Top 50 J2EE interview questions & Answers

1) What is J2EE?

J2EE means Java 2 Enterprise Edition. The functionality of J2EE is developing multitier web-based applications. The J2EE platform is consists of a set of services, application programming interfaces (APIs), and protocols.

2) What are the four components of J2EE application?
- Application clients components.
- Servlet and JSP technology are web components.
- Business components (JavaBeans).
- Resource adapter components

3) What are types of J2EE clients?
- Applets
- Application clients
- Java Web Start-enabled clients, by Java Web Start technology.
- Wireless clients, based on MIDP technology.

4) What is considered as a web component?

Java Servlet and Java Server Pages technology components are web components. Servlets are Java programming language that dynamically receives requests and makes responses. JSP pages execute as servlets but allow a more natural approach to creating static content.

5) What is JSF?

JavaServer Faces (JSF) is a user interface (UI) designing framework for Java web applications. JSF provides a set of reusable UI components, a standard for web applications. JSF is based on MVC design pattern. It automatically saves the form data to the server and populates the form date when display on the client side.

6) Define Hash table

HashTable is just like Hash Map, Collection having a key(Unique), value pairs. Hashtable is a collection Synchronized object. It does not allow duplicate values or null values.

7) What is Hibernate?

Hibernate is an open source object-relational mapping and query service. In hibernate we can write HQL instead of SQL which save developers to spend more time on writing the native SQL. Hibernate has a more powerful association, inheritance, polymorphism, composition, and collections. It is a beautiful approach for persisting into the database using the Java objects. Hibernate also allows you to express queries using Java-based criteria.

8) What is the limitation of hibernate?
- Slower in executing the queries than queries are used directly.
- Only query language support for composite keys.
- No shared references to value types.

9) What are the advantages of hibernate?
- Hibernate is portable i mean database independent, Vendor independence.
- Standard ORM also supports JPA
- Mapping of the Domain object to the relational database.
- Hibernate is better than plain JDBC.
- JPA provider in JPA based applications.

10) What is ORM?

ORM stands for Object-Relational mapping. The objects in a Java class which is mapped into the tables of a relational database using the metadata that describes the mapping between the objects and the database. It works by transforming the data from one representation to another.

11) Difference between save and saveorupdate

save() – This method in Hibernate is used to stores an object in the database. It inserts an entry if the record doesn't exist, otherwise not.

saveorupdate () -This method in the hibernate is used for updating the object using identifier. If the identifier is missing this method calls save(). If the identifier exists, it will call update method.

12) Difference between load and get method?

load() can't find the object from cache or database, an exception is thrown, and the load() method never returns null.

get() method returns null if the object can't be found. The load() method may return a proxy instead of a real persistent instance get() never returns a proxy.

13) How to invoke a stored procedure in hibernate?

{ ? = call thisISTheProcedure() }

14) What are the benefits of ORM?
- Productivity
- Maintainability
- Performance
- Vendor independence

15) What are the Core interfaces of Hibernate framework?
- Session Interface
- SessionFactory Interface
- Configuration Interface
- Transaction Interface
- Query and Criteria Interface

16) What is the file extension used for hibernate mapping file?

The name of the file should be like this: filename.hbm.xml

17) What is the file name of hibernate configuration file?

The name of the file should be like this: hibernate.cfg.xml

18) How Hibernate is database independent explain?

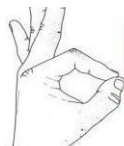Only changing the full property full database can be replaced.

```
1 <property name="hibernate.dialect">org.hibernate.dialect.Oracle9Dialect</property> and
2
3 <property name="hibernate.connection.driver_class">oracle.jdbc.driver.OracleDriver</property>
```

19) How to add Hibernate mapping file in hibernate configuration file?

By <mapping resource=" filename.hbm.xml"/>

20) Define connection pooling?

Connection pooling is a mechanism reuse the connection which contains the number of already created object connection. So whenever it is necessary for an object, this mechanism is used to get objects without creating it.

21) What is the Hibernate proxy?

An object proxy is just a way to avoid retrieving an object until you need it. Hibernate 2 does not proxy objects by default.

22) What do you create a SessionFactory?

```
1  Configuration cfg = new Configuration(); cfg.addResource("dir/hibernate.hbm.xml"); cfg.setProperties(
   System.getProperties() ); SessionFactory sessions = cfg.buildSessionFactory();
```

23) What is HQL?

HQL stands for Hibernate Query Language. Hibernate allows to the user to express queries in its portable SQL extension, and this is called as HQL. It also allows the user to express in native SQL.

24) What are the Collection types in Hibernate?

Set, List, Array, Map, Bag are collection type in Hibernate.

25) What is a thin client?

A thin client is a program interface to the application that does not have any operations like the query of databases, execute complex business rules, or connect to legacy applications.

26) Differentiate between .ear, .jar and .war files.
.jar files: These files are with the .jar extension. The .jar files contain the libraries, resources and accessories files like property files.
.war files: These files are with the .war extension. The .war file contains JSP, HTML, javascript and other files necessary for the development of web applications.
.ear files: The .ear file contains the EJB modules of the application.
27) What is the JSP tag?

In JSP tags can be divided into four different types.

- Directives
- Declarations
- Scriplets
- Expressions

28) How to access web.xml init parameters from JSP page?

For example, if you have:
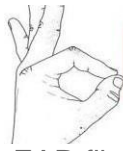<context-param> <param-name>Id</param-name> <param-value>this is the value</param-value></context-param>
You can access this parameter
Id: <h:outputText value="#{initParam['Id']}"/>

29) What are JSP Directives?
- 1.page Directives <%@page language="java" %>
- 2. include Directives: <%@ include file="/header.jsp" %>
- 3. taglib Directives <%@ taglib uri="tlds/taglib.tld" prefix="html" %>
30) What is the EAR file?

An EAR file is a JAR file with an .ear extension. A J2EE application with all of its modules is delivered in an EAR file.

31) What will happen when you compile and run the following code?

1   public class MyClass { public static void main(String argv[]){ int array[]=new int[]{1,2,3}; System.out.println(array [1]); } } Answer: Compiled and shows output : 2

32) What are Struts?

Struts framework is a Model-View-Controller(MVC) architecture for designing large-scale applications. It is a combination of Java Servlets, JSP, Custom tags, and message. Struts help you to create an extensible development environment for your application, based on published standards and proven design patterns. Model in many applications represents the internal state of the system as a set of one or more JavaBeans.The *View* is most often constructed using JavaServer Pages (JSP) technology.The Controller is focused on receiving requests from the client and producing the next phase of the user interface to an appropriate View component. The primary component of the Controller in the framework is a servlet of class `ActionServlet`. This servlet is configured by defining a set of `ActionMappings`.

33.What is ActionErrors?

ActionErrors object that encapsulates any validation errors that have been found. If no errors are found, return null or an ActionErrors object with no recorded error messages.The default implementation attempts to forward to the HTTP version of this method. Holding request parameters mapping and request and returns set of validation errors, if validation failed; an empty set or null

34) What is ActionForm?

ActionForm is a Java bean that associates one or more ActionMappings. A java bean become FormBean when extend org.apache.struts.action.ActionForm class. ActionForm object is automatically populated on the server side which data has been entered by the client from UI. ActionForm maintains the session state for a web application.

35) What is action mapping??

In action mapping, we specify action class for particular URL ie path and different target view ie forwards on to which request response will be forwarded.The **ActionMapping** represents the information that the **ActionServlet** knows about the mapping of a particular request to an instance of a particular **Action** class.The *mapping* is passed to the *execute()* method of the **Action** class, enabling access to this information directly.

36) What is the MVC on struts?

MVC stands Model-View-Controller.

Model: Model in many applications represent the internal state of the system as a set of one or more JavaBeans.
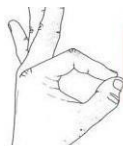
View: The *View* is most often constructed using JavaServer Pages (JSP) technology.

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37) What are different modules in spring?

There are seven core modules in spring

- The Core container module
- O/R mapping module (Object/Relational)
- DAO module
- Application context module

- Aspect Oriented Programming
- Web module
- MVC module

38) What is Bean Factory, have you used XMLBean factory?

1 XmlBeanFactory is one of the implementation of bean Factory
org.springframework.beans.factory.xml.XmlBeanFactory is used to creat bean instance defined in our xml file.
BeanFactory factory = new XmlBeanFactory(new FileInputStream("beans.xml")); Or ClassPathResource resorce
= new ClassPathResource("beans.xml"); XmlBeanFactory factory = new XmlBeanFactory(resorce);

39) What is Spring?

Spring is a lightweight open source framework for the development of enterprise application that resolves the complexity of enterprise application development is also providing a cohesive framework for J2EE application development which is primarily based on IOC (inversion of control) or DI (dependency injection) design pattern.

40) What is the functionality of ActionServlet and RequestProcessor?
- Receiving the HttpServletRequest
- Populating JavaBean from the request parameters
- Displaying response on the web page Issues
- Content type issues handling
- Provide extension points

41) ActionServlet, RequestProcessor, and Action classes are the components of

Controller

42) What is default scope in Spring?

Singleton.

43) What are advantages of Spring usage?
- Pojo based programming enables reuse component.
- Improve productivity and subsequently reduce development cost.
- Dependency Injection can be used to improve testability.
- Spring required enterprise services without a need for the expensive application server.
- It reduces coupling in code and improves maintainability.

44) What are the Benefits Spring Framework?
- Lightweight container
- Spring can effectively organize your middle tier objects
- Initialization of properties is easy. No need to read from a properties file
- application code is much easier to unit test
- Objects are created Lazily, Singleton – configuration
- Spring's configuration management services can be used in any architectural layer, in whatever runtime environment

45) Lifecycle interfaces in spring?

1 1) InitializingBean <bean id="expInitBean" init-method="init"/> public class ExpBean { public void init() { // do some initialization code } } OR <bean id=" expInitBean "/> public class ExpBean implements InitializingBean { public void afterPropertiesSet() { // do some initialization code } } 2) DisposableBean <bean id="expInitBean" destroy-method="cleanup"/> public class ExpBean { public void cleanup() { // do some destruction code (like releasing pooled connections) } } OR <bean id="expInitBean"/> public class ExpBean implements DisposableBean { public void destroy() { // do some destruction code (like releasing pooled connections) } }

46) How to Create Object without using the keyword "new" in java?

Without new, the Factory methods are used to create objects for a class. For example
Calender c=Calender.getInstance();
Here Calender is a class, and the method getInstance() is a Factory method which can
create an object for Calendar class.

47) What is a servlet?

Servlets is a server-side component that provides a powerful mechanism for developing
server side programs. Servlets is a server, as well as platform-independent and Servlets, are
designed for various protocols. Most commonly used HTTP protocols. Servlets use the
classes in the java packages javax.servlet, javax.servlet.http.HttpServletRequest,
javax.servlet.http.HttpServletResponse, javax.servlet.http.HttpSession;. All servlets must
implement the Servlet interface, which defines life-cycle methods.

48) Servlet is pure java object or not?

Yes, pure java object.

49) What are the phases of the servlet life cycle?

The life cycle of a servlet consists of the following phases:

- Servlet class loading
- Servlet instantiation
- the init method
- Request handling (call the service method)
- Removal from service (call the destroy method)

50) What must be implemented by all Servlets?
The Servlet Interface must be implemented by all servlets