1",
      "comment": "",
      "options": "",
      "se_private_data": "flags=16417;id=2;server_version=80003;space_version=1;",
      "engine": "InnoDB",
      "files": [
        {
          "ordinal_position": 1,
          "filename": "./test/ts1.ibd",
          "se_private_data": "id=2;"
        }
      ]
    }
  }
}
}
]

```

Due to the way in which InnoDB handles default value metadata, a default value may be present and non-empty in ibd2sdi output for a given table column even if it is not defined using DEFAULT. Consider the two tables created using the following statements, in the database named i:

```
CREATE TABLE t1 (c VARCHAR(16) NOT NULL);
```

```
CREATE TABLE t2 (c VARCHAR(16) NOT NULL DEFAULT "Sakila");
```

Using ibd2sdi, we can see that the default_value for column c is nonempty and is in fact padded to length in both tables, like this:

```
$> ibd2sdi ../data/i/t1.ibd | grep -m1 "\"default_value\"" | cut -b34- | sed -e s/,//
```

```
"AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA\nAAAAA  
AAAAAA="
```

```
$> ibd2sdi ../data/i/t2.ibd | grep -m1 "\"default_value\"" | cut -b34- | sed -e s/,//
```

```
"BINha2lsYQAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA\nAAAAA  
AAAAAA="
```

Examination of ibd2sdi output may be easier using a JSON-aware utility like jq[1], as shown here:

```
$> ibd2sdi ../data/i/t1.ibd | jq '.[1][\"object\"][\"dd_object\"][\"columns\"][0][\"default_value\"]'
```

```
"AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA\nAAAAA  
AAAAAA="
```

```
$> ibd2sdi ../data/i/t2.ibd | jq '.[1][\"object\"][\"dd_object\"][\"columns\"][0][\"default_value\"]'
```

```
"BINha2lsYQAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA\nAAAAA  
AAAAAA="
```

For more information, see the MySQL Internals documentation[2].

```
? --strict-check, -c  
????????????????????????????????????????????????????????????????????????  
?Command-Line Format ? --strict-check=algorithm ?  
????????????????????????????????????????????????????????????????????????  
?Type           ? Enumeration           ?  
????????????????????????????????????????????????????????????????????????  
?Default Value  ? crc32           ?  
????????????????????????????????????????????????????????????????????????  
?Valid Values   ?               ?  
?             ?    crc32      ?  
?             ?              ?  
?             ?    innodb    ?
```


? ? ?

? ? none ?

??

Specifies a strict checksum algorithm for validating the checksum of pages that are read. Options include innodb, crc32, and none.

In this example, the strict version of the innodb checksum algorithm is specified:

```
ibd2sdi --strict-check=innodb ../data/test/t1.ibd
```

In this example, the strict version of crc32 checksum algorithm is specified:

```
ibd2sdi -c crc32 ../data/test/t1.ibd
```

If you do not specify the --strict-check option, validation is performed against non-strict innodb, crc32 and none checksums.

? --no-check, -n

??

?Command-Line Format ? --no-check ?

??

?Type ? Boolean ?

??

?Default Value ? false ?

??

Skips checksum validation for pages that are read.

```
ibd2sdi --no-check ../data/test/t1.ibd
```

? --pretty, -p

??

?Command-Line Format ? --pretty ?

??

?Type ? Boolean ?

??

?Default Value ? false ?

??

Outputs SDI data in JSON pretty print format. Enabled by default. If disabled, SDI is not human readable but is smaller in size. Use --skip-pretty to disable.

```
ibd2sdi --skip-pretty ../data/test/t1.ibd
```

Copyright ? 1997, 2023, Oracle and/or its affiliates.

This documentation is free software; you can redistribute it and/or modify it only under the terms of the GNU General Public License as published by the Free Software Foundation; version 2 of the License.

This documentation is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with the program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA or see <http://www.gnu.org/licenses/>.

NOTES

1. jq

<https://stedolan.github.io/jq/>

2. MySQL Internals documentation

<https://dev.mysql.com/doc/dev/>

SEE ALSO

For more information, please refer to the MySQL Reference Manual, which may already be installed locally and which is also available online at <http://dev.mysql.com/doc/>.

AUTHOR

Oracle Corporation (<http://dev.mysql.com/>).

MySQL 8.0

11/27/2023

IBD2SDI(1)