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FACULTY OF ENGINEERING & TECHNOLOGY

BCS-503: Object Oriented Techniques

Lecture-39

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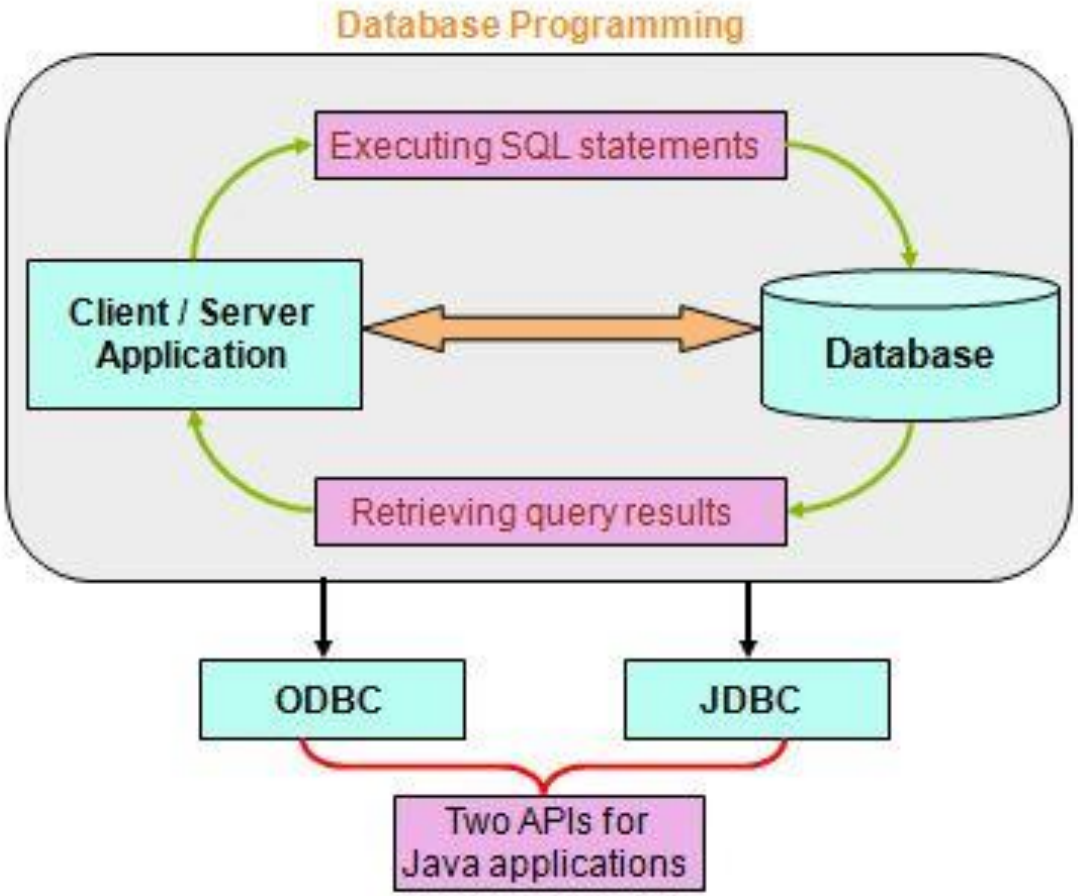
Computer Science & Engineering

OBJECTIVES

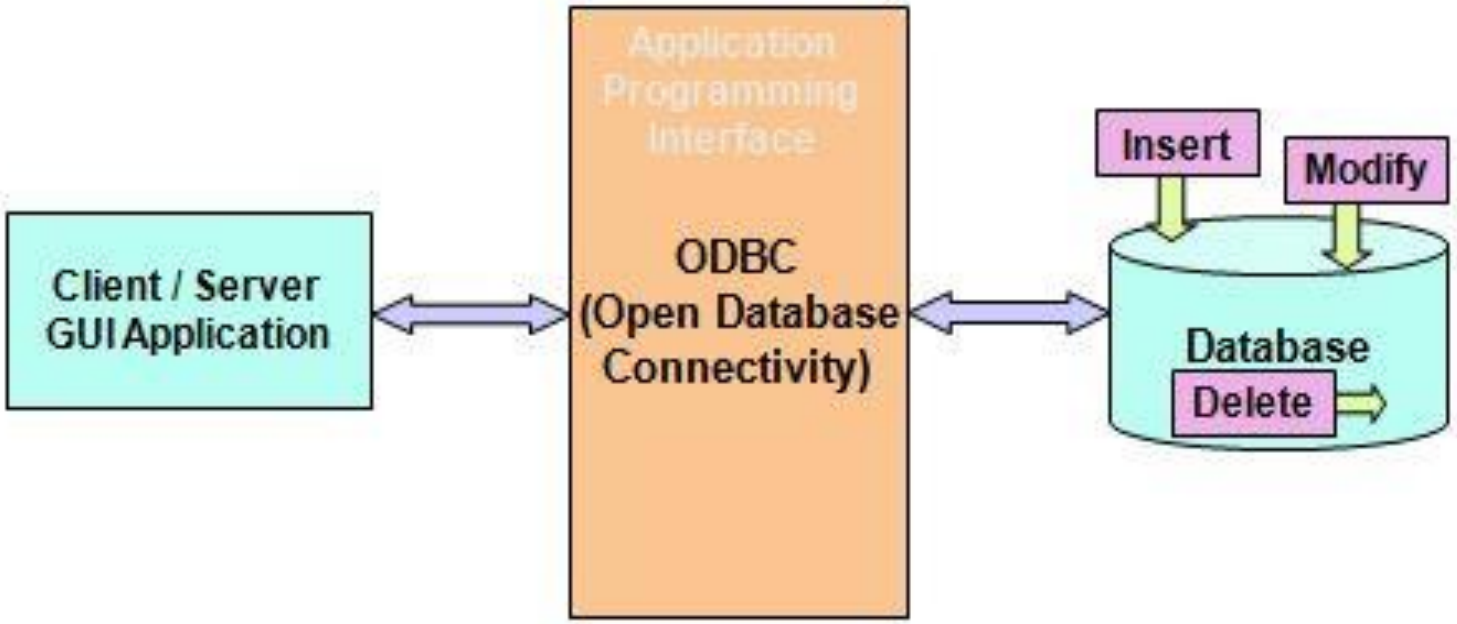
In this PPT, you will learn to:

- ❖Discuss Java Database Connectivity (JDBC)
- ❖Database
- ❖ODBC
- ❖JDBC

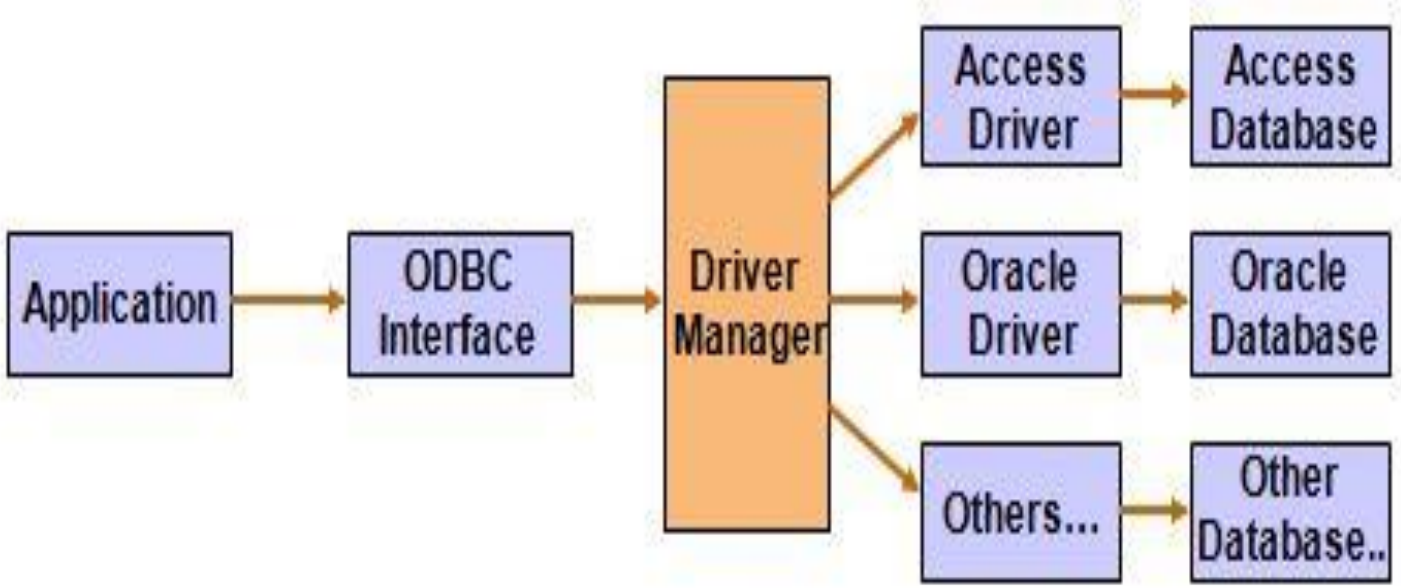
DATABASE


Database Programming
Executing SQL statements
Client / Server Application
Database
Retrieving query results
ODBC
JDBC
Two APIs for Java applications

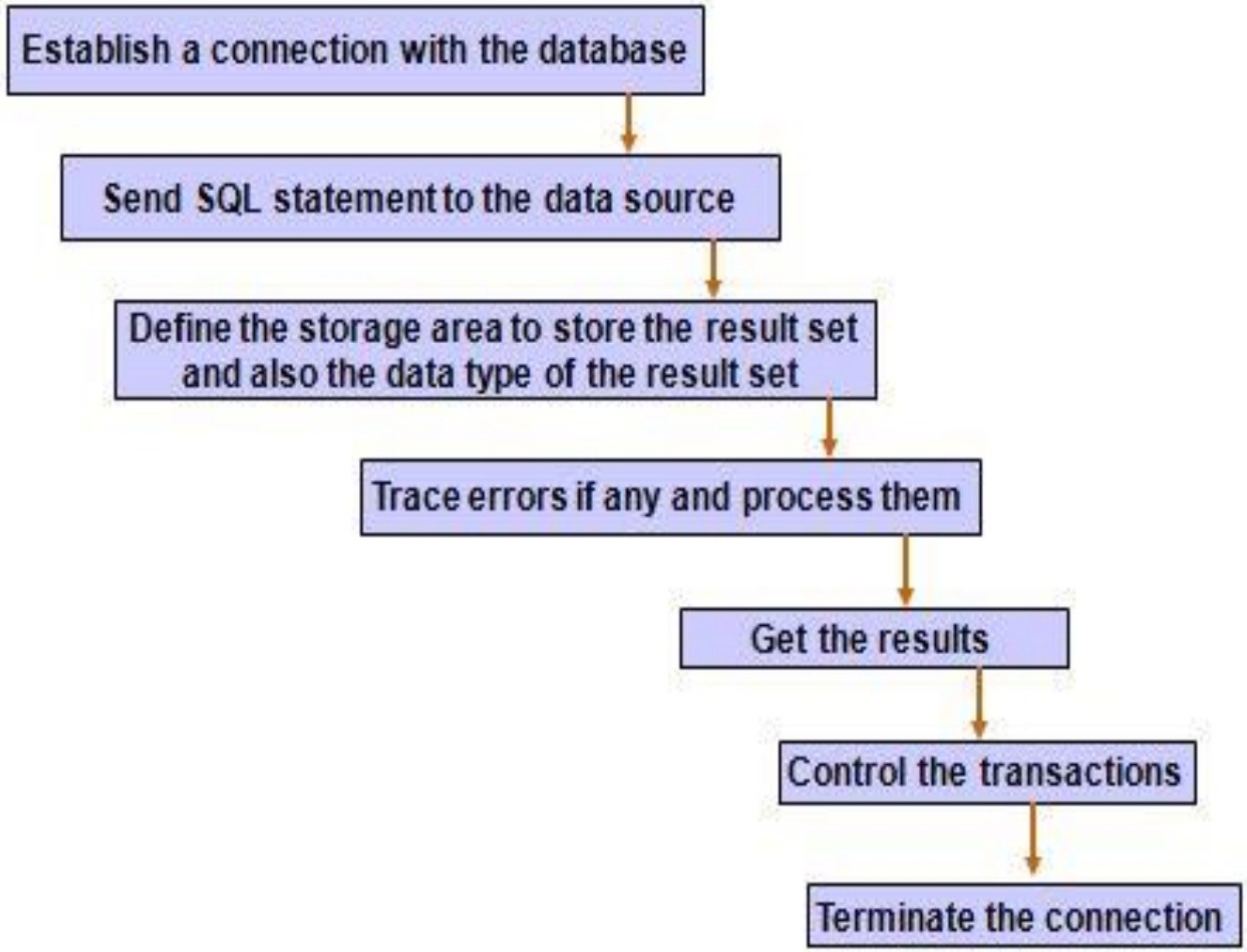
ODBC


Application Programming Interface
Client / Server GUI Application
ODBC (Open Database Connectivity)
Insert
Modify
Database
Delete

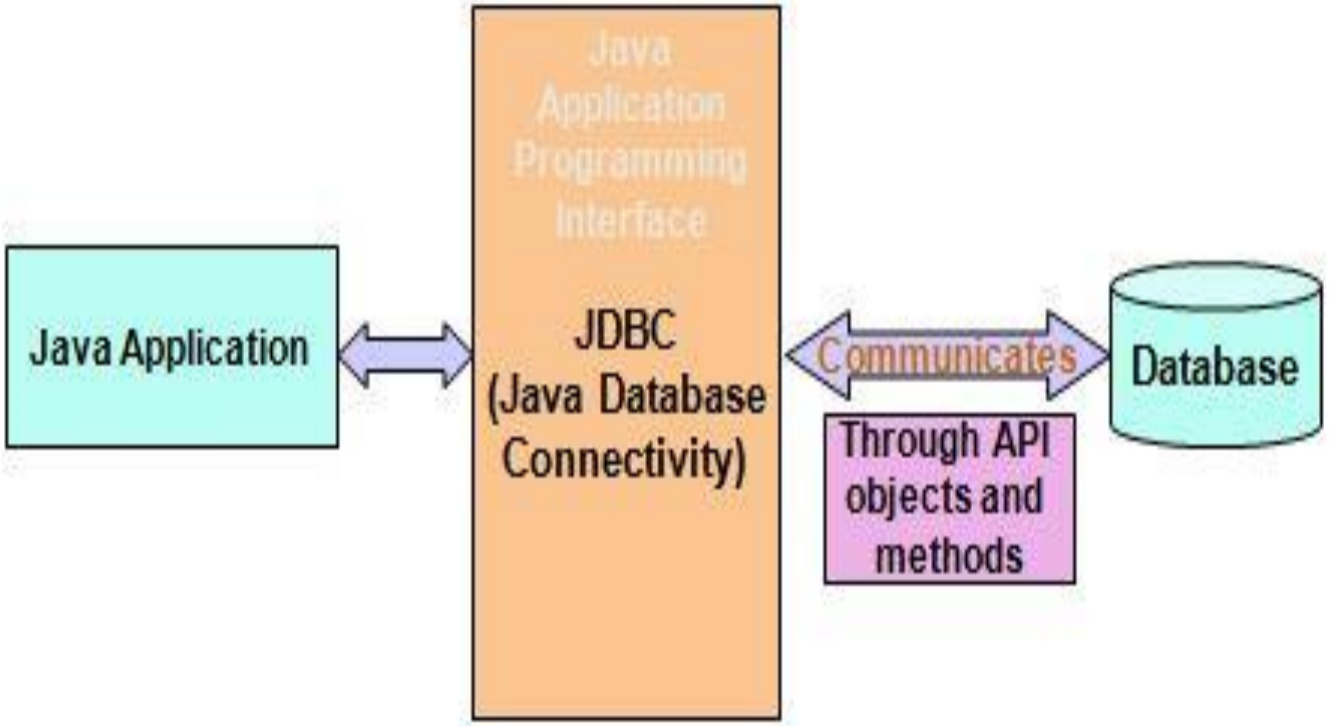
ODBC (Contd.)


Application
ODBC Interface
Driver Manager
Access Driver
Oracle Driver
Others...
Access Database
Oracle Database
Other Database..

ODBC (Contd.)


Establish a connection with the database
Send SQL statement to the data source
Define the storage area to store the result set and also the data type of the result set
Trace errors if any and process them
Get the results
Control the transactions
Terminate the connection

JDBC


Java Application
Programming Interface
Java Application
JDBC
(Java Database Connectivity)
Communicates
Through API objects and methods
Database

REFERENCES

1. James Rumbaughet. al, "Object Oriented Modeling and Design", PHI

2. Grady Booch, James Rumbaugh, Ivar Jacobson, "The Unified Modeling Language User Guide", Pearson Education

3. Naughton, Schildt, "The Complete Reference JAVA2", TMH

4. Mark Priestley "Practical Object-Oriented Design with UML", TMH

5. Booch, Maksimchuk, Engle, Young, Conallen and Houstan, "Object Oriented Analysis and Design with Applications", Pearson Education

6. Pandey, Tiwari, " Object Oriented Programming with JAVA" , Acme Learning

7. https://www.javatpoint.com/java-tutorial

8. https://www.tutorialspoint.com/java/index.htm

9. https://www.tutorialspoint.com/object_oriented_analysis_design/index.htm

10. https://www.slideshare.net/niitstudentcare/

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Multiple Choice Question:

Q1. Which of the following best describes about JDBC?

a) JDBC works like a bridge connecting a Java application to a RDBMS, execute SQL commands and return results to the application.

b) JDBC is a software component, which is both network and database independent.

c) JDBC should be installed in the same machine from where the Java application will run.

d) JDBC should be installed in the same server that of the database.

Multiple Choice Question:

Q2. Which of the following is used to access the database server at the time of executing the program and get the data from the server accordingly?

a) Embedded SQL

b) Dynamic SQL

c) SQL declarations

d) SQL data analysis

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MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q3. Which of the following header must be included in java program to establish database connectivity using JDBC ?

a) Import java.sql.*;

b) Import java.sql.odbc.jdbc.*;

c) Import java.jdbc.*;

d) Import java.sql.jdbc.*;

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Multiple Choice Question:

Q4. Which of the following is used to distinguish the variables in SQL from the host language variables?

a) .

b) –

c) :

d) ,

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Multiple Choice Question:

Q5. Which of the following is used to access large objects from a database ?

a) setBlob()

b) getBlob()

c) getClob()

d) all of the mentioned

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Summary

In this PPT, you learned that:

- Java Database Connectivity (JDBC) Application Programming Interface (API) is a part of the Java APIs provided by Sun Microsystems that defines a set of API objects and methods to interact with databases.
- The JDBC classes are present in the java.sql package and all Java programs that need to interact with databases use methods from this package. The driver is loaded into the Java interpreter using Class.forName() method.
- The driver is loaded into the java interpreter using the Class.forname method

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