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TE-A-42

Unit No :- VI

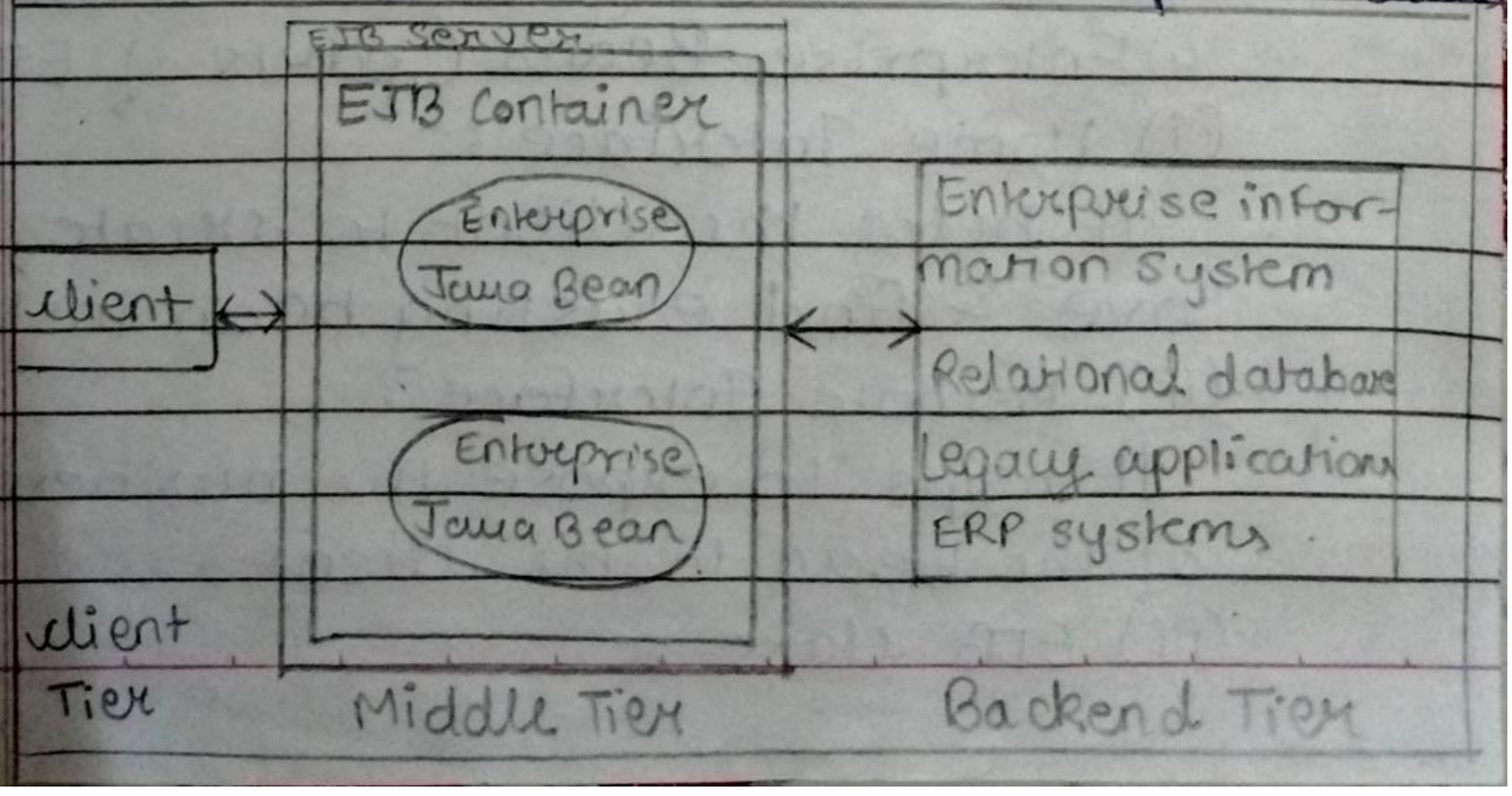
(Q.1) what is Enterprise Java Bean? Draw and explain main componenks of EJB architecture

~> EJB stands for Enterprise Java Beans.

- An EJB is a server side component which Contains the business logic of an appl^n. The business logic is the code written to fulfill the application purpose.
- EJB architecture is used to create server side, multi user, secure, scalable, transactional and enterprise-level applications.
- EJB Architecture supports client server or completely distributed n-tier appl^n.

(A) Componenks of EJB Architecture :-

(1) EJB server(s) (2) EJB container(s)
(3) EJB clienks (4) Enterprise Beans



1.) EJB Server :-
- The main functionality of EJB server is to provide execution environment for EJB Containers.
- EJB server provides the system seriives such as load balancing, device accessing and multiprocessing for the EJB containers.

2) EJB Container :-
- The EJB container is an interface in between EJB and low-level, platform specific functionality which supports the Bean ; the EJB Server.
- A bean cannot be accessed directly by the EJB. This is done with the help of Container generated class which can call the bean's methods.

3) EJB clients :
- Using the proxy objects, the clients interact with beans. This communication is usually based on IIOP (Internet Inter-ORB Protocol) & proxy objects which are the general CORBA stubs

4) Enterprise Beans (parts of EJB Bean)

(i) Home Interface :-
It helps the client to create, remove & find existing bean instances

(ii) Remote Interface :
It helps to expose the business logic of the bean to the client.

(iii) EJB class :-

(iv) Deployment Descriptor :-
It specifies the configurable properties of the bean & also specifies the transactional, security & persistent state management policy of bean.

Q.3) Identify and justify the benifits of using web services.

→ Advantages web services :-

1) WS security : SOAP has WS security which is its own strong security mechanism.

2) Language & Platform independent : The Scripts of SOAP Web Services can be coded in any language which supports it & also can be executed on any web platform.

3) Fast : As RESTful web Services do not haul any strict Specification like SOAP, they are comparatively fast. Also the bandwidth & resources consumed by the RESTful web services are very less.

4) Language & platform independent :- It is possible to write the RESTful web Services in any programming language and they can be executed on any platform.

5) Can use SOAP : SOAP can be used by the RESTful web Services as the

implementation.

6.) Permits different data format :- In RESTful web service, data of different formats like HTML, XML, JSON and even plain text can be used.

7) Code re-use :- Code, re-use is other positive side effect of web services interoperability and flexibility. One service might be used by several clients, all of which utilize the operations supplied to fulfil different business objectives.

8) Versatility :- Web services are also versatile by design. They can be assessed by human using a web based client interface, or they can be accessed by other applications & other web services

Q.4) Write short note on Spring :-

→ • The Spring framework is an appl^n framework & inversion of control container for the Java platform.
• Although the framework does not impose any specific programming model, it has become popular in the Java community as an alternative to, replacement for, or

even addition to the Enterprise Java Beans (EJB) model. The Spring Framework is open source.

- Spring framework was initially written by Rod Johnson & released in June 2003 under the license of Apache 2.0.
- The most advantageous string related to Spring is that it is lightweight. It occupies only 2MB for its basic version.
- Spring framework facilitates easier development of JEE by enabling a POJO-based programming model.

- Aduantages Spring Framework :-
  There are number of advantages of Spring framework as follows :-

1) Predefined Templates :-
for Various technologies like JDBC, Hibernate, JPA, Spring framework provides templates. Templates help to minimize the coding.

2) Loose Coupling :-
The coupling of Spring applications is very loose because of dependency injection.

3) Easy to Test :-
The use of Dependency injection Simplifies the testing of application.

4) Light weight :-
As Spring framework uses POJO implementation, it becomes very lightweight.

Q.5) write a short note on Bootstrap.

—> To understand the Bootstrap, first we will see the concept of responsive website.

* Responsive Website :-
- A responsive website is the one which has the ability to automatically adjust itself to look good on all devices like desktops as well as smart phones.
- Bootstrap is as famous framework which is based on HTML, CSS, & JavaScript. Bootstrap is used to develop responsive & mobile friendly websites.
- The JavaScript plug-ins can be used in Bootstrap.
- Bootstrap facilitates the creation of responsive designs.
- Unlike many web framelworks it concerns itself with front-end development only.
- History of Bootstrap :-
  - Bootstrap was developed by Mark Otto & Jacob Thornton at

Twitter.
- In August 2011 on GitHub, Bootstrap is released as an open source product.

- Aduantages of Bootstrap :~
- The use of Bootstrap is very easy. A new user having just knowledge of HTML & CSS can easily makes use of Bootstrap.
- Bootstrap supports responsive web design. This means the layout of web pages adjusts dynamically, taking into account the characteristics of the device used (desktop, tablet, mobile phone).
- It is compatible with most of the modern desktop & mobile based browsers such as chrome, firefox, Internet Explorer, Safari, Opera, etc