

# Enterprise Java Design Patterns 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 Java Design Patterns

## Chapter Description and Objectives

### 1. Presentation Tier J2EE Patterns

#### Exam Category Description and Objectives

##### 1.1.1. 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](#)

## 1.1.2. 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](#)

### 1.1.3. 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?](#)

#### 1.1.4. 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?](#)

### 1.1.5. 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?](#)

### 1.1.6. 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?](#)

## 1.1.7. 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](#)



## 2. Business Tier J2EE Patterns

### Exam Category Description and Objectives

#### 1.2.1. When to use the Service Locator Pattern?

Author: Java Champ

You 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?](#)

## 1.2.2. 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?](#)

### 1.2.3. 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?](#)

## 1.2.4. 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?](#)

## 1.2.5. 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?](#)

## 1.2.6. 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?](#)

### 1.2.7. 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?](#)

## 1.2.8. 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?](#)



### 3. Integration Tier J2EE Patterns

#### Exam Category Description and Objectives

##### 1.3.1. 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?](#)

### 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. 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?](#)

### 1.3.5. 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?](#)

