**1) How many objects of a servlet is created?**

Only one object at the time of first request by servlet or web container.

**2) What is the life-cycle of a servlet?**

1. Load the Servlet in a web container
2. servlet is instantiated
3. servlet is initialized
4. service the request
5. servlet is destroyed

**3) What are the life-cycle methods for a servlet?**

|  |  |
| --- | --- |
| **Method** | **Description** |
| public void init(ServletConfig config) | It is invoked only once when first request comes for the servlet. It is used to initialize the servlet. |
| public void service(ServletRequest request,ServletResponse)throws ServletException,IOException | It is invoked at each request.The service() method is used to service the request. |
| public void destroy() | It is invoked only once when servlet is unloaded. |

**4) Who is responsible to create the object of servlet?**

The web container or servlet container.

**5) When servlet object is created?**

At the time of first request.

**6) What is difference between Get and Post method?**

|  |  |
| --- | --- |
| **Get** | **Post** |
| 1) Limited amount of data can be sent because data is sent in header. | Large amount of data can be sent because data is sent in body. |
| 2) Not Secured because data is exposed in URL bar. | Secured because data is not exposed in URL bar. |
| 3) Can be bookmarked | Cannot be bookmarked |
| 4) Idempotent | Non-Idempotent |
| 5) It is more efficient and used than Post | It is less efficient and used |

**7) What is difference between PrintWriter and ServletOutputStream?**

PrintWriter is a character-stream class where as ServletOutputStream is a byte-stream class. The PrintWriter class can be used to write only character-based information whereas ServletOutputStream class can be used to write primitive values as well as character-based information.

**8) What is difference between GenericServlet and HttpServlet?**

The GenericServlet is protocol independent whereas HttpServlet is HTTP protocol specific. HttpServlet provides additional functionalities such as state management etc.

**9) What is servlet collaboration?**

When one servlet communicates to another servlet, it is known as servlet collaboration. There are many ways of servlet collaboration:

* RequestDispacher interface
* sendRedirect() method etc.

**10) What is the purpose of RequestDispatcher Interface?**

The RequestDispacher interface provides the facility of dispatching the request to another resource it may be html, servlet or jsp. This interceptor can also be used to include the content of antoher resource.

**11) Can you call a jsp from the servlet?**

Yes, one of the way is RequestDispatcher interface for example:

1. RequestDispatcher rd=request.getRequestDispatcher("/login.jsp");
2. rd.forward(request,response);

**12) Difference between forward() method and sendRedirect() method ?**

|  |  |
| --- | --- |
| **forward() method** | **sendRedirect() method** |
| 1) forward() sends the same request to another resource. | 1) sendRedirect() method sends new request always because it uses the URL bar of the browser. |
| 2) forward() method works at server side. | 2) sendRedirect() method works at client side. |
| 3) forward() method works within the server only. | 3) sendRedirect() method works within and outside the server. |

**13) What is difference between ServletConfig and ServletContext?**

The container creates object of ServletConfig for each servlet whereas object of ServletContext is created for each web application.

**14) What is Session Tracking?**

**Session** simply means a particular interval of time.

Session Tracking is a way to maintain state of an user.Http protocol is a stateless protocol.Each time user requests to the server, server treats the request as the new request.So we need to maintain the state of an user to recognize to particular user.

**15) What are Cookies?**

A cookie is a small piece of information that is persisted between the multiple client requests. A cookie has a name, a single value, and optional attributes such as a comment, path and domain qualifiers, a maximum age, and a version number.

**16) What is difference between Cookies and HttpSession?**

Cookie works at client side whereas HttpSession works at server side.

**17) What is filter?**

A filter is an object that is invoked either at the preprocessing or postprocessing of a request. It is pluggable.

**18) How can we perform any action at the time of deploying the project?**

By the help of ServletContextListener interface.

**19) What is the disadvantage of cookies?**

It will not work if cookie is disabled from the browser.

**20) How can we upload the file to the server using servlet?**

One of the way is by MultipartRequest class provided by third party.

**21) What is load-on-startup in servlet?**

The load-on-startup element of servlet in web.xml is used to load the servlet at the time of deploying the project or server start. So it saves time for the response of first request.

**22) What if we pass negative value in load-on-startup?**

It will not affect the container, now servlet will be loaded at first request.

**23) What is war file?**

A war (web archive) file specifies the web elements. A servlet or jsp project can be converted into a war file. Moving one servlet project from one place to another will be fast as it is combined into a single file.

**24) How to create war file?**

The war file can be created using jar tool found in jdk/bin directory. If you are using Eclipse or Netbeans IDE, you can export your project as a war file.

To create war file from console, you can write following code.

1. jar -cvf abc.war \*

Now all the files of current directory will be converted into abc.war file.

**25) What are the annotations used in Servlet 3?**

There are mainly 3 annotations used for the servlet.

1. @WebServlet : for servlet class.
2. @WebListener : for listener class.
3. @WebFilter : for filter class.

**26) Which event is fired at the time of project deployment and undeployment?**

ServletContextEvent.

**27) Which event is fired at the time of session creation and destroy?**

HttpSessionEvent.

**28) Which event is fired at the time of setting, getting or removing attribute from application scope?**

ServletContextAttributeEvent.

**29) What is the use of welcome-file-list?**

It is used to specify the welcome file for the project.

**30) What is the use of attribute in servlets?**

Attribute is a map object that can be used to set, get or remove in request, session or application scope. It is mainly used to share information between one servlet to another.

**31) When init() method of servlet gets called?**

The init method is designed to be called only once. It is called when the servlet is first created, and not called again for each user request. So, it is used for one-time initializations, just as with the init method of applets.

**32) When service() method of servlet gets called?**

Each time the server receives a request for a servlet, the server spawns a new thread and calls service. The service() method checks the HTTP request type (GET, POST, PUT, DELETE, etc.) and calls doGet, doPost, doPut, doDelete, etc. methods as appropriate.

**33) When doGet() method of servlet to be called?**

A GET request results from a normal request for a URL or from an HTML form that has no METHOD specified and it should be handled by doGet() method.

**34) When doPost() method of servlet to be called?**

A POST request results from an HTML form that specifically lists POST as the METHOD and it should be handled by doPost() method.

**35) How to read name of all parameters in servlet?**

getParameterNames() method of HttpServletRequest

**36) How to read http header information in servlet?**

We can use getHeaderNames() method of HttpServletRequest

**37) How sendRedirect method works?**

This method generates a 302 response along with a Location header giving the URL of the new document.

**38) How sendError method works?**

This method sends a status code (usually 404) along with a short message that is automatically formatted inside an HTML document and sent to the client.

**39) Can multiple filters be configured?**

Yes.

**40) Can filtering be done in an ordered way? If so then how to achieve it?**

Yes. The order of filter-mapping elements in web.xml determines the order in which the web container applies the filter to the servlet. To reverse the order of the filter, you just need to reverse the filter-mapping elements in the web.xml file.

**41) How to configure a central error handler in servlets?**

If you want to have a generic Error Handler for all the exceptions then you should define following error-page instead of defining separate error-page elements for every exception:

<error-page>

<exception-type>java.lang.Throwable</exception-type >

<location>/ErrorHandler</location>

</error-page>

**41) How to delete a cookie using servlet?**

To delete cookies is very simple. If you want to delete a cookie then you simply need to follow up following three steps:

* Read an already exsiting cookie and store it in Cookie object.
* Set cookie age as zero using setMaxAge() method to delete an existing cookie.
* Add this cookie back into response header.

**42) How to set session timeout in servlet?**

setMaxInactiveInterval(int interval) of HTTPSession object specifies the time, in seconds, between client requests before the servlet container will invalidate this session.

**43) How to detect locale in Servlets?**

Following is the method of request object which returns Locale object.

java.util.Locale request.getLocale()

**43) For initializing a servlet can we use a constructor in place of init()?**

No, we can not use constructor for initializing a servlet because for initialization we need an object of servletConfig using this object we get all the parameter which are defined in deployment descriptor for initializing a servlet and in servlet class we have only default constructor according to older version of java so if we want to pass a Config object we don’t have parametrized constructor and apart from this servlet is loaded and initialized by container so it's a job of container to call the method according to servlet specification they have lifecycle method so init() method is called firstly.

**44) Why super.init (config) is the first statement inside init(config) method.**

Ans: This will be the first statement if we are overriding the init(config) method by this way we will store the config object for future reference and we can use by getServletConfig()  to get information about config object if will not do this config object will be lost and we have only one way to get config object because servlet pass config object only in init method . Without doing this if we call the ServletConfig method will get **NullPointerException.**

**45) What are threadsafe in Servlet**

Local var and request object

**46) How to achieve thread safety**

-SingleThreadModel

-using synchronized service | doGet | doPost

-using synchronized block…

**47) What are the functions of Servlet container?**

The main functions of Servlet container are:  
**1. Lifecycle management :** Managing the lifecycle events of a servlet lik class loading, instantiation, initialization, service, and making servlet instances eligible for garbage collection.  
  
**2. Communication support :** Handling the communication between servlet and Web server.  
  
**3. Multithreading support :** Automatically creating a new thread for every servlet request and finishing it when the Servlet service() method is over.  
  
**4. Declarative security :** Managing the security inside the XML deployment descriptor file.  
  
**5. JSP support :** Converting JSPs to servlets and maintaining them.

**48) Why is a constructor needed in a servlet even if we use the init method?**

- Although the init method of the servlet initializes it, a constructor instantiates it.  
- A developer might never explicitly call the servlet's constructor but a container uses it to create an instance of the servlet.

**49) What is lazy loading?**

The servlets are not initialized by the container from the start. It happens when the servlet is requested for the first time. This is called lazy loading.

**50) Why is HttpServlet declared abstract?**

- The default implementations of the main service methods can not do anything and need to be overridden. This calls of the HttpServlet class to be declared as abstract.  
  
- With its use the developers do not need to implement all the service methods.

**51) Explain the differences between Jsp and Servlet.**

- The JSP is used mainly for presentation purpose.  
- The Servlets are not used for presentation purpose only.  
- JSP can be only HttpServlet.  
- HTTP is the only supported protocol in JSP.  
- A servlet is supported by any protocol . e.g HTTP, FTP, SMTP etc.

-In Servlet HTML code is embedded in Java code where in JSP Java code is embedded in HTML.