* **Uniform Resource Locator (URL)** refers to a web address which uniquely identifies a document over the internet.
* This document can be a web page, image, audio, video or anything else present on the web.
* IT SIGNIFIES THE FULL UNIQUE PATH OF ANY FILE ON THE INTERNET.
* FOR EXAMPLE URL COULD BE [HTTP://WWW.YAHOO.COM/INDEX](http://www.yahoo.com/INDEX)
* OR [WWW.YAHOO.COM/INDEX](http://www.yahoo.com/INDEX)
* ANATOMY OF A URL

http: //www. Yahoo.com/index

HERE

http IS THE PROTOCOL TO BE USED

Index IS THE FILE NAME STORED ON A WEB SERVER

WHOSE DOMAIN NAME IS yahoo.com.

BECAUSE IT IS A WWW APPLICATION IT ALSO HAS A www PREFIX.

THE FORWARD SLASH(/) CHARACTER INDICATES THAT THE FILE IS ONE OF THE MANY FILES STORED IN THE DOMAIN yahoo

* IF THE USER WANTS ANOTHER SIDE CALLED NEWS OF THE DAY FROM THIS SITE THEN THE URL WOULD BE <http://www.yahoo.com/newsoftheday>.
* Alternatively the user can just type the name of the domain(i.e [www.yahoo.com](http://www.yahoo.com/)) the above url paths are called absolute or complete path.
* Every web server has one default file. When a user types only the domain name without mentioning the file name this default file is used.

* Every web server has one default file. When a user types only the domain name without mentioning the file name this default file is used.
* THIS DEFAULT FILE IS RETURNED TO THE WEB BROWSER IN SUCH CASES.
* IF INDEX FILE IS SUCH A DEFAULT FILE THIS WILL BE ANOTHER WAY OF REACHING THE INDEX FILE AT YAHOO.COM
* THE PAGE DISPLAYED FROM THE DEFAULT FILE(IN THIS CASE THE INDEX FILE) MAY THEN PROVIDE LINKS TO OTHER FILES(OR WEB PAGES) STORED AT THAT DOMAIN.
* IF A USER CLICKS ON ONE OF THEM (e.g FINANCE) THE FINANCE FILE STORED AT YAHOO DOMAIN IS DISPLAYED.THIS IS CALLED A RELATIVE PATH.

**HTTP**

* HTTP IS THE MOST POPULAR APPLICATION PROTOCOL USED IN THE INTERNET. IT IS A REQUEST RESPONSE CLIENT SERVER PROTOCOL.
* HTTP IS A STATELESS PROTOCOL i.e IT DOES NOT MAINTAIN A RELATIONSHIP BETWEEN REQUESTS.
* WHEN WE START A WEB BROWSER AND ISSUE A URL TO GET A WEB RESOURCE USING HTTP THE BROWSER TURNS THE URL INTO A REQUEST MESSAGE AND SENDS IT TO THE HTTP SERVER(WEB SERVER).HTTP SERVER INTERPRETS THE REQUEST AND THEN RESPONDS.

**HTTP REQUEST MESSAGE**

* HTTP CLIENT AND SERVER COMMUNICATE BY SENDING TEXT MESSAGES.
* HTTP MESSAGES CONSIST OF A MESSAGE HEADER AND AN OPTIONAL MESSAGE BODY SEPARATED BY A BLANK LINE.
* HTTP REQUEST MESSAGE HAS A REQUEST LINE ,THE REQUEST HEADER, BLANK LINE AND THEN THE OPTINAL REQUEST MESSAGE BODY
* REQUEST LINE SYNTAX IS : REQUEST METHOD NAME REQUEST URL HTTP VERSION
* For example GET/test.htmL HTTP/1.1 OR HEAD/query.html HTTP/1.0
* THE REQUEST HEADERS ARE IN THE FORM name: value pair MULTIPLE VALUES SEPARATED BY COMMAS CAN BE SPECIFIED.
* EXAMPLE : Host : [www.xyz.com](http://www.xyz.com/)
* Connection : Keep-Alive
* Accept: image /gif,image/jpeg.\*/\*
* Accept language :us-en,fr,cn

**HTTP RESPONSE MESSAGE**

GENERAL FORMAT IS : Response message header followed by a blank line and then response message body. Response message header has first a status line followed by response header.

Status line has the following syntax

HTTP- version status-code reason-phrase

Version can be 1.0 or 1.1 and Status code is a 3 digit number generated by the server to reflect the outcome of the request

Reason-phrase gives a short explanation to the status code common status codes and reason phrase are 200 ok, 4040 not found , 403 forbidden, 500 internal server error.

Response headers are in the form name : value pairs

Example: Content-Type:text/html

Content-Length:35

Connection: Keep-Alive

Keep-Alive:timeout=15,max=100

**HTTP REQUEST METHODS**

* HTTP HAS THE FOLLOWING SET OF REQUEST METHODS USED BY CLIENTS:
* GET: TO GET A WEB RESOURCE FROM THE SERVER
* HEAD: USED TO GET THE HEADER .CONTAINS THE LAST MODIFIED DATE OF THE DATA
* POST:POST DATA UP TO THE SERVER
* PUT: ASK THE SERVER TO STORE THE DATA
* DELETE: ASK THE SERVER TO DELETE THE DATA
* TRACE: ASK THE SERVER TO RETURN A DIAGNOSTIC TRACE OF THE ACTIONS IT TAKES.
* OPTIONS: ASK THE SERVER TO RETURN THE LIST OF REQUEST METHODS IT SUPPORTS.
* CONNECT:USED TO TELL APROXY TO MAKE A CONNECTION TO ANOTHER HOST.OFTEN USED TO MAKE SSL CONNECTION THROUGH THE PROXY