**Documentation for Using SQLSerializer**

The SQLSerializer class is designed to serialize data into SQL statements based on specified column data types. Below is a comprehensive guide on how to use SQLSerializer along with a detailed description of each SQLDataType.

**Overview of SQLSerializer**

SQLSerializer requires a map of column names to their respective SQL data types, known as columnDataTypes. This map is used to format each column's data correctly according to SQL syntax.

**Example Usage**

kotlin

val columnDataTypes = mapOf(

"ID" to SQLIntegerType(),

"Name" to SQLStringType(50),

"Email" to SQLStringType(100),

"Registered" to SQLDateType(),

"LastLogin" to SQLDateTimeType(2),

"IsActive" to SQLBooleanType(),

"Balance" to SQLDecimalType(10, 2),

"CreditScore" to SQLFloatType(5, 2),

"ProfilePicture" to SQLBlobType(),

"Permissions" to SQLEnumType(listOf("READ", "WRITE")),

"Roles" to SQLSetType(setOf("ADMIN", "USER")),

"Fingerprint" to SQLBinaryType(16),

"YearJoined" to SQLYearType()

)

val serializer = SQLSerializer("User", columnDataTypes, appendMode = false, extension = ".sql")

In this example, columnDataTypes is a map that associates each column name with a specific SQL data type.

**SQLDataType Descriptions**

1. **SQLIntegerType**
   * Description: Represents integer values.
   * Parameters: None.
2. **SQLStringType**
   * Description: Represents string values with a specified maximum length.
   * Parameters:
     + length: Int (Required) - the maximum length of the string.
3. **SQLDateType**
   * Description: Represents date values in the format yyyy-MM-dd.
   * Parameters: None.
4. **SQLDateTimeType**
   * Description: Represents date and time values with optional fractional seconds precision.
   * Parameters:
     + fractionalSecondsPrecision: Int (Optional) - the number of fractional digits in the seconds part.
5. **SQLBooleanType**
   * Description: Represents boolean values, typically as 1 (true) or 0 (false).
   * Parameters: None.
6. **SQLDecimalType**
   * Description: Represents decimal values with specified precision and scale.
   * Parameters:
     + precision: Int (Required) - the total number of digits.
     + scale: Int (Required) - the number of digits after the decimal point.
7. **SQLFloatType**
   * Description: Represents floating-point values with specified precision and scale.
   * Parameters:
     + precision: Int (Required) - the total number of significant digits.
     + scale: Int (Required) - the number of digits after the decimal point.
8. **SQLBlobType**
   * Description: Represents binary large objects (BLOBs).
9. **SQLYearType**:
   * Description: Represents a year value, typically stored as a four-digit number.
   * Parameters: None.
10. **SQLTextType**:
    * Description: Represents a text string, potentially longer than SQLStringType, often used for unbounded text.
    * Parameters: None.
11. **SQLBlobType**:
    * Description: Represents a Binary Large Object (BLOB), used for storing binary data such as images or files.
    * Parameters: None.
12. **SQLDecimalType**:

* Description: Represents a decimal number with a fixed precision and scale.
* Parameters:
  + precision (required): The total number of digits allowed.
  + scale (required): The number of digits to the right of the decimal point.

1. **SQLFloatType**:

* Description: Represents a floating-point number with a specific precision and scale.
* Parameters:
  + precision (required): The total number of digits allowed.
  + scale (required): The number of digits to the right of the decimal point.

1. **SQLBinaryType**:

* Description: Represents binary data with a fixed length.
* Parameters:
  + length (required): The length of the binary data.

1. **SQLEnumType**:

* Description: Represents a string value that must match one of the specified allowed values.
* Parameters:
  + allowedValues (required): A list of strings representing the allowed values.

1. **SQLSetType**:

* Description: Represents a set of string values, each of which must match one of the specified allowed values.
* Parameters:
  + allowedValues (required): A set of strings representing the allowed values.