PW SKILLS

# Lecture

## Hibernate(ORM)

# List of Concepts Involved:

- Hibernate Introduction
- Hibernate Architecture
- Usage of API to perform persistence operation
- Usage of Caching and Connection pooling in Hibernate

# When we already have JDBC technology, why do we need to go for Hibernate?

## Limitations of JDBC

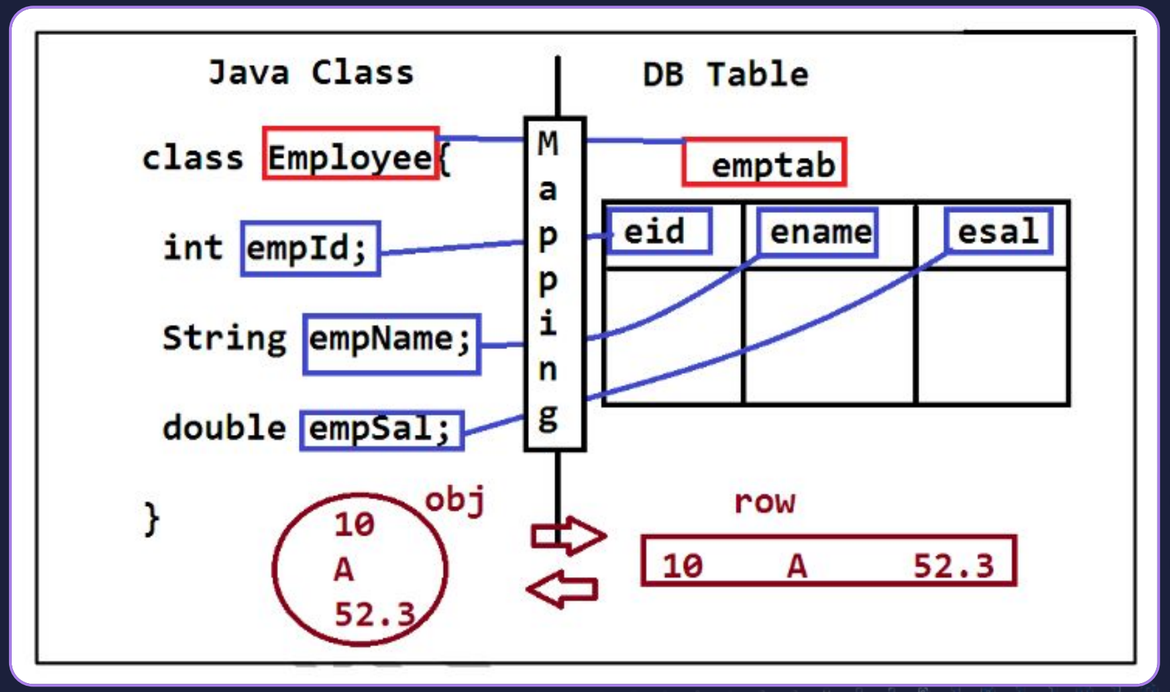
# Hibernate Introduction

- Database independent
- Standalone applications and Enterprise Applications.
- Annotations
- HQL
- Good transaction support.

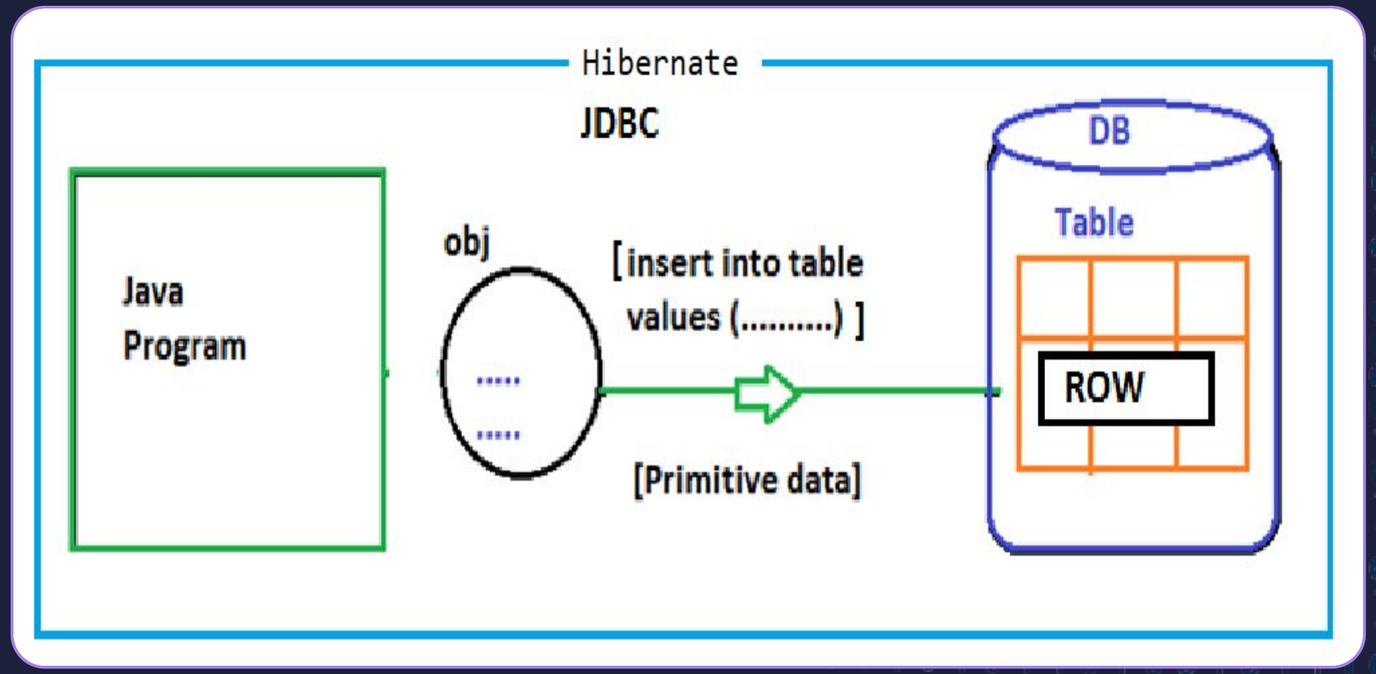
# ORM:

- **ORM stands for :** Object Relational Mapping.
- ORM says “Do not convert object data, do operations in OOPs. Format only”.

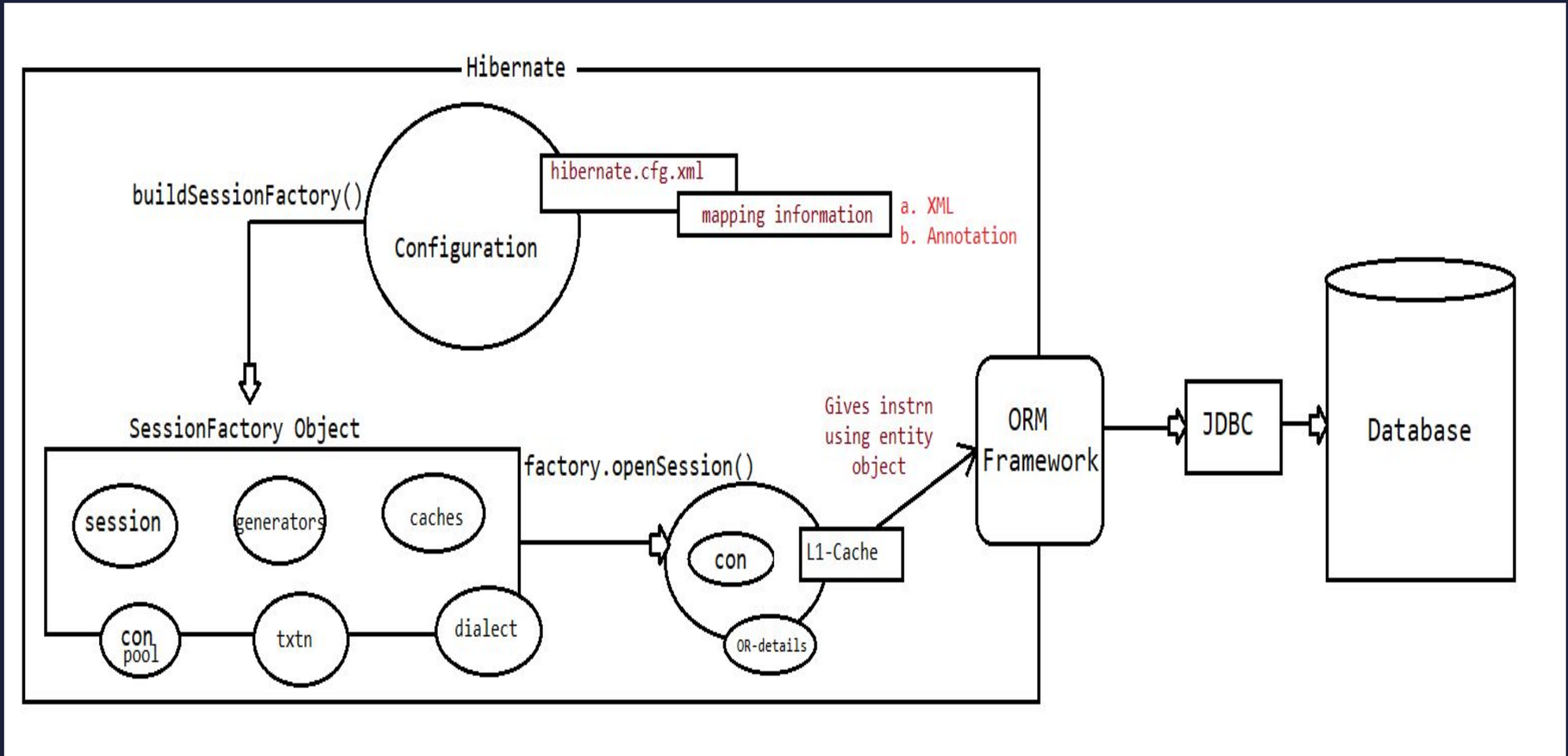
# ORM:


Java Class
DB Table
class Employee{
int empId;
String empName;
double empSal;
}
Mapping
emptab
eid
ename
esal
obj
10
A
52.3
row
10 A 52.3

# Hibernate Design



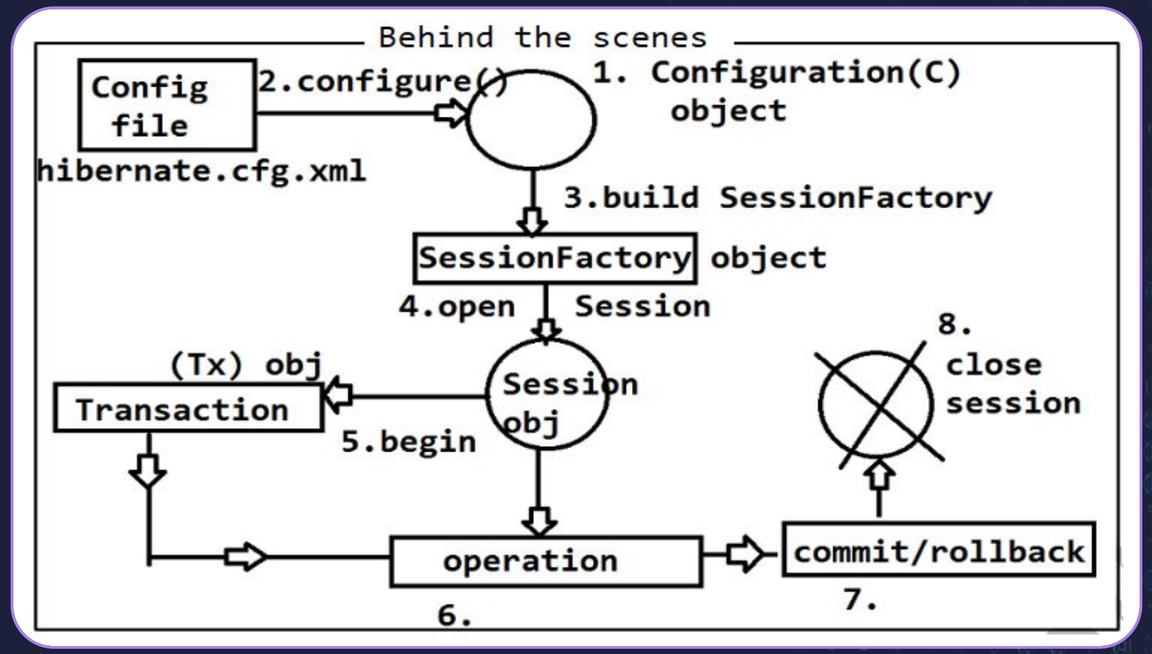
# Hibernate Architecture



# Steps to prepare Hibernate Application:

1. Prepare Persistence Class or Object.
2. Prepare Hibernate Configuration File
3. Prepare Hibernate Client Application
4. Perform Persistence Operations

# Perform Persistence Operations



# Hibernate CRUD coding Examples

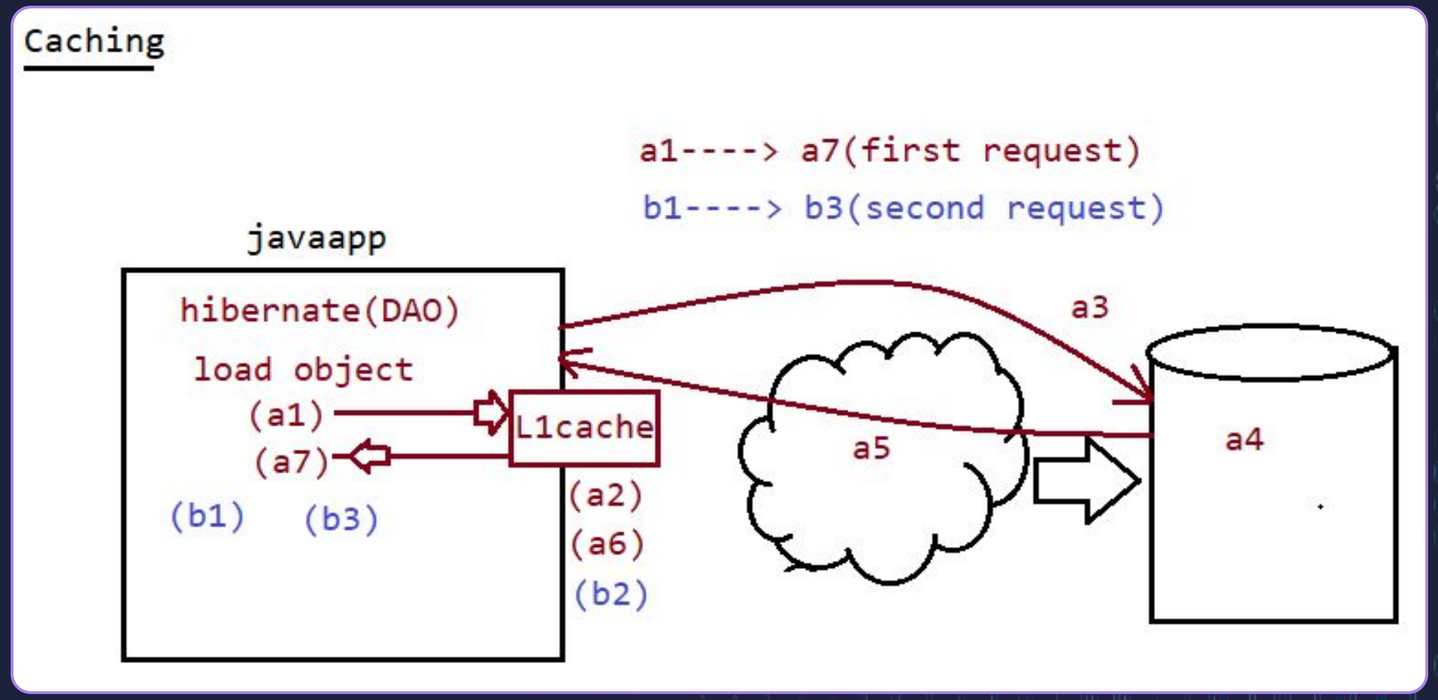
Link

# Usage of API to perform persistence operation

**When Client Application performs a persistence operation, Hibernate Software will perform the following actions.**

- Hibernate Software will take persistence method call and identify persistence Object.
- Hibernate Software will take all mapping details from a hibernate mapping file like database table name and all column names on the basis of Persistence object.
- Hibernate Software will prepare database dependent sql query on the basis of table names and column names and with the persistence object provided data.
- Hibernate Software will execute the generated database dependent sql query and perform the required persistence operation.

# Caching


Caching
a1----> a7(first request)
b1----> b3(second request)
javaapp
hibernate(DAO)
load object
(a1)
(a7)
(b1)
(b3)
L1cache
(a2)
(a6)
(b2)
a3
a5
a4

# Next Lecture

- Spring Core

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# THANK YOU