

Faculty of Engineering, Alexandria University Computers and Systems Engineering Department

JDBC Report

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Uml Diagram:

<<Java Class>>

GArgumentValidation <<Java Interface>>

IDatabaseOperations tabas e.management database manager

database manager

dbUsed int

dbUsedName: String

ob; ISave

helpToSave: LinkedList<LinkedList<String>>

selectedData: LinkedList<LinkedList<String>>

affectedRows: int

ofmalPath: String

finalPath: String

finalPath: String o drop(String):void oc Main() o^Smain(String[]):void in fall aux. String

if Argument Validation (String String)

is setSawMethod(String) void

getIndoxODEUsed) int

getIDManago(DataBaseManagement

getISelected.inked.ist() Linked.ist<String>>

creatIDataBase(String) void

creatIDataBase(String) void

creatIDataBase(String) void

creatIDataBase(String) inked.ist<String>) void

selectAl(String) void

selectAl(String) void

selectAl(String) void

selectFromTable(String, Linked.ist<String>) void

of selectAl(String) void

of selectAl(String) void

of selectFromTable(String, String, String) void

of odelsteFromTable(String, String, String) string-Linked.ist<String>) void

of ortopEataBase(String) void

of ortopEataBase(String) void

of selectAl(String) void

selectAl(String) void

selectAl(String) void

selectAl(String) void

selectAl(String) void

selectAl(String) void

selectAl(String) void deleteAll(String):void
 saveall():LinkedList<LinkedList<LinkedList<String>>> Seriedin (Lineculas Linkedias Linkedias (Sing) >>) void
a ddCulm(Sing Sing Sing) void
a ddCulm(Sing Sing) void
a copcolum(Sing Sing) void
a copcolum(Sing Sing) void
by copied SelectedColumn(Sing Linkedias (Sing) Linkedias (Sing) void
by updat SelectedColumn(Sing Linkedias (Sing) Linkedias (Sing) void getAffecteRows():int
 selectDistinct(String LinkedList<String>):void
 selectDistinct(String LinkedList<String>):tring String +dbManage_d..1 <<Java Class>>
© DataBaseManagement
database.management IDataBase Validation
 database.management database management

oreatTable(String) void
oreatTable(String) Linked.ist<String>) void
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ore delete FromTable(String) String) String String String void
or updateTable(String) String) String String String) void
or dropDataBle(String) void
or dropDataBle(String) void
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oreatIntoTable(String) Void
oreatIntoTable(String) String) String String String) Void
oreatIntoTable(String) Vo db: String a do: string

**OtataBaseManagement()

• getDataBases():LinkedList<DataBase>

• setDataBase(String):voi

• getDatabase(String):voi

• getDatabase(String):voi

• createDataBase(String):void

• dopOtataBase(inf):void

• searchForDataBase(String):int **⊕**DataBase name: String DataBase(String)
CreateTable(String):void
GetName():String
GetTables():LinkedList<Table>
CropTable(int):void
SearchForTable(String):int -tables 0...* <<Java Class>>

G Table name: String name String

*Table(String)

o creatColumns(Linked.ist<String>.Linked.ist<String>):void

o gntName():String

getColumns(Linked.ist<Column>
o BitColumns(Linked.ist<String>):void

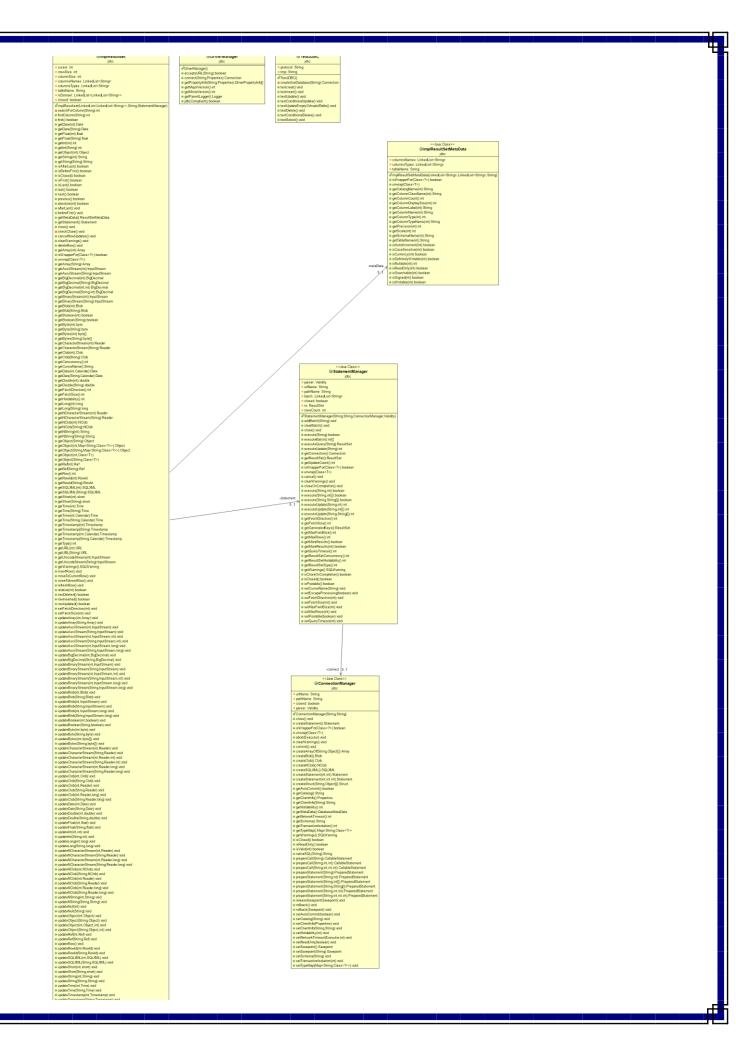
o searchir Column(String):nt

o dieletRows(Linked.ist<Object>):void

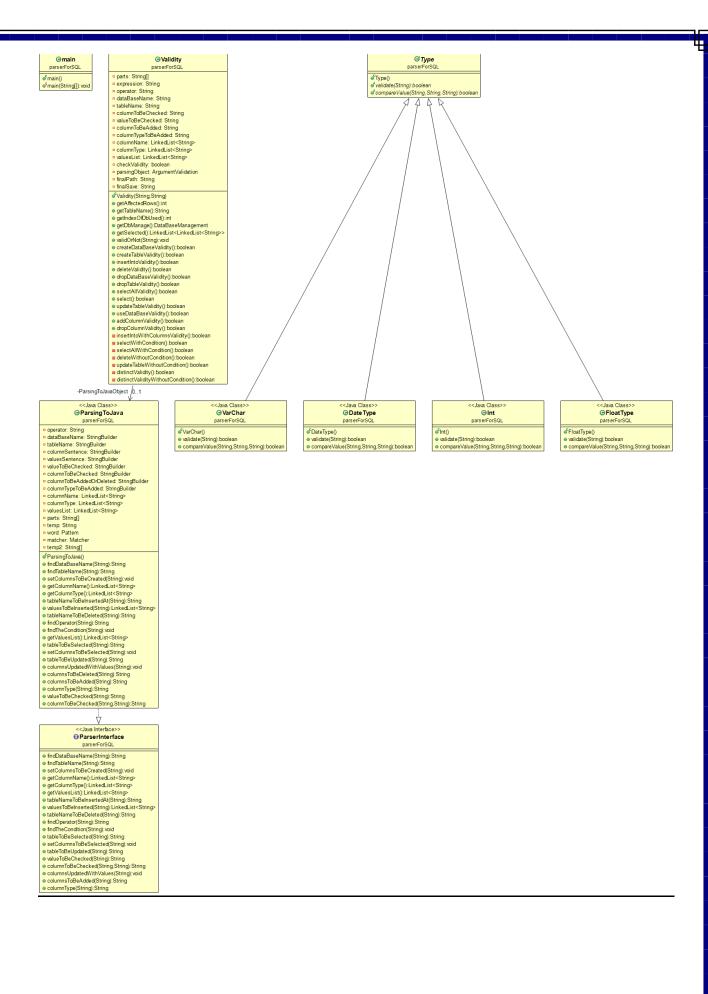
o selecterOatLinked.ist<Object>):Linked.ist<Coliget>):Linked.ist<Linked.ist<Object>):Linked.ist<Object>):Linked.ist<Object>):void

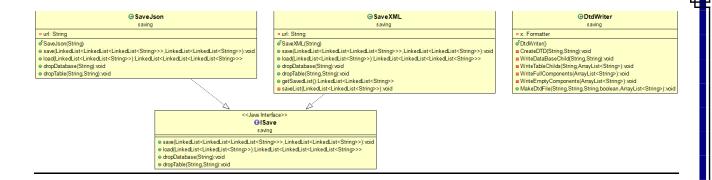
o updateRows(Linked.ist<Object>.Linked.ist<String>.Linked.ist<Object>):void -columns /0..* <<Java Class> databas e.managemen name: String
typee: String
type: Type
values: LinkedList<String> saluss: Linked.ist-String>

6*Column(String) said
getName() String)
a addString) void
getName() String
getTheName() String
getTheya() Type() String
getValuse() Linked.ist-String>
oinsertValus(String):oid
deleteValus(int) void
getRows(String String):Linked.ist-Object>
printValus(String):void
updateValue(int, String) void



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Design Decision:

- The Result set Constructor contain (Linked List<Linked List<String>>
 , Table Name) This linked List of Linked List contain the column
 Names, the column types and the values of the rows and the columns
 And then we create a linked List of string contain the table names ,
 Linked List of string contain the table types ,linked List of linked List
 Contain the values of the rows and the columns.
- The Result Set class send to the result set meta data linked List of columns names, linked list of columns types and the table name
- Type Super Class that Defines Column type, this class contains Two Methods:

Validate: check that the value the use entered is the same type like the column.

Compare Value: compare the type of the value the use entered in the where clause and the type of the column

There is four classes inherit from the super class "Type"
 Date type: create type of column "java.sql.Date"
 Float type: create type of column "Float"

Int type: create type of column "Int"

Varchar type: create type of column "Varchar"

The interface ISave

This interface contain four methods:

Save: save the data of the table to file.

Load: load the data from file to the table.

Drop table: delete the file that the data of the table are saved in it drop Database: delete the folder and all the files in it containing all the data for all tables in this data base

there is two classes implementing this interface

saveJson: save the data as a json file.

saveXml: save the data as a xml file

and the class xml call dtdwriter class that create dtd file to descripe the xml file attached to it.

The modification For The Dbms Design:

Database Management: this class have Linked List of databases

Database class: this class have Linked List of Tables and have attribute

Of this database name.

Table class: this class have Linked List of Columns and have attribute Of this table name.

Column Class: this class have Linked List of values and Have attributes

