2. It provides basic libraries to develop an application .

Q What is technology ?

A.

1. In the case of technology, developers can write the code or apply on the fly because it provides a ready made platform .

Q. What is the framework ?

A.

1. Framework is a fully finished product .
2. It provides a huge number of libraries to develop high scale applications.

Q. What are the drawbacks of jdbc ?

A.

1. Jdbc code is database software dependent.
2. It means if we change database then we have to change persistence logic
3. Switching from one database to another database is very complex process
4. Exception handling is mandatory at the time of development of persistence logic.
5. In jdbc you need to represent every sql query as a string value.
6. Translation management is very weak in the case of jdbc .

Q. What is ORM ?

A.

1. ORM stands for object relational mapping
2. ORM tools simplify the data manipulation , data creation and data retrieval.
3. ORM tool is use to map object of the classes with data stored inside the data
4. In this process we have to map data members of the class with columns of the database table .
5. One object will be considered as one record of the database table

Q. Explain hibernate definition ?

A.

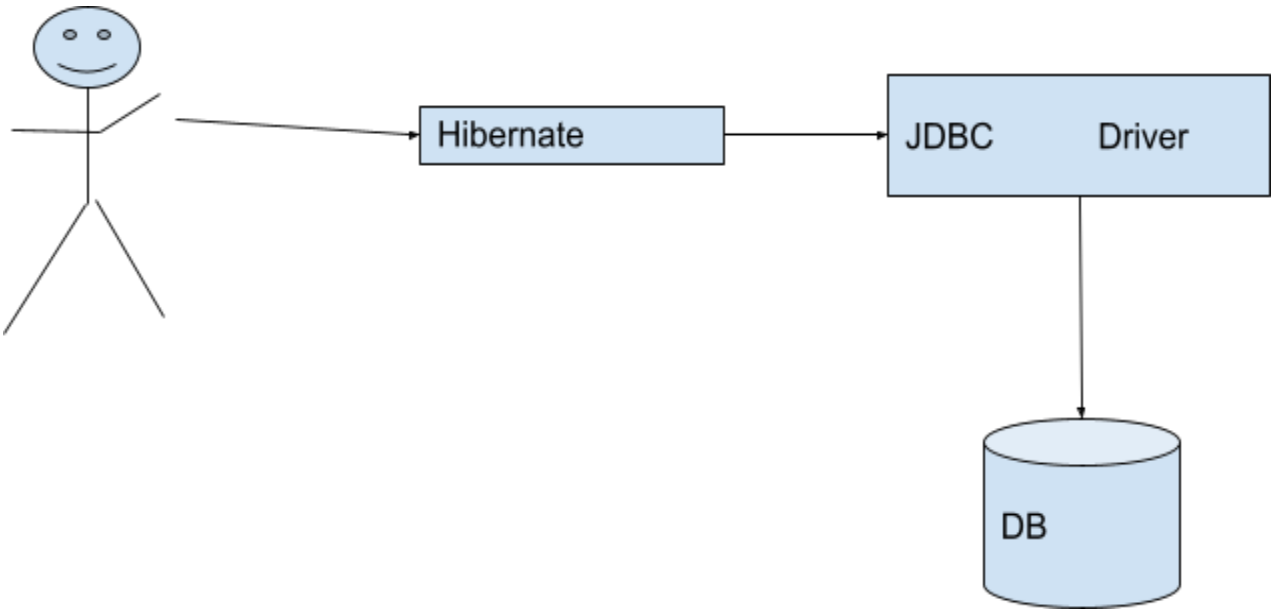
1. Hibernate is an open source lightweight ORM framework
2. Hibernate is used to develop database software independent persistence logic
3. Open source does not mean free of cost but also source code available

4. Hibernate is a light weight because it is small in size and has no need for a heavy surface .

Q. Explain the advantage of OR map ?

A.

1. OR map is database software independent .
2. We can easily change database software .
3. Exception handling is not mandatory .
4. We can represent information in terms of objects without converting them into sql query .
5. Persistence logic is portable across multiple database platforms .



Q. Explain utilization of Hibernate framework and jdbc technology ?

A. Hibernate utilization

1. Hibernate is use to process huge amount of data comping part by part
2. It is not applicable to process huge amount of data which is coming batch by batch because for every single record every single object will be created

Example :

a. Is we want to store the 5000 record hibernate will store

B. jdbc utilization

1. Jdbc is use to process huge amount of data coming batch by batch

2. Jdbc can manage multiple record in a single object

Q. What is the difference between POJO and POJI?
A. POJO (Plain Old Java Object)

1. The java class which does not extends or implement the property of advance api classes and interfaces is known as plain old java object
2. POJO class is a simple java class without any speciality
   Example :
   1. class Demo {

      _____
      _____//POJO
      }
   2. class Demo extends HttpServlet {

      _____
      _____//X POJO
      }

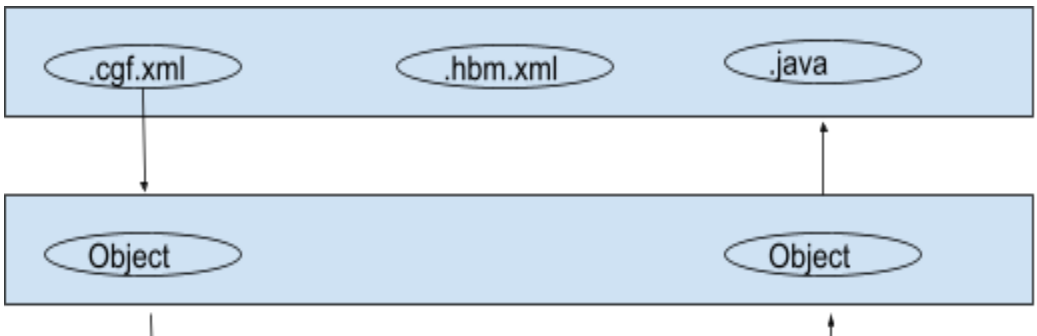
B. POJI

1. The interface does not extend the property of api interfaces; they are known as plain old java interfaces .
2. POJI means an interface without any speciality
   Example :
   3. interface Demo {

      _____
      _____//POJO
      }
   4. interface Demo extends Servlet {

      _____
      _____//X POJI
      }

Hibernate Architecture



1. Hibernate applications have to follow hibernate architecture .
2. Hibernate architecture contain different layer
    a. Developer layer
        i. Developer is responsible to create following types of file
            1. .java file
            2. .hbm.xml file
            3. .cfg.xml file
    b. Object layer
        i. Developer will represent information in terms of object which is understandable for hibernate
        ii. Hibernate provide the response in terms of object
    c. Framework layer

        i. Hibernate is responsible to convert object oriented information into jdbc format as well as jdbc information will be converted into object format
    d. Technology layer
        i. Hibernate internally uses jdbc technology to communicate with database
    e. Database layer
        i. Jdbc technology communicate with database by using driver software

Q. Explain the different files which are required to develop hibernate application
A.

1. Configuration file (.cfg.xml)
    a. Configuration file is the master file of hibernate logic
    b. This file contain the information about the database
        i. Example
            1. Url
            2. Username
            3. Password
    c. One database will have only one configuration file
2. Mapping file (.hbm.xml)
    a. Mapping file contains the database table information
    b. For every database table separate file need to be created
3. Source file (.java)
    a. Java file contains the POJO class
    b. We have to develop persistence logic by using java file
    c. Multiple java file need to be created based on database tables

No of database = no of .cfg.xml file
No of tables = no of .java files
No of tables =no of .hbm.xml files

Q. Explain an important object of the hibernate file ?
A.

1. To develop hibernate operation we have to use following object
    a. Configuration

b. SessionFactory
c. Session
d. Transaction

Configuration object :

1. It is an object of configuration class which is declared inside org.hibernate.cfg package
2. This object is responsible to activate the hibernate framework
3. Configuration object responsible to be hibernate mapping file data on configuration file data
4. Following is the process to read data from configuration file
    a. Configuration cfg = new Configuration();
    b. cfg=cfg.configure(“location of cfg file ”);

SessionFactory object

1. Session factory objects collect the metadata from the configuration file and establish the connection with the database .
2. SessionFactory object is responsible to create database platform
3. Create the database platform we have to use following method
    c. SessionFactory factory= cfg.buildSessionFactory();

Session object

1. Session is an interface declared inside the org.hibernate.cfg package
2. Session object is responsible to perform persistence object
    Example :
        Insert , update , select
3. Session interface has provided several inbuilt operation to perform operation
    a. ses.save()
    b. ses.update()
    c. ses.delete()
    d. ses.load()
4. To perform operation we have to start new session
    Session ses=factory.openSession

Transaction object

1. Translation is an interface declared inside the org.hibernate.cfg package
2. Transaction object responsible to commit and rollback DML operation
3. It's not mandatory to use transaction object for DML operation

4. In order to start the transaction we have to use following method

```
Transaction tx = ses.beginTransaction();
```

Q. explain the steps to create hibernate project ?

A.

1. In order to develop hibernate application we have to follow some steps
    a. Create a new java project or maven project .
    b. Add required library JAR files or add dependency if project is a maven project
    c. Create new package to store java files and cfg files
    d. Create cfg.xml file
    e. Create domain class(pojo class)
    f. Create mapping file
    g. Create main class to run hibernate project

Q. Explain hibernate annotations ?

A.

1. Hibernate annotation are also known as JPA (java persistence API)
2. Annotation are the pre prossores which will be executed at the time of compilation or execution
3. Annotation Provide additional information about class or interface
4. Following are the basic annotation of hibernate
    a. @Entity
        i. It represent the java class which is eligible for mapping
    b. @Table
        i. It represent the database table which has to be map with java class
    c. @Id
        i. It represent a data member which is going to remap with the primary key of table
    d. @Column
        i. It represent data member which is going to remap with a secondary column of table

Q. What are hibernate generation strategies ?

A.

1. hibernate generation strategies are use to generate primary key value
2. Hibernates provides different strategies which can e use to generate primary ket
    a. GenerationType:AUTO
    b. GenerationType:IDENTITY
    c. GenerationType:SEQUENCE
    d. GenerationType:TABLE

GenerationType: AUTO

1. This is the default generation type it can be use to generate primary key
2. This generation type uses anyone strategy from the available options to generate primary key
3. If hibernate is the data base member then internally uses SEQUENCE strategy

GenerationType:IDENTITY

1. If database member support auto increment feature the we can use GenerationType:IDENTITY

GenerationType:SEQUENCE

1. This is the most commonly use generation strategies
2. If database vendor does not support Auto increment the we have to use generationType : SEQUENCE
3. In case of this strategy sequence of primary key will be maintain in a separate table
4. So at the time of inserting new record one extra query will be selected

GenerationType: TABLE

1. This is rarely use generation strategy for the generation of
2. This strategy simulates the sequence and storing the primary key into a separate table
3. It required the use of a pessimistic lock which slows down the process.

Q. What is HQL ?

1. HQL stands for hibernate query language
2. This is the own language of hibernate framework which can be use to perform database operation

3. It is mainly use to perform bulk operation
   Example :- selecting multiple record , updating multiple record or deleting multiple record
4. HQL is object oriented query language hence it is database independent
5. HQL is similar to SQL only the difference is that SQL operates on database table where as HQL operates on domain classes
6. HQL is more powerful then SQL

Q. WHat is HCQL stands for ?

1. HCQL stands for hibernate Criteria query language .
2. It is an extension of HQL
3. HCQL can be use to fetch the record based on specific criteria
4. We can apply different restriction with the help of method of criteria interface
5. Criteria interface is declared inside the org.hibernate package

Q. Explain hibernate advance mapping ?

A.

1. Hibernate advance is used to fetch the data from the multiple tables
2. There are three type of mapping
   a. One to one
   b. Many to one or one to many
   c. Many to many
3. One to One

pass_id	pass_no	country

persone_id	name	age	pass_ref

4. One to many

coustomer_id	coust_name	cost_email

order_id	order_no	coust_ref

5. Many to many

student_id	student_name	email

stud_id	course_id

course_id	name	code

Q. Explain hibernate cascade type ?
A.

1. Object level relationship always depends on the existence of another entity
2. When we perform any action on target entity the same action will be applied to the associated entity
3. This process is known as cascading .
4. Following are the cascade type
    a. CascadeType.PERSIST → save
    b. CascadeType.REMOVE →delete
    c. CascadeType.REFRESH →display
    d. CascadeType.MERGE
    e. CascadeType.DETACH
    f. CascadeType.ALL
5. Step to develop hibernate one to one application
    a. Create a database table and built the relationship
    b. Create a configuration file
    c. Create a domain class for Passport
    d. Create a domain class for Person
    e. Create a main application to save details

Hibernate Inheritance strategy

1. Hibernate inheritance strategy are use to store object inheritance data into database table
2. In hibernate we can manage inheritance mapping by using three strategy
    a. single table strategy
    b. Table per class strategy
    c. Join table strategy

Spring

Q. What is Spring ?

A.

1. Spring is an open source application framework for java platform
2. It is a popular framework for building enterprise application
3. Spring framework is used to integrate different component in java application