Explain about JSP life cycle with a suitable illustration.

- A Java Server Page life cycle is defined as the process that starts with its creation which later translates to a servlet and after which the servlet lifecycle is adopted.
- The following are the paths followed by a JSP:
  - Compilation
  - Initialization
  - Execution
  - Cleanup
- **Compilation:**
  - When a browser asks for a JSP, the JSP engine first checks to see whether it needs to compile the page. If the page has never been compiled, or if the JSP has been modified since it was last compiled, the JSP engine compiles the page.
  - The compilation process involves three steps:
    - Parsing the JSP.
    - Turning the JSP into a servlet.
    - Compiling the servlet.
- **Classloading:**
  - Servlet class which has been loaded from the JSP source is now loaded into the container.
- **Instantiation:**
  - Here an instance of the class is generated. The container manages one or more instances by providing responses to requests.
- **Initialization:**
  - jspInit () method is called only once during the life cycle immediately after the generation of Servlet instance from JSP.
  - Typically, initialization is performed only once and as with the servlet init method, you generally initialize database connections, open files, and create lookup tables in the jspInit method.
- **Execution:**
  - This phase of the JSP life cycle represents all interactions with requests until the JSP is destroyed.
  - Whenever a browser requests a JSP and the page has been loaded and initialized, the JSP engine invokes the _jspService () method in the JSP.
  - The _jspService () method takes an HttpServletRequest and an HttpServletResponse as its parameters.
  - This method cannot be overridden.

- o This is responsible for generating the response for that request and this method is also responsible for generating responses to all seven of the HTTP methods, i.e., GET, POST, DELETE, etc.
- **Cleanup:**
  - o To remove the JSP from the use by the container or to destroy the method for servlets jspDestroy () method is used.
  - o This method is called once, if you need to perform any cleanup task like closing open files, releasing database connections jspDestroy () can be overridden.

Illustration: