

Q1.What is the use of JDBC in java?

Ans - The JDBC API is a Java API that can access any kind of tabular data, especially data stored in a relational database. JDBC helps you to write Java applications that manage these three programming activities: Connect to a data source, like a database. Send queries and update statements to the database

Q2.What are the steps involved in JDBC?

- Import the packages: ...
- Register the drivers: ...
- Establish a connection: ...
- Create a statement: ...
- Execute the query: ...
- Retrieve results: ...
- Close the connections

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

Ans - Statement : Used to implement simple SQL statements with no parameters.

PreparedStatement : (Extends Statement .) Used for precompiling SQL statements that might contain input parameters.

CallableStatement: (Extends PreparedStatement .)

Q4.What is Servlet in Java?

Ans - A servlet is a Java programming language class that is used to extend the capabilities of servers that host applications accessed by means of a request-response programming model.

Q5.Explain the life Cycle of servlet?

Ans - Servlet class is loaded.

Servlet instance is created.

init method is invoked.

service method is invoked.

destroy method is invoked.

Q6.Explain the difference between the `RequestDispatcher.forward()` and `HttpServletResponse.sendRedirect()` methods?

Ans - `RequestDispatcher.forward()`:

- This method is used to forward the request and response objects from one servlet or JSP page to another servlet, JSP page, or resource within the same web application.
- The forwarding is done internally on the server-side, and the client is unaware of the forwarding. The client's URL and browser history remain unchanged.
- The forward operation happens within the same request cycle, meaning that the target resource has access to the original request and response objects, including any attributes or parameters set.
- The forward method allows passing control from one servlet or JSP page to another, allowing them to collaborate in generating the response.

`HttpServletResponse.sendRedirect()`:

- This method is used to redirect the client's browser to a different URL or resource.
- The redirection is performed by sending an HTTP response to the client, which includes a new URL. The client's browser then initiates a new request to that URL.
- The URL seen by the client is updated to the new URL, and the browser's history is also updated accordingly.
- Since it involves a new request, any request attributes set before the redirect will not be available in the redirected request. However, request parameters can be passed through the URL query string or as a part of the POST request body.

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

Ans - `doGet()` shall be used when small amount of data and insensitive data like a query has to be sent as a request.

->doPost() shall be used when comparatively large amount of sensitive data has to be sent. Examples are sending data after filling up a form or sending login id and password.

Q8.Explain the JSP Model-View-Controller (MVC) architecture.

Ans- 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).

Q9.What are some of the advantages of Servlets?

Ans - Better performance: because it creates a thread for each request, not process.

1. Portability: because it uses Java language.
2. Robust: JVM manages Servlets, so we don't need to worry about the memory leak,
3. Secure: because it uses java language.

Q10.What are the limitations of JSP?

Ans - It is very difficult for developers to perform database connectivity in JSP.

As the JSP is compiled on the server, it is not memory and time-efficient.

It is hard to track errors in JSP files because they are an extension to Servlets. ...

As JSP is an HTML file, it doesn't provide many features.