

Sun Certified Enterprise Architect (SCEA) Mock Exams

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★ Exam in Session

Question 3 / 20

What is the expected output?

```
01. public class OuterTest {
02.
03.     public static void main(String args[]) {
04.         Airplane.BlackBox box = new Airplane().new BlackBox(); // line 1
05.         box.printVariables();
06.
07.     }
08. }
09.
10. class Airplane {
11.     String code = "11";
12.
13.     class BlackBox {
14.         String code = "22";
15.
16.         public void printVariables() {
17.             System.out.print(code);
18.             System.out.print(Airplane.this.code); // line 20
19.
20.         }
21.     }
22. }
23. }
```

- Compile error because of line 1 (incorrect instantiation)
- Compile error because of line 20 (can't access Airplane's variables)
- 2222
- 1111
- 2211

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1. Chapter: Enterprise JavaBeans

Chapter Description and Objectives

1. Basics

Exam Category Description and Objectives

1.1.1. Which EJBs can be pooled?

Author: Java Champ

Both Statefull session beans and Stateless session beans have the potential to be pooled.

Please choose only one answer:

- true
- false

Check the answer of this question online on JavaChamp.com: [which ejbs can be pooled?](#)

1.1.2. EJB container pool

Author: [Java Champ](#)

Where can the initial number of instances of session beans to be pooled in EJB container specified?

Please choose only one answer:

- the number is specified using EJB3 annotaion
- the number is specified in web.xml configuration file
- the number is specified in the external deployment descriptor

Check the answer of this question online on [JavaChamp.com](#): [where can the initial number of session beans to be pooled in ejb container specified?](#)

1.1.3. Types of EJBs

Author: Java Champ

The three types of EJBs are :

Please choose all the answers that apply:

- POJO
- Transfer object
- Session bean
- Message-driven bean
- Transaction bean
- Entity bean

Check the answer of this question online on JavaChamp.com: [types of ejbs](#)

1.1.4. When to opt an EJB-centric solution?

Author: Java Champ

When to opt an EJB-centric solution for your yet to be developed system?

Please choose all the answers that apply:

- when the system is distributed
- when the system is transactional
- to create a data entry system
- when you are developing a content-management system, which serves only static pages

Check the answer of this question online on JavaChamp.com: [when to opt an ejb-centric solution?](#)

1.1.5. EJB container services

Author: Java Champ

What services EJB containers provide to Session beans?

Please choose all the answers that apply:

- Caching and pooling
- EJB life cycle management
- HTTP requests management
- RMI services

Check the answer of this question online on JavaChamp.com: [What services EJB containers provide to Session beans?](#)

1.1.6. EJB 3.0 specifications first implemented in Java EE 5

Author: Java Champ

EJB 3.0 specifications are implemented in :

Please choose only one answer:

- Java EE 3
- Java EE 4
- Java EE 5

Check the answer of this question online on JavaChamp.com: [first introduction of ejb 3.0 specifications](#)

1.1.7. EJB container

Author: [Java Champ](#)

What is true about EJB ?

Please choose only one answer:

- In a deployed application, both session and entity beans are managed by what is called a session container
- In a deployed application, both session and entity beans are managed by what is called EJB container
- In a deployed application, session beans are managed by what is called SessionContext
- In a deployed application, entity beans are managed by what is called EntityContext

Check the answer of this question online on [JavaChamp.com](#): [ejb container services](#)

1.1.8. The difference between stateful and stateless session beans

Author: Java Champ

What is the difference between stateful session beans and stateless session beans?

Please choose all the answers that apply:

- Stateless session beans are lighter in weight and easier to manage than their stateful counterparts
- Stateful session beans are pooled to increase performance due to their heavy content, whereas stateless beans are not pooled for the opposite reason
- Both stateful session beans and stateless session beans can survive a server crash.
- As the name implies, a Stateful session bean can remember its state with a client, in contrast to a Stateless session bean, which cannot

Check the answer of this question online on JavaChamp.com: [the difference between stateful and stateless session beans](#)

1.1.9. getCallerPrincipal() and isCallerInRole()

Author: Java Champ

getCallerPrincipal() and isCallerInRole() are methods used to manage methods security programmatically, where are they defined?

Please choose only one answer:

- in the session and entity beans
- in EntityContext and SessionContext objects
- in EJBHome class
- in EJBObject class

Check the answer of this question online on JavaChamp.com: [where are getcallerprincipal\(\) and iscallerinrole\(\) methods defined?](#)

1.1.10. Entity beans features

Author: Java Champ

What is NOT true about Entity beans?

Please choose only one answer:

- Entity beans can survive a system crash
- Entity beans are not pooled
- Entity beans cannot be stateless
- Entity beans are transactional

Check the answer of this question online on JavaChamp.com: [entity beans features](#)

1.1.11. What is an Entity Bean?

Author: Java Champ

What is an Entity Bean?

Please choose only one answer:

- It is an object representing data which is fetched from and can be stored to a persistent data store
- It holds the state of the associated stateful session bean
- It is the facade to access the system data store

Check the answer of this question online on JavaChamp.com: [what is an entity bean?](#)

1.1.12. Who saves the Stateful session bean state?

Author: [Java Champ](#)

A Stateful session bean can remember its state and the conversation with the client, but sometimes due to performance issues, the container needs to remove the Stateful session bean from the memory releasing its attached resources, what is true about this process?

Please choose all the answers that apply:

- The Stateful session bean itself persists itself for later activation
- The EJB container is the one responsible for managing and serializing the state of the Stateful Session bean
- Just before this process (passivating), the container calls the `ejbPassivate()` method
- Just before this process (passivating), the container calls the `ejbRemove()` method

Check the answer of this question online on [JavaChamp.com](#): [who saves the stateful session bean state?](#)

1.1.13. Container-Managed and Bean-Managed Security

Author: Java Champ

Managing permissions to methods (securing invoking methods to specific roles), can be applied by:

Please choose all the answers that apply:

- using the xml deployment descriptor
- using annotations (in EJB 3.x)
- using digital signature
- programmatically using `isCallerInRole()` and `getCallerPrincipal()`

Check the answer of this question online on JavaChamp.com: [container-managed and bean-managed security](#)

1.1.14. Entity beans life cycle states

Author: Java Champ

What is not a state in the EJB 3 Entity beans life cycle states?

Please choose only one answer:

- Does not exist
- Removed
- Passive
- Detached

Check the answer of this question online on JavaChamp.com: [entity beans life cycle states](#)

1.1.15. BMP vs CMP

Author: Java Champ

When to opt BMP (bean-managed persistence) over CMP (container-managed persistence)?

Please choose only one answer:

- when the application developed will serve a large number of users
- when the project budget permits
- when you would like to add to your CV a BMP experience
- when you data is a mix of relational database and legacy data sources
- when CMP does not provided the intended tasks

Check the answer of this question online on JavaChamp.com: [when to use bmp bean-managed persistence?](#)

2. EJB 2.x

Exam Category Description and Objectives

1.2.1. ejbCreate() method in EJB 2.x

Author: Java Champ

What is true about ejbCreate() method in EJB 2.x?

Please choose all the answers that apply:

- ejbCreate() is defined only in session beans not entity beans
- ejbCreate() with session beans causes session bean objects to be created
- ejbCreate() with entity beans causes entity bean objects to be created
- ejbCreate() with entity beans causes data rows in the data store to be created

Check the answer of this question online on JavaChamp.com: [ejbcreate\(\) method in ejb 2.x](#)

1.2.2. getPrimaryKey() method in EJBObject interface

Author: Java Champ

If getPrimaryKey() (in EJBObject class) is invoked looking first for a session bean, then second for an entity bean, what would be the result?

Please choose all the answers that apply:

- Invoking getPrimaryKey() looking for a session bean will cause throwing an exception
- Invoking getPrimaryKey() looking for a session bean will return the primary key of the session bean
- Invoking getPrimaryKey() looking for an entity bean will cause throwing an exception
- Invoking getPrimaryKey() looking for an entity bean will return the primary key of the bean

Check the answer of this question online on JavaChamp.com: [getprimaryKey\(\) method in ejbobject interface](#)

1.2.3. Can client directly access the session bean in EJB 2.x?

Author: Java Champ

In EJB 2.x, the client can directly access the session bean by invoking their business methods:

Please choose only one answer:

- true
- false

Check the answer of this question online on JavaChamp.com: [can client directly access the session bean in ejb 2.x?](#)

1.2.4. EJBHome object tasks in EJB 2.x

Author: Java Champ

What is true about the EJBHome object in EJB 2.x?

Please choose all the answers that apply:

- EJBHome object is an optional component to declare and use an EJB
- EJBHome object contains the create() method
- EJBHome object can be located by the client using the Java Naming and Directory Interface (JNDI)
- EJBHome object for an entity bean provides additional finding methods
- EJBHome object provides access to the business methods of an EJB

Check the answer of this question online on JavaChamp.com: [ejbhome api in ejb 2.x](#)

1.2.5. how to declare an EJB using EJB 2.x?

Author: [Java Champ](#)

What components do you need to declare an EJB using EJB 2.x ? choose the answer that covers the most components

Please choose only one answer:

- EJBHome interface, EJBObject and XML deployment descriptor
- EJBHome interface, EJBObject, XML deployment descriptor and a bean class extends either SessionBean or EntityBean
- EJBHome interface, EJBObject, XML deployment descriptor and a bean

class annotated by either @SessionBean or @EntityBean

Check the answer of this question online on [JavaChamp.com](#): [how to declare an ejb using ejb 2.x?](#)

1.2.6. Order of steps when a client uses a session bean

Author: Java Champ

A client wants to use a session bean (EJB 2.x) , what steps would be executed and in what order?

1. a client invokes a create() method of a home interface
2. EJB container activates the session bean invoking ejbActivate() method in the bean
3. the create() method returns a reference of the EJBObject associated with the session bean instance to the client
4. using the JNDI, a client locates the home interface
5. a client calls methods on session bean
6. a client calls methods on EJBObject

Please choose only one answer:

- 1, 3, 2 , 6
- 4, 1, 3, 2, 6
- 4, 1, 3, 6
- 4, 1, 3, 5

Check the answer of this question online on JavaChamp.com: [order of steps when a client uses a session bean](#)

1.2.7. Roles of EJBHome, EJBObject and Session bean

Author: Java Champ

What is true about the roles of EJBHome, EJBObject interfaces and a session bean?

Please choose all the answers that apply:

- The EJBHome class is the starting point in a Session bean life cycle, it is used by clients to create instances of the session bean class and the EJBObject class
- The EJBObject class is the facade to the business logic in a session bean, clients invoke methods in a session bean indirectly through EJBObjects
- `ejbActivate()`, `ejbPassivate()` and `ejbRemove()` are methods which must be found in EJBObject interface to provide activation, passivation and removal services

Check the answer of this question online on JavaChamp.com: [roles of ejbhome, ejbobject and session bean](#)

3. EJB 3.x

Exam Category Description and Objectives

1.3.1. Session bean annotations

Author: Java Champ

Which of the following are applicable annotations to a session bean (EJB 3) :

Please choose all the answers that apply:

- @Entity
- @Stateless
- @Stateful
- @WebService
- @OneToOne

Check the answer of this question online on JavaChamp.com: [session bean annotations](#)

1.3.2. ejb2 to ejb3 migration

Author: Yasser Ibrahim

what are the server side changes required to migrate an existing application from ejb2 to ejb3?

Please choose all the answers that apply:

- The EJB Home interface is optional in EJB3
- EJB3 deployment descriptor is optional
- EJB3 session beans should be annotated with either @Stateless or @Stateful
- The EJB business interface should be annotated with either @Local or @Remote
- The EJB business interface doesn't extend EJBObject or EJBLocalObject

Check the answer of this question online on JavaChamp.com: [ejb2 to ejb3 migration](#)

1.3.3. stateful session bean life cycle example

Author: Yasser Ibrahim

Suppose that an EJB client code is invoking the calculateSales() method on the SalesBean class.

Assuming the the bean is not instantiated yet by the container.

What could be printed from such invocation?

```
@Stateful
public class SalesBean2 implements SalesBeanLocal {
    public SalesBean2() {
        System.out.println(""Constructor");
    }
    public void calculateSales() {
        System.out.println(""calculateSales");
    }
    @PostConstruct
    public void m1() {
        System.out.println(""PostConstruct");
    }

    @PreDestroy
    public void m2() {
        System.out.println(""PreDestroy");
    }

    @PrePassivate
    public void m3() {
        System.out.println(""PrePassivate");
    }

    @PostActivate
    public void m4() {
        System.out.println(""PostActivate");
    }
}
```

Please choose all the answers that apply:

- Constructor, PostConstruct, PostActivate, calculateSales
- Constructor, PostConstruct, calculateSales, PreDestroy
- Constructor, PostConstruct, PrePassivate, PostActivate, calculateSales, PreDestroy
- Constructor, PostConstruct, PostActivate, calculateSales, PrePassivate

Check the answer of this question online on JavaChamp.com: [stateful session bean life cycle example](#)

1.3.4. What are the advantages came with the advent of EJB 3.0?

Author: Java Champ

What are the advantages of EJB 3.x over EJB 2.x?

Please choose all the answers that apply:

- Developers no longer need to use deployment descriptors to declare the session beans (state that a class is a session bean)
- The business interface of a session bean can now be a plain old Java interface (POJI)
- Keeping the old way in writing EJBObject or EJBHome interfaces
- Introducing the approach “configuration by exception” or “convention over configuration”

Check the answer of this question online on JavaChamp.com: [what are the advantages of ejb 3.x over ejb 2.x?](#)

1.3.5. What does Dependency Injection in EJB3.0 mean?

Author: Java Champ

What does Dependency Injection in EJB3.0 mean?

Please choose only one answer:

- it is a resource supplement mechanism, where you can annotate a field in an EJB3.0 session bean to request injection of a resource
- it simplifies the complexity of JNDI for resources finding and injection
- dependency injection in EJB 3.0 is applied using annotations like @Resource
- all the above is correct about Dependency Injection in EJB3.0

Check the answer of this question online on JavaChamp.com: [what does dependency injection in ejb3.0 mean?](#)

1.3.6. session bean remote business interface restrictions

Author: Yasser Ibrahim

What are the restrictions imposed by the EJB 3.x container on the implementation of session bean remote business interfaces?

Please choose all the answers that apply:

- session bean remote business interfaces must be marked with @Remote annotation
- session bean remote business interfaces have to extend java.rmi.Remote
- in all method definitions you may only declare RMI/IIOP compatible arguments and return types
- session bean remote business interfaces should throw java.rmi.RemoteException

Check the answer of this question online on JavaChamp.com: [remote session beans restrictions](#)

1.3.7. how to supply managed objects with resources in EJB 3.0?

Author: Java Champ

How to supply managed objects with resources in EJB 3.0?

Please choose all the answers that apply:

- using JNDI
- using RMI
- using dependency injection annotations
- using CORBA

Check the answer of this question online on JavaChamp.com: [how to supply managed objects with resources in ejb 3.0?](#)

1.3.8. Who can use dependency injection?

Author: [Java Champ](#)

Who can use dependency injection?

Please choose all the answers that apply:

- Dependency injection may be used by the managed object in an EJB container
- Dependency injection may be used by the managed object in a servlet container
- Dependency injection may be used by any class in Java

Check the answer of this question online on [JavaChamp.com](#): [who can use dependency injection?](#)

1.3.9. Dependency Injection in EJB3.0

Author: Java Champ

Which annotations are used for Dependency Injection in EJB3.0?

Please choose all the answers that apply:

- @WebService
- @EJB
- @Entity
- @Resource

Check the answer of this question online on JavaChamp.com: [which annotations are used for dependency injection in ejb3.0?](#)

1.3.10. stateless session bean life cycle stages

Author: Yasser Ibrahim

What is the typical order of life cycle stages an average stateless session bean goes through starting from its instantiation till retiring?

Please choose only one answer:

- Instantiation by the EJB container, PostConstruct call back, Dependency injection, PrePassivate
- Instantiation by the EJB container, PostConstruct call back, Dependency injection, PreDestroy
- Instantiation by the client code, Dependency injection, PostConstruct call back, PreDestroy
- Instantiation by the EJB container, Dependency injection, PostConstruct call back, PreDestroy

Check the answer of this question online on JavaChamp.com: [stateless session bean life cycle stages](#)

1.3.11. What are the implementation specifications of EJB 3 session bean classes?

Author: Yasser Ibrahim

What are the implementation specifications of EJB 3 session bean classes?

Please choose all the answers that apply:

- a session bean class must be marked with @Remote or @Local annotation
- a session bean class must have a public default constructor
- a session bean class shouldn't implement other than its own business interface
- a session bean class must be a public top-level class

Check the answer of this question online on JavaChamp.com: [what are the implementation specifications of ejb 3 session bean classes?](#)

1.3.12. EJB session beans performance

Author: Yasser Ibrahim

Your client has a severe performance problem in a heavily loaded EJB application as a consequence the system doesn't scale up properly in the peak traffic period during the Xmas shopping rush days. So he hired you to hunt for the possible performance bottle nicks and come up with possible solutions. The application is deployed as one EAR in one JVM and the data base is running on a separate machine. The session beans are only accessed by the web application deployed in the same EAR file.

What is your recommendation?

Please choose only one answer:

- Change all local session beans to remote session beans
- Change all remote session beans to local session beans.
- Use JMS to transfer user request between the web layer and the session beans
- Use web services to transfer user request between the web layer and the session beans

Check the answer of this question online on JavaChamp.com: [ejb session beans performance](#)

1.3.13. Where to use dependency injection annotations in EJB 3.0?

Author: Java Champ

Where is it possible to use dependency injection annotations in EJB 3.0 such as @Resource and @EJB?

Please choose all the answers that apply:

- in a session bean
- in an EJB life cycle interceptor
- in a servlet filter
- in a jsf backing bean

Check the answer of this question online on JavaChamp.com: [where can dependency injection annotations in ejb 3.0 be used?](#)

1.3.14. EJB 3 session bean classes specifications

Author: Yasser Ibrahim

What are the implementation specifications of EJB 3 session bean classes?

Please choose all the answers that apply:

- a session bean class must be marked with @Stateless or @Stateful annotation
- a session bean class must have a public default constructor
- a session bean class must be final or abstract
- a session bean class can't extend other classes

Check the answer of this question online on JavaChamp.com: [ejb 3 session bean classes specifications](#)

1.3.15. EJB 3 stateful session bean life cycle

Author: Yasser Ibrahim

Which life cycle events are fired for stateful session beans?

Please choose all the answers that apply:

- PreDestroy
- PostDestroy
- PreConstruct
- PostConstruct

Check the answer of this question online on JavaChamp.com: [ejb 3 stateful session bean life cycle](#)

1.3.16. how to write a session bean?

Author: Yasser Ibrahim

Which of the following represents a legal EJB3 session bean declaration using annotations only (no deployment descriptors)?

Please choose all the answers that apply:

- `@Local public interface Engine {}`
`@Stateless public class CarEngine implements Engine{}`
- `@Local @Stateless public interface Engine {}`
`public class CarEngine implements Engine{}`
- `public interface Engine {}`
`@Local @Stateless public class CarEngine implements Engine{}`
- `public interface Engine {}`
`public class CarEngine implements Engine{}`

Check the answer of this question online on JavaChamp.com: [session bean declaration](#)

1.3.17. cycle event handler methods restrictions

Author: Yasser Ibrahim

What are the restrictions imposed by the EJB 3.x container on the implementation of life cycle event handlers (e.g. PostConstruct, PreDestroy, etc.)?

Please choose all the answers that apply:

- a session bean method cannot be annotated with more than one life cycle callback event.
- callback handler methods may have any access modifier
- each lifecycle callback event can be handled by maximum one session bean method
- exceptions thrown from callback handler methods don't affect the ongoing transaction

Check the answer of this question online on JavaChamp.com: [cycle event handler methods restrictions](#)

1.3.18. stateful session bean life cycle stages

Author: Yasser Ibrahim

What is the typical order of life cycle stages an average stateful session bean goes through starting from its instantiation till retiring?

Please choose all the answers that apply:

- Bean instantiated, Dependency injection, PostConstruct , PreDestroy
- Bean instantiated, Dependency injection, PostActivate , PrePassivate
- Bean fetched from the passive state, Dependency injection, PostActivate , PrePassivate
- Bean fetched from the passive state, PostActivate , PrePassivate

Check the answer of this question online on JavaChamp.com: [stateful session bean life cycle stages](#)

1.3.19. stateless session bean life cycle example

Author: Yasser Ibrahim

Suppose that an EJB client code is invoking the `calculateSales()` method on the `SalesBean` class.

Assuming the the bean is not instantiated yet by the container.

What could be printed from such invocation?

```
@Stateless
public class SalesBean implements SalesBeanLocal {
    public SalesBean() {
        System.out.println(""Constructor"");
    }
    public void calculateSales() {
        System.out.println(""calculateSales"");
    }
    @PostConstruct
    public void m1() {
        System.out.println(""PostConstruct"");
    }

    @PreDestroy
    public void m2() {
        System.out.println(""PreDestroy"");
    }
}
```

Please choose only one answer:

- PostConstruct, Constructor, PreDestroy, calculateSales
- Constructor, PostConstruct, calculateSales, PreDestroy
- calculateSales, Constructor, PostConstruct, PreDestroy
- Constructor, PostConstruct, PreDestroy, calculateSales

Check the answer of this question online on JavaChamp.com: [stateless session bean life cycle example](#)

1.3.20. EJB session bean ingredients

Author: Yasser Ibrahim

What do you need to create a EJB3 session bean?

Please choose all the answers that apply:

- Declare a business interface and annotate it with @Local or @Remote
- Write the session bean class itself that implements the business logic
- Annotate the session bean with @Session
- Annotate the session bean with @SessionBean
- Annotate the session bean with @Stateful or @Stateless

Check the answer of this question online on JavaChamp.com: [how to write an ejb session bean?](#)

1.3.21. EJB 3 session bean life cycle

Author: Yasser Ibrahim

Which life cycle events are fired for stateless session beans?

Please choose all the answers that apply:

- PostActivate
- PrePassivate
- PreDestroy
- PostConstruct

Check the answer of this question online on JavaChamp.com: [ejb 3 session bean life cycle](#)

4. EJB Transaction Management

Exam Category Description and Objectives

1.4.1. What is the default transaction attribute to a method in an EJB?

Author: Java Champ

What is the default transaction attribute to a method in an EJB? (no explicit transaction attribute is declared in both class and method levels)

Please choose only one answer:

- NotSupported
- Required
- Supports
- Mandatory
- Never

Check the answer of this question online on JavaChamp.com: [what is the default transaction attribute to a method in an ejb?](#)

1.4.2. Which EJB Transaction Attributes that require that no existing transactions running?

Author: [Java Champ](#)

Which of the following transactional settings would throw an exception when calling a method while the presence of an already existing transaction context?

Please choose only one answer:

- NotSupported
- Required
- Supports
- RequiresNew
- Mandatory
- Never

Check the answer of this question online on [JavaChamp.com](#): [ejb never transaction attribute](#)

1.4.3. REQUIRES_NEW transaction attribute

Author: Java Champ

What transactional behavior would a method in an EJB follow when it is annotated with @TransactionAttribute(REQUIRES_NEW) ?

Please choose only one answer:

- The container creates a new transaction before each call for the method, and in case of an already existing transaction, an exception will be thrown
- The container creates a new transaction before each call for the method, and in case of an already existing transaction, the existing transaction is suspended until the new transaction completes
- The container creates a new transaction before each call for the method only in case of no existing transaction. Otherwise, it uses the existing transaction to carry out the method

Check the answer of this question online on JavaChamp.com: [requires_new transaction attribute](#)

1.4.4. Which EJB Transaction Attributes that require an existing transaction?

Author: [Java Champ](#)

Which of the following transactional settings requires the presence of an already existing transaction, else an exception is thrown?

Please choose only one answer:

- NotSupported
- Required
- Supports
- RequiresNew
- Mandatory
- Never

Check the answer of this question online on [JavaChamp.com](#): [which ejb transaction attributes that require an existing transaction?](#)

5. Message Driven Beans

Exam Category Description and Objectives

1.5.1. What are the requirements of a message-driven bean (EJB 2.x) class?

Author: Java Champ

What are the requirements of a message-driven bean (EJB 2.x) class?

Please choose all the answers that apply:

- It implements the MessageListener interfaces
- It implements onMessage() method
- It implements receive() method
- It is configured as a MDB in the deployment descriptor

Check the answer of this question online on JavaChamp.com: [what are the requirements of a message-driven bean \(ejb 2.x\) class?](#)

1.5.2. Who can invoke Message Driven Beans methods?

Author: Java Champ

Message Driven Beans (MDBs) can be directly accessed by internal or external clients.

Please choose only one answer:

- true
- false

Check the answer of this question online on JavaChamp.com: [how to invoke message driven beans ?](#)

1.5.3. What are the requirements of a message-driven bean (EJB 3.x) class?

Author: Java Champ

What are the requirements of a message-driven bean (EJB 3.x) class?

Please choose all the answers that apply:

- It is annotated with @MessageDriven annotation
- It implements onMessage() method
- It implements receive() method
- It implements the MessageListener interfaces

Check the answer of this question online on JavaChamp.com: [what are the requirements of a message-driven bean \(ejb 3.x\) class?](#)

1.5.4. Can Message Driven Beans (MDBs) be pooled by the EJB container?

Author: Java Champ

Message Driven Beans (MDBs) can be pooled by the EJB container.

Please choose only one answer:

- true
- false

Check the answer of this question online on JavaChamp.com: [can message driven beans \(mdbs\) be pooled by the ejb container?](#)

1.5.5. What is the function of Message Driven Beans?

Author: [Java Champ](#)

Message Driven Beans (MDBs) are designed to function as :

Please choose only one answer:

- Synchronous message publisher
- Synchronous message consumer
- Asynchronous message publisher
- Asynchronous message consumer

Check the answer of this question online on [JavaChamp.com](#): [what is the role of message driven beans \(mdbs\)?](#)

1. Chapter: Sun Certified Enterprise Architect

Chapter Description and Objectives

1. Object-oriented design concepts

Exam Category Description and Objectives

1.1.1. What does coupling mean?

Author: Java Champ

What is true about coupling between classes? (choose two)

Please choose all the answers that apply:

- coupling can be only found between a subtype and its super type
- coupling means how a method in a class can be affected and require modification due to a modification in another class
- coupling is the degree to which classes depend on each other
- coupling is the degree to which methods in the same class depend on each other

Check the answer of this question online on JavaChamp.com: [what does coupling mean?](#)

1.1.2. What does encapsulation mean?

Author: [Java Champ](#)

What does encapsulation mean? (choose two)

Please choose all the answers that apply:

- Encapsulation is a measure of how a class or a module is dependent on another class or module
- Encapsulation means hiding the attributes of a class by marking them private and restrict accessing them through public methods
- Encapsulation means hiding the constructors of a class by marking them private and enable constructing objects through one public method
- Encapsulation means hiding the internal implementation and representation of an object and provide to the outer world only an interface of public methods to access the object

Check the answer of this question online on [JavaChamp.com](#): [what does encapsulation mean?](#)

1.1.3. What are the pros of encapsulation?

Author: Java Champ

What are the pros of encapsulation? (choose three)

Please choose all the answers that apply:

- avoid code duplicity
- prevent any inappropriate modification of an object's attributes
- other classes, which use a well encapsulated class, won't need to know the implementation details of this class
- subtypes of a well-encapsulated class won't need to override most of the inherited methods
- modifications to the implementation of the class, won't affect how other classes use the class, as long the interface between them kept unchanged

Check the answer of this question online on JavaChamp.com: [what are the pros of encapsulation?](#)

1.1.4. What are the pros of a high cohesive class?

Author: Java Champ

What are the pros of a high cohesive class? (choose three)

Please choose all the answers that apply:

- you can read easily a high cohesive class and understand its purpose and role in the system
- testing and maintaining a high cohesive class will be easier
- subtypes of a high cohesive won't need to override most of the methods
- other classes, which use a high cohesive class, don't need to know the implementation details of this class
- small high cohesive classes can be reused by other modules without the need to overhead these modules with extra unrelated functions

Check the answer of this question online on JavaChamp.com: [what are the pros of a high cohesive class?](#)

1.1.5. What does cohesion mean?

Author: Yasser Ibrahim

What does cohesion mean?

Please choose only one answer:

- cohesion is a measure of how the methods of a class or a module are meaningfully and strongly related and how focused they are in providing a well-defined purpose
- cohesion is a measure of how the attributes of a class or a module are hidden from other classes and resticly accessed through only public accessors
- cohesion is a measure of how a class or a module is dependent on another class or module
- cohesion is a measure of how the methods within a class are dependent on each other

Check the answer of this question online on JavaChamp.com: [what does cohesion mean?](#)

1.1.6. What does polymorphism mean?

Author: Java Champ

Which of the following class inheritance scenarios describes polymorphism in Java?

Please choose all the answers that apply:

- one class inherits from multiple parent classes
- one class implementing many interfaces
- multiple classes implementing one interface
- multiple classes inherit from single abstract parent class

Check the answer of this question online on JavaChamp.com: [what does polymorphism mean?](#)

1.1.7. What do encapsulation and cohesion mean?

Author: Java Champ

You are writing a class which is responsible for withdrawing and depositing into user's bank account. You marked some methods `public`, which are the allowed actions the user can invoke. While marking the others along with the data members `private`.

You also while writing the class made sure that this class will only focus on its main purpose (bank transactions) and not to include any irrelevant methods.

Which two design principles are you following?

Please choose all the answers that apply:

- Coupling
- Encapsulation
- Cohesion
- Polymorphism
- Abstraction
- Inheritance

Check the answer of this question online on JavaChamp.com: [what do encapsulation and cohesion mean?](#)

2. Architecture Principles

Exam Category Description and Objectives

1.2.1. software architecture nonfunctional requirements

Author: Yasser Ibrahim

Which of the following tasks is classified as nonfunctional requirement:

Please choose only one answer:

- Define user interface
- System Performance
- Define user roles and rights

Check the answer of this question online on JavaChamp.com: [software architecture nonfunctional requirements](#)

1.2.2. Two Tier Architecture

Author: Java Champ

What is NOT true about Two-Tier Architecture?

Please choose only one answer:

- is also known as Client–server model
- each client requires its own connection session
- it has poor scalability
- better security than n-tier since data flow is restricted between only 2 tiers
- is manageable

Check the answer of this question online on JavaChamp.com: [client server model](#)

1.2.3. What does an EJB container do?

Author: Java Champ

What does an EJB container do?

Please choose all the answers that apply:

- It creates servlet instances
- It manages transactions
- It automatically synchronizes data in an entity bean's instance with corresponding data items in database
- It maintains pools of enterprise bean instances ready for incoming requests
- It creates and manages request and response objects

Check the answer of this question online on JavaChamp.com: [what does an ejb container do](#)

1.2.4. Inter-System Communication Protocols for different Operating System

Author: Java Champ

Which protocol is best suited to conduct communication between two applications, both written in java, but one runs in windows OS while the other in Linux OS? Choose all what apply

Please choose all the answers that apply:

- RMI
- CORBA
- DCOM

Check the answer of this question online on JavaChamp.com: [inter-system communication protocols for different operating system](#)

1.2.5. what does Surface Area term in architecture terminology mean?

Author: Java Champ

what does "Surface Area" term in architecture terminology mean?

Please choose only one answer:

- Surface area is a measure of how small or big a class is
- Surface area is a measure of how small or big a subsystem is
- Surface area describes how much methods of a class are exposed or publicly provided to other classes

Check the answer of this question online on JavaChamp.com: [surface area in architecture terminology](#)

1.2.6. Model-View-Controller (MVC) architecture or pattern

Author: Java Champ

In the Model-View-Controller (MVC) architecture,

Please choose all the answers that apply:

- A view renders to the client the contents of a particular part of the application data
- A view is responsible for fetching data directly from the data source
- A controller is the business logic, it responds to user actions
- A system can have multiple views for the same model
- The controller decides which view to display

Check the answer of this question online on JavaChamp.com: [model-view-controller \(mvc\) architecture or pattern](#)

1.2.7. What does EAR file contain?

Author: Java Champ

What may an EAR (An Enterprise ARchive) file contain?

Please choose all the answers that apply:

- A Web module (.war file)
- An Enterprise Java Bean module (.jar file)
- Java applets
- Deployment descriptors (xml files)
- Stand-alone desktop java application client
- EJB container

Check the answer of this question online on JavaChamp.com: [what does ear file contain](#)

1.2.8. CORBA protocol role

Author: [Java Champ](#)

Consider the following scenario,
you would like to make two applications written in two different languages (one in java) to communicate with each other, what protocol would be appropriate in this case?

Please choose all the answers that apply:

- RMI
- Web services
- CORBA
- DCOM

Check the answer of this question online on [JavaChamp.com](#): [corba protocol role](#)

1.2.9. architecture vs design

Author: Java Champ

What are the differences or similarities between architecture and design?

Please choose all the answers that apply:

- Both are of the same high-level of abstraction
- Architecture is of higher level of abstraction
- Architecture concerns only about the nonfunctional requirements of a system (scalability,security...), whereas design concerns about the functionality required by a system
- In the design process, the system components internal details are elaborated based on the architecture
- Architecture and design are synonyms for the same task

Check the answer of this question online on JavaChamp.com: [architecture vs design](#)

1.2.10. nonfunctional requirements of a system architecture

Author: Java Champ

What is considered a nonfunctional requirement of a system? Choose all what apply

Please choose all the answers that apply:

- Availability
- Compatibility
- Reliability
- Performance
- Cost

Check the answer of this question online on JavaChamp.com: [nonfunctional requirements of a system architecture](#)

1.2.11. software architecture vs design

Author: Yasser Ibrahim

The software designer task is to:

Please choose only one answer:

- Define the network topology
- Design the software application main building blocks and assign functionality to each subsystem
- Create a technical object model based on the domain model and the business use cases for each application subsystem

Check the answer of this question online on JavaChamp.com: [enterprise software designer task](#)

1.2.12. When to use JSF, EJB3 and JPA?

Author: Java Champ

You have been contracted to architect a brand new enterprise Java web-based accounting application for a major retail store in your country.

The users are the sales persons accessing the system from 500 outlets from all over the country using standard web-browsers and mobile devices.

The accounting information will be saved in a relational data bank.

The data integrity and consistency is of essence, you have to make sure that all sales transactions are intact.

Which technology stack would you use?

Please choose only one answer:

- Java Servlets and JDBC
- JSF, EJB3 and JPA
- JSP, DAO and JDBC
- JSF and JPA

Check the answer of this question online on JavaChamp.com: [when to use jsf, ejb3 and jpa?](#)

1.2.13. Bi-directional Layering vs Uni-directional Layering

Author: Java Champ

Which is a true statement? choose all what apply

Please choose all the answers that apply:

- In Bidirectional-layered systems, the interaction between layers is always initiated by the higher layer
- Uni-directional Layering is also referred as strict layering
- In Uni-directional Layering, the services are flowing from lower to upper layers
- In unidirectional-layered systems, an entity at layer N can only interact with entities at layers N+1 and N-1 and no other layers

Check the answer of this question online on JavaChamp.com: [bi-directional layering vs uni-directional layering in system](#)

1.2.14. Requirements gathering and analysis phase in software development

Author: Java Champ

Let say that you are in the requirements gathering/analysis phase for developing a web-based pet shop, what is considered a typical task in this phase ?

Please choose all the answers that apply:

- You ask the clients what functionality should the website provide to its customers
- You ask the clients how the web interface should look like in style and colors
- Technical Information like hardware used would be gathered
- Study whether the client requirements are possible to implement

Check the answer of this question online on JavaChamp.com: [requirements gathering and analysis phase in software development](#)

1.2.15. Separation of concerns principle

Author: Java Champ

Your application is deployed using one application server. Considerable amount of your content is static (.css, images, .html pages, etc..). You decided to move all static content to a web server, leaving the application server serving the dynamic requests.

What is NOT true about such action?

Please choose only one answer:

- Performance may be positively improved
- This action is called vertical scalability
- This will require a new machine to install the web server
- This is considered a separation of concerns (SoC) process
- The static content will not be part of the EAR files, hence it's change won't require a new EAR deployment

Check the answer of this question online on JavaChamp.com: [separation of concerns principle](#)

1.2.16. HttpSession clustered replication

Author: Java Champ

What is TRUE about HttpSession clustered replication? (choose three)

Please choose all the answers that apply:

- HttpSession clustered replication means redundant storing of the attributes of a HttpSession on nodes of a cluster
- HttpSession clustered replication means divide storing the attributes of a heavy HttpSession on nodes of a cluster
- It increases the application's availability
- It decreases the application's fault-tolerance
- It may impact performance

Check the answer of this question online on JavaChamp.com: [httpsession clustered replication](http://www.java-champ.com/mock-exams/1.2.16-http-session-clustered-replication)

1.2.17. What does Brittleness mean in Architecture Terminology?

Author: Java Champ

What does Brittleness mean in Architecture Terminology?

Please choose only one answer:

- Brittleness means how vulnerable a system is to outside attacks
- Brittleness means how a small change in a part of a system requires a propagation of changes across the system
- Brittleness means how ready a system is to a sudden increase in the number of the visitors or users

Check the answer of this question online on JavaChamp.com: [what does brittleness mean in architecture terminology](#)

1.2.18. Application Manageability

Author: Java Champ

You noticed that your banking enterprise application is not scaling gracefully during peak time load. So you are planning to scale your infrastructure horizontally by investing your allocated budget in 3 additional web servers and 2 application servers. What could be the possible drawback of your decision?

Please choose only one answer:

- your system will become less manageable
- the overall performance will drop dramatically
- the system availability will decrease proportionally
- it will make it harder for future code refactoring

Check the answer of this question online on JavaChamp.com: [application manageability](#)

1.2.19. What is the software architect role?

Author: Yasser Ibrahim

The software architect role must fulfill the following:

Please choose all the answers that apply:

- deploy the software artifacts into the application server.
- define the nonfunctional requirements such as the security, scalability, etc..
- choose the software design patterns and write java code.
- administer the enterprise resources like databases, legacy applications
- plan the software functional requirements

Check the answer of this question online on JavaChamp.com: [what is the software architect role](#)

1.2.20. What is the difference between active and passive replication?

Author: Java Champ

What is the difference between active and passive replication? (choose three)

Please choose all the answers that apply:

- They both provide fault tolerance
- In passive replication each client request is processed by all the replicas
- In active replication each client request is processed by all the replicas
- In passive replication there is only one primary server that processes client requests , where the remaining replicas wok as back ups
- In passive replication before the back up is made from the primary server to the other replicas, the primary server sends the response to the client
- In passive replication all the servers send a response to the client, but the client waits for the first response and ignore the rest since they are all identical

Check the answer of this question online on JavaChamp.com: [what is the difference between active and passive replication?](#)

1.2.21. Distributed Component Object Model

Author: [Java Champ](#)

DCOM (Distributed Component Object Model) fits well with which OS deployment platform?

Please choose only one answer:

- Linux
- Apple Macintosh
- Windows
- AS400

Check the answer of this question online on [JavaChamp.com](#): [distributed component object model](#)

1.2.22. What is UML?

Author: Java Champ

What does UML stand for and used for?

Please choose all the answers that apply:

- UML stands for Unified Markup Language and used to write an architecture requirements in a standard form
- UML stands for Unified Modeling Language and used to graphically represent a business process
- UML stands for Unified Modeling Language and used to graphically represent an architecture
- UML stands for Unidirectional Modeling Language and used to graphically represent an architecture

Check the answer of this question online on JavaChamp.com: [what is uml](#)

1.2.23. JNDI role in java

Author: [Java Champ](#)

Which of the following is a true statement? choose all what apply

Please choose all the answers that apply:

- JNDI is used to organize and locate resources like email or database resources,EJB instances,etc..
- JNDI provides naming and directory functionality to applications written in heterogenous diverse languages
- Java distributed programming systems (for example EJB) rely on JNDI

Check the answer of this question online on [JavaChamp.com](#): [jndi role in java](#)

1.2.24. What is the output of requirements analysis phase in software development?

Author: Java Champ

What is the output of requirements analysis phase in software development?

Please choose only one answer:

- Domain models
- Detailed cost study
- Architecture of the system

Check the answer of this question online on JavaChamp.com: [output of requirements analysis phase in software development](#)

1.2.25. Definition of Architecture

Author: Java Champ

What is a true statement or a definition for Architecture?

Please choose all the answers that apply:

- Architecture refers to implementation details of a system components
- Architecture is a high level representation of a system
- Architecture covers only the nonfunctional requirements of a system, leaving the functional requirements covered later by the developers
- An architecture of a reconfigurable/flexible system should shout out the purpose, the nature or the customer-service the system provides
- An architecture of a system abstracts its components and their behavior

Check the answer of this question online on JavaChamp.com: [definition of architecture](#)

1.2.26. Tier-to-Tier Communication protocols

Author: [Java Champ](#)

User interface and business tiers can conduct communications using which of the following protocols or APIs:

Please choose all the answers that apply:

- HTTP
- RMI
- JDBC
- DCOM

Check the answer of this question online on [JavaChamp.com](#): [tier-to-tier communication protocols](#)

1.2.27. thick client and thin client

Author: Java Champ

which is a true statement?

Please choose all the answers that apply:

- a thick client provides rich functionality independently of the server
- an applet is considered a thin client
- HTML and JavaScript are considered thin clients
- A thick client requires more request/response cycles to a server than a thin client

Check the answer of this question online on JavaChamp.com: [thick client and thin client](#)

1.2.28. software architecture functional requirements

Author: Yasser Ibrahim

As a software architect, what does your client consider as a decisive acceptance criteria for a new architecture:

Please choose only one answer:

- The developed system response time is less than 1 second
- The system covers 100% of the client functional requirements
- The system is available 24/7

Check the answer of this question online on JavaChamp.com: [software architecture acceptance criteria](#)

1.2.29. enterprise Java Performance problems troubleshooting

Author: Yasser Ibrahim

You have been contacted by a company who has just launched a new e-commerce web application based on enterprise java technology. The head of IT operations complained to you that the application performs poorly even under moderate load. Knowing that the application is hosted on a modern server with multi-core processors and enough memory.

What would be your suggestion?

Please choose only one answer:

- Add more processors and memory to the host server (vertical scaling)
- Add more servers beside the main one and introduce load balancing (horizontal scaling)
- Use a profiler to hunt for performance bottlenecks and possible memory leaks or multi-threading deadlocks
- Change the hosting service provider

Check the answer of this question online on JavaChamp.com: [enterprise java performance problems troubleshooting](#)

1.2.30. What does a web container do?

Author: Java Champ

What does a web container do?

Please choose all the answers that apply:

- It provide runtime support for responding to client requests
- It manages transactions
- It manages servlets
- It maintains pools of enterprise bean instances ready for incoming requests

Check the answer of this question online on JavaChamp.com: [what does a web container do](#)

3. Integration Protocols and Messaging

Exam Category Description and Objectives

1.3.1. What does Java Architecture for XML Binding (JAXB) used for?

Author: Java Champ

What does Java Architecture for XML Binding (JAXB) used for?

Please choose only one answer:

- use JAXB to send XML SOAP messages to web service endpoints
- use JAXB to map your java object representations in your code to XML documents and vice versa
- use JAXB to write web services
- use JAXB to bind between XML SOAP messages and JMS messages

Check the answer of this question online on JavaChamp.com: [what does java architecture for xml binding \(jaxb\) used for?](#)

1.3.2. when to use RESTful web services?

Author: Yasser Ibrahim

Your company is planning to expose some of its services in a form of web services the targeted business class clients who are mainly on the road and using their mobile phones to conduct their business

The new enterprise application is a Java EE web based application, and the web services are mainly stateless.

which type of web services (RESTful or SOAP) would you use in this case?

Please choose only one answer:

- SOAP 1.1
- SOAP 1.2
- RESTful

Check the answer of this question online on JavaChamp.com: [when to use restful web services?](#)

1.3.3. Streaming API for XML StAX

Author: Java Champ

What is NOT true about StAX? (choose two)

Please choose all the answers that apply:

- it is used to process XML documents
- it is a "document object model" programming model
- it is a "document streaming" programming model
- it is a "pull" parser
- it is a "push" parser
- it is a member of "JAXP APIs" family

Check the answer of this question online on JavaChamp.com: [streaming api for xml stax](#)

1.3.4. when to use SOAP web services?

Author: Yasser Ibrahim

When is it most appropriate to architect your enterprise java application using SOAP protocol web services over RESTful? (choose two)

Please choose all the answers that apply:

- when client-server communication bandwidth is limited
- when the web service interface must be predefined in a concrete contract
- when a web based application utilizes AJAX components which consume the web service
- when asynchronous invocation is required

Check the answer of this question online on JavaChamp.com: [when to use soap web services?](#)

1.3.5. Can stateless session beans be tested outside the EJB container?

Author: Java Champ

Can stateless session beans be tested outside the EJB container?

Please choose only one answer:

- Yes
- No

Check the answer of this question online on JavaChamp.com: [can stateless session beans be tested outside the ejb container?](#)

1.3.6. When to use JDBC?

Author: [Java Champ](#)

You are responsible of connecting your company Java EE application to a relational database.

Which technology should you start with first to test its applicability to the task?

Please choose only one answer:

- JDBC-ODBC bridge
- JDBC
- Java Connector Architecture (JCA)
- Web services

Check the answer of this question online on [JavaChamp.com](#): [when to use jdbc?](#)

1.3.7. System contracts in Java EE Connector Architecture (JCA)?

Author: Java Champ

Which is TRUE about the system contracts defined by JCA for connectivity between Java EE-compliant application servers and EISs?

Please choose all the answers that apply:

- The “security contract” provides a prior authentication process before connecting to the EIS
- The resource adapter can submit work to the application server according to the “Transaction contract”
- The “connection contract” describes how the application server and the resource adapter manage, establish, pool and terminate their connections.
- The “transaction contract” describes how the application server and the resource adapter manage, establish, pool and terminate their connections.

Check the answer of this question online on JavaChamp.com: [system contracts in java ee connector architecture \(jca\)?](#)

1.3.8. Who can use web services?

Author: [Java Champ](#)

The requester and the provider of the a web service must be implemented using the same technology (for example only Java to Java)

Is this statement correct?

Please choose only one answer:

- The statement is correct
- The statement is incorrect

Check the answer of this question online on [JavaChamp.com](#): [who can use web services?](#)

1.3.9. What is UDDI?

Author: Java Champ

It is a directory that can be used by businesses worldwide to publish or discover web services.

Please choose only one answer:

- Web Services Description Language (WSDL)
- Simple Object Access Protocol (SOAP)
- Java Naming and Directory Interface (JNDI)
- Universal Description, Discovery and Integration (UDDI)

Check the answer of this question online on JavaChamp.com: [what is universal description, discovery and integration \(uddi\)?](#)

1.3.10. RESTful web services HTTP methods

Author: Yasser Ibrahim

In a RESTful web service, you would use the HTTP methods as verbs to invoke the CRUD action (create, read, update, and delete)

Which of the following is true: (choose two)

Please choose all the answers that apply:

- to read use HTTP get method
- to delete use HTTP delete method
- to create use HTTP post method
- to update use HTTP put method

Check the answer of this question online on JavaChamp.com: [restful web services http methods](#)

1.3.11. What does WebService-Security provide?

Author: Java Champ

Which security concerns can WS-Security specifications address? (choose 2)

Please choose all the answers that apply:

- ensure that the SOAP message has not been tampered with after it was sent
- prevent buffer overflow attack
- ensure that the sender of the SOAP message is the valid expected sender of this message
- ensure a reliable SOAP message delivery

Check the answer of this question online on JavaChamp.com: [what does webservice security provide?](#)

1.3.12. Components can be tested outside of the EJB container

Author: [Java Champ](#)

Which of the following components can NOT be tested outside of the EJB container? (choose two)

Please choose all the answers that apply:

- EJB 2 Entity beans
- EJB3 entities (JPA)
- EJB 3 stateful session beans
- EJB 3 stateless session beans

Check the answer of this question online on JavaChamp.com: [ejb testing](#)

1.3.13. What is JAX-WS?

Author: [Java Champ](#)

What is NOT TRUE about JAX-WS?

Please choose only one answer:

- JAX-WS is the successor of JAX-RPC
- Only message-oriented web services can be developed using JAX-WS, where RPC-oriented web services are no more an option
- JAX-WS is the primary Java API to create XML-based web services
- JAX-WS uses annotations, like `@WebService` or `@WebMethod`, to simplify the development of web services

Check the answer of this question online on [JavaChamp.com](#): [what is jax ws?](#)

1.3.14. What is JDBC used for?

Author: Java Champ

What is JDBC used for?(choose two)

Please choose all the answers that apply:

- to connect your Java application to a relational database
- to provide an interface to Java programmers to be able to query and update data in a database
- to enable a C++ application to invoke methods in a Java application
- to enable asynchronous and remote exchange of messages between Java programs

Check the answer of this question online on JavaChamp.com: [what is jdbc used for?](#)

1.3.15. What is Simple Object Access Protocol (SOAP) ?

Author: Java Champ

What is TRUE about Simple Object Access Protocol (SOAP) ? (choose two)

Please choose all the answers that apply:

- SOAP is a protocol used in conjunction with web services technology
- SOAP outlines and defines the specifications used to describe a web service to its requester
- A SOAP message is formatted in XML
- SOAP is platform dependent

Check the answer of this question online on JavaChamp.com: [what is simple object access protocol \(soap\)?](#)

1.3.16. Which design pattern is applied on Java Remote Method Invocation (RMI)?

Author: Java Champ

Which design pattern is applied on Java Remote Method Invocation (RMI)?

Please choose only one answer:

- State
- Proxy
- Template Method
- Flyweight

Check the answer of this question online on JavaChamp.com: [which design pattern is applied on java remote method invocation \(rmi\)?](#)

1.3.17. Which system contracts were added to JCA 1.5?

Author: Java Champ

Which system contracts were added to JCA 1.5 and don't exist in JCA 1.0? (choose three)

Please choose all the answers that apply:

- Security contract
- Life Cycle Management
- Transaction contract
- Work Management Contracts
- Message Inflow

Check the answer of this question online on JavaChamp.com: [which system contracts were added to jca 1.5?](#)

1.3.18. How to publish a Web Service?

Author: [Java Champ](#)

You have written a web service used to convert American metrics into standard ones, and you would like to make this service publicly available. What should you do?

Please choose only one answer:

- You can publish your web service using JAX-WS in a UDDI
- You can publish your web service using JAXR in a UDDI
- You can publish your web service using JAXB in a UDDI

Check the answer of this question online on [JavaChamp.com](#): [how to publish a web service?](#)

1.3.19. Can JPA entities be tested outside the EJB container?

Author: [Java Champ](#)

Can JPA entities be tested outside the EJB container?

Please choose only one answer:

- Yes
- No

Check the answer of this question online on [JavaChamp.com](#): [can jpa entities be tested outside the ejb container?](#)

1.3.20. What contracts does JCA define for connecting a Java EE-compliant application server to an EIS?

Author: [Java Champ](#)

Which non-functional characteristics (system-level contracts) does JCA define for connecting a Java EE-compliant application server to an EIS? (choose two)

Please choose all the answers that apply:

- Backup contract
- Security contract
- Transaction contract
- Availability contract
- Scalability contract

Check the answer of this question online on [JavaChamp.com](#): [what contracts does jca define for connecting a java ee-compliant application server to an eis?](#)

1.3.21. What is Connector architecture Common Client Interface (CCI)?

Author: Java Champ

It is a set of interfaces defined by Java Connector Architecture (JCA) used to provide an interaction mean between clients and EIS?

Please choose only one answer:

- Transaction contract
- Interaction contract
- Common Client Interface (CCI)
- Message Inflow

Check the answer of this question online on JavaChamp.com: [what is connector architecture common client interface \(cci\)?](#)

1.3.22. What does Java Remote Method Invocation (RMI) do?

Author: Java Champ

What is not TRUE about Java Remote Method Invocation (RMI)?

Please choose only one answer:

- RMI is used to integrate heterogeneous applications
- RMI uses Java object serialization to pass objects
- The Proxy design pattern is applied on RMI
- RMI implementation uses stub and skeleton objects

Check the answer of this question online on JavaChamp.com: [what does java remote method invocation \(rmi\) do?](#)

1.3.23. Which security concerns can WebService-Security specifications cover?

Author: Java Champ

Which security concerns can WS-Security specifications address? (choose 2)

Please choose all the answers that apply:

- ensure that the sender of the SOAP message cannot repudiate
- hide the content of the SOAP message from the non involved parties
- prevent IP address spoofing
- prevent denial of service

Check the answer of this question online on JavaChamp.com: [which security concerns can webservice-security specifications cover?](#)

1.3.24. When to use Java Native Interface (JNI)?

Author: Java Champ

What is TRUE about Java Native Interface (JNI)? (choose two)

Please choose all the answers that apply:

- JNI is used by Java developers to add to their Java application platform-specific functionality that is not supported by standard Java class library
- JNI is used by Java developers to enable their Java application direct access to native databases
- A JNI native method is written in Java and compiled using a Java compiler
- JNI can be used to access legacy systems

Check the answer of this question online on JavaChamp.com: [when to use java native interface \(jni\)?](#)

1.3.25. When to use Web service?

Author: Java Champ

A provider of a web service is usually :

Please choose only one answer:

- another local business component in the application
- a remote business component in another application
- a entity (data component) in another application

Check the answer of this question online on JavaChamp.com: [when to use web service?](#)

1.3.26. What is JAX-WS used for?

Author: [Java Champ](#)

Your job is to develop SOAP based and RESTful Java Web services for your company enterprise application, which of the following technology should you use?

Please choose only one answer:

- JAX-RPC
- JAX-WS
- JMS
- CORBA

Check the answer of this question online on [JavaChamp.com](#): [what is jax-ws used for?](#)

1.3.27. When to use WS-Security?

Author: [Java Champ](#)

You would like to transmit SOAP messages between your web service endpoint and clients in a more secure way by encrypting the body content of the SOAP messages.

Which WebServices specifications would you probably use?

Please choose only one answer:

- WS-Encryption
- WS-Security
- WS-Atomic Transaction
- WS-Coordination

Check the answer of this question online on [JavaChamp.com](#): [when to use ws-security?](#)

1.3.28. SOAP Message Header

Author: [Java Champ](#)

Your application is contacting a web service which approves sufficient bank balance for users.

But for checking the bank balance, the web service requires authentication information from the user (a username and password).

Where in the SOAP message being sent to the Web Service, would these authentication information be placed?

Please choose only one answer:

- in the envelope
- in the message body
- in the message header
- in the fault element

Check the answer of this question online on [JavaChamp.com](#): [soap message header](#)

1.3.29. When to use CORBA?

Author: [Java Champ](#)

In which scenario would you probably use CORBA?

Please choose only one answer:

- A stateless bean would like to invoke a method in another stateless bean in a remote application
- A C++ application would like to invoke a method in a java application
- A Java EE application would like to connect to a database
- A Java EE application would like to expose some of its functionality as web services

Check the answer of this question online on [JavaChamp.com](#): [when to use corba?](#)

1.3.30. What is a Webservice ?

Author: Java Champ

What is a Webservice ?

Please choose only one answer:

- A Webservice is a part of your business logic exposed to other distributed applications to get benefit of
- A Webservice is a collection of downloadable web components in you application, being available for other distributed applications
- A Webservice is a protocol used to enable components of the business tier and components of the presentation tier to exchange messages asynchronously

Check the answer of this question online on JavaChamp.com: [what is a webservice ?](#)

1.3.31. Who use Simple Object Access Protocol (SOAP)?

Author: [Java Champ](#)

Which technology is Simple Object Access Protocol (SOAP) strongly associated with?

Please choose only one answer:

- Java Messaging Services (JMS)
- Java Connectivity Architecture (JCA)
- WebServices
- CORBA

Check the answer of this question online on [JavaChamp.com](#): [who use simple object access protocol \(soap\)?](#)

1.3.32. What is JAXR?

Author: Java Champ

What is Java API for XML Registries (JAXR) used for?

Please choose only one answer:

- to write XML web services
- to write code used to enable XML document exchange between XML-based databases
- to search for webservices or publish your webservices in an ebXML Registry or in a UDDI Registry

Check the answer of this question online on JavaChamp.com: [what is jaxr?](#)

1.3.33. SOAP Message Format

Author: [Java Champ](#)

Not all parts of the standard SOAP message are mandatory. The two required parts of a SOAP message are:

Please choose all the answers that apply:

- an envelope
- a Header element
- a Body element
- a destination url element

Check the answer of this question online on [JavaChamp.com](#): [soap message format](#)

1.3.34. What is Java EE Connector Architecture (JCA) used for?

Author: Java Champ

What solution does Java EE Connector Architecture (JCA) provide?

Please choose only one answer:

- JCA enables a Java to Java integration
- JCA provides a solution to enable connectivity between Java EE-compliant application servers and enterprise information systems (EIS) already in existence
- JCA provides a solution to enable asynchronous and remote exchange of messages between Java EE applications

Check the answer of this question online on JavaChamp.com: [what is java ee connector architecture \(jca\) used for?](#)

1.3.35. When to use Remote Procedure Call RPC?

Author: Java Champ

What is Remote Procedure Call (RPC) used for?

Please choose only one answer:

- RPC is used to enable a stateless session bean to communicate with a stateful session bean in the same application residing in the same computer
- RPC is used to enable a program to request from another program in another computer, but in the same network, to execute a specified procedure
- RPC is used to asynchronously and remotely exchange messages between heterogeneous programs
- A RPC is a part of your business logic exposed to other distributed applications to get benefit of

Check the answer of this question online on JavaChamp.com: [what is remote procedure call \(rpc\) used for?](#)

1.3.36. what is a REST web service?

Author: Yasser Ibrahim

In the web services world, the REST (REpresentational State Transfer) is:

Please choose only one answer:

- A protocol
- A software architectural paradigm
- A standard API

Check the answer of this question online on JavaChamp.com: [what is a rest web service?](#)

1.3.37. What is the role of a Web Services Description Language (WSDL) document?

Author: Java Champ

What is considered FALSE about a WSDL document ? (WSDL: Web Services Description Language)

Please choose only one answer:

- WSDL is often used in combination with SOAP and an XML Schema to provide web services over the Internet
- A WSDL document provides the clients with some necessary information about the web service
- A WSDL document is written in XML
- The requester of a web service writes a WSDL document that includes the data necessary to communicate with the service
- This WSDL document can be published in public or private registry

Check the answer of this question online on JavaChamp.com: [what is the role of a web services description language \(wsdl\) document?](#)

4. Security in the Java EE Platform

Exam Category Description and Objectives

1.4.1. How to minimize the damage by intruders attacks?

Author: Java Champ

How to minimize the damage and/or unauthorized information access that can occur due to intruders attacks?
(choose 3)

Please choose all the answers that apply:

- install DMZ (demilitarized zone) in your organization's network
- install request throttling firewall in your organization's network
- grant the users the least possible permissions to your organization's resources
- perform security auditing to monitor your organization's network and track intruders' activities

Check the answer of this question online on JavaChamp.com: [how to minimize the damage by intruders attacks?](#)

1.4.2. http basic authentication

Author: Yasser Ibrahim

You were trying to access a secure resource on a web server and the browser responded by a standard dialog box prompting for your credentials (user ID and password).

Which authentication method is possibly configured on the server?

Please choose all the answers that apply:

- http BASIC
- http DIGEST
- http CLIENT-CERT
- http FORM

Check the answer of this question online on JavaChamp.com: [http basic authentication](#)

1.4.3. Session hijacking security threats

Author: Yasser Ibrahim

As an software architect how to protect your enterprise java application server against Session hijacking security threats?

Please choose all the answers that apply:

- encrypt all communication between the user browser and your web server using secure SSL channel
- proactively escape all the user supplied input using the interceptor filter design pattern
- use Captcha challenge-response test used to ensure that the request is originated by a human not an attacking program
- proactively force user session to expire after a short period of inactivity if the user didn't end his or her session using the log out action

Check the answer of this question online on JavaChamp.com: [session hijacking security threats](#)

1.4.4. What is web server Programmatic security?

Author: Yasser Ibrahim

Which methods can be used to restrict method invocations in your web application to specific roles? (choose two)

Please choose all the answers that apply:

- `getUserPrincipal()`
- `isUserInRole()`
- `getCallerPrincipal()`
- `isCallerInRole()`

Check the answer of this question online on JavaChamp.com: [what is web server programmatic security?](#)

1.4.5. JEE security model

Author: Yasser Ibrahim

What's true about JEE security model?

Please choose all the answers that apply:

- A principal has credentials
- A role is a set of principals
- A realm is a set of users and groups
- A role may have zero or more permissions

Check the answer of this question online on JavaChamp.com: [jee security model](#)

1.4.6. Java Security Manager (JSM)

Author: Yasser Ibrahim

What is the role of Java Security Manager (JSM)? (choose two)

Please choose all the answers that apply:

- The JSM controls the program access to the local file system
- The JSM controls the program creation of Swing user interface components
- The JSM monitors the program memory allocation activities
- The JSM restrains the socket connections established by java programs

Check the answer of this question online on JavaChamp.com: [java security manager \(jvm\)](#)

1.4.7. What is EJB Programmatic security?

Author: [Java Champ](#)

Which methods can be used to restrict method invocations in your EJBs to specific roles? (choose two)

Please choose all the answers that apply:

- `getUserPrincipal()`
- `getCallerPrincipal()`
- `isUserInRole()`
- `isCallerInRole()`

Check the answer of this question online on [JavaChamp.com](#): [what is ejb programmatic security?](#)

1.4.8. enterprise architecture security goals

Author: Yasser Ibrahim

As a software architect, which security goals for Java EE applications you should achieve?

Please choose all the answers that apply:

- secure the application against social hacking threats
- authenticate the application users identities
- physically securing the server machines against thieves
- guarantee the users' can't repudiate their actions

Check the answer of this question online on JavaChamp.com: [architecture security goals](#)

1.4.9. What does Authentication mean?

Author: [Java Champ](#)

What does Authentication mean?

Please choose only one answer:

- It means granting a logged-in user access to her private profile page
- It means making sure that the username and password provided by the user are correct and match what saved in the system database
- It means making sure that any change done by the user in her profile is saved in a log file
- It means rolling back any unpermitted change in other users data

Check the answer of this question online on [JavaChamp.com](#): [what does authentication mean?](#)

1.4.10. What does Data Privacy mean?

Author: Java Champ

Only Tom Hanks can view and update his private profile in JavaChamp.com website. Which security aspects are applied in this case? (choose two)

Please choose all the answers that apply:

- Non-repudiation
- Authorization
- Confidentiality or Data Privacy
- Auditing

Check the answer of this question online on JavaChamp.com: [what does data privacy mean?](#)

1.4.11. What are the security measures granted by the java run time sand box?

Author: Yasser Ibrahim

What are the security measures granted by the java run time sand box?

Please choose all the answers that apply:

- Principal authentication
- Byte code verification
- Non-repudiation of user actions
- Automatic memory management

Check the answer of this question online on JavaChamp.com: [java sandbox](#)

1.4.12. unsigned applet security restrictions

Author: Yasser Ibrahim

What are the security restrictions that Java run time sand box imposes on an unsigned applet running in a browser?

Please choose all the answers that apply:

- an unsigned applet can't access the local file system
- an unsigned applet can't render Java Swing graphical user interface components
- an unsigned applet can't call back to it's originating host server
- an unsigned applet can't access the clipboard

Check the answer of this question online on JavaChamp.com: [unsigned applet security restrictions](#)

1.4.13. What is a digital certificate?

Author: Java Champ

What is NOT true about a digital certificate?

Please choose only one answer:

- It is a digital document that represents an identity (a website)
- It is used for parties authentication
- It is signed by a trusted certificate authority
- It is used with Https connections
- It doesn't depend on encryption rather obfuscation
- It is signed by its owner

Check the answer of this question online on JavaChamp.com: [what is a digital certificate?](#)

1.4.14. What is HTTPS protocol?

Author: [Java Champ](#)

What is TRUE about HTTPS protocol? (choose two)

Please choose all the answers that apply:

- HTTPS works in conjunction with Secure Sockets Layer (SSL) protocol
- HTTPS uses TCP Port 80 by default
- HTTPS grants a 100% secure data transfer from Point A to Point B
- A web server, accepting HTTPS connections, must own a public key certificate
- HTTPS is faster than HTTP

Check the answer of this question online on [JavaChamp.com](#): [what is https protocol?](#)

1.4.15. enterprise architect security responsibilities

Author: Yasser Ibrahim

As a software architect, which security goals for Java EE applications you should achieve?

Please choose all the answers that apply:

- guarantee that the application data has not been manipulated by an illegal party
- make certain that the application resources are accessed only by the users with the right credentials
- make sure that the application will scale up gracefully with the increase of the traffic load
- ensure that the user will not grant an unauthorized access to the application to a third party

Check the answer of this question online on JavaChamp.com: [architect job description](#)

1.4.16. asymmetric key algorithms signature

Author: Yasser Ibrahim

Alice and Bob want to exchange highly confidential business emails. So they started experimenting with the asymmetric key algorithms. Each of them generated a public and private key pair, exchanged the public key by post, and they are now ready to correspond.

Alice used her own private key to sign and send their first top secret email.

What is true?

Please choose all the answers that apply:

- Bob can can decrypt and verify that the message was really originated by Alice using his own private key.
- Bob can can decrypt and verify that the message was really originated by Alice using her private key.
- Bob can can decrypt and verify that the message was really originated by Alice using her public key.
- Anyone who can obtain Alice's public key would be able to decrypt and verify that the message was really originated by Alice

Check the answer of this question online on JavaChamp.com: [verify using asymmetric key algorithms](#)

1.4.17. What an unsigned applet cannot do?

Author: [Java Champ](#)

What an unsigned applet cannot do? (select two)

Please choose all the answers that apply:

- update any system properties
- run out of memory
- read files on the client file system
- monopolize the CPU time
- access to the server from which the applet was downloaded

Check the answer of this question online on [JavaChamp.com](#): [what an unsigned applet cannot do?](#)

1.4.18. Phishing

Author: [Java Champ](#)

You were busy preparing for SCEA exam by working on JavaChamp.com. You forgot to log out from the instant messaging application in your computer. In the middle of your work, an acquaintance has logged in and started chatting with you. He told you that PayPal is having a short tempting offer and posted you a direct URL to this offer encouraging you to log in and participate.

Fortunately, you have just read in JavaChamp.com about a fraudulent process that is greatly similar to this scenario, what made you reject the posted link.

Which fraudulent process are we talking about?

Please choose only one answer:

- Eavesdropping
- Man in the middle
- Denial of service
- Phishing

Check the answer of this question online on JavaChamp.com: [what is phishing?](#)

1.4.19. Cross-site Scripting (XSS) security threats

Author: Yasser Ibrahim

As a software architect, how can you protect your enterprise java application server against Cross-site Scripting (XSS) security threats?

Please choose all the answers that apply:

- treat all user input as untrusted Data representing a potential security threat
- encrypt all communication between the user browser and your web server using secure SSL channel
- Escape all user input data to ensure that characters are treated as raw data, not as HTML markup language tags
- enable bandwidth throttling in your hardware infrastructure

Check the answer of this question online on JavaChamp.com: [cross site scripting \(xss\) security threats](#)

1.4.20. password cracking security threats

Author: Yasser Ibrahim

As an software architect how to protect your enterprise java application server against password cracking security threats?

Please choose all the answers that apply:

- use Captcha challenge-response test used to ensure that the request is originated by a human not an attacking program
- block the user account for a while after the system encounters 3 unsuccessful log-in attempts.
- permanently block any future connection requests from the hacker IP address
- enforce an organization wide password security rules that mixes chars, digits and symbols

Check the answer of this question online on JavaChamp.com: [password cracking software](#)

1.4.21. What is Data integrity?

Author: [Java Champ](#)

Two end points are exchanging messages, the recipient detects a tampering in the message after it has been sent and refuses to accept the message. Which security aspect is applied in this case?

Please choose only one answer:

- Non-repudiation
- Data integrity
- Data Privacy
- Authentication

Check the answer of this question online on [JavaChamp.com](#): [what is data integrity?](#)

1.4.22. One-way Hash Encryption Algorithms

Author: [Java Champ](#)

What are considered one-way hash encryption algorithms? (choose two)

Please choose all the answers that apply:

- MD5
- SHA-1
- Blowfish
- 3DES
- RC4

Check the answer of this question online on [JavaChamp.com](#): [md5 encryption algorithms](#)

1.4.23. What is JAAS?

Author: Yasser Ibrahim

What does JAAS Java Authentication and Authorization Service provides?

Please choose all the answers that apply:

- JAAS is used to establish a principal representation and a associated credentials
- JAAS prevents network sniffing attacks
- JAAS guarantees secure java class loading
- enable integrating security services as pluggable modules

Check the answer of this question online on JavaChamp.com: [pluggable authentication module](#)

1.4.24. What does Authorization mean?

Author: Java Champ

What does Authorization mean?

Please choose only one answer:

- It means rolling back any unpermitted change in other users data
- It means making sure that any change done by the user in her profile is saved in a log file
- It means making sure that the username and password provided by the user are correct and match what saved in the system database
- It means granting a logged-in user access to her private profile page

Check the answer of this question online on JavaChamp.com: [what does authorization mean?](#)

1.4.25. Specifying EJB Method Permissions Using Annotations

Author: Java Champ

Which annotations can be used to specify EJB method permissions?

Please choose all the answers that apply:

- @RolesAllowed(""Role1, Role2,..")
- @AllowAll
- @PermitAll
- @DenyAll
- @RejectAll

Check the answer of this question online on JavaChamp.com: [ejb method permissions annotations](#)

1.4.26. SQL Injection security threats

Author: Yasser Ibrahim

As an software architect how to protect your enterprise java application server against SQL Injection security threats?

Please choose all the answers that apply:

- favor the use of of prepared statements (parameterized queries)
- favor the use of the native queries statements
- proactively escape all the user supplied input using the interceptor filter design pattern
- minimize the privileges assigned to the database account used to connect to your java application server

Check the answer of this question online on JavaChamp.com: [sql injection security threats](#)

1.4.27. Principle of least privilege

Author: Java Champ

What are the benefits of "principle of least privilege"? (choose two)

Please choose all the answers that apply:

- restrains the damage and/or unauthorized information access that can occur due to intruders attacks
- improves application scalability
- improves application reliability
- improves application security

Check the answer of this question online on JavaChamp.com: [principle of least privilege](#)

1.4.28. java run time sand box security

Author: Yasser Ibrahim

As a java architect; what are the security benefits you get out of the java run time sand box?

Please choose all the answers that apply:

- Session hijacking protection
- Network sniffing protection
- Secure class loading
- Strong data typing

Check the answer of this question online on JavaChamp.com: [java run time sand box security](#)

1.4.29. What is a Demilitarized Zone?

Author: Java Champ

What does DMZ mean in the world of computer networking security? (choose three)

Please choose all the answers that apply:

- DMZ stands for Demilitarized Zone
- Use DMZ, when you want to protect your Development zone (development servers and developers'machines) from the Internet users, and at the same time you would like to provide the Internet users access to your web pages
- DMZ contains the public services you would like to provide to the Internet users
- DMZ contains the services you would like to isolate from the Internet users

Check the answer of this question online on JavaChamp.com: [what is a demilitarized zone?](#)

1.4.30. What is security realm?

Author: [Java Champ](#)

It is a collection of users or groups, who will be treated the same in regards to authentication and security restrictions

Please choose only one answer:

- A role
- A realm
- A user
- A principal

Check the answer of this question online on [JavaChamp.com](#): [what is security realm?](#)

1.4.31. What does @PermitAll annotation mean?

Author: Java Champ

Your EJB class is annotated with @PermitAll annotation, what does this mean?

Please choose only one answer:

- It means that all all accessible class methods are permitted to expose themselves as web services
- It means that all all accessible class methods are eligible for overriding
- It mean that all security roles are permitted to execute all accessible class methods
- It mean that this class can be extended by the any EJB container

Check the answer of this question online on JavaChamp.com: [what does @permitall annotation mean?](#)

1.4.32. Symmetric encryption algorithms

Author: [Java Champ](#)

Which of the following are considered symmetric encryption algorithms? (choose two)

Please choose all the answers that apply:

- Blowfish
- 3DES
- RC4
- SHA
- Public-key cryptography

Check the answer of this question online on [JavaChamp.com](#): [symmetric encryption algorithms](#)

1.4.33. What is the role of bytecode verification in Java?

Author: Java Champ

What is the role of bytecode verification in Java?

Please choose all the answers that apply:

- it prevents pointers counterfeit
- it ensures that the code respects the accesses restrictions such as private, public, or protected
- it catches OutOfMemory exceptions
- it validates the inheritance tree

Check the answer of this question online on JavaChamp.com: [what is the role of bytecode verification in java?](#)

1.4.34. asymmetric key algorithms encryption

Author: Yasser Ibrahim

Alice and Bob want to exchange highly confidential business emails. So they started experimenting with the asymmetric key algorithms. Each of them generated a public and private key pair, exchanged the public key by post, and they are now ready to correspond.

Alice used the public key of Bob to encrypt and send their first top secret email.

What is true?

Please choose only one answer:

- Alice should have used her own private key to encrypt the above mentioned message
- Only Bob can decrypt and read the message using Alice's public key
- Only Bob can decrypt and read the message using his own private key.
- Anyone who can obtain Bob public key would be able to decrypt and read Alice's message

Check the answer of this question online on JavaChamp.com: [asymmetric key algorithms](#)

1.4.35. What is Non-repudiation?

Author: Java Champ

An e-commerce online company wants to make sure that no one made a purchase via its website can later deny this transaction. Which security aspect is applied in this case?

Please choose only one answer:

- Authentication
- Data integrity
- Non-repudiation
- Authorization

Check the answer of this question online on JavaChamp.com: [what is non-repudiation?](#)

1.4.36. What is bytecode verification in Java?

Author: Java Champ

What is true about bytecode verification in Java?

Please choose all the answers that apply:

- it is done when loading the class files by the class loader
- it is done while compiling the Java source files
- it makes sure that the code doesn't violate access restrictions
- it checks that data type conversions is code is correct

Check the answer of this question online on JavaChamp.com: [bytecode verification](#)

5. Web Tier Technologies

Exam Category Description and Objectives

1.5.1. What is expression language EL used for?

Author: Java Champ

The expression language (EL) is widely used by web application developers typically inside JSP and JSF pages to: (choose 2)

Please choose all the answers that apply:

- trigger event handling or validation methods
- retrieve data stored in request or session scopes
- manipulate XML documents
- consume RESTful webservice

Check the answer of this question online on JavaChamp.com: [expression language el](#)

1.5.2. Advantages and disadvantages of Java Server Faces

Author: Java Champ

Java server faces JSF is an emerging web presentation technology that's supported by many industry leaders, it is designed from ground up to support RAD rapid application development by utilizing visual designing tools.

What is true about JSF? (choose three)

Please choose all the answers that apply:

- JSF is search engine friendly
- JSF components perform user input validation and value conversion
- JSF request life cycle is broken down into 6 phases
- JSF is based on the well known MVC design pattern (Model-View-Controller)
- JSF pages can be tested outside any web container

Check the answer of this question online on JavaChamp.com: [advantages and disadvantages of java server faces](#)

1.5.3. How to make your website crawlable?

Author: [Java Champ](#)

You are architecting a heavy content web application, your client emphasized that his web pages that are generated dynamically from the backing information system should be search engines friendly. In the first place the generated URLs must be reachable and crawlable by major search engines.

Which technology doesn't comply with those requirements out of the box?

Please choose only one answer:

- PHP
- JSP
- JSF
- HTML

Check the answer of this question online on [JavaChamp.com](#): [which technology would you avoid when trying to make your site crawlable?](#)

1.5.4. Model-View-Controller Model role

Author: Java Champ

You are architecting a web application using the famous MVC design pattern to be inline with the separation of concerns principle.

Your model is pure java beans, controller is implemented with Servlets technology, and the View is realized as JSP pages.

What is the role of Model in your application do according to the MVC model guidelines ?

Please choose only one answer:

- render a beans collection as an HTML table
- dispatch the incoming user web request to a certain page based on user's credentials
- query the databank
- represent the application data as java beans

Check the answer of this question online on JavaChamp.com: [model view controller model role](#)

1.5.5. Ajax advantages

Author: Java Champ

What are the advantages of using Ajax?

Please choose all the answers that apply:

- limits the bandwidth use
- improves user-experience
- browsers compatibility is not a major issue
- minimize the page reloads upon user requests
- eliminates the need to host your application on a web server as it runs on the client browser

Check the answer of this question online on JavaChamp.com: [advantages of using ajax](#)

1.5.6. JavaServer Pages Standard Tag Library (JSTL)

Author: [Java Champ](#)

The JavaServer Pages Standard Tag Library (JSTL) is widely used by web application developers typically inside JSP pages to implement common presentation functionalities, which of the following is not supported by JSTL?

Please choose only one answer:

- is used to manipulate XML documents
- is used to iterate a list of values
- is used to support internationalization
- is used to consume RESTful webservice

Check the answer of this question online on [JavaChamp.com](#): [javaserver pages standard tag library \(jstl\)](#)

1.5.7. Model-View-Controller Servlet role

Author: Java Champ

You are architecting a web application using the famous MVC design pattern to be inline with the separation of concerns principle.

Your model is pure java beans, controller is implemented with Servlets technology, and the View is realized as JSP pages.

What shouldn't a Servlet class in your application do according to the MVC model guidelines ?

Please choose only one answer:

- render a beans collection as an HTML table
- dispatch the incoming user web request to a certain page based on user's credentials
- query the databank
- validate the user input values
- look up an attribute from the request or session scope

Check the answer of this question online on JavaChamp.com: [model view controller servlet role](#)

1.5.8. Multimedia streaming using Servlets

Author: Java Champ

You are designing a rich web application, which provides access to its' multimedia resources only for premium members.

Those multimedia files are stored on a file server on your organization's network which is not directly accessible to your web server.

You need to stream those multimedia resources to be rendered on the members' browsers.

Which technology is the most suitable for multimedia streaming?

Please choose only one answer:

- Servlets
- JSF
- JSTL JavaServer Pages Standard Tag Library
- HTML HyperText Markup Language

Check the answer of this question online on JavaChamp.com: [multimedia streaming using servlets](#)

1.5.9. Model-View-Controller (MVC) architecture or pattern

Author: Java Champ

You are architecting a web application using the famous MVC design pattern to be inline with the separation of concerns principle.

Your model is pure java beans, controller is implemented with Servlets technology, and the View is realized as JSP pages.

What shouldn't a JSP page in your application do according to the MVC model guidelines ?

Please choose only one answer:

- dispatch the incoming user web request to a certain page based on user's credentials
- render a beans collection as an HTML table
- look up an attribute from the request or session scope
- use JSTL tags (JavaServer Pages Standard Tag Library)

Check the answer of this question online on JavaChamp.com: [model view controller](#)

6. Business tier technologies

Exam Category Description and Objectives

1.6.1. When to use stateful session beans?

Author: Java Champ

You are responsible for architecting an application for car agents. The application should save a lot of effort to its users. Instead of traversing about 30 commerce sites to check the new car offers, the application will collect these offers and render the list to the agent in one page. The agent will also be able to buy the car through this application directly.

You expect a limited number of users to get access to the application. And for performance reasons you have to cache huge amount of data collected from the various commerce sites that must be maintained during the user session that spans the regular day working hours.

What is recommended to use in this case to maintain the user session?

Please choose only one answer:

- http session
- stateful session bean
- entity bean
- stateless session bean

Check the answer of this question online on JavaChamp.com: [when to use stateful session beans?](#)

1.6.2. EJB interceptor

Author: Java Champ

EJB 3 introduced quite easy interceptor class definition through annotations such as `@PostConstruct`, `@PreDestroy`, `@PrePassivate`, `@PostActivate` for lifecycle callback methods, and `@AroundInvoke` for or business methods.

For what can you use EJB interceptor? (choose two)

Please choose all the answers that apply:

- keep track of the each method invocation duration and count
- catch technical exceptions to prevent it from propagating to the web teir
- provides a centralized point to query the databank tables
- implement the common business logic

Check the answer of this question online on JavaChamp.com: [use.ejb.interceptor](#)

1. Chapter: Java Messaging Service

Chapter Description and Objectives

1. Synchronous and Asynchronous Messaging

Exam Category Description and Objectives

1.1.1. Asynchronous versus Synchronous Protocols

Author: [Java Champ](#)

Which is considered an asynchronous protocol?

Please choose only one answer:

- Remote Procedure Call (RPC)
- Remote Method Invocation (RMI)
- Java Messaging Service (JMS)
- HTTP

Check the answer of this question online on [JavaChamp.com](#): [asynchronous protocols](#)

1.1.2. Synchronous and Asynchronous Communications

Author: [Java Champ](#)

What is TRUE about synchronous and asynchronous communications?

Please choose all the answers that apply:

- In an asynchronous communication, the requester of a service must wait for a response from the service
- In synchronous communication, the requester of a service must wait for a response from the service
- In synchronous communication, both parties must be active
- Synchronous communication overcomes asynchronous communication in terms of performance

Check the answer of this question online on [JavaChamp.com](#): [asynchronous and synchronous communications](#)

1.1.3. Synchronous and Asynchronous messaging in JMS

Author: Java Champ

Which is true about synchronous and asynchronous messaging in JMS?

Please choose all the answers that apply:

- a QueueReceiver or a TopicSubscriber in JMS, use the receive() method to consume a message synchronously
- a QueueReceiver or a TopicSubscriber in JMS, must use a message listener to consume a message synchronously
- a QueueReceiver or a TopicSubscriber in JMS, can consume a message asynchronously by using a message listener
- in asynchronous messaging, the onMessage() method of the consumer is invoked when a message arrives

Check the answer of this question online on JavaChamp.com: [synchronous and asynchronous messaging in jms java message service](#)

1.1.4. Asynchronous Communication Applications

Author: [Java Champ](#)

Which of the following applications are appropriate to communicate asynchronously?

Please choose all the answers that apply:

- Courses registration in a university, where courses availability must be checked by another application before registering the course
- Email services (sending and receiving emails)
- A client sends a document (such as an XML document) to a travel agency service requesting arrangements for a particular trip

Check the answer of this question online on [JavaChamp.com](#): [asynchronous communication use cases](#)

1.1.5. Synchronous and Asynchronous Consumers and Destinations

Author: Java Champ

Which of the following is FALSE?

Please choose only one answer:

- the asynchronous consumer is notified when new messages arrive
- The synchronous consumer client checks and collects messages from destination and doesn't wait for notifications from destination
- An asynchronous consumer client checks the destination in time-intervals for any new messages

Check the answer of this question online on JavaChamp.com: [asynchronous consumer versus synchronous consumer](#)

2. Basics

Exam Category Description and Objectives

1.2.1. JMS Message Body Formats

Author: Java Champ

Which of the following is NOT a JMS message valid body format?

Please choose only one answer:

- ByteMessage
- ObjectMessage
- CharMessage
- TextMessage

Check the answer of this question online on JavaChamp.com: [jms java message service message valid body format](#)

1.2.2. Messaging versus RMI

Author: Java Champ

What is TRUE about Messaging versus RMI (Remote Method Invocation)?

Please choose only one answer:

- Remote Method Invokation (RMI) enables communication in a loose coupling way, where the sender does not need to know anything about the receiver and vice versa
- Remote Method Invocation (RMI), which requires an invoker of a remote method to know about the other application
- Asynchronous messaging is considered a tightly coupled technology

Check the answer of this question online on JavaChamp.com: [messaging versus rmi \(remote method invocation\)](#)

1.2.3. Message Acknowledgement Ways

Author: Java Champ

What is not considered a way in messages acknowledgement?

Please choose only one answer:

- AUTO_ACKNOWLEDGE
- RECEIVER_ACKNOWLEDGE
- CLIENT_ACKNOWLEDGE
- DUPS_OK_ACKNOWLEDGE

Check the answer of this question online on JavaChamp.com: [messages acknowledgement ways in Java Message Service JMS](#)

1.2.4. What is the role of a Session component in an JMS application?

Author: [Java Champ](#)

Which JMS messaging application component is responsible for producing and consuming messages, managing transactions, and handling acknowledgments?

Please choose only one answer:

- Connection
- ConnectionFactory
- Session
- Message Sender and Message Receiver

Check the answer of this question online on [JavaChamp.com](#): [the role of a session in java message service](#)

1.2.5. Which method is called to receive messages in Java Message Service?

Author: [Java Champ](#)

Which method is called to receive messages in Java Message Service?

Please choose all the answers that apply:

- `receiveMessage()`
- `receive()`
- `receiveNoWait()`
- `acknowledge()`
- `onMessage()`

Check the answer of this question online on [JavaChamp.com](#): [which method is called to receive messages in java message service?](#)

1.2.6. Which JMS messaging application components are obtained via JNDI lookups?

Author: Java Champ

Which JMS messaging application components are obtained via JNDI lookups?

Please choose all the answers that apply:

- Connection
- ConnectionFactory
- Session
- MessageProducer
- Destination

Check the answer of this question online on JavaChamp.com: [which jms java message service components are obtained via jndi lookups?](#)

1.2.7. JMS Administered objects

Author: Java Champ

Preconfigured JMS objects created by an administrator for the use of clients are:

Please choose all the answers that apply:

- messages
- destinations
- connections
- connection factories

Check the answer of this question online on JavaChamp.com: [what are the administered objects in jms java message service messaging application?](#)

1.2.8. What is the role of MessageSelector in a JMS application?

Author: [Java Champ](#)

What would you use to filter out messages that don't meet specified criteria?

Please choose only one answer:

- a MessageListener
- a MessageScanner
- a MessageSelector
- a MessagePattern

Check the answer of this question online on [JavaChamp.com](#): [what is the role of a messageselector in java message service jms?](#)

1.2.9. Message Producers in JMS

Author: Java Champ

What is TRUE about Message Producers in JMS?

Please choose all the answers that apply:

- The Point To Point form of a message producer implements the TopicPublisher
- A message producer is an object created by a session and is used for sending messages to a destination
- to send a message using a QueueSender object, the send() method is called
- to send a message using a TopicPublisher object, the send() method is called
- to send a message using a TopicPublisher object, the publish() method is called

Check the answer of this question online on JavaChamp.com: [jms java message service queuesender](#)

1.2.10. What is the role of a JMS Destination component?

Author: Java Champ

What is the role of a JMS Destination component?

Please choose all the answers that apply:

- a client uses the destination component to specify the target of messages that it produces
- a client uses the destination component to specify the source of messages that it consumes.
- a destination component creates connections with the source clients
- a destination component creates connections with the destinations clients

Check the answer of this question online on JavaChamp.com: [what is the role of a java message service jms destination component?](#)

1.2.11. Components of a JMS messaging application

Author: [Java Champ](#)

What are the components of a JMS messaging application?

Please choose all the answers that apply:

- a Queue
- a Message Producer
- a WebService end point
- a Message Convertor
- a Connection

Check the answer of this question online on [JavaChamp.com](#): [what are the components of a jms messaging application?](#)

1.2.12. What is a StreamMessage?

Author: [Java Champ](#)

What type of data does a StreamMessage carry?

Please choose only one answer:

- StreamMessage carries a stream of bytes
- StreamMessage carries a Serializable java object
- StreamMessage carries a stream of Java primitive types
- StreamMessage carries name-value pairs, where values can be Java primitives or their wrappers

Check the answer of this question online on [JavaChamp.com](#): [what type of data does a streammessage carry?](#)

3. Point to Point and Publish/Subscribe Messagings

Exam Category Description and Objectives

1.3.1. What design pattern best describes the Publish/Subscribe messaging?

Author: Java Champ

What design pattern best describes the Publish/Subscribe messaging?

Please choose only one answer:

- Proxy
- Bridge
- Observer
- Builder

Check the answer of this question online on JavaChamp.com: [what design pattern best describe the publish/subscribe messaging?](#)

1.3.2. Destination components in Point to Point messaging vs Publish/Subscribe messaging

Author: Java Champ

What is true about Destination components in Point to Point messaging and Publish/Subscribe messaging?

Please choose all the answers that apply:

- a destination in Point to Point messaging is called Topic
- a destination in Point to Point messaging has one consumer for each message
- messages in a destination of Point to Point messaging are consumed in FIFO order
- messages sent to a destination of Publish/Subscribe messaging must be generated by only one publisher but can be consumed by many subscribers

Check the answer of this question online on JavaChamp.com: [destination components in point to point messaging and publish/subscribe messaging](#)

1.3.3. Messaging with Timing Dependencies

Author: [Java Champ](#)

Which of the following messaging approaches requires no timing dependencies between the sender(s) and receiver(s)?

Please choose all the answers that apply:

- Point-to-Point Messaging
- durable Publish/Subscribe Messaging
- non durable Publish/Subscribe Messaging
- Remote Procedure Call

Check the answer of this question online on [JavaChamp.com](#): [timing dependencies in Publish/Subscribe Messaging](#)

1. Chapter: Gang of Four Design Patterns

Chapter Description and Objectives

1. Creational Patterns

Exam Category Description and Objectives

1.1.1. Singleton design pattern implementation example

Author: Yasser Ibrahim

Which GOF design pattern is applied in the code snippet below?

```
public class PrintSpooler {  
    private static final PrintSpooler INSTANCE = new PrintSpooler();  
    private PrintSpooler() {}  
    public static PrintSpooler getInstance() {  
        return INSTANCE;  
    }  
}
```

Please choose only one answer:

- PrintSpooler design pattern
- Spooler design pattern
- Singleton design pattern
- Factory design pattern
- Abstract Singleton design pattern

Check the answer of this question online on JavaChamp.com: [gof singleton design pattern implementation example](#)

1.1.2. Singleton design pattern consequences

Author: Yasser Ibrahim

What are the consequences of applying the GOF Singleton pattern?

Please choose all the answers that apply:

- it introduces thread safety issue when the singleton instance is instantiated on demand
- the client code can create multiple instances at run time
- it reduces the class hierarchy as compared to the other factory design patterns
- it makes it easier for a certain family of objects to work together

Check the answer of this question online on JavaChamp.com: [singleton design pattern consequences](#)

1.1.3. Factory method design pattern consequences

Author: Yasser Ibrahim

What are the consequences of applying the GOF factory method pattern?

Please choose all the answers that apply:

- it decouples the client code from the application specific classes
- it makes the designed product families exchangeable
- it establishes a flexible mechanism for instantiating an object in comparison to the usual java constructor instantiation.

Check the answer of this question online on JavaChamp.com: [factory method design pattern consequences](#)

1.1.4. Factory method design pattern intent

Author: Yasser Ibrahim

Which design pattern you would you use to control the creation of an object based on a established interface, while allowing the concrete implementation to determine the subclass to construct.

Please choose only one answer:

- Singleton design pattern
- Builder Factory design pattern
- Prototype factory design pattern
- Factory method design pattern

Check the answer of this question online on JavaChamp.com: [factory method design pattern intent](#)

1.1.5. Prototype design pattern intent

Author: Yasser Ibrahim

Which design pattern you would you use to have a prototypical instance determine the concrete class of object being created?

Please choose only one answer:

- Prototype factory design pattern
- Virtual prototype design pattern
- Abstract prototype design pattern
- Prototype design pattern

Check the answer of this question online on JavaChamp.com: [prototype design pattern intent](#)

1.1.6. Builder design pattern consequences

Author: Yasser Ibrahim

What are the consequences of applying the Builder design pattern?

Please choose all the answers that apply:

- it makes the designed product hierarchies exchangeable
- it's easier to introduce new product implementation
- it separates the product construction from its representation
- the director has fine control over the product creation procedure

Check the answer of this question online on JavaChamp.com: [builder design pattern consequences](#)

1.1.7. Factory method design pattern participants

Author: Yasser Ibrahim

Which of the following are participants in the GOF builder design pattern?

Please choose all the answers that apply:

- Creator
- Product
- Refined Abstraction
- Abstract factory

Check the answer of this question online on JavaChamp.com: [factory method design pattern participants](#)

1.1.8. When to use Singleton Pattern?

Author: [Java Champ](#)

You want all the clients using class A to use the same instance of class A, what should you do to achieve this goal?

Please choose only one answer:

- mark class A final
- mark class A abstract
- apply the Singleton pattern to class A
- apply the Memento pattern to class A

Check the answer of this question online on [JavaChamp.com](#): [when to use singleton pattern?](#)

1.1.9. Factory method design pattern java usages

Author: Yasser Ibrahim

Which design pattern is used in the Java Database connectivity JDBC(TM)?

Please choose only one answer:

- Builder design pattern
- Factory method design pattern
- Abstract Factory design Pattern
- Singleton design Pattern

Check the answer of this question online on JavaChamp.com: [factory method design pattern java usages](#)

1.1.10. abstract factory pattern consequences

Author: Yasser Ibrahim

What are the consequences of applying the abstract factory patter?

Please choose all the answers that apply:

- it will be much easier to introduce new family of products
- it makes it easier for a certain family of objects to work together
- it makes it easier for the client to deal with tree-structured data
- it makes the designed product families exchangeable

Check the answer of this question online on JavaChamp.com: [abstract factory pattern consequences](#)

1.1.11. Factory method design pattern applicability

Author: Yasser Ibrahim

When would you use the GOF Factory method design pattern? (choose all that apply)

Please choose all the answers that apply:

- To ensure that a certain group of related objects are used together
- To control the creation of an object based on a established interface
- To allow the concrete implementation to determine the subclass to construct.
- To abstract steps of construction of complex objects

Check the answer of this question online on JavaChamp.com: [factory method design pattern applicability](#)

1.1.12. Singleton design pattern traditional implementation

Author: Yasser Ibrahim

Which of the following code snippet represents a Singleton design pattern implementation?

Please choose only one answer:

- ```
public class PrintSpooler {
 public PrintSpooler INSTANCE = new PrintSpooler();
 public PrintSpooler () {}
 public static PrintSpooler getInstance() {
 return INSTANCE;
 }
}
```
- ```
public class PrintSpooler {
    private PrintSpooler INSTANCE = new PrintSpooler();
    private PrintSpooler () {}
    public static PrintSpooler getInstance() {
        return INSTANCE;
    }
}
```
- ```
public class PrintSpooler {
 private static final PrintSpooler INSTANCE = new PrintSpooler();
 private PrintSpooler () {}
 public static PrintSpooler getInstance() {
 return INSTANCE;
 }
}
```
- ```
public class PrintSpooler {
    private final PrintSpooler INSTANCE = new PrintSpooler();
    private PrintSpooler () {}
    public static PrintSpooler getInstance() {
        return INSTANCE;
    }
}
```

Check the answer of this question online on JavaChamp.com: [singleton design pattern traditional implementation](https://www.java-champ.com/question/design-patterns/singleton-design-pattern-traditional-implementation/)

1.1.13. Builder design pattern applicability

Author: Yasser Ibrahim

When would you use the GOF builder design pattern? (choose all that apply)

Please choose all the answers that apply:

- to abstract steps of construction of complex objects
- to build different representations of complex objects based on the concrete implementations of construction procedure
- to establish an interface for creating an object, but let the concrete implementations decide which subclass to instantiate
- to encapsulate a family of individual factories that have a common theme

Check the answer of this question online on JavaChamp.com: [builder design pattern applicability](#)

1.1.14. Factory method design pattern other names

Author: Yasser Ibrahim

The factory method design pattern is also known as:

Please choose only one answer:

- Abstract factory
- Abstract Constructor
- Virtual factory
- Virtual Constructor

Check the answer of this question online on JavaChamp.com: [factory method design pattern other names](#)

1.1.15. Abstract Factory desing Pattern intent

Author: [Java Champ](#)

Given the following scenario:

You want to create families of related objects, to be used interchangeably to configure you application. What is the most appropriate GoF pattern to use?

Please choose only one answer:

- Chain of Responsibility
- Abstract Factory
- Builder
- Observer

Check the answer of this question online on [JavaChamp.com](#): [when to use abstract factory pattern?](#)

1.1.16. Builder design pattern intent

Author: Yasser Ibrahim

Which design pattern would you use to decouple the creation procedure of a complex object from its concrete instance to be able to apply that procedure on a variety of implementations.

Please choose only one answer:

- Factory builder design pattern
- Method Builder design pattern
- Builder design pattern
- Factory method design pattern

Check the answer of this question online on JavaChamp.com: [builder design pattern intent](#)

1.1.17. Factory Method Design Pattern intent

Author: [Java Champ](#)

Which pattern is most appropriate when a decision must be made at the time a class is instantiated?

Please choose only one answer:

- Bridge
- Composite
- Factory Method
- Command

Check the answer of this question online on [JavaChamp.com](#): [what are gof creational design patterns good for?](#)

1.1.18. Abstract Factory Pattern applicability

Author: Yasser Ibrahim

When would you use the GOF abstract factory pattern? (choose all that apply)

Please choose all the answers that apply:

- To design a structure which has a uniform interface for both compositions of objects and individual objects.
- To ensure that a certain group of related objects are used together
- The client which uses your design is not dependent on how the object are created or connected together
- To decouple the creation of objects from their usage

Check the answer of this question online on JavaChamp.com: [abstract factory pattern applicability](#)

1.1.19. Singleton design pattern participants

Author: Yasser Ibrahim

Which of the following are participants in the GOF Singleton design pattern?

Please choose all the answers that apply:

- Abstract Singleton
- Singleton
- Concrete Singleton
- Singleton factory

Check the answer of this question online on JavaChamp.com: [singleton design pattern participants](#)

1.1.20. how to implement the Singleton design pattern?

Author: Yasser Ibrahim

how to implement the Singleton design pattern? specify all the need steps that apply.

Please choose all the answers that apply:

- add final modifier to the Class declaration
- add final modifier to the constructor declaration
- add private or protected modifier to the constructor declaration
- introduce a final static of the Singleton class
- introduce a static getter method for the Singleton instance
- The class name must be Singleton

Check the answer of this question online on JavaChamp.com: [how to implement the singleton design pattern?](#)

1.1.21. Singleton design pattern applicability

Author: Yasser Ibrahim

When would you use the GOF Singleton design pattern? (choose all that apply)

Please choose all the answers that apply:

- to ensure that a certain group of related objects are used together
- to limit the class instantiation to one object
- to provide global access to once instance across the system
- to abstract steps of construction of complex objects

Check the answer of this question online on JavaChamp.com: [singleton design pattern applicability](#)

1.1.22. Prototype design pattern participants

Author: Yasser Ibrahim

Which of the following are participants in the GOF Prototype design pattern?

Please choose all the answers that apply:

- Prototype
- Abstract Prototype
- Virtual Prototype
- Concrete Prototype

Check the answer of this question online on JavaChamp.com: [prototype design pattern participants](#)

1.1.23. Builder design pattern forces

Author: Yasser Ibrahim

What would lead you to apply the builder design pattern?

Please choose all the answers that apply:

- To abstract steps of construction of objects so that different implementations
- To apply the same object construction procedure on variety of representations
- To translates one interface for a class into a compatible interface
- To restrict instantiation of a class to one object

Check the answer of this question online on JavaChamp.com: [builder design pattern forces](#)

1.1.24. Prototype design pattern consequences

Author: Yasser Ibrahim

What are the consequences of applying the GOF Prototype pattern?

Please choose all the answers that apply:

- each concrete prototype class must implement the clone method
- it makes it easier for a certain family of objects to work together
- it enable the client code to register an new concrete prototype instance at run time
- it reduces of the class hierarchy as compared to the other factory design patterns

Check the answer of this question online on JavaChamp.com: [prototype design pattern consequences](#)

1.1.25. Singleton design pattern intent

Author: Yasser Ibrahim

Which design pattern you would you use to limit the class instantiation to one object?

Please choose only one answer:

- Factory Method Design Pattern
- Builder design pattern
- Prototype design pattern
- Singleton design pattern

Check the answer of this question online on JavaChamp.com: [singleton design pattern intent](#)

1.1.26. What is Factory Method pattern used for?

Author: [Java Champ](#)

It is also known as Virtual Constructor and it is used to define an interface for creating an object but letting the subclass decide which class to instantiate, this pattern is :

Please choose only one answer:

- Builder
- Abstract Factory
- Prototype
- Factory Method

Check the answer of this question online on [JavaChamp.com](#): [what is factory method pattern used for?](#)

1.1.27. Builder design pattern participants

Author: Yasser Ibrahim

Which of the following are participants in the GOF builder design pattern?

Please choose all the answers that apply:

- Builder interface
- Constructor Interface
- Director Interface
- Concrete Builder class
- Concrete constructor class

Check the answer of this question online on JavaChamp.com: [builder design pattern participants](#)

1.1.28. Prototype design pattern applicability

Author: Yasser Ibrahim

When would you use the GOF Prototype design pattern? (choose all that apply)

Please choose all the answers that apply:

- To abstract steps of construction of complex objects
- To determine the classes to be instantiated at run time
- To avoid the proliferation of the class hierarchy
- To restrict class instantiation to one object

Check the answer of this question online on JavaChamp.com: [prototype design pattern applicability](#)

1.1.29. Abstract Factory Pattern participants

Author: Yasser Ibrahim

Which of the following are participants in the GOF abstract factory design pattern ?

Please choose all the answers that apply:

- Factory methods
- Factory constructors
- Abstract factory
- Abstract product
- Concrete factory

Check the answer of this question online on JavaChamp.com: [participants in the gof abstract factory design pattern](#)

2. Structural Patterns

Exam Category Description and Objectives

1.2.1. Bridge design pattern consequences

Author: Yasser Ibrahim

What are the consequences of applying the GOF Bridge pattern?

Please choose all the answers that apply:

- it makes implementing the client code easier by interacting with a single uniform interface
- it decouples an abstraction from its implementation so that the two can vary independently
- it will decrease the system extesibility
- the client code can traverse tree structures of arbitrary depth recursively

Check the answer of this question online on JavaChamp.com: [bridge design pattern consequences](#)

1.2.2. Gang of Four Structural Design Patterns

Author: Java Champ

Which of the following is a Gang of Four (GoF) Structural Design Pattern?

Please choose all the answers that apply:

- Composite
- Flyweight
- Singleton
- Method Factory

Check the answer of this question online on JavaChamp.com: [gang of four \(gof\) structural design pattern](#)

1.2.3. Composite design pattern consequences

Author: Yasser Ibrahim

What are the consequences of applying the GOF Composite pattern?

Please choose all the answers that apply:

- the client code can traverse tree structures of arbitrary depth recursively
- increases the coupling between the client code and the composite structure
- it will improve the system performance
- the client code can access both the individual objects and compositions in a uniform manner

Check the answer of this question online on JavaChamp.com: [composite design pattern consequences](#)

1.2.4. Decorator design pattern java usages

Author: Yasser Ibrahim

Which design pattern is used in the Java InputStream, OutputStream, Reader, Writer hierarchies?

Please choose only one answer:

- Adapter design pattern
- Decorator design pattern
- Composite design pattern
- Bridge design pattern

Check the answer of this question online on JavaChamp.com: [decorator design pattern java usages](#)

1.2.5. Composite design pattern participants

Author: Yasser Ibrahim

Which of the following are participants in the GOF Composite design pattern? (choose all that apply)

Please choose all the answers that apply:

- Component
- Compound
- Leaf
- Connection
- Composite

Check the answer of this question online on JavaChamp.com: [composite design pattern participants](#)

1.2.6. Composite design pattern applicability

Author: Yasser Ibrahim

When would you use the GOF Composite design pattern? (choose all that apply)

Please choose all the answers that apply:

- to decouple an abstraction from its implementation so that the two can vary independently
- to translate an existing class interface into a compatible target interface
- to arrange object hierarchies such that the client code can access both the individual objects and compositions in a uniform manner
- to improve the system overall performance

Check the answer of this question online on JavaChamp.com: [composite design pattern applicability](#)

1.2.7. Adapter design pattern consequences

Author: Yasser Ibrahim

What are the consequences of applying the GOF Adapter pattern?

Please choose all the answers that apply:

- it will improve the system performance
- it makes the client code easier by interacting with a single uniform interface
- it must modify the adaptee class
- it establishes a flexible mechanism for instantiating an object in comparison to the usual java constructor instantiation.

Check the answer of this question online on JavaChamp.com: [adapter design pattern consequences](#)

1.2.8. Decorator design pattern applicability

Author: Yasser Ibrahim

When would you use the GOF Decorator design pattern? (choose all that apply)

Please choose all the answers that apply:

- to translates an existing class interface into a compatible target interface
- to assign more functionality to an object without sub-classing it
- to decouple an abstraction from its implementation so that the two can vary independently
- to nest layers of decorators to add more functionality

Check the answer of this question online on JavaChamp.com: [decorator design pattern applicability](#)

1.2.9. When to use Facade Pattern?

Author: [Java Champ](#)

Big portion of clients are remotely invoking methods in your system, the surface area exposed to clients includes fine-grained methods, which of course causes network overhead.

Which pattern would improve your system performance in this case?

Please choose only one answer:

- Chain of Responsibility Pattern
- Facade Pattern
- Command Pattern
- Adapter Pattern

Check the answer of this question online on [JavaChamp.com](#): [when to use facade pattern?](#)

1.2.10. When to use the Adapter Design Pattern?

Author: Java Champ

You are trying to add a class already written in another application to serve clients, beside other classes, in your system. All other classes have the same interface, the incoming class has a totally different interface than the clients expect, but contains all required functionalities.

What kind of refactoring is needed to make this class fit in with minimum changes in your system?

Please choose only one answer:

- apply the Proxy Pattern
- apply the Adapter Pattern
- create a new class which implements the expected interface and copy and paste the code from the class in the other application to this new class

Check the answer of this question online on JavaChamp.com: [when to use the adapter design pattern?](#)

1.2.11. bridge design pattern intent

Author: Yasser Ibrahim

Which design pattern would you use to decouple an abstraction from its implementation so that the two can vary independently?

Please choose only one answer:

- Adapter design pattern
- bridge design pattern
- Facade design pattern
- Composite bridge design pattern

Check the answer of this question online on JavaChamp.com: [gof bridge design pattern](#)

1.2.12. Lazy Loading and Proxy Pattern?

Author: Java Champ

Which design pattern can be used to implement Lazy Loading?

Please choose only one answer:

- Adapter
- Mediator
- Proxy
- Chain of Responsibility

Check the answer of this question online on JavaChamp.com: [lazy loading and proxy pattern](#)

1.2.13. Decorator design pattern consequences

Author: Yasser Ibrahim

What are the consequences of applying the GOF Decorator pattern?

Please choose all the answers that apply:

- the client code can gradually add more functionality as it nests more layers of decorators
- it assigns more functionality to an object without sub-classing it
- it makes it harder to identify the the decorated and the decorator objects
- the client code can traverse tree structures of arbitrary depth recursively

Check the answer of this question online on JavaChamp.com: [gof decorator design pattern](#)

1.2.14. When to use Decorator Pattern?

Author: Java Champ

It is also known as Wrapper, it is used when subclassing is not possible or practical to add functionality and it is used to add functionality at runtime. This pattern is :

Please choose only one answer:

- Composite
- Adapter
- Decorator
- Proxy

Check the answer of this question online on JavaChamp.com: [when to use decorator pattern?](#)

1.2.15. How to implement the GOF Adapter pattern?

Author: Yasser Ibrahim

What are the common implementation strategies of the GOF Adapter pattern?

Please choose all the answers that apply:

- Factory Adapter
- Object Adapter
- Class Adapter
- Interface Adapter

Check the answer of this question online on JavaChamp.com: [how to implement the gof adapter pattern?](#)

1.2.16. virtual proxy pattern

Author: [Java Champ](#)

You are building an online makeup website, which provides beside text articles, makeup tutorials as videos files.

Which pattern is recommended to use in such a website to deliver these media resources?

Please choose only one answer:

- value list handler
- virtual proxy
- intercepting filter
- composite view

Check the answer of this question online on [JavaChamp.com](#): [virtual proxy pattern](#)

1.2.17. Adapter design pattern applicability

Author: Yasser Ibrahim

When would you use the GOF Adapter design pattern? (choose all that apply)

Please choose all the answers that apply:

- to translates an existing class interface into a compatible target interface
- to improve your system performance
- to transforming the client code data into appropriate format expected by the target interface
- to allow classes with incompatible interfaces to work together

Check the answer of this question online on JavaChamp.com: [adapter design pattern applicability](#)

1.2.18. Adapter design pattern participants

Author: Yasser Ibrahim

Which of the following are participants in the GOF Adapter design pattern?

Please choose all the answers that apply:

- Adapter
- Adaptee
- Bridge
- Target interface

Check the answer of this question online on JavaChamp.com: [adapter design pattern participants](#)

1.2.19. Decorator design pattern participants

Author: Yasser Ibrahim

Which of the following are participants in the GOF Decorator design pattern?

Please choose all the answers that apply:

- Abstract Decorator
- Virtual Decorator
- Decorator
- Concrete Decorator
- Component

Check the answer of this question online on JavaChamp.com: [decorator design pattern participants](#)

1.2.20. Decorator design pattern consequences

Author: Yasser Ibrahim

What are the consequences of applying the GOF Decorator pattern?

Please choose all the answers that apply:

- it makes the client code easier by interacting with a single uniform interface
- the client code can traverse tree structures of arbitrary depth recursively
- it will will not alter the class inheritance hierarchy to accommodate for the additional functionality
- it allows to nest layers of decorators to add more functionality

Check the answer of this question online on JavaChamp.com: [decorator design pattern consequences](#)

1.2.21. Composite design pattern forces

Author: Yasser Ibrahim

Which design pattern you would you use to arrange object hierarchies such that the client code can access both the individual objects and compositions in a uniform manner ?

Please choose only one answer:

- Adapter design pattern
- Composite design pattern
- Composite adapter design pattern
- Composite factory design pattern

Check the answer of this question online on JavaChamp.com: [composite design pattern forces](#)

1.2.22. Bridge design pattern applicability

Author: Yasser Ibrahim

When would you use the GOF Bridge design pattern? (choose all that apply)

Please choose all the answers that apply:

- to implement lazy loading of expensive objects
- to improve system reliability and scalability
- to decouple an abstraction from its implementation so that the two can vary independently
- to hide the implementation details from the client code of your design

Check the answer of this question online on JavaChamp.com: [gof bridge design pattern applicability](#)

1.2.23. An example of Flyweight Pattern

Author: Java Champ

Which pattern is utilized in this example ?

Every character object in a word document has data about the graphical representation and the position, but to avoid redundant graphical representation data for objects to the same character, it is advisable to extract out these representation data to one shared object between these objects, and store only the position of each character internally in each object.

Please choose only one answer:

- Abstract Factory
- Method Factory
- Builder
- Flyweight

Check the answer of this question online on JavaChamp.com: [an example of flyweight pattern](#)

1.2.24. When to use Proxy Pattern?

Author: Java Champ

A Proxy Pattern is best used to : (choose three)

Please choose all the answers that apply:

- control access to a remote object
- assemble complex objects
- fetch a resource-intensive object when requested by a client
- store common redundant data between large number of objects
- extract out from the calling client the access or connection logic needed to call an object

Check the answer of this question online on JavaChamp.com: [when to use proxy pattern?](#)

1.2.25. When to use Flyweight Pattern?

Author: [Java Champ](#)

It is a pattern used to minimize memory use by letting similar objects share as much data as possible stored in a sharable object.

Please choose only one answer:

- Flyweight
- Composite
- Iterator
- Momento

Check the answer of this question online on [JavaChamp.com](#): [when to use flyweight pattern?](#)

1.2.26. The Surrogate Pattern

Author: Java Champ

A pattern known as Surrogate is :

Please choose only one answer:

- Adapter
- Proxy
- Facade
- Method Factory

Check the answer of this question online on JavaChamp.com: [the surrogate pattern](#)

1.2.27. Decorator design pattern forces

Author: Yasser Ibrahim

Which design pattern you would you use to assign more functionality to an object without sub-classing it?

Please choose only one answer:

- Bridge design pattern
- Adapter design pattern
- Composite design pattern
- Decorator design pattern

Check the answer of this question online on JavaChamp.com: [decorator design pattern forces](#)

1.2.28. bridge design pattern participants

Author: Yasser Ibrahim

Which of the following are participants in the GOF bridge design pattern ?

Please choose all the answers that apply:

- Abstraction
- Bridge
- RefinedAbstraction
- Class Generalization
- Implementor

Check the answer of this question online on JavaChamp.com: [gof bridge design pattern participants](#)

1.2.29. Adapter design pattern forces

Author: Yasser Ibrahim

Which design pattern you would you use to translates an existing class interface into a compatible target interface?

Please choose only one answer:

- Proxy design pattern
- Adapter design pattern
- Facade design pattern
- Adapter factory design pattern

Check the answer of this question online on JavaChamp.com: [java adapter](#)

1.2.30. Composite design pattern java usages

Author: Yasser Ibrahim

Which design pattern is used in the Java AWT Abstract Window Toolkit?

Please choose only one answer:

- Adapter design pattern
- Composite design pattern
- Bridge design pattern
- Proxy design pattern

Check the answer of this question online on JavaChamp.com: [composite design pattern java usages](https://www.javachamp.com/question/composite-design-pattern-java-usages)

1.2.31. When to use the Composite Design Pattern?

Author: Java Champ

Which best defines the use of the Composite Design Pattern?

Please choose only one answer:

- the Composite design pattern allows the clients to build a complex object of smaller different ones
- the Composite design pattern allows adding and removing functionality dynamically
- the Composite design pattern allows the clients to treat individual objects and compositions uniformly

Check the answer of this question online on JavaChamp.com: [when to use the composite design pattern?](#)

1.2.32. bridge design pattern scenario

Author: Yasser Ibrahim

You design an application for an advertisement company, which produces different sort of publications such as books, articles, leaflets, etc.

The company publishes those products in many media formats such as printed material, CD, DVD, online websites, etc.

How you would model the company products hierarchy (Publications, Media)?

Please choose only one answer:

- Use composite design pattern to enable the publication and media hierarchies to be treated in the same way as a single instance of an object.
- Use the adapter design pattern to translates publication interface into a compatible media interface.
- Use bridge design pattern to build separate hierarchies for the publications and the media, to decouple the abstraction from its implementation so that the two can vary independently

Check the answer of this question online on JavaChamp.com: [bridge design pattern](#)

1.2.33. What is the difference between an adapter and a decorator?

Author: Java Champ

What is the difference between an adapter and a decorator? (choose two)

Please choose all the answers that apply:

- The adapter adds no functionalities to the adaptee class, whereas the Decorator extends the functionality of the object
- The adapter is a creational pattern, whereas the decorator is a structural design pattern
- Both introduce a level of indirection between a client class and a class it uses

Check the answer of this question online on JavaChamp.com: [what is the difference between an adapter and a decorator?](#)

3. Behavioral Patterns

Exam Category Description and Objectives

1.3.1. Problem Forces to select Strategy Pattern

Author: Java Champ

Which are considered forces to select a Strategy Pattern? (choose two)

Please choose all the answers that apply:

- A client needs to use a family of related objects
- A change to an object requires changing other objects
- A client needs to choose from multiple algorithms
- Multiple classes are the same but differ only in their behaviors

Check the answer of this question online on JavaChamp.com: [problem forces to select strategy pattern](#)

1.3.2. When to use Strategy Pattern?

Author: [Java Champ](#)

A pattern that is intended to provide a means to define a family of algorithms and encapsulate each one as an object for interchangeable use:

Please choose only one answer:

- Strategy Pattern
- Abstract Factory Pattern
- Visitor Pattern
- State Pattern

Check the answer of this question online on [JavaChamp.com](#): [when to use strategy pattern?](#)

1.3.3. An example of Chain of Responsibility Pattern

Author: [Java Champ](#)

Which is considered an example of Chain of Responsibility Pattern? (choose two)

Please choose all the answers that apply:

- `java.awt.event.ComponentAdapter`
- The Java Servlet filter framework
- `javax.jms.QueueConnectionFactory`
- `java.awt.Toolkit`
- Java exception handling

Check the answer of this question online on [JavaChamp.com](#): [an example of chain of responsibility pattern](#)

1.3.4. Publish-Subscribe and the Observer Pattern

Author: [Java Champ](#)

In the Publish-Subscribe messaging model, the subscribers register themselves in a topic and are notified when new messages arrive to the topic. Which pattern does most describe this model?

Please choose only one answer:

- Adapter
- Notifier
- Observer
- State

Check the answer of this question online on [JavaChamp.com](#): [publish subscribe and the observer pattern](#)

1.3.5. Which pattern is applied in java.util.Enumeration?

Author: Java Champ

java.util.Enumeration is an example of which pattern?

Please choose only one answer:

- Iterator
- Command
- Observer
- Strategy

Check the answer of this question online on JavaChamp.com: [which pattern is applied in java.util.enumeration?](#)

1.3.6. When to use Chain of Responsibility Pattern?

Author: [Java Champ](#)

Which pattern to use when more than one object can handle a request, and the handler is unknown?

Please choose only one answer:

- Chain of Responsibility
- Command
- Strategy
- Observer

Check the answer of this question online on [JavaChamp.com](#): [when to use chain of responsibility pattern?](#)

1.3.7. What is Command Pattern?

Author: [Java Champ](#)

It is known as Action or Transaction and is used to encapsulate a request as an object to support rollback, logging, or transaction functionality

Please choose only one answer:

- Chain of Responsibility Pattern
- Command Pattern
- Observer Pattern
- Strategy Pattern

Check the answer of this question online on [JavaChamp.com](#): [what is command pattern?](#)

1. Chapter: Enterprise Java Design Patterns

Chapter Description and Objectives

1. Presentation Tier J2EE Patterns

Exam Category Description and Objectives

1.1.1. How to secure you web application?

Author: [Java Champ](#)

How to secure you web application against security risks such as cross site scripting (css) and SQL injection in a centralized manner that avoids code duplicate and ensures that every HTTP request would be inspected?

Please choose all the answers that apply:

- use Intercepting Filter pattern
- use Front Controller pattern
- use Composite View pattern
- use Business Delegate pattern

Check the answer of this question online on JavaChamp.com: [how to secure you web application?](#)

1.1.2. What is the role of a Context Object?

Author: [Java Champ](#)

Which of the following patterns would you use to transfer certain state to the next tier without passing on protocol-specific system information?

Please choose only one answer:

- Transfer Object
- Context Object
- Context Filter
- Service To Worker

Check the answer of this question online on [JavaChamp.com](#): [what is the role of a context object?](#)

1.1.3. context object pattern example

Author: Yasser Ibrahim

Your Parcel delivery company is expanding it's existing web application.

Currently the clients can track their parcels using web browsers, and your company wants to expose it's business to it's partners as web-services.

However; when you inspected the code base, you discovered that the application passes HttpServletRequest parameters to the business tier for further processing.

Your job is to refactor this existing code base to avoid duplicating the business logic to handle the two request channels (http and web service requests).

Which refactoring is appropriate for this case without code duplication?

Please choose only one answer:

- Use front controller pattern
- Use context object pattern
- Use proxy pattern
- Use service broker pattern

Check the answer of this question online on JavaChamp.com: [context object pattern](#)

1.1.4. Enterprise java applications input validation

Author: Yasser Ibrahim

In your web application you decided to use Javascript to validate each user input on the client browser.

Where do you need to duplicate the validation code on the server?

Please choose only one answer:

- No double check on the server side is needed as the input is already checked on the client side
- double check in the presentation tier
- double check in the integration tier
- double check in the business tier

Check the answer of this question online on JavaChamp.com: [enterprise java applications input validation](#)

1.1.5. session management in enterprise java applications

Author: Yasser Ibrahim

you are in charge of developing an e-commerce web application, the client expects high traffic volumes and the security is of essence.

Which user session management strategy would you choose?

Please choose only one answer:

- Save user session in http cookies
- Save user session in html hidden fields
- Save user session in an HttpSession object
- Save user session in an EJB stateful session bean object

Check the answer of this question online on JavaChamp.com: [session management in enterprise java applications](#)

1.1.6. When to use an Intercepting Filter?

Author: [Java Champ](#)

You would like to raise the security level of your system by examining incoming HTTP requests. You would like to log information about each request and to filter requests with malicious scripts.

Where would you put such request processing code?

Please choose only one answer:

- in the Service Locator
- in the Service Activator
- in the Intercepting Filter
- in the View Helper

Check the answer of this question online on [JavaChamp.com](#): [when to use an intercepting filter?](#)

1.1.7. When to use the View Helper Pattern?

Author: [Java Champ](#)

Your job is to refactor an application ,which uses JSP technology as a View. The JSP pages are dominated by scriptlet code.

Which pattern would be appropriate to solve this problem?

Please choose only one answer:

- View Helper
- Composite View
- Data Access Object
- Context Object

Check the answer of this question online on [JavaChamp.com](#): [when to use the view helper pattern?](#)

2. Business Tier J2EE Patterns

Exam Category Description and Objectives

1.2.1. When to use Updatable Transfer Objects Strategy?

Author: Java Champ

What is TRUE about the Updatable Transfer Objects Strategy?

Please choose all the answers that apply:

- It is used when the client needs not only to read the business component attributes but also to be able to modify them
- It reduces the complexity of the system in terms of update propagation and synchronization
- It adds on complexity to the system in terms of update propagation and synchronization
- Transfer Objects in general can reduce network overhead

Check the answer of this question online on JavaChamp.com: [when to use java enterprise updatable transfer objects strategy pattern?](#)

1.2.2. When to use Multiple Transfer Objects Strategy?

Author: Java Champ

Your online shop application maintains the customers information, like their personal information, contact lists and lists of purchases.

The remote desktop clients usually require only parts of these information. Which pattern would be most appropriate for this scenario and would improve your system?

Please choose only one answer:

- Updatable Transfer Objects
- Transfer Object Assembler
- Entity Inherits Transfer Object
- Multiple Transfer Objects Strategy

Check the answer of this question online on JavaChamp.com: [when to use enterprise multiple transfer objects strategy pattern?](#)

1.2.3. When to use Transfer Object Assembler Pattern?

Author: [Java Champ](#)

A presentation tier component is requesting data attributes, which are scattered in multiple business components, DAOs and services in your application?

Which pattern is best suited for this scenario, providing the client with the required data causing no significant performance degradation?

Please choose only one answer:

- Business Object
- Transfer Object Assembler
- Data Access Object
- Composite Entity

Check the answer of this question online on [JavaChamp.com](#): [when to use java enterprise transfer object assembler pattern?](#)

1.2.4. When to use a Value List Handler?

Author: Java Champ

When is it recommended to use a Value List Handler Pattern?

Please choose only one answer:

- You want to avoid embedding business logic in the view
- You want to avoid passing protocol-specific information outside its context
- You want to provide the clients with an efficient search and iterate mechanism over a large results set
- You want to maintain the search results on the client side

Check the answer of this question online on JavaChamp.com: [when to use enterprise java value list handler pattern?](#)

1.2.5. When to use Session Facade Pattern?

Author: Java Champ

Your application's performance is affected due to the significant number of remote calls to your business logic. The business logic is exposed as fine grained methods to the clients.

Which refactoring can be done to improve the application's performance? (choose two)

Please choose all the answers that apply:

- Add a Front Controller to centralize requests processing
- Implement a Session Facade, which provides a coarse grained service-oriented interface to clients
- Move the frequently called business logic to the presentation tier
- Encapsulate multiple business data attributes into smaller set of serializable transfer objects, to reduce remote invocations

Check the answer of this question online on JavaChamp.com: [when to use java enterprise business tier session facade pattern?](#)

1.2.6. When to use a Value List Handler Pattern?

Author: [Java Champ](#)

ABC university library system is available to students over different campuses in the world and installed in one server in the main campus. Queries results are usually large result sets returned all to clients which causes a heavy load on both client and server.

What do you think can be done to alleviate this problem on a tight budget?

Please choose only one answer:

- Place a server in each campus to serve the students in this campus to distribute the load
- apply Transfer Object Pattern
- apply a Value List Handler Pattern

Check the answer of this question online on [JavaChamp.com: when to use a value list handler pattern?](#)

1.2.7. When to use the Service Locator Pattern?

Author: [Java Champ](#)

Your application's performance is affected due to repeated JNDI lookups done by every client accessing your application.

Which pattern is most appropriate to improve the performance and solve the problem?

Please choose only one answer:

- Service Locator
- Session Facade
- Business Delegate
- Transfer Object

Check the answer of this question online on [JavaChamp.com](#): [when to use java enterprise service locator pattern?](#)

1.2.8. How to write a service locator?

Author: [Java Champ](#)

A service locator is best implemented as a Singleton.

Please choose only one answer:

- true
- false

Check the answer of this question online on [JavaChamp.com](#): [how to write a service locator?](#)

3. Integration Tier J2EE Patterns

Exam Category Description and Objectives

1.3.1. When to use web service broker pattern?

Author: Java Champ

You want to expose part of your application as services to other client applications. The client application will request a service through standard web protocols. The requests are received by a servlet which in turn delegates them to the business tier.

Which pattern is most appropriate for this task?

Please choose only one answer:

- Service Activator
- Service Locator
- Web Service Broker
- Service to Worker

Check the answer of this question online on JavaChamp.com: [when to use web service broker pattern?](#)

1.3.2. Which integration pattern can be used to integrate Java EE code to a relational database?

Author: Java Champ

Which integration pattern can be used to integrate Java EE code to a relational database?

Please choose only one answer:

- Service Activator
- Front Controller
- Data Access Object (DAO)
- Web Service Broker

Check the answer of this question online on JavaChamp.com: [which integration pattern can be used to integrate java ee code to a relational database?](#)

1.3.3. What pattern is applied in Java Message Driven Beans?

Author: Java Champ

What pattern is applied in Java Message Driven Beans?

Please choose only one answer:

- Service Locator
- Service Activator
- Service to Worker
- Front Controller

Check the answer of this question online on JavaChamp.com: [what pattern is applied in java message driven beans?](#)

1.3.4. What benefits does Data Access Object (DAO) pattern provide?

Author: Java Champ

What benefits does Data Access Object (DAO) pattern provide? (choose two)

Please choose all the answers that apply:

- it increases the cohesiveness of the business objects by extracting out the data access code from them
- it reduces network overhead by caching queries results
- it enhances loose coupling between the business tier and the data sources

Check the answer of this question online on JavaChamp.com: [what benefits does data access object \(dao\) pattern provide?](#)

1.3.5. What is the role of a Service Activator?

Author: Java Champ

What is the role of a Service Activator?

Please choose only one answer:

- A Service Activator acts as a centralized point to process http requests
- A Service Activator allows an asynchronous messages to invoke business components, including the EJBs
- A Service Activator enables business logic in EJBs to be exposed as web services

Check the answer of this question online on JavaChamp.com: [what is the role of a service activator?](#)

