Types of applications

1. single user application(J2SE)--→ the application, installed on a machine,and can be used only on that machine
2. Web application(J2EE)-→ It is a 3 tier application, deployed on the server and used on the client machine, It returns the response in HTML format. these are usually used in B2C communication(business to Client) communication
3. Mobile Application(J2ME)--→ the application which works on mobile, is called as mobile application
4. Web services-→It is a application which is deployed on server, and returns response in the form of JSON. It is mostly used in B2B(business to business) communication

The web server we are using is tomcat, by default it runs on port 8080

To use tomacat

1. install tomcat on your machine and unzip the file
   then do the following setting
   1. set JAVA_HOME = C:\Program Files\Java\jdk-11.0.10
   2. set path = %JAVA_HOME%\bin
   3. set TOMCAT_HOME= E:\apache-tomcat-9.0.76\apache-tomcat-9.0.76

In linux for setting

1. open the file .bashrc, and in this file

   export TOMCAT_HOME= E:\apache-tomcat-9.0.76\apache-tomcat-9.0.76

   export JAVA_HOME = C:\Program Files\Java\jdk-11.0.10

   export path = %JAVA_HOME%\bin

To start the tomcat

1. open the command prompt, and change the folder to tomcat bin

form tomcat conf folder

2. open tomcat_users.xml file

   and add the following lines into the file

   <role rolename="manager-gui"/>

   <user username="manager" password="" roles="manager-gui"/>

3. and then start the server

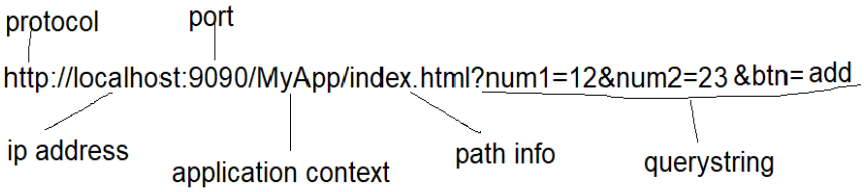
   e:\.....tpmcat..\bin>startup.bat

4. click on Manager GUI
   username=manager
   password=””
5. to stop the server
   e:\tomcat....\bin>shutdown

In tomcat webapp folder works like web container

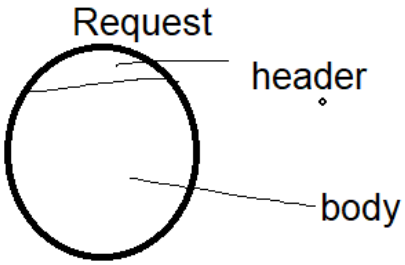
http -→it is a protocol, that is set of rules of communication between 2 machines
It is a stateless protocol

The url has following parts



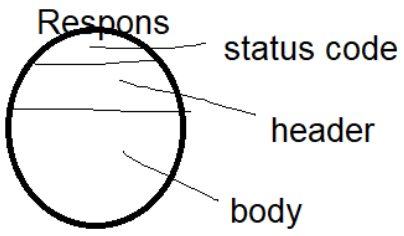
When the data is transferred between client and server, the it uses request and response object

To transfer data from client to server-→ we use request object
To transfer data from server to client-→ we use response object



When the method is get, the data is transfered to server via header as query string and body will be empty

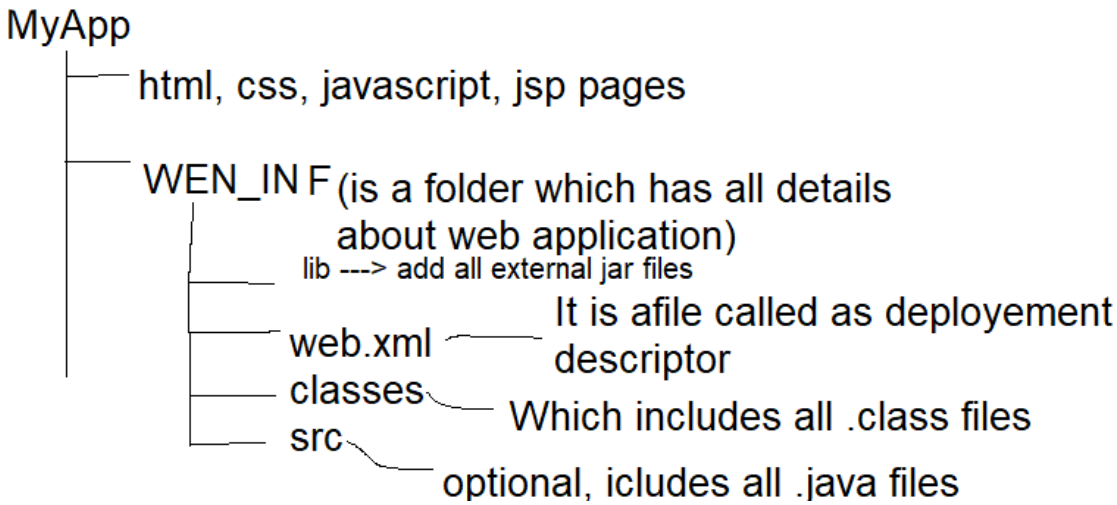
When the method is post, then the data will be hidden and transfered via request body, useful when you transfer sensitive data, like username passwd credit card details



response object is used to transfer data from server to client

the data will be always send via response body
header gives more details about the data int the body
status code --- represents success/failure
200--> success
404--- url is wrong
500---> error at server side code

War file(web archive)
When web application is deployed on the server, the file is war file
Structure of war file



To create a servlet, create a class and extend it from HttpServlet

1. when servlet receives request 1, then it gets loaded in the RAM, request and response objects get created, and then init method gets called, then service method handles the request, service method receives 2 parameter ServlerRequest, ServletResponse
2. req2-→ request and response object will get created, and service method will handle request. , All further requests will be handled by service method
3. when you will undeploy the servlet, or if you shutdown the server, then destroy method will get called.
4. In the life time of servlet init and destroy method gets called only once