

Assignment No. 1

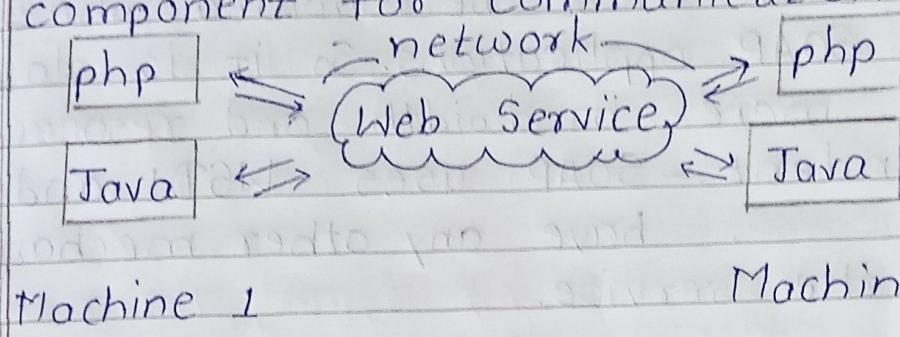
a.1. What is Web services?

→ "Web service is a system of software allowing different machines to interact with each other through network."

"Collection of standards / protocols for exchanging information between two devices or applications."

It is a client-server application or application component for communication.

e.g.



There are 2 types of web services -

- SOAP
- RESTful
- SOAP : SOAP stands for simple Object Access Protocol. It is a XML-based protocol for access web services. SOAP is a W3C recommendation for communication between two applications.

SOAP is XML based protocol. It is platform independent and language independent. By using SOAP, you will be able to interact with other programming language applications.

Advantages of SOAP -

WS Security - SOAP define its own security known as WS Security.

Languages and Platform independent -
SOAP web services can be written in any programming language and execute in any platform.

Disadvantages of SOAP -

Slow - SOAP uses XML format that must be passed to be read. It defines many standards that must be followed while developing the SOAP applications. So it is slow and consumes more bandwidth and resource.

WSDL dependent - SOAP uses WSDL and doesn't have any other mechanism to discover the service.

RESTful Web Services -

REST stands for Representational State Transfer. REST is an architectural style not a protocol. In REST Architecture everything is a resource. RESTful web services are light weight, highly scalable and maintainable and are very commonly used to create APIs for web-based applications.

Advantages of RESTful web services -

Fast - RESTful Web Services are fast because there is no strict specification like SOAP. It consumes less bandwidth and resource.

Language and Platform independent - RESTful web services can be written in any programming language and executed in any platform.

Can use SOAP - RESTful web services can use SOAP web services as the implementation.

Permits different data format - RESTful web service permits different data format such as plain Text, HTML, XML & JSON.

Q.2. What is difference between website & web service?

→ Website Web Service

i) A website has a user interface or GUI. A web service doesn't have a user interface.

ii) Websites are meant for use by humans. Web services are meant for other applications to be interacted with over the internet.

iii) A website is a collection of related web pages, including multimedia content, typically identified with a common domain name & published on at least one web server.

iv) Typically returns HTML or image data or similar.

v) Websites are not registered in UDDI registries.

iii) A web service is a service offered by an electronic device to another electronic device, communicating with each other via the World Wide Web.

iv) Typically returns XML or JSON or something like that is easily decoded by a programmer.

v) Web services are registered in UDDI registries.

vii) Websites have a double role to provide information & present information. In Web services, there is no concept of presentation.

Q.3. What is URL? What are the parts in URL?

→ "A URL (Uniform Resource Locator) is a unique identifier used to locate a resource on the Internet. It is also referred to as a web address". URLs consists of multiple parts - including a protocol and domain name - that tell a web browser how and where to retrieve a resource.

End users use URLs by typing them directly into the address bar of a browser or by clicking a hyperlink found on a webpage, bookmark list, in an email or from another application.

There are 9 parts in URL -

a) The Schema f) port number

b) Subdomain g) path

c) top-level domain h) query string

d) second-level domain i) fragment

e) subdirectory

a Subdomain top-level domain path parameter

https://	www.	example	.co.uk	:443	blog/article/search	?	docid=720&hl=en	#dayone
----------	------	---------	--------	------	---------------------	---	-----------------	---------

Schema domain port number separator query string fragment

a) Schema - The protocol or schema part of the URL & indicates the set of rules that will decide the transmission and exchange of data. HTTPS which stands for Hyper Text Transfer Protocol Secure tells the browser to display the page in Hyper Text (HTML) format as well as encrypt any information that the user enters in the page. (<https://>)

b) Subdomain - The subdomain is used to separate different sections of the website as it specifies the type of resource of to be delivered to the client. Here the subdomain used 'www' is a general symbol for any resource on the web. Subdomains like 'blog' direct to a blog page, 'audio' indicates the resource type as audio. (www.)

c) Top-level domain - The TLD (top-level domain) indicates the type of organization the website is registered to. Like the .com in www.facebook.com indicates a commercial entity. Similarly, .org indicates organization, .co.uk a commercial entity in the UK. (co.uk)

d) Subdomain - A subdomain name is a piece of additional information added to the beginning of a website's domain name. It allows websites to separate & organize content for a specific function - such as a blog or an online store - from the rest of your website.

d) Second-level domain - A Second Level Domain (SLD) is the part of the domain name that is located right before a Top Level Domain (TLD). For example, in mozilla.org the SLD is mozilla & the TLD is org.

e) Subdirectory - A subdirectory is a type of website hierarchy under a root domain that uses folders to organize content on a website. A subdirectory is the same as a subfolder and the names can be used interchangeably.

f) port number - A port number is a way to identify a specific process to which an internet or other network when it arrives message is to be forwarded when it arrives at a server. All network-connected devices come equipped with standardized ports that have an assigned number.

g) Path - Path specifies the exact location of the web page, file, or any resource that the user wants access to. Like here the path indicates a specific article in the blog webpage.

h) Query String - The query string specifies the parameters of the data that is being queried from a website's database. Each query string is made up of a parameter and a value joined by the equals (=) sign. In case of

multiple parameters, query strings are joined using the ampersand (&) sign. The parameter can be a number, string, encrypted value, or any other form of data on the database.

- i) Fragment - The fragment identifier of a URL is optional, usually appears at the end, and begins with a hash (#). It indicates a specific location within a page such as the 'id' or 'name' attribute for an HTML element.

Q. 4. What is domain?

→ A domain name identifies a network domain or an Internet Protocol (IP) resource, such as a personal computer used to access the Internet, or a server computer. Domain names are often used to identify services provided through the internet, such as websites & email services.

Domain name, often referred to as "web address", is the address that people type into a browser address bar to find your website. A registered domain name is unique to you and can't be used by anyone else, as it functions on the Internet in a similar way like a street address in the physical world.

A domain name is a unique, easy-to-remember address used to access websites, such as 'google.com', and 'facebook.com'. Users can connect to websites using domain names thanks to the DNS system.

Here are five of the most common domain extensions to consider.

.com , .net , .org , .co , .us

Q.5 What is hosting?

→ A web hosting service is a type of Internet hosting service that hosts websites for clients. i.e. it offers the facilities required for them to create and maintain a site and makes it accessible on the world wide web. Companies providing web hosting services are sometimes called web hosts.

Hosting (also known as Web site hosting, Web hosting, and Webhosting) is the business of housing, serving, and maintaining files for one or more web sites. More important than the computer space that is provided for web site file is the fast connection to the Internet.