[AI]

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TY IT-1

* ASSIGNMENT - 3 *

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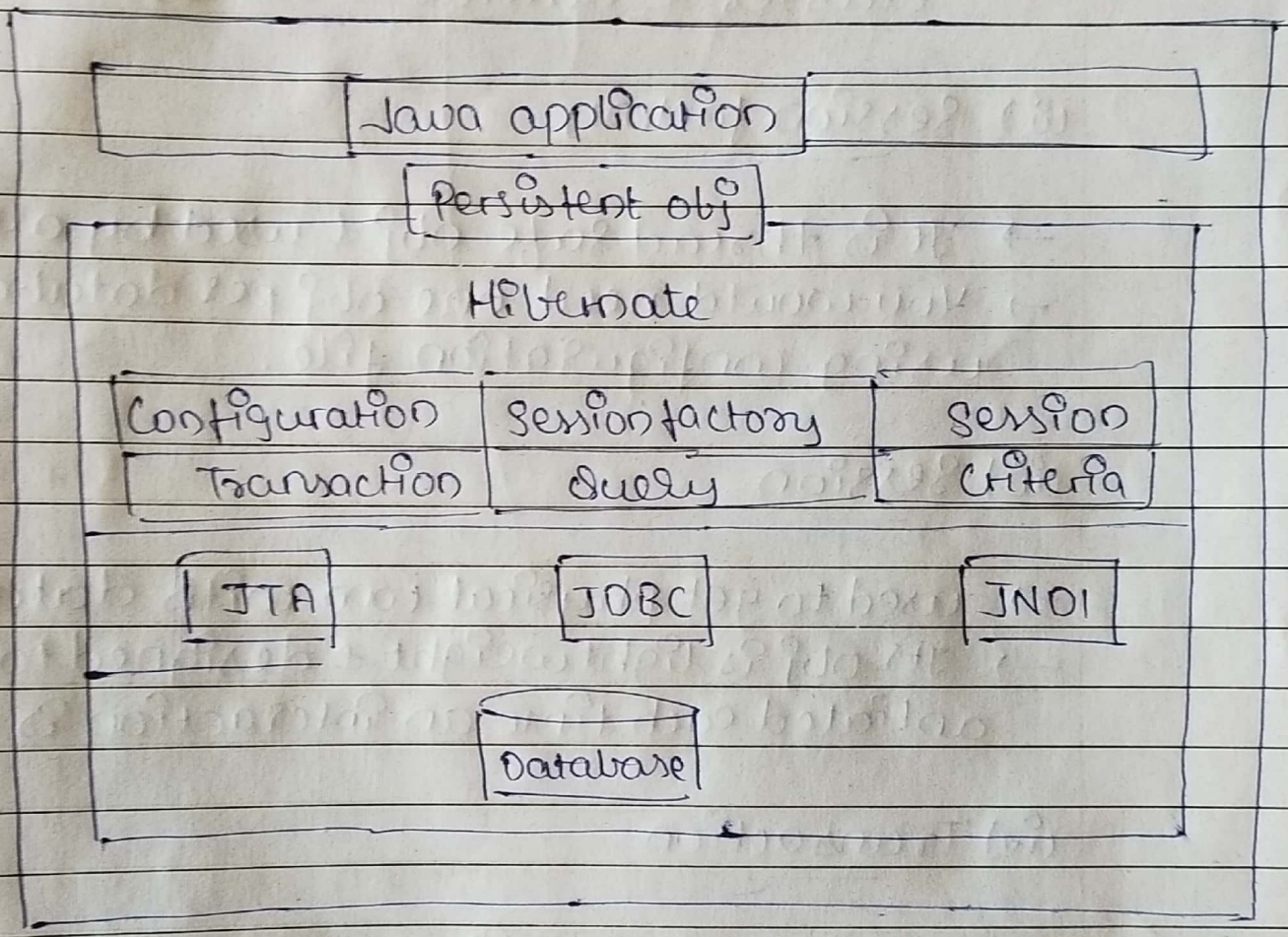
Q1. Give hibernate architecture & discuss each part.

→



a) Configuration object

→ It is first Hibernate you create in any hibernate application.
→ It is usually created only once (initialization)
→ Two key components:
- Database connection
  - handled by config files hibernate.properties and hibernate.cfg.xml.

- class mapping setup
  - This component creates connection java classes & database tables.

(ii) Session factory

→ It is thread safe obj & used by all threads.
→ You would need one obj per database using configuration file.

(iii) Session

→ used to get physical conn with database
→ Its obj is lightweight & designed to be instantiated each time an interaction is needed.

(iv) Transaction

→ It represents a unit of work with db & most of RDBMS supports transaction functionality
→ Transaction in hibernate are handled by an underlying trans° manager from JDBC/JTA

(v) Query

→ Its obj use SQL or HQL string to retrieve data from db & create objects bind query parameter,
→ Query instance is used to create & execute/obj operation/ finally execute query.

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(vi) Criteria

→ It obj are used to create & execute obj oriented criteria queries to retrieve objects

Q2. What is HQL? How does it differ from SQL? Give its advantages.

→ The Hibernate ORM framework provides its own query language Hibernate Query language

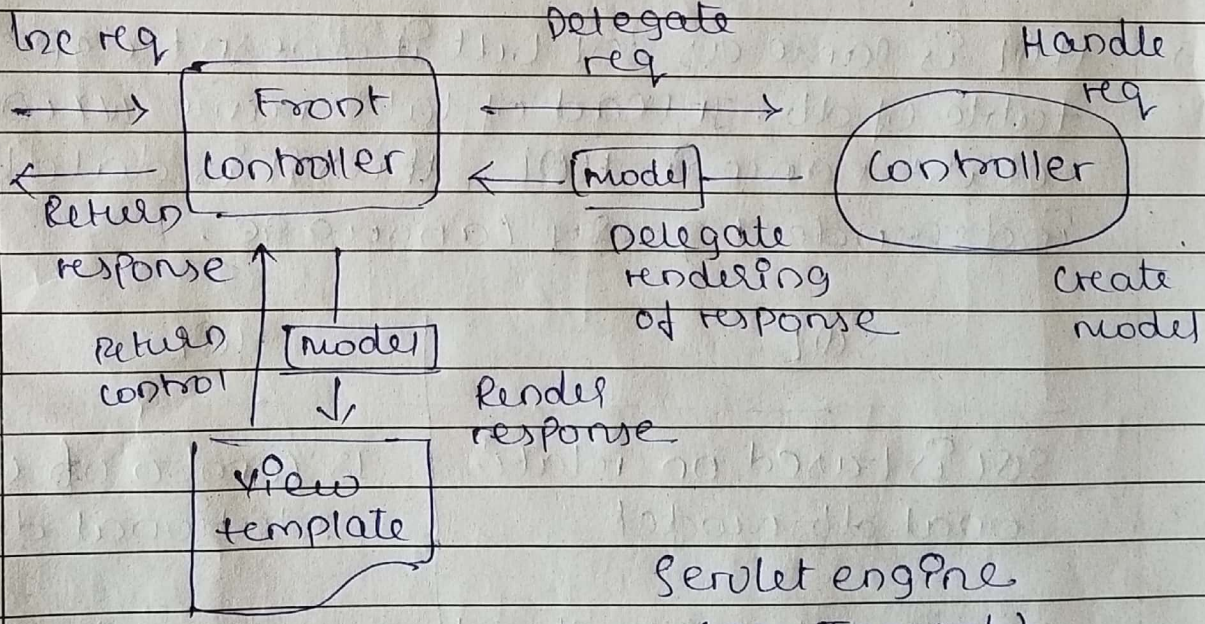
→ HQL is same as SQL but it doesn't depend on table of db. Instead of table name we use class name in HQL., thus it is database independent query language.

SQL	HQL
SQL is based on relational db model	Is combo of OOP with relational db concept
Manipulates data stored in table & modify	Is concerned about obj & its properties
concerned abt rel^n exists bet^n two tables	consider rel^n between two objects

Adv. of HQL

- Provide full support for rel° operations.
- Returns results as objects.
- Support polymorphic queries
- Easy to learn & use
- Support for adv features.
- Provide db Independency

Q3. Explain MVC architecture in detail with figure

→ 

MVC Architecture

→ Spring's web MVC framework is, like many other web MVC frameworks, request-driven, designed around central servlet that dispatches req to

controller & offer other functionality that facilitate development of web applications.

Adv.

(i) Predefined Templates
(ii) Loose coupling
(iii) Easy to test
(iv) Light weight
(v) Fast Development
(vi) Declarative Support
(vii) Hibernate & JDBC Support
(viii) MVC architecture & JavaBean Support

Features

(i) Inversion of control (IOC) container.
(ii) Data Access framework
(iii) Transaction Management
(iv) Spring web services.

Q4. Write short note on i) JSF facelets (ii) JSF Stnd Components.

→ JSF Facelets

→ JSF provide special tags to create common layout for web app called facelet tags.

→ Provide flexibility to manage common part of multiple pages at one place
→ For these tags,
< html xmlns = "http://www.w3.org/1999/xhtml"
xmlns:ui = "http://java.sun.com/jsf/facelets" >
Eg. ui:insert, ui:define, ui:composition.

→ features

- Uses XHTML
- Support Expression language
- .xhtml instead of .jsp
- Faster than using JSP.
- high performance rendering.

(ii) JSF Std components

- h:inputText - HTML input of type = "text"
- h:inputSecret - HTML input of type = "password"
- h:inputHidden - HTML input of type = "hidden"
- h: selectMany checkbox - a grp of HTML checkboxes.
- h: selectOneRadio.
- h: outputText - HTML text
- h: commandButton - HTML input of type = "submit" button
- h: link - HTML anchor
< h: link value = "Page 1" outcome = "page1" />