

Core Specific- Java Assignment 7

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?

Ans:

Steps For Connectivity Between Java Program and Database

1. Import the Packages
2. Load the drivers using the *forName() method*
3. Register the drivers *using DriverManager*
4. Establish a connection *using the Connection class object*
5. Create a statement
6. Execute the query
7. Close the connections

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

Ans:

There are different types of statements that are used in JDBC as follows: Create Statement. Prepared Statement. Callable Statement.

Q4. What is Servlet in Java?

Ans:

Servlet technology is robust and scalable because of java language. Before Servlet, CGI (Common Gateway Interface) scripting language was common as a server-side programming language. However, there were many disadvantages to this technology. We have discussed these disadvantages below.

There are many interfaces and classes in the Servlet API such as Servlet, GenericServlet, HttpServlet, ServletRequest, ServletResponse, etc.

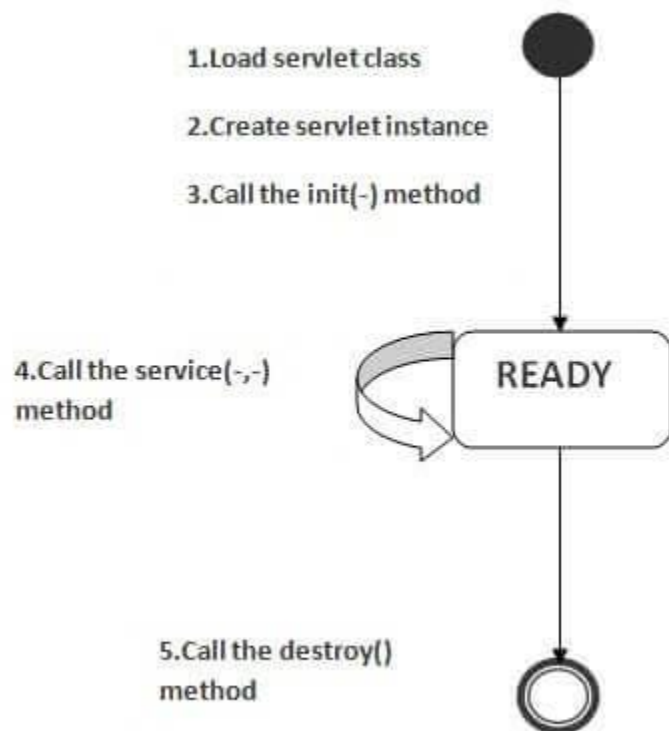
Core Specific- Java Assignment 7

Q5. Explain the life Cycle of servlet?

Ans:

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.



Core Specific- Java Assignment 7

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

Ans:

The `forward()` method of the `RequestDispatcher` works on the server-side, while the `SendRedirect()` method works on the client-side. Request dispatcher works on the request object, while `SendRedirect()` works on the response object. The `forward()` method is also significantly faster than the `SendRedirect()`.

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

Ans:

The `doGet` method is called by the server (via the service method) when the client requests a GET request. It is used to retrieve information from the server. The `doPost` method is called by the server (via the service method) when the client requests a POST request. It is used to send information to the server.

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

Ans:

What is MVC?

MVC is an architecture that separates business logic, presentation and data. In MVC,

- M stands for Model
- V stands for View
- C stands for controller.

MVC is a systematic way to use the application where the flow starts from the view layer, where the request is raised and processed in controller layer and sent to model layer to insert data and get back the success or failure message.

Core Specific- Java Assignment 7

Q9. What are some of the advantages of Servlets?

Ans:

Advantages of servlets

A [servlet](#) can be imagined to be as an applet running on the server side. Some of the other server side technologies available are [Common Gateway Interface](#) (CGI), server side JavaScript and Active Server Pages (ASP). Advantages of servlets over these server side technologies are as follows:

- **Persistent:** Servlets remain in [memory](#) until explicitly destroyed. This helps in serving several incoming requests. Servlets establishes connection only once with the [database](#) and can handle several requests on the same [database](#). This reduces the time and resources required to establish connection again and again with the same database. Whereas, CGI programs are removed from the [memory](#) once the request is processed and each time a new process is initiated whenever new request arrives.
- **Portable:** Since servlets are written in Java, they are portable. That is, servlets are compatible with almost all operating systems. The programs written on one [operating system](#) can be executed on other [operating system](#).
- **Server-independent:** Servlets are compatible with any web server available today. Most of the software vendors today support servlets within their web server products. On the other hand, some of the server side technologies like server side JavaScript and ASP can run on only selected web servers. The CGI is compatible with the web server that has features to supports it.
- **Protocol-independent:** Servlets can be created to support any of the protocols like FTP commands, Telnet sessions, NNTP newsgroups, etc. It also provides extended support for the functionality of HTTP [protocol](#).
- **Extensible:** Servlets being written in Java, can be extended and polymorphed into the objects that suits the user requirement.
- **Secure:** Since servlets are server side programs and can be invoked by web server only, they inherit all the security measures taken by the web server. They are also safe from the problems related to memory management as Java does not support the concept of pointers and perform garbage collection automatically.
- **Fast:** Since servlets are compiled into bytecodes, they can execute more quickly as compared to other scripting languages. The bytecode compilation feature helps servlets to give much better performance. In addition, it also provides advantage of strong error and type checking.

Core Specific- Java Assignment 7

Q10. What are the limitations of JSP?

Ans:

Disadvantages of using JSP

- 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.