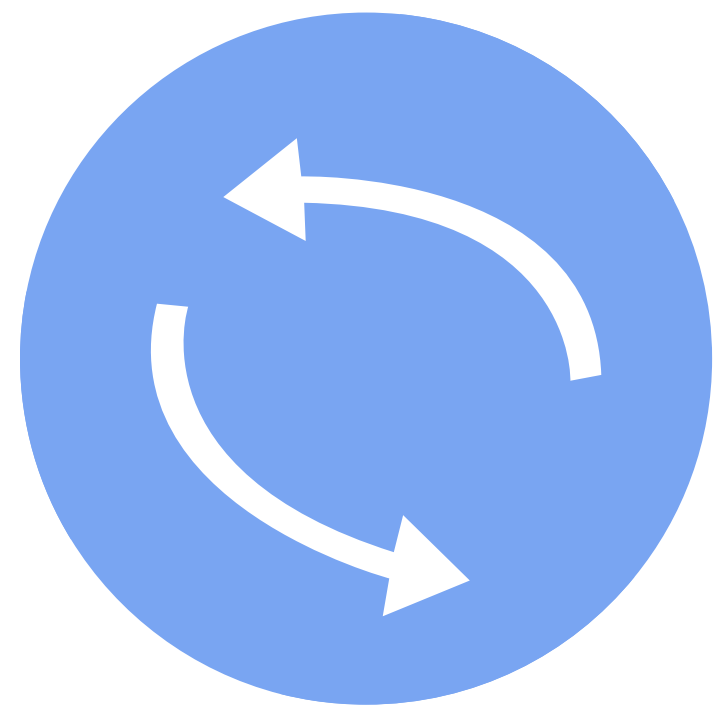


IGNOU

MCS-220

30 MOST
REPEATED
QUESTIONS



Curated List of 30 Questions
that are seen to be repeated
frequently in the examinations.

By FarLearner.com

MCS-220 Most Repeated Questions

1 . Briefly explain the servlet life cycle.

Found in Dec 2021 (1 b), Dec 2023 (1 b), June 2024 (2 b)

[FarLearner.com](https://farlearner.com)

Answer : Servlet programming is a Java-based technology used to create dynamic web applications. Servlets run on a web server and handle client requests, process them, and generate dynamic responses. They are part of Java EE and are widely used for server-side programming.

The servlet life cycle consists of three main phases. First is initialization, where the `init()` method is called once when the servlet is loaded. Second is request handling, where the `service()` method processes each client request, which may call `doGet()` or `doPost()` methods depending on the request type. Third is destruction, where the `destroy()` method is called before the servlet is removed from memory.

Example Servlet :

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
public class WelcomeServlet extends HttpServlet {
    public void doGet(HttpServletRequest req,
HttpServletResponse res)
throws ServletException, IOException {
```

[FarLearner.com](https://farlearner.com)

MCS-220 Most Repeated Questions

```
res.setContentType("text/html");  
PrintWriter out = res.getWriter();  
out.println("<h2>Welcome to Web Programming</h2>");  
}}
```

FarLearner.com

This servlet handles HTTP GET requests and displays the message “Welcome to Web Programming” in the browser.

MCS-220 Most Repeated Questions

2 . Briefly explain the J2EE architecture and its components.

Found in Dec 2021 (5 d), Dec 2023 (1 a), Dec 2024 (1 a), June 2022 (1 a), June 2024 (2 a)

[FarLearner.com](https://farlearner.com)

Answer : J2EE (Java 2 Platform, Enterprise Edition), now known as Jakarta EE, is a platform used to develop large-scale, distributed, and secure enterprise applications using Java. It provides a set of specifications and APIs that simplify the development of web-based and multi-tier applications. The main components of J2EE include Client Tier, Web Tier, Business Tier, and Enterprise Information System (EIS) Tier.

The Client Tier interacts with users through browsers or applications. The Web Tier contains technologies like Servlets and JSP for handling requests and responses. The Business Tier includes Enterprise JavaBeans (EJB) for business logic. The EIS Tier manages databases and legacy systems. J2EE ensures scalability, portability, and security, making it suitable for enterprise-level applications.

[FarLearner.com](https://farlearner.com)

3 . What is a design pattern and what are the advantages of using patterns in enterprise application development?

Found in Dec 2021 (1 a), Dec 2022 (1 b), Dec 2023 (5 i), Dec 2024 (2 a), June 2022 (2 a)

[FarLearner.com](https://farlearner.com)

Answer : A design pattern is a reusable solution to a common problem that occurs in software design. It provides a standard approach to solving recurring design issues, making the system more organized, flexible, and maintainable. Design patterns are not complete code but templates that guide developers in structuring their applications effectively.

Advantages of using design patterns include improved code reusability, better communication among developers through common terminology, improved performance, and enhanced scalability. They also help in reducing development time by providing proven solutions and improving code readability.

**Get All Repeated
Questions With
Answer**

The Factory Design Pattern is a creational pattern used to create objects without exposing the creation logic to the client. It is implemented by a factory method.

CLICK HERE

MCS-220 Most Repeated Questions

4 . Explain Role Based Login and how it can be used to restrict user access.

Found in Dec 2021 (5 b), Dec 2022 (5 a), Dec 2023 (4 b), Dec 2024 (5 iii)

[FarLearner.com](https://farlearner.com)

Answer : Role-Based Login : Role-based login allows web applications to grant access based on user roles (e.g., Admin, User, Manager). Each role has specific permissions, restricting access to pages or actions accordingly. This ensures that sensitive operations are only performed by authorized users, improving security and manageability.

Sample Code (Spring Security Example) :

```
@Configuration
```

```
@EnableWebSecurity
```

```
public
```

```
WebSecurity
```

```
@Override
```

```
protected
```

```
Exception {
```

```
http.authorizeRequests()
```

```
.antMatchers
```

```
.antMatchers
```

```
.antMatchers
```

**Get All Repeated
Questions With
Answer**

CLICK HERE

5 . What is Session Management and how is it implemented?

Found in Dec 2021 (5 c), Dec 2022 (3 a), June 2023 (1 c)

[FarLearner.com](https://farlearner.com)

Answer : Session Management is a technique used in web applications to maintain user-specific data across multiple HTTP requests. Since HTTP is a stateless protocol, it cannot remember previous interactions. Session management helps to store and track user information such as login details, preferences, and shopping cart data throughout the user's interaction with the application.

In servlets, session management is commonly implemented using the HttpSession interface. When a user sends a request, the server creates a session object and assigns a unique ID to it. It can store data using methods like `setAttribute()` and retrieve it using `getAttribute()`.

Example Servlet Program

```
import java.io.*;
```

```
import javax.servlet.*;
```

[CLICK HERE](#)

6 . What are JSP implicit objects? Explain the use of any four.

Found in Dec 2021 (5 a), Dec 2022 (2 a)

[FarLearner.com](https://farlearner.com)

Answer : JSP implicit objects are predefined objects provided by the JSP container, which are automatically available to JSP pages without explicit declaration. These objects help developers interact with request, response, session, and application data easily. They simplify coding by eliminating the need to create objects manually.

One important implicit object is request, which represents the client's request and is used to retrieve form data, parameters, and attributes sent by the client. Another object is response, which is used to send output back to the client and to redirect the browser to another page.

The session object is used to store specific data across multiple requests. It helps in session tracking and storing user information such as login details. The application object represents the ServletContext and is used to share data across the entire application.

farlearner.com
CLICK HERE

MCS-220 Most Repeated Questions

7 . Differentiate between a web server and a web container.

Found in Dec 2022 (1 a), June 2023 (1 a), June 2024 (1 a)

[FarLearner.com](https://farlearner.com)

Answer : A web application is a software application that runs on a web server and is accessed through a web browser over a network such as the Internet or intranet. It allows users to perform tasks like online shopping, form submission, or data processing without installing software locally.

A web server plays a key role in developing and deploying web applications by handling client requests (HTTP requests), processing them, and sending appropriate responses. It serves static content like HTML pages and also interacts with databases for dynamic content generation.

The web server provides an environment where developers can host applications, manage resources, and ensure communication between client and server. It also supports security, session handling, and scalability.

farlearner.com

CLICK HERE

8 . Briefly explain the JSP Life Cycle.

Found in Dec 2022 (5 b ii), June 2022 (5 c), June 2023 (5 ii)

[FarLearner.com](https://farlearner.com)

Answer :

JSP Life Cycle : The JSP life cycle defines the phases a JSP page goes through from creation to destruction. It starts with translation, where the JSP is converted into a servlet by the container. Next is compilation, where the servlet code is compiled into a class file. During loading and instantiation, the servlet object is created, followed by initialization via the `jspInit()` method.

When a request comes, the `jspService()` method handles it, generating dynamic content. Finally, when the JSP is no longer needed, the `jspDestroy()` method is called to release resources. Understanding the JSP life cycle helps in optimizing performance, managing resources, and executing initialization or cleanup tasks effectively.

**Get All Repeated
Questions With
Answer**

[CLICK HERE](https://farlearner.com)

9 . Differentiate between Spring Boot and Spring MVC.

Found in Dec 2023 (1 f), Dec 2024(4 b iii), June 2024 (1 g)

[FarLearner.com](https://farlearner.com)

Answer : Spring Boot and Spring MVC are both parts of the Spring framework but differ in their usage and configuration. Spring MVC is a web framework used to build web applications following the Model-View-Controller pattern. It requires manual configuration and setup. Spring Boot, on the other hand, simplifies application development by providing auto-configuration and embedded servers.

Differences:

- Configuration: Spring MVC (manual), Spring Boot (auto)
- Server: Spring MVC (external), Spring Boot (embedded)
- Setup Time: Spring MVC (more), Spring Boot (less)

**Get All Repeated
Questions With
Answer**

[CLICK HERE](https://farlearner.com)

MCS-220 Most Repeated Questions

10 . Explain the term Dependency Injection (DI) and its role in the Spring framework.

Found in Dec 2024 (1 e), Dec 2024 (3 a), June 2023 (1 g)

[FarLearner.com](https://farlearner.com)

Answer : Dependency Injection (DI) is a design pattern used to implement Inversion of Control (IoC), where an object's dependencies are provided externally rather than created inside the class. This improves code flexibility and testability. In DI, objects do not create dependent objects themselves; instead, they receive them through constructors, setters, or interfaces.

For example, consider a class Car that depends on Engine. Instead of creating an Engine object inside Car, the Engine is injected:

**Get All Repeated
Questions With
Answer**

CLICK HERE