

PPT Java Assignment-7

Q.1. What is the use of JDBC in java?

JDBC stands for Java Database Connectivity. JDBC is a Java API to connect and execute the query with the database.

Use of Jdbc we can store the data permanently in the database by writing the queries.

Q.2 What are the steps involved in JDBC?

There are 5 steps to connect any java application with the database using JDBC. These steps are as follows:

- Register the Driver class
- Create connection
- Create statement
- Execute queries
- Close connection

Q3.What are the types of statement in JDBC in java?

The statement interface is used to create SQL basic statements in Java it provides methods to execute queries with the database.

There are different types of statements that are used in JDBC as follows:

*Create Statement

*Prepared Statement

*Callable Statement

Q.4. What is Servlet in Java?

Servlet technology is used to create a web application (resides at server side and generates a dynamic web page).

Servlet technology is robust and scalable because of java language.

- Servlet is a technology which is used to create a web application.

- Servlet is an API that provides many interfaces and classes including documentation.
- Servlet is an interface that must be implemented for creating any Servlet.
- Servlet is a class that extends the capabilities of the servers and responds to the incoming requests. It can respond to any requests.
- Servlet is a web component that is deployed on the server to create a dynamic web page.

Q.5. Explain the life Cycle of servlet?

The web container maintains the life cycle of a servlet instance. Let's see the life cycle of the servlet:

1. Servlet class is loaded.
2. Servlet instance is created.
3. init method is invoked.
4. service method is invoked.
5. destroy method is invoked.

Q.6. Explain the difference between the `RequestDispatcher.forward()` and `HttpServletResponse.sendRedirect()` methods?

forward()	sendRedirect()
forward() is method of RequestDispatcher interface	sendRedirect() is the method of HttpServletResponse
In forward() redirect happens at server end and not visible to client.	In forward(). In sendRedirect() ,redirection happens at client end and it's visible to client.
It is faster than the redirect.	It is slower than a forward, since it requires two browser requests(one for actual request and another for redirected request).
In case of forwarding() original URL remains unaffected.	In the case of sendRedirect() browser knows that it's making a new request, so the original URL changes.

forward()	sendRedirect()
Transfer the request to the same server.	Transfer the request different server.
When forward is called on RequestDispatcher object we pass request and response object so our old request object is present on a new resource which is going to process our request	In the case of SendRedirect call old request and response, the object is lost because it's treated as a new request by the browser
Syntax: forward(ServletRequest request, ServletResponse response)	Syntax: void sendRedirect(String url)

Q7.What is the purpose of the doGet() and doPost() methods in a servlet?

doGet()

The doGet() method in servlets is used to process the HTTP GET requests. So, basically, the HTTP GET method should be used to get the data from the server to the browser

doPost()

The doPost() method in servlets is used to process the HTTP POST requests. It is used to submit the data from the browser to the server for processing. The data submitted with POST method type is sent in the message body so it is secure and cannot be seen in the URL.

Q.8 Explain the JSP Model-View-Controller (MVC) architecture.

MVC stands for Model View and Controller. It is a **design pattern** that separates the business logic, presentation logic and data.

Controller acts as an interface between View and Model. Controller intercepts all the incoming requests.

Model represents the state of the application i.e. data. It can also have business logic.

View represents the presentaion i.e. UI(User Interface).

Q.9 What are some of the advantages of Servlets?

Advantages of Servlet

There are many advantages of Servlet over CGI. The web container creates threads for handling the multiple requests to the Servlet. Threads have many benefits over the Processes such as they share a common memory area, lightweight, cost of communication between the threads are low. The advantages of Servlet are as follows:

1. **Better performance:** because it creates a thread for each request, not process.
2. **Portability:** because it uses Java language.
3. **Robust:** [JVM](#) manages Servlets, so we don't need to worry about the memory leak, [garbage collection](#), etc.
4. **Secure:** because it uses java language.

Q10.What are the limitations of JSP?

Disadvantages of JSP

- It is hard to trace JSP pages error because JSP pages are translated to servlet.
- As JSP output is HTML, it is not rich in features.
- It is very hard to debug or trace errors because JSP pages are first translated into servlets before the compilation process.
- Database connectivity is not easy.
- JSP pages require more disk space and time to hold JSP pages as they are compiled on the server.