Website Design & Development

Assignment 1

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Oriented Object: Junior staff member

Objectives

- History of The Web
- How The Web works
- Some concept about: Domain Name System (DNS) , URLs, HTTP, HTML, Web Browser, Web Server, Database Server.
- How to create a own Domain name.

The Web

I think this word is probably too familiar to you because The Web has been around for more than 20 year now.

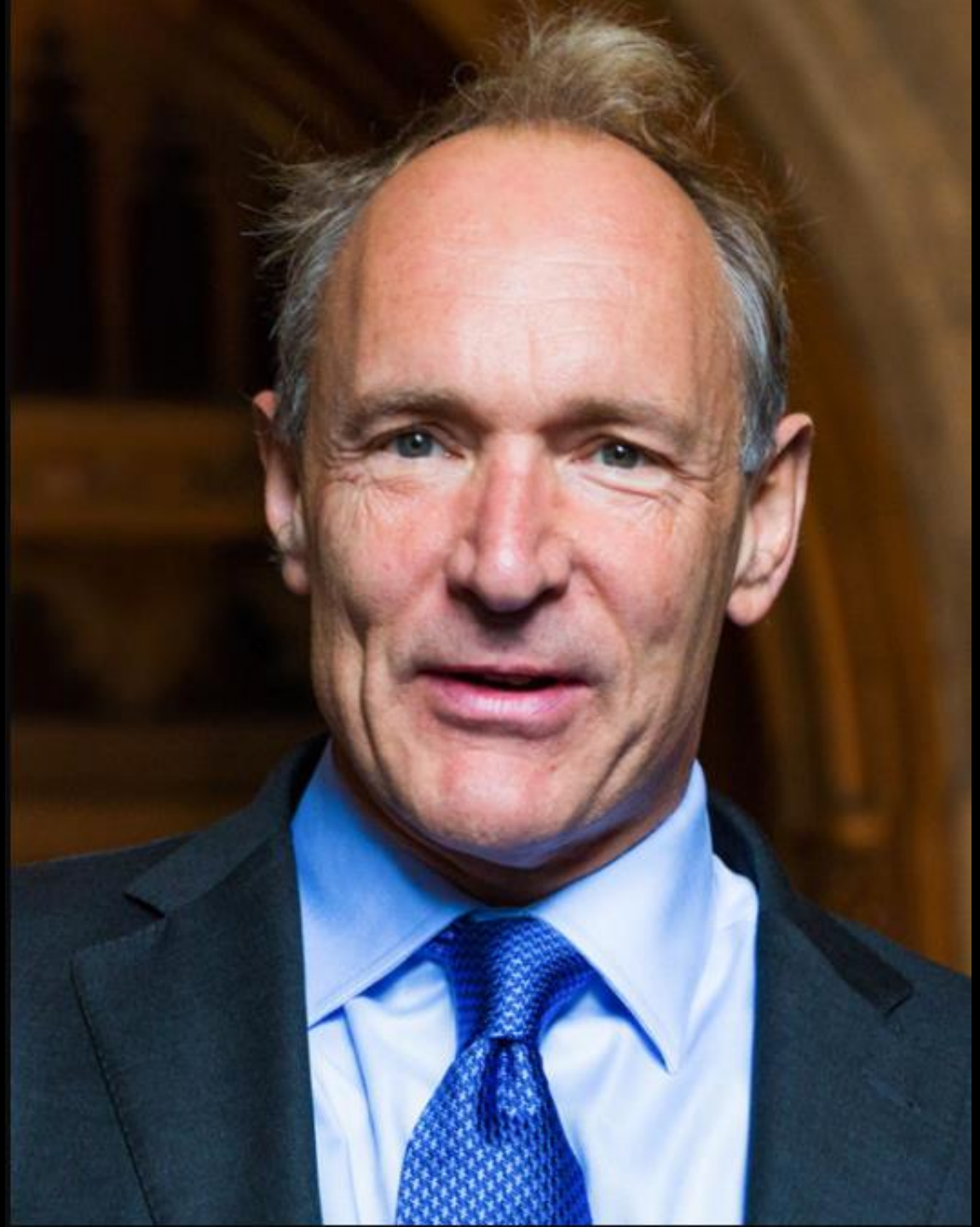
But what do you know about The Web?

Then I will introduce some thins for you to know more about The Web

Firstly

Have you ever heard the name Tim Berner-Lee?

Let’s see the following picture and answer that “Is person in the picture familiar?”



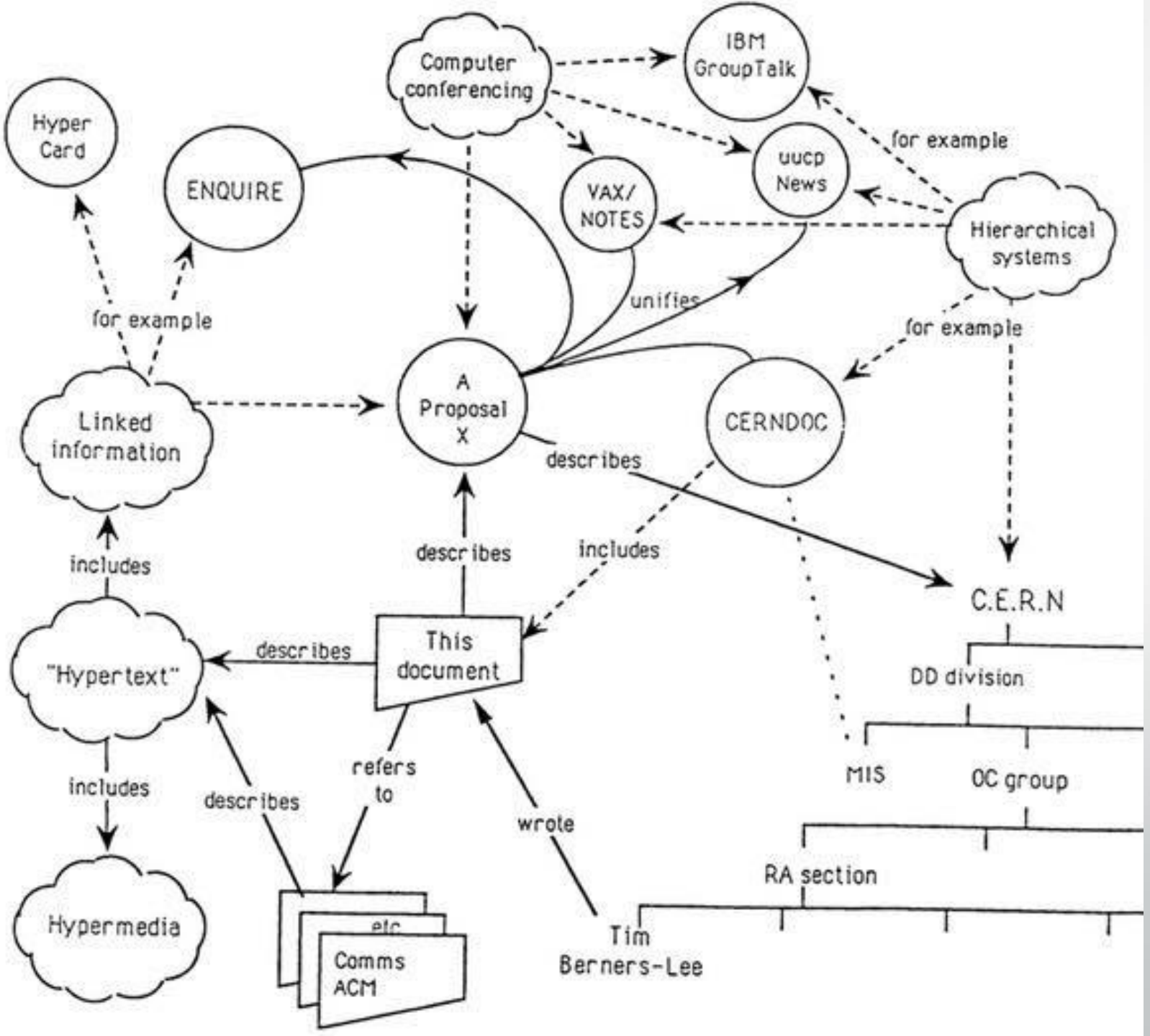
TIM BERNERS-LEE

The inventor of World Wide Web

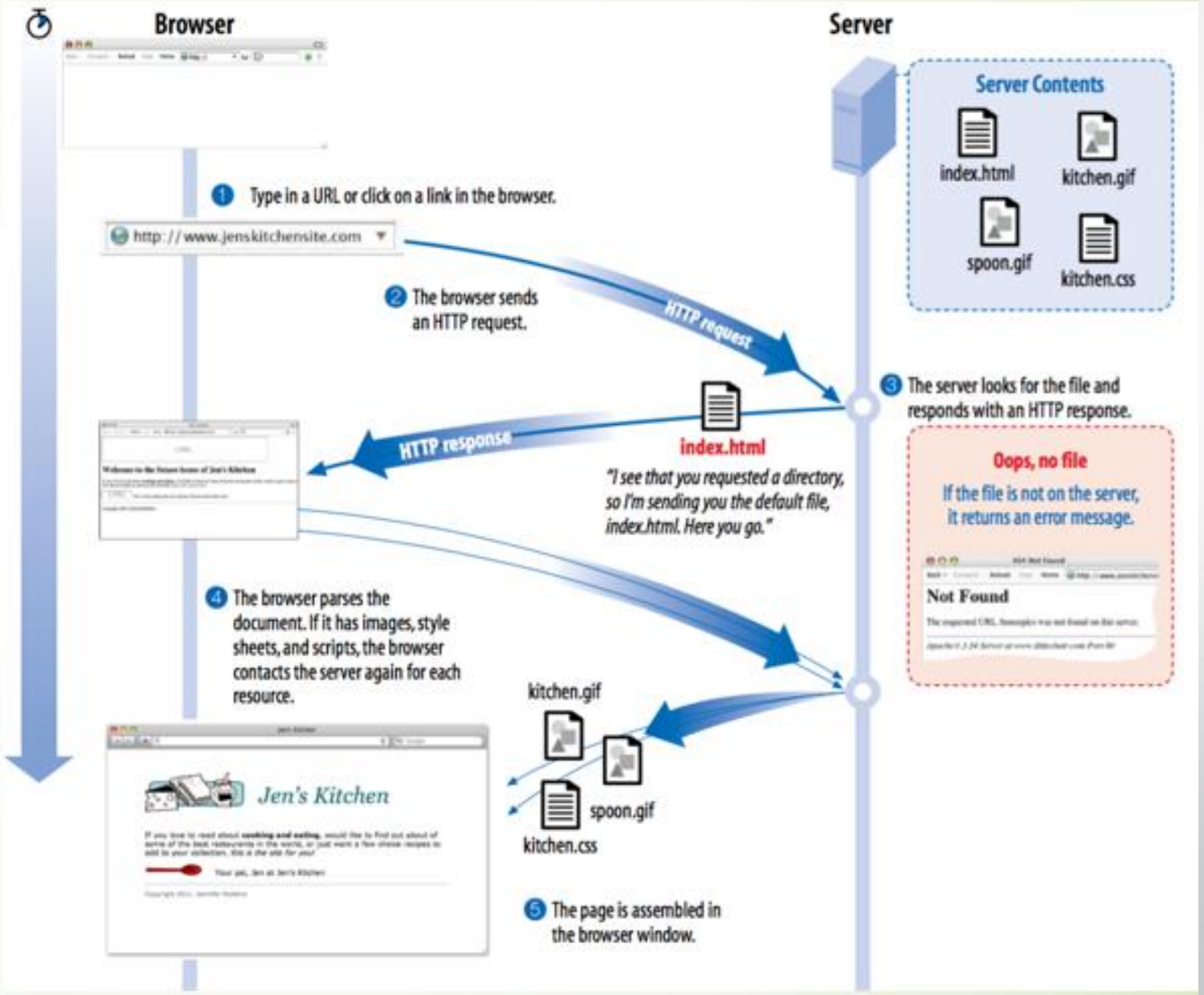
Web is the largest transformable-information construct that its idea was introduced by Tim

Burners-Lee in 1989 at first.

The Web was originally called Web 1.0, and later Web 2.0 and Web 3.0 were developed, so far we have been using Web 4.0.



T Berners-Lee diagram



How to operate a normal web

How the web works

The user sends a request to access the information on the web server. Finally, the web server sends back the information that the user needs.

The web is where all the information is exchanged.

Web server is a software, not a computer server. There are two most types of popular web servers today: Apache and IIS.

In the early days, the web also operated with a code, called IP. Later on to increase the usability of the web for users. The concept of the Domain Name System (DNS) was born.

Domain Name System(DNS)

What is DNS?

Because of the development of the Internet, the concept of DNS was born.

In 1984, DNS was invented to serve the Internet. It was a system for naming devices accessing the Internet.

DNS includes both IP and domain name.

Each machine or web or device accessing the network is set by the DNS for a given IP code. But since IP code is a long and hard to remember number, it's easy for web users to have a domain name.

In summary IP to make computer software easy to access, and Domain name makes it easy for the user to access the web.

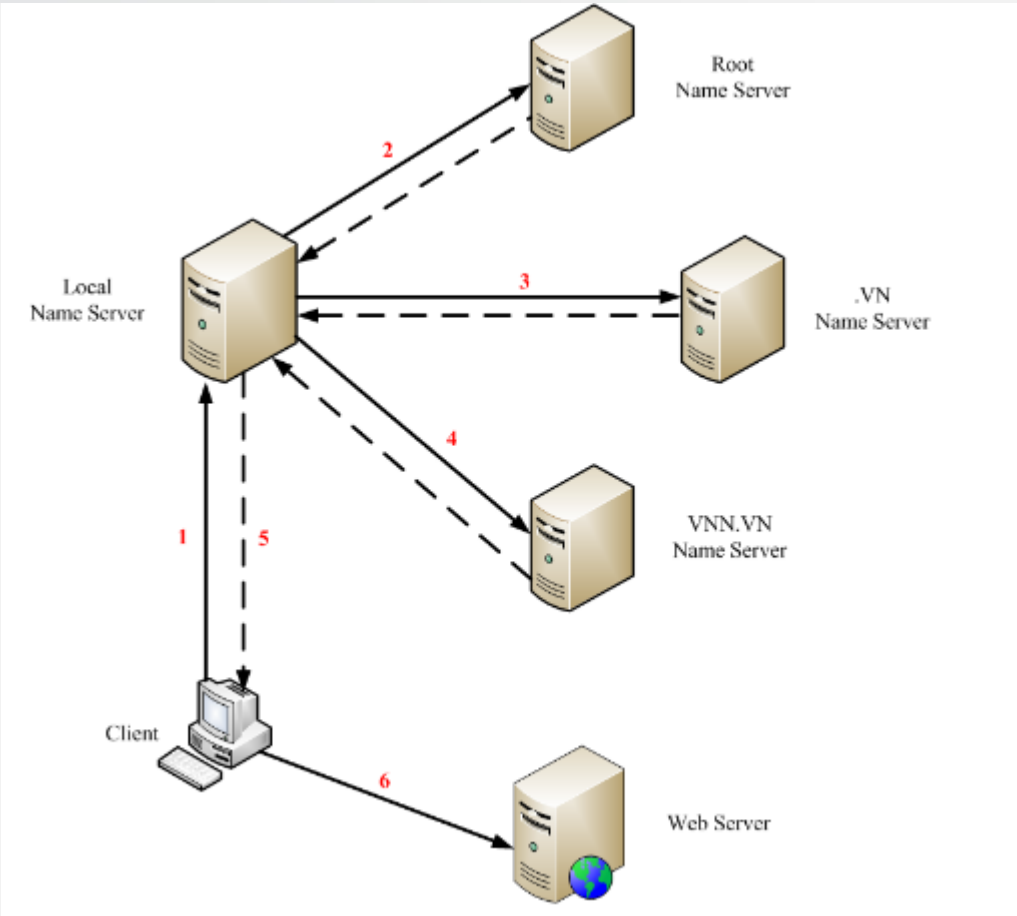
Why have we used DNS?

Because:

- Internet development.
- IP addresses are getting longer and harder to remember.
- Update speed is faster and more accurate.
- Cost is cheaper but more convenient.

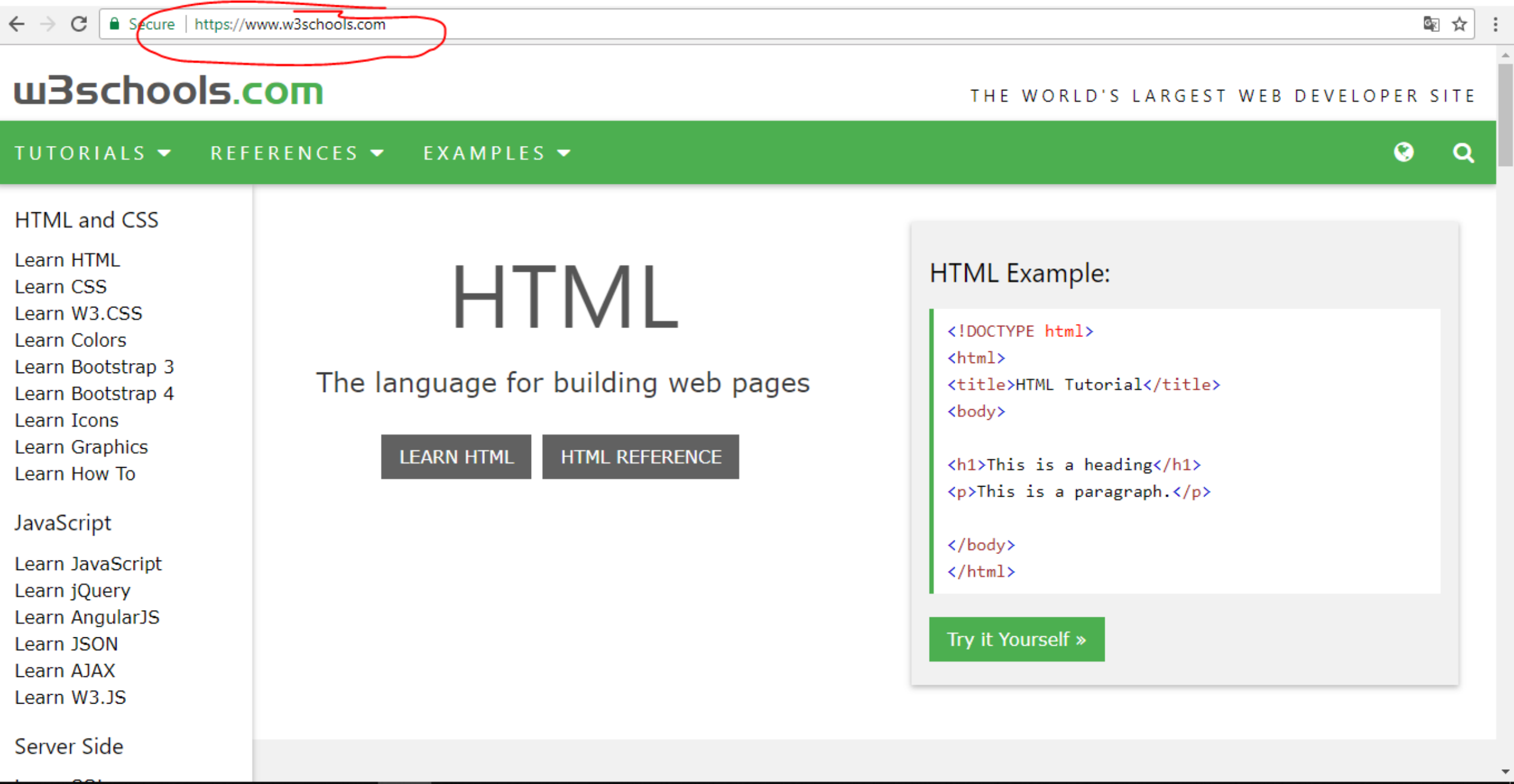
How do Domain Name System work?

- Each server has at least one DNS Server. And that company has verified that the DNS is unique, and is installed and maintained by the company itself.
- Each DNS Server has two main tasks. The main task is the link between the IP address and the domain name. Task 2 is that they respond to external DNS servers trying to resolve names within the domain it manages.



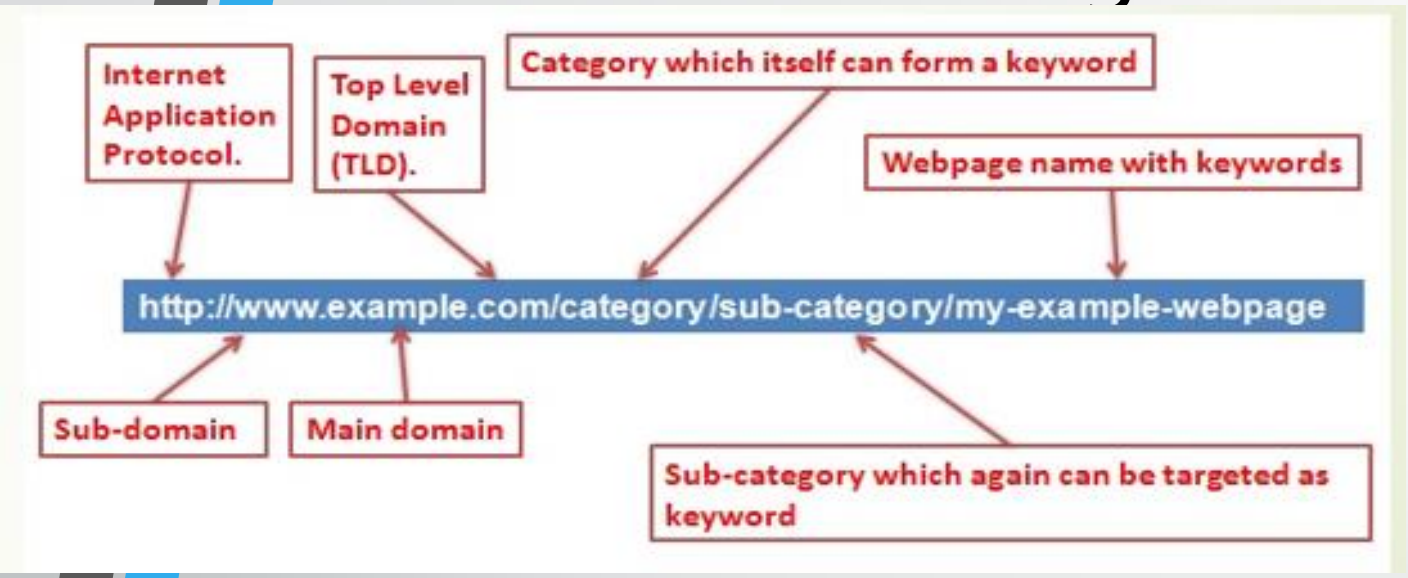
When Users access to the website address is: www.vnn.vn

Here is how the domain name system works. When the user sends the request to the server. It will forward the IP directly to the root server to gain access and forward to the VN Name Server to know that web access is in the VN file. Then VN Name Server forward to VNN.VN Name Server to be accessed. And finally, all requests that return Web Server IP that is of WWW.VNN.VN, the new user machine can use and access.



Normally when you have access to the web, do you notice what this is? That is the URL.

Web Page Addresses (URLs)



URL analysis

When accessing some data or information on the network, the URL is used to direct the user's machine to the exact address the user requests.
The image above represents the specific structure of a URL

WWW or the full name is the World Wide Web or short for Web or Website is a method, means to exchange information around the world.

Since its inception, Tim Berner-Lee has devised an HTTP method for transmitting informations. Later HTML Language and Web browsers were developed and outperformed HTTP. Nowadays, the web is widely used, everyone uses the web to exchange information.

HTTP (Hyper Text Transfer Protocol)

Http (Hypertext Transfer Protocol) is a method of sharing, transmitting hypertext.

When the client executes a command to the web server to access the image or file, the web server will analyze the order and deliver the requested image. Must analyze because it wants to meet the requirements of visitors need and in addition it is a special language. (Helps server and client connect to each other and transmits, receives information, text).

HTML (Hyper Text Markup Language)

Html is text but is super text and it is defined, marked as what color is, where the place is (to perform the request of the user but does not present all the j in the web server is owned. For example, if the user needs a text size of 42, it will appear as requested.

Web browser

The web browser (the software that runs on the user's computer) is the sharing of documents. (it's the task of sending the request (http request) to the web server for access). Web server (where image files, text, html files, for user requests, search documents according to user requirements) so that when web browser send requests, web server (Server-side software) will display (html display) as requested by the user.

The Web Browser is closely related to the Web server. Because the Web Browser sends a request to the Web server to receive the requested information.

Web server

The WEB server is software installed on the server, and it will run an operating system reserved for the web server. Server space is used to store files, data, content of a website.

There are two kinds of web server:

- Apache (is the most popular web server today. It can use in Linux, Windows, OS X, etc).
- IIS (Internet Information Services) (is a Microsoft product. It is the same as Apache but it is not convenient and fast like apache).

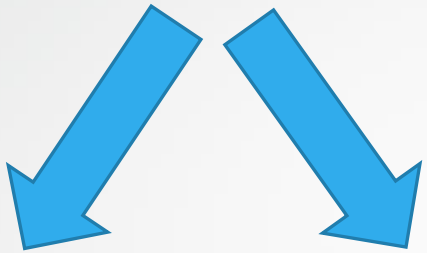
Server room is considered as the lifeblood of every business, in the room is mostly the hardware assembled servers with a large area and especially with the modern high-tech room with modern equipment. The amount of heat, the amount of heat emitted from this is very large. And this is the image of a normal server hardware preservation.

In addition, software for server installation is separate software, unlike win10 of Microsoft or existing machines.

The operating system is used as:

- Windows server 2003 (versions)
- Windows server 2008 (versions)
- Windows server 2012 (versions)
- Linux operating system
- Any other application software

The basic distinction between web server and web browser



The Web server is the place where save all documents or files .

The Web browser is the place where save the link and the commands to access.

I presented about the web server, the types of web servers and how they work. But when the server receives the request, they search data in their database store to retrieve the data requested by the customer. And all data is stored in the Database Server. So what is Database Server, what is the effect of it?

Database Server

Database server is a place to store information such as website or webpage information, user information, .etc. A database server is a sequence of computers connected to a LAN that has the unique task of storing, maintaining and retrieving data. Usually, a database server with a Web server is usually placed in one place for easy maintenance and repair. The software is installed as a Web server and the hardware is where the database server is stored.

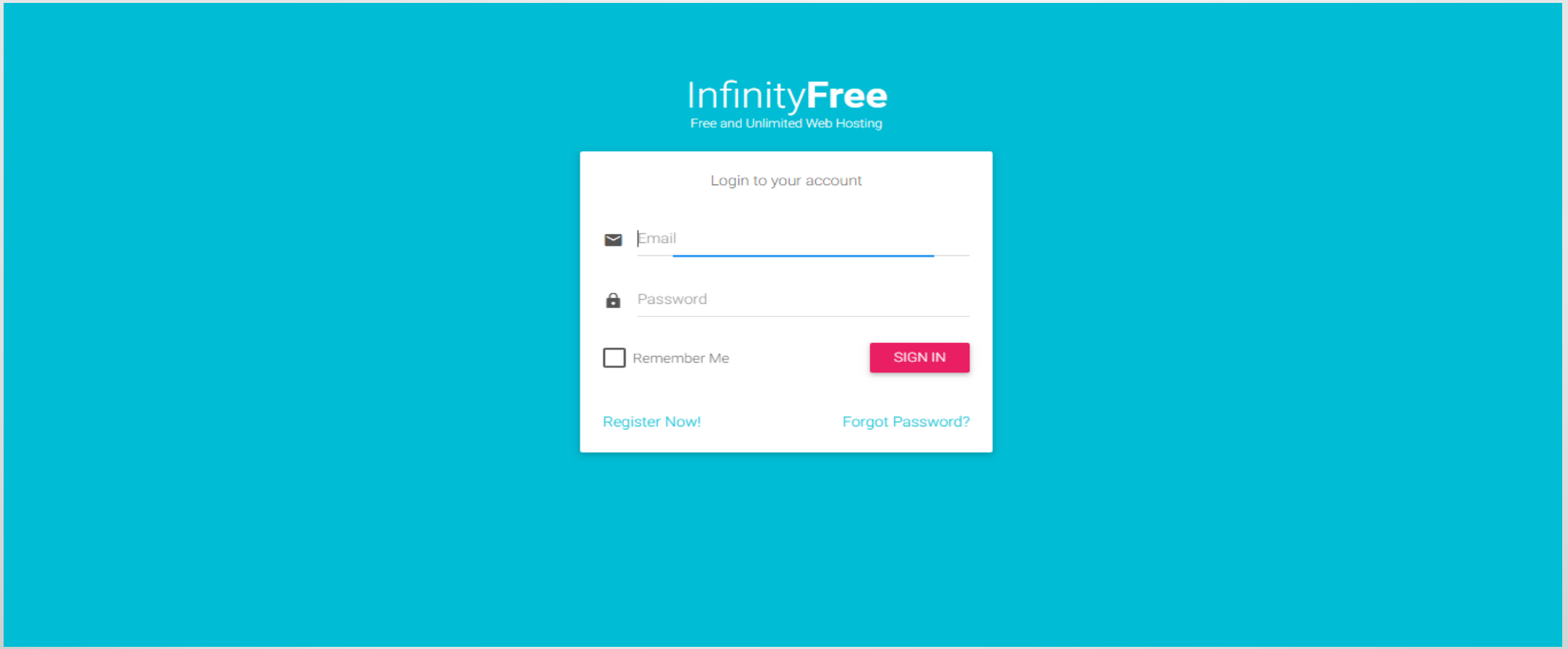
Advantages of having Database Server:

- The speed of the server will be faster
- The data in it is reliable
- have a better effect.

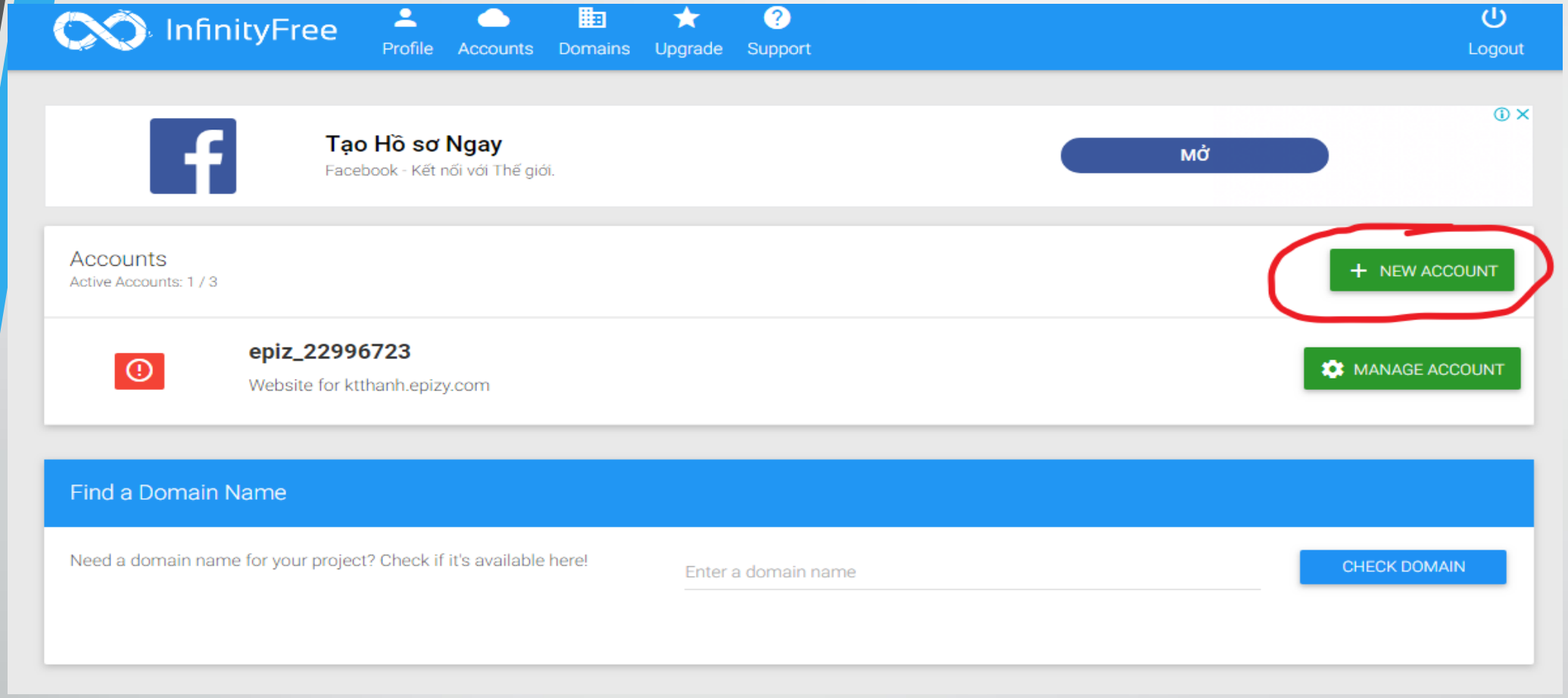
I think I have presented and made many concepts. Now I will guide you to register the domain with your own web. Of course this is a student registration so I will introduce you to the free post where you can practice immediately.

The steps to Sign up a domain name and a website

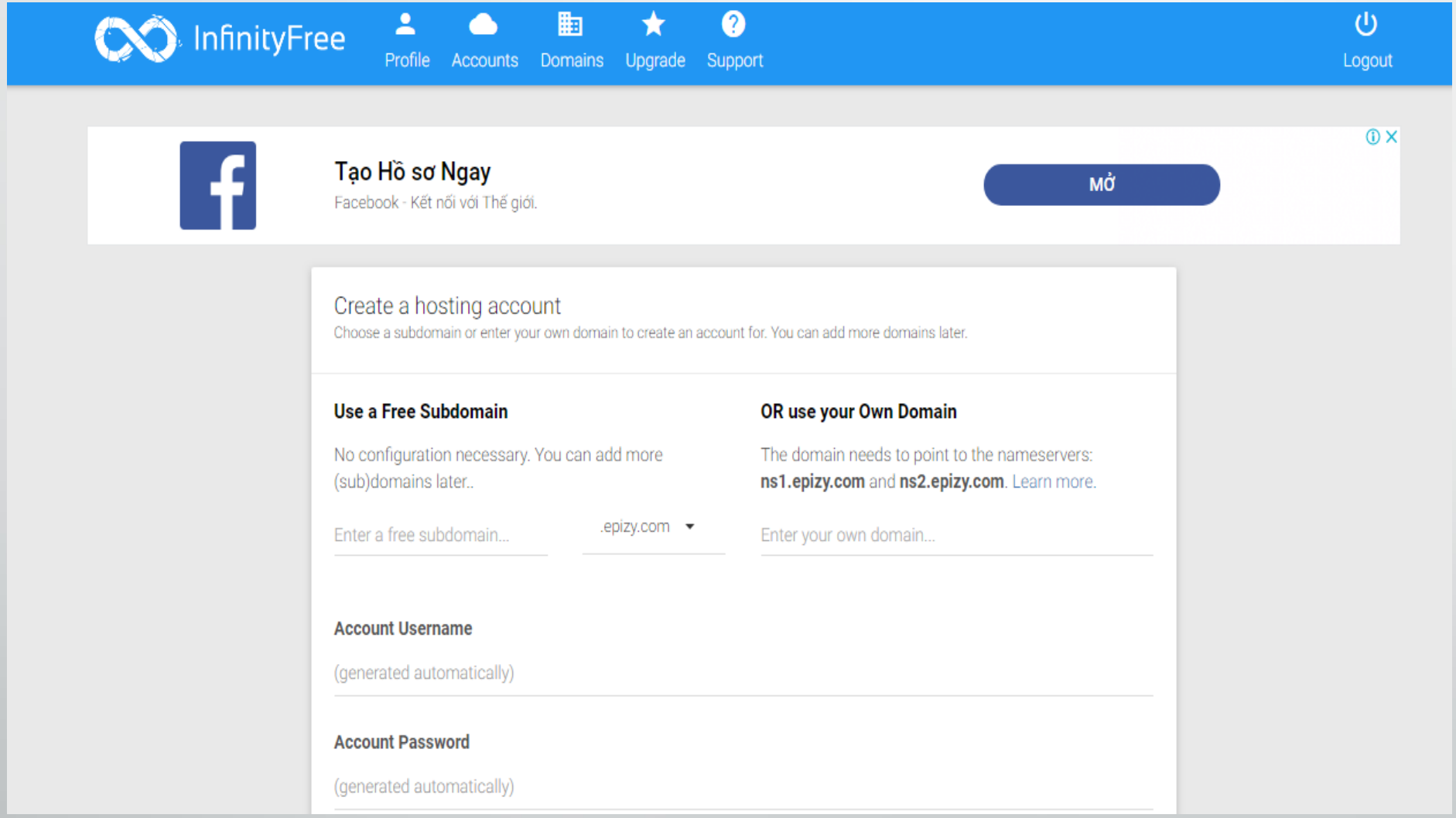
Step 1: Access into link: https://app.infinityfree.net (A website that supports to create a free web.



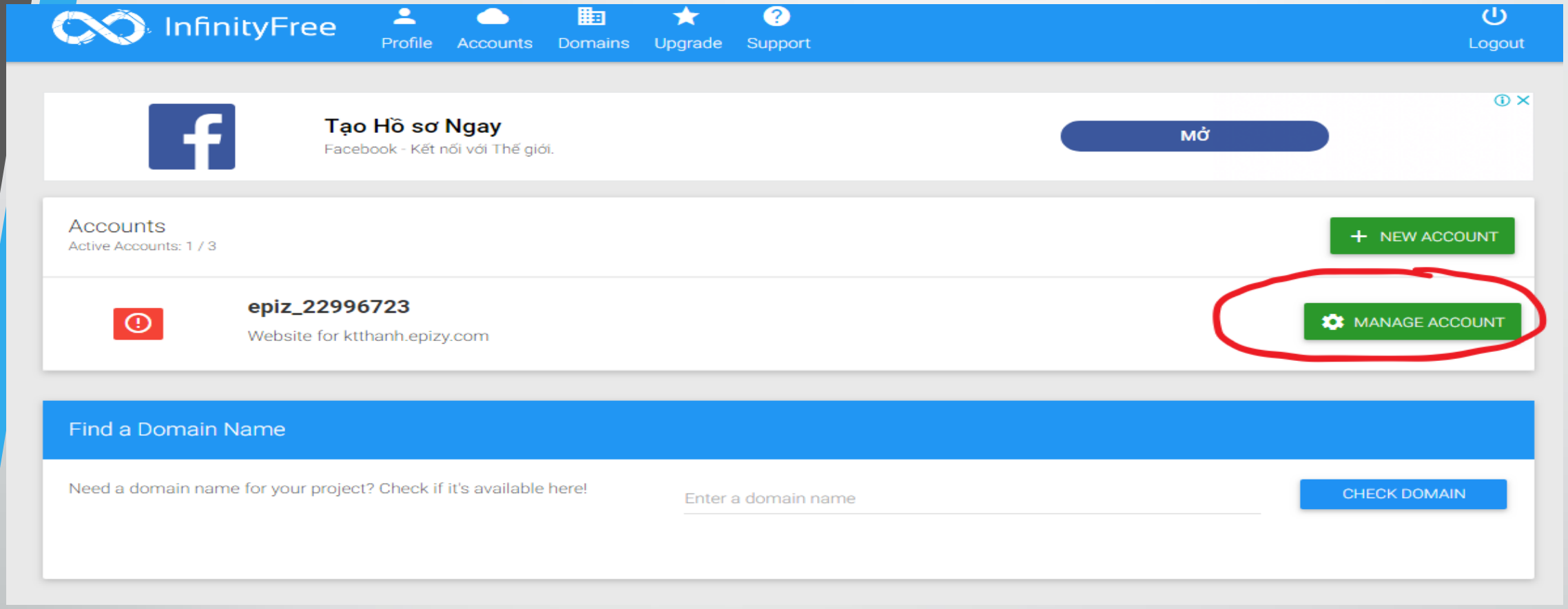
Step 2: Sign up/Log in



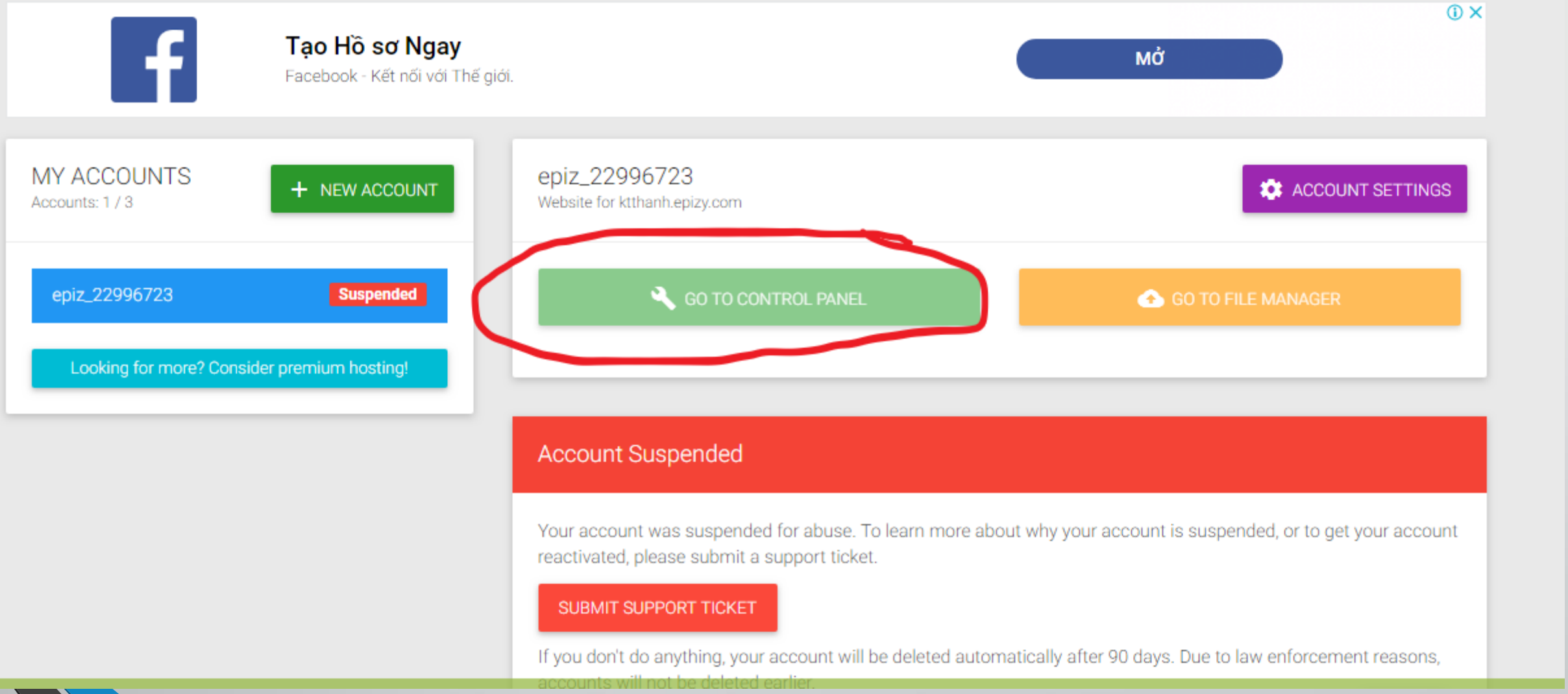
Step 3: Click button “New Account” to create a Domain name.



This is the Design of creating a new web.
Note: Domain name have to be the only one.



Step 4: After you created a new web, click button “Manage Account” to setting



Step 5: Click button "Go to control panel" to start setting and fix this website become to be yours.

After all the steps above, the result is you obtain a domain, a web of your own. Now just click the right URL then you can visit your own personal web site

That's just an example of domain and web registration. Now when you want to sell goods online and want to register a website dedicated to your shop to facilitate the sale. Then, when you search Google shop name, it will appear. If you have the conditions, you register more hashtag for the shop name, the name of the clothes sold. Plus, you can pay for Google Adwords to get on the front page. You can simply understand that, just search the store name or the name of the clothes sold in the shop, you will be ranked first in search, and it will link to the web shop you first.

The influence of the search engines on the website is important. Because that is also part of the decision to whether the web is maintained and developed.

Oriented Object: Senior staff member

Objectives

Some concepts: Static Web, Dynamic Web, Front-end and Back-end.

The difference between using the tools available to design with your own web creation

Today with the development of The web, the web is much more developed and useful than the original web.

The development is due to the introduction of static Web and dynamic Web concepts.

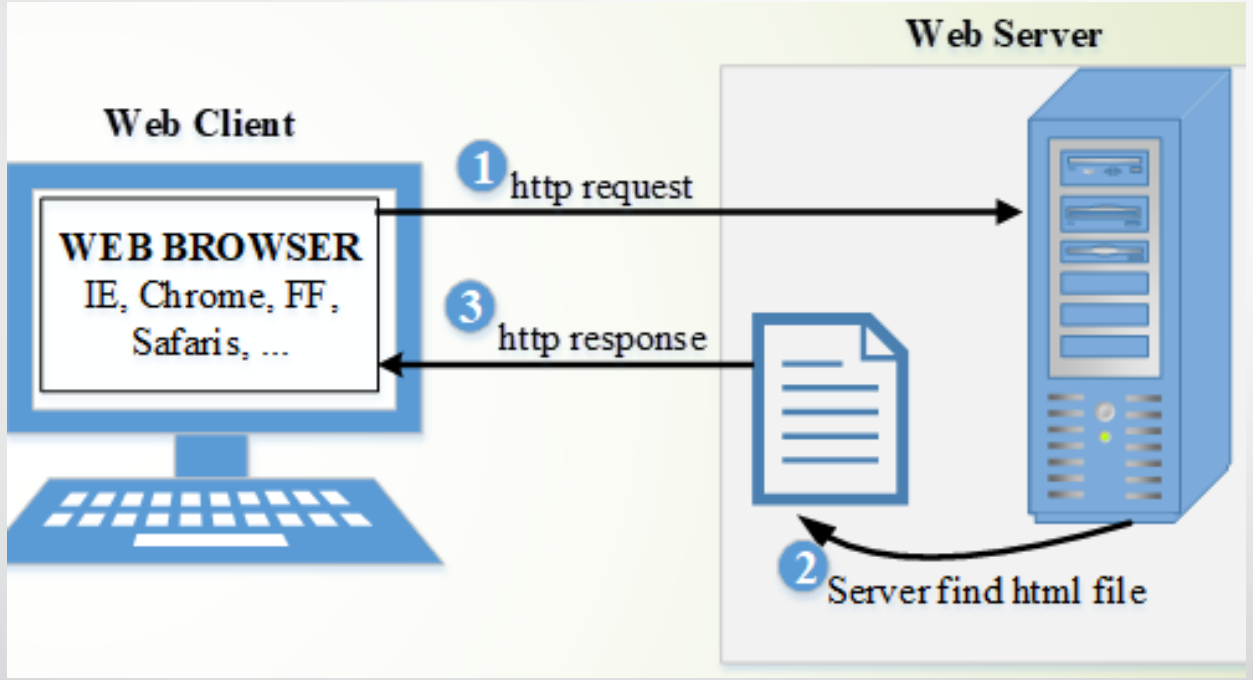
There are two kinds of Website:

- Static Web
- Dynamic Web

Static Web

Made by HTML.

Contains folders, images, text, design, structure by manually setting the web from the machine and then hyperlinked to the web called static web.



The basic operation mechanism of static web

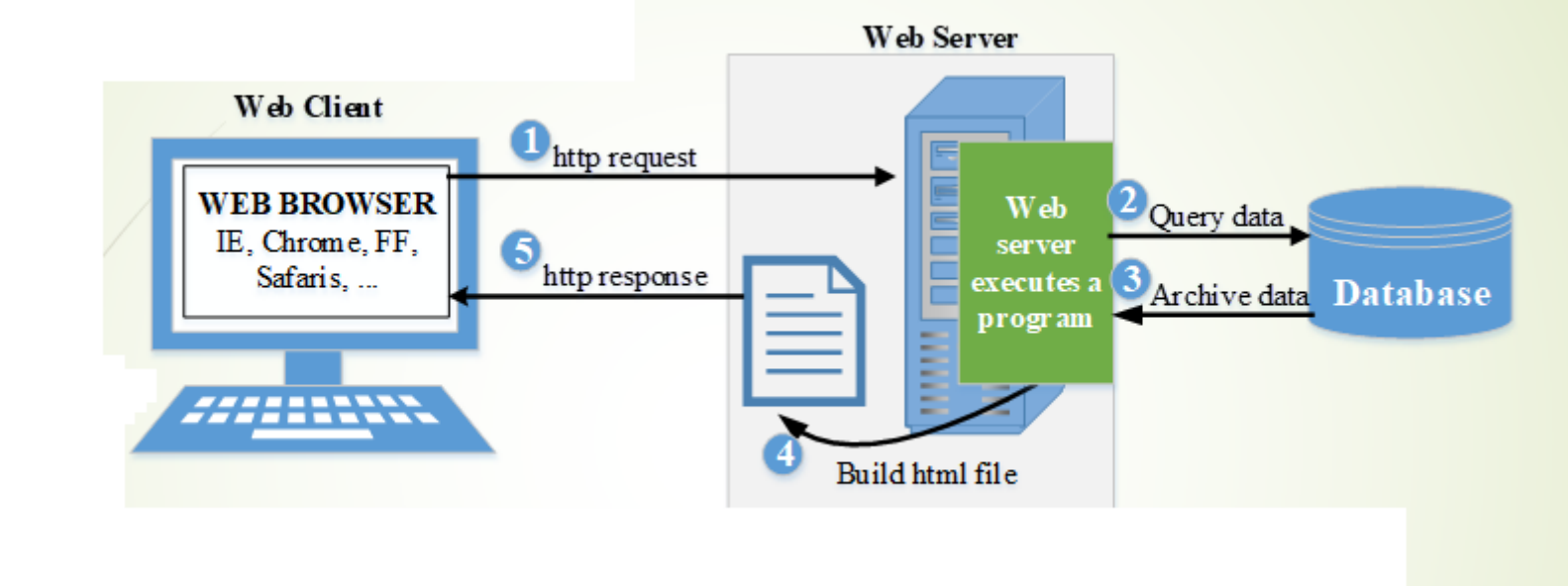
The basic web form is original, so it has many shortcomings. Here I will only point out the disadvantages of this type of web.

Disadvantage:

- Can not meet the needs and expectations of users.
- Edit difficult.
- Update difficult.
- No user interaction.

Dynamic Web

Dynamic web, simple to understand, it is the web according to user requirements. And here is the dynamic mechanism of the web, looking at the mechanism, you will understand more about dynamic web.



How the dynamic web works

Web Dynamic means the web is not available on the server.

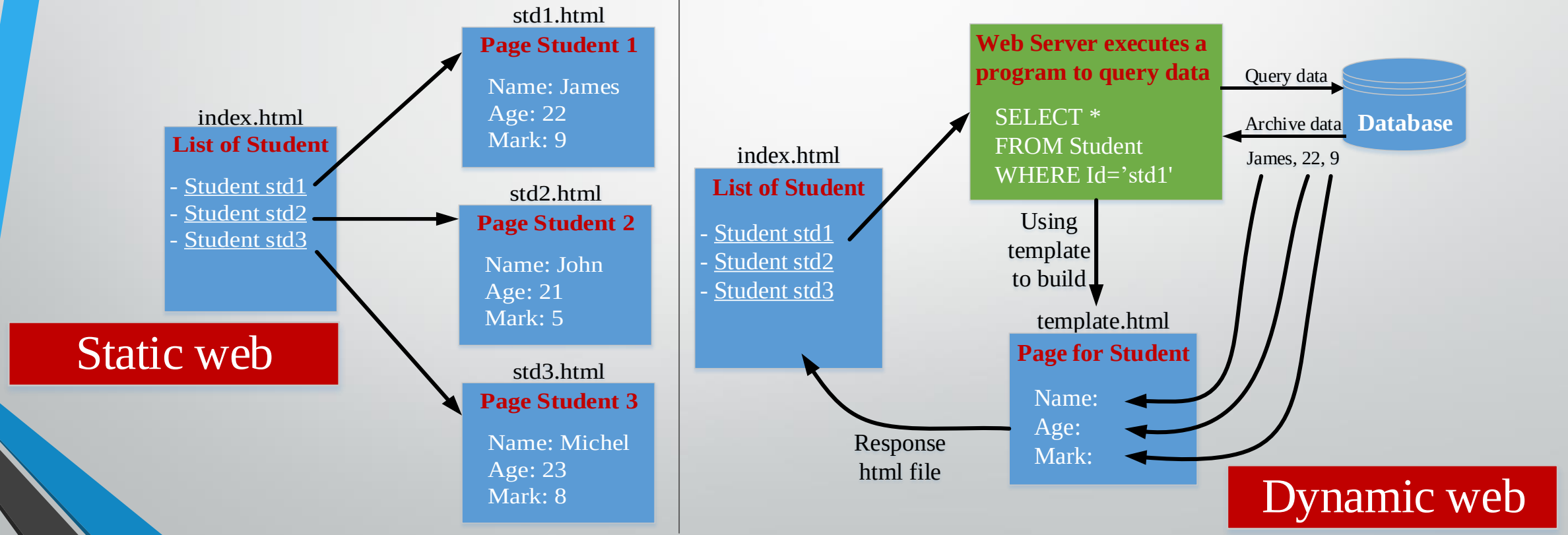
When there is an access command from the user, the server runs the programming language (it's like a script) to access the server database, retrieves the ones that the user requests.

Here are two more concepts (the green part in the picture), which is:

- Server Side Scripting Language
- Client Side Scripting Language

Static web and Dynamic web compare

I will compare the way it works and the results it receives when users visit the two types of web together.



When you use a web app, enter URL. And instantly appear on your screen is a web page, with the right information for your requirement, and moreover, it is well design, scientifically organized and beautifully rendered. It does not happen to be available on the web server. This is due to the presence of two concepts Frontend and Backend that the new web received the satisfaction of the user so.

I will not say the definition of each type, and right away give the distinction between these two types to make it easier for you to identify them.

WEB APPLICATIONS

Front-End Design

- Interface (Static pages) of the web application
- Technologies: HTML, CSS, Java Script with support of other framework: Bootstrap, JQuery…
- Client Side

Back-End Development

- Using server side script to build main features of web application, which can be run on Web Server to serve requests from client
- Technologies: PHP, ASP.Net, Pearl, JSP&Servlet…
- Database server: MySQL, SQL Server, Oracle, DB2...
- Server Side

In that photo I show how the dynamic web works. Do you see the green part there?

That is the difference and also the advantages of dynamic web versus static web. And the dynamic Web is thanks to the invention of Server Side Scripting Language and Client Side Scripting Language

Server Side Scripting Language

Server Side Scripting Language is responsible for programming functions on the server side. Some suitable languages for using in Server Side Scripting Language are PHP, ASP.NET, JSP.

According to (Luke Welling et al, pp.2-3), PHP is a server-side scripting language designed specifically for the web. While coding HTML, it is possible to embed PHP

Advantages:

- It's simple, easy to learn and it's free
- There are plenty of resources and resources
- The salary of a great PHP programmer

Disadvantages:

- The structure is simple but for a complete web code, the whole code will be long and not as compact as other languages.
- PHP only works on Web applications

→ Most of the server side now use PHP as their primary language

JSP (Java Server Page) is a language born to support web development. JSP is like PHP, it can also be inserted while coding HTML.

Advantage:

- Makes it easy to edit and create dynamic web pages.
- Easy to design web interface.
- Can be used anywhere, just put the embedded code is JSP will be executed.

Disadvantage:

- It wastes many times for the JSP to execute
- take up a lot of space in memory when there are JSP in the code

Because of this disadvantage, JSP is not the most popular language in server side

- Client Side Scripting Language is related only to html documents. Enhances interactivity on the part of the user. Before the data was sent to the user, it was processed on the client side, to reduce the load on the server side.

There are 3 steps in this phase:

- Translate and read customer's requirements.
- Pick information from the server database.
- Export the data, information necessary for the user, and build a html is the product of dynamic web.

Now the dynamic web is the preferred operating mechanism, all websites now use this dynamic web site because this is the latest version, meets the limitations and exists many advantages that static web does not have.

Advantage:

- ✓ There is interaction with the user.
- ✓ The web is more flexible and easier to develop.
- ✓ All devices are accessible.
- ✓ Content is created according to user's requirements.
- ✓ Achieve the affection of the user.

- Static web programmed on the machine, then posted to the directory on the server is accessible to the user (both data and interface of web site).
- Dynamic web no program required. This is only programmed for database and scripting language programming. When the user accesses the web, the dynamic web page will be given to the user upon request of the user.

The difference between using the tools available to design with your own web creation

Use the tools available to design: It is good for newbies, who have little knowledge of the subject. Because they do not know much and they have no experience of using it.

If they do their own web design and do not use any support tools, they may encounter many bugs and they are increasingly confused about the subject. Thanks to the tools available, their web design is easier. In addition, through the use of available tools, they can better understand this subject or this job.

It's so good, but why are so experienced people who have a great knowledge of this subject or field of expertise that they do not use the tools available to design the web. Instead, they want to design their own web site.

That is because they have deep understanding of the subject. And they can design their own web.

In addition, it is these tools that make them less active. Each time they design, they must access and code the available form of the tool. Instead, they can program in their own way, in a way that they understand logic, and in the way they feel it best suits them.

You can simply understand that using the online site builder tool mean when you use the form template for your work. Whether or not it is good or not, the form user must use. It makes the newbie understand the code and how to use the code

But it makes the experienced person feel unsuitable. Because the creation of the site by their own merit is more appropriate. The reason is because they have a deep understanding of code and they want to unleash their creativity on their web by themselves

In the above, I have shown you how to create your own website using online tools (Eg: web: infinityfree.com)

Advantages:

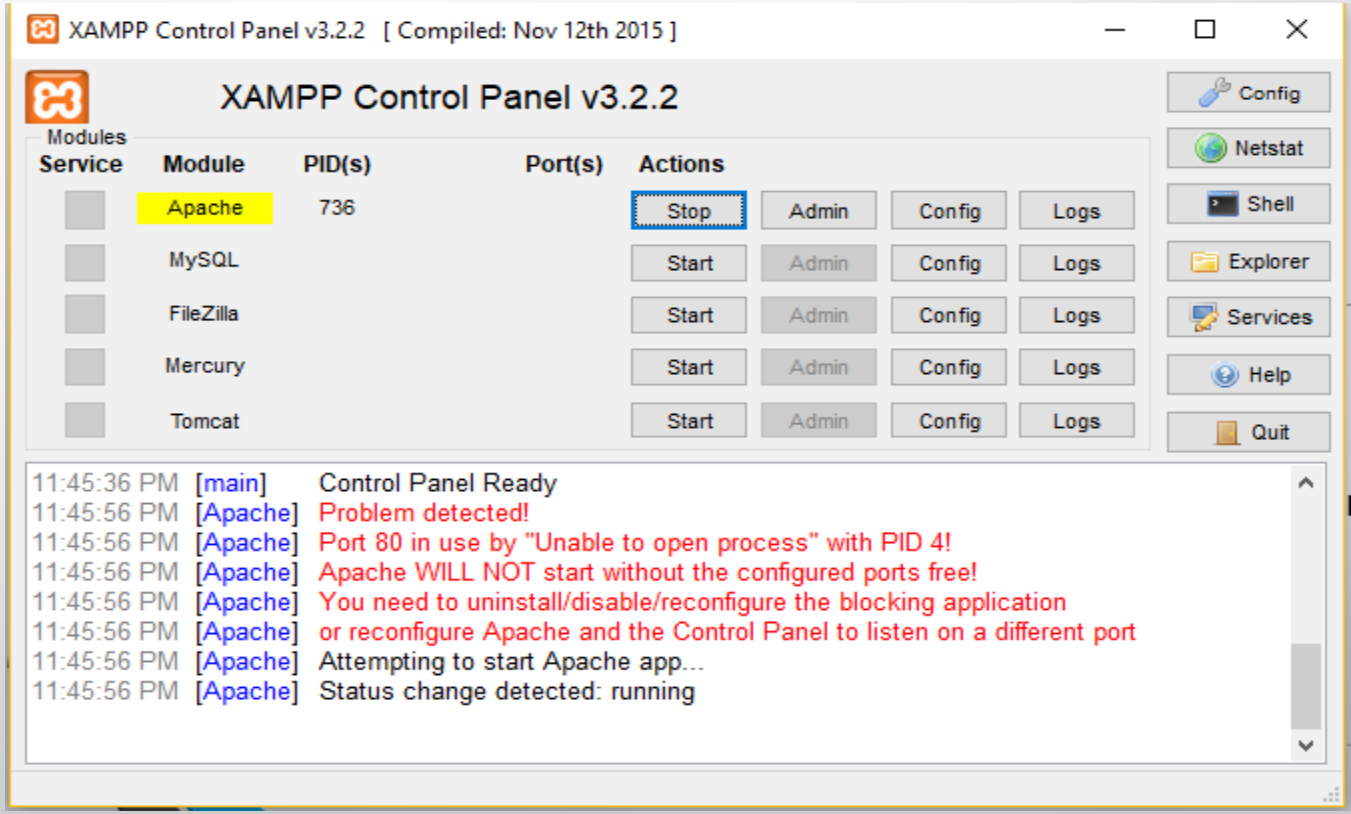
- fast
- credible information
- Directories are created and available

Disadvantages:

- It is difficult to edit because if you want to edit the old HTML file , you have to delete the old file and upload the new HTML file into that document
- Operations and code must be simulated as if they were code on the real server

Here are some steps to creating a web using IDE (such as Sublime text 3).

Firstly, you should install Xampp software to turn your computer into a server.
Then, Start Apache Module to turn on server



Send HTML file into Xampp file
Then your computer can run as a Web Server, and your website is created

Dog D.dog

About

Woo! woo!!
Hi, I'm Dog. I love User Interface Design

Course

Here are some courses I've taken:

Course Number	Course Title	SemesterTaken
For Credit		
6.813	User Interface Design	Spring 2014
6.034	Artificial Intelligence	Fall 2013
6.006	Introduction to Algorithms	Fall 2013
Listener		
6.867	Machine Learning	Fall 2013
6.830	Database Systems	Fall 2012

Interests

I am interested **HCI** , memes, and youtube videos

Submit Pet Information

Would love to know what kinds of pets you 'own' (you'll never pwm ,e). Submit below!

Name
Phylum
Gender
Submit

Advantages:

- Can freely edit and design arbitrary
- All creativity is appreciated in doing this way.

Disadvantages:

- Ask the experienced new designers to design a beautiful website because of their understanding of size or color, ...
- Programmer must have a sample design before the code

Reference

Luke Welling et al. PHP and MySQL Web Development. Second ed.