JDBC CRUD Operations

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# JDBC Data Types

* Java has a **data type** system, for example, int, long, float, double, string.
* DB systems also have a **type system**, such as int, char, varchar, text, blob, clob.
* The JDBC driver can convert the Java data type to the appropriate database type back and forth.
* The following table lists the default database data type and the Java data type mapping.
* The mapping is used when calling the setXXX() method from the PreparedStatement object or
* ResultSet updateXXX()/getXXX() method.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S. No** | **SQL** | **JDBC/Java** | **setXXX** | **getXXX** | **updateXXX** |
| **1** | **VARCHAR** | **java.lang.String** | **setString** | **getString** | **updateString** |
| **2** | **CHAR** | **java.lang.String** | **setString** | **getString** | **updateString** |
| 3 | LONGVARCHAR | java.lang.String | setString | getString | updateString |
| **4** | **BIT** | **boolean** | setBoolean | getBoolean | updateBoolean |
| 5 | NUMERIC | java.math.BigDecimal | setBigDecimal | getBigDecimal | updateBigDecimal |
| 6 | TINYINT | byte | setByte | getByte | updateByte |
| 7 | SMALLINT | short | setShort | getShort | updateShort |
| **8** | **INTEGER** | **int** | **setInt** | **getInt** | **updateInt** |
| 9 | BIGINT | long | setLong | getLong | updateLong |
| 10 | REAL | float | setFloat | getFloat | updateFloat |
| 11 | FLOAT | float | setFloat | getFloat | updateFloat |
| **12** | **DOUBLE** | **Double** | **setDouble** | **getDouble** | **updateDouble** |
| 13 | VARBINARY | byte [ ] | setBytes | getBytes | updateBytes |
| 14 | BINARY | byte [ ] | setBytes | getBytes | updateBytes |
| **15** | **DATE** | **java.sql.Date** | **setDate** | **getDate** | **updateDate** |
| **16** | **TIME** | **java.sql.Time** | **setTime** | **getTime** | **updateTime** |
| 17 | TIMESTAMP | java.sql.Timestamp | setTimestamp | getTimestamp | updateTimestamp |
| **18** | **TEXT** | **Java.lang.String** | setClob | getClob | updateClob |
| **19** | **BLOB** | **java.sql.Blob** | **setBlob** | **getBlob** | **updateBlob** |
| 20 | ARRAY | java.sql.Array | setARRAY | getARRAY | updateARRAY |
| 21 | REF | java.sql.Ref | setRef | getRef | updateRef |
| 22 | STRUCT | java.sql.Struct | setStruct | getStruct | updateStruct |

## CLOB data type

MySQL server support CLOB with 4 data types:

1. TINYTEXT - A CLOB column with a maximum length of 255 (2\*\*8 - 1) characters.
2. TEXT - A CLOB column with a maximum length of 65,535 (2\*\*16 - 1) characters.
3. MEDIUMTEXT - A CLOB column with a maximum length of 16,777,215 (2\*\*24 - 1) characters.
4. LONGTEXT - A CLOB column with a maximum length of 4,294,967,295 or 4GB (2\*\*32 - 1) characters.