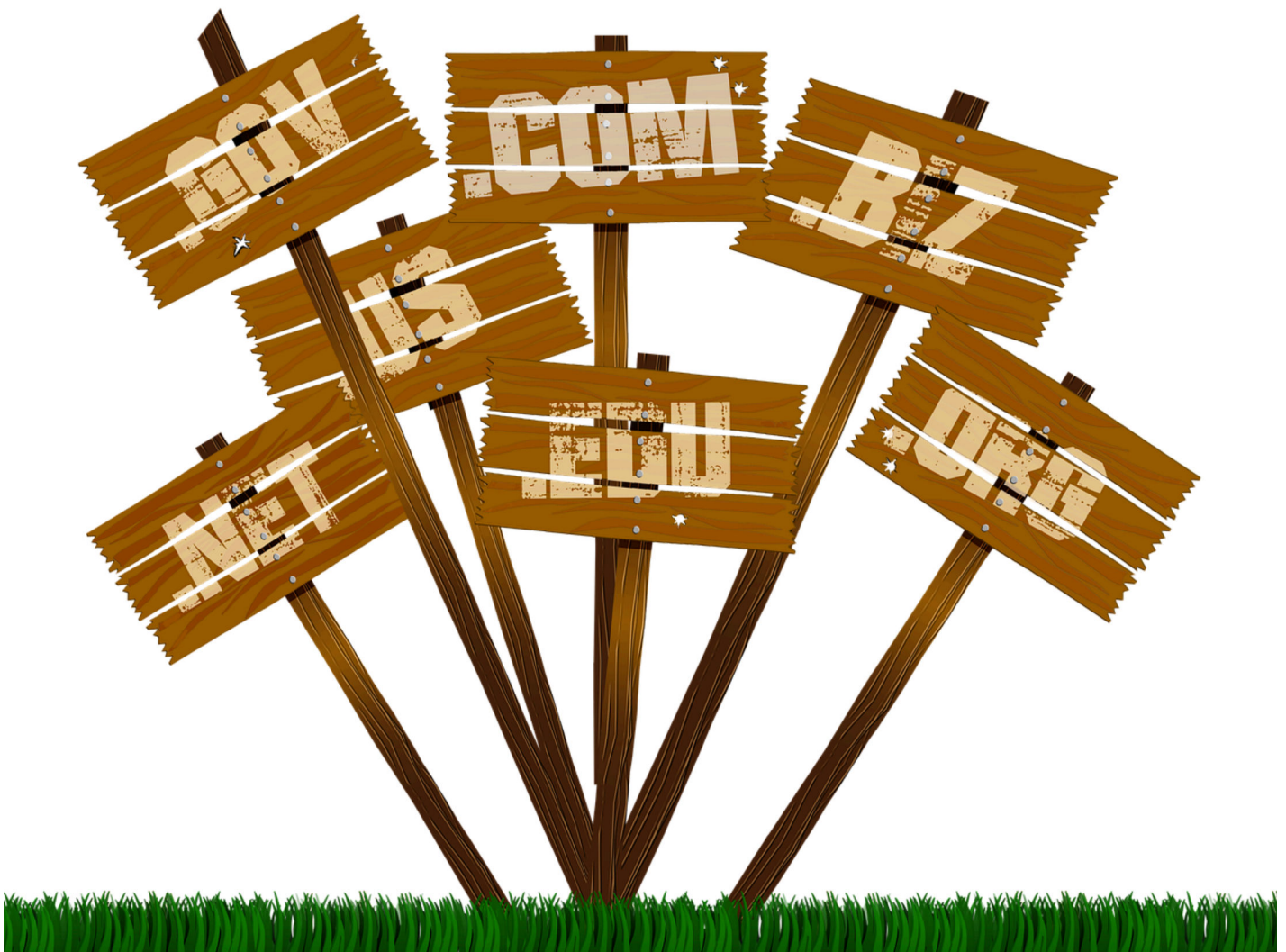


What is internet infrastructure and how does it work

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A person's name serves as their identity in the world, just as the name of a website, known as a domain name, signifies its presence on the World Wide Web (WWW). While multiple individuals may share the same name, a website's complete name, or URL (uniform resource locator) remains unique in the vast digital landscape. When establishing a website, one critical concern is what the domain name or address should be. In this article, we shall explore how to select this name, where to register it, its functionality, how does the **Domain Naming System (DNS)** works and the relevant references. It will give us an Internet Infrastructure overview.



Sections of a Domain Name and TLD



A URL looks like <https://www.abc123.in>

We can see roughly four sections in the above URL. Let's know the parts.

1. **https** indicates **hyper text transfer protocol** while the **s** at the end indicates socket security layer certification.
2. **www** is world wide web
3. **abc123** is a word/name related to the company, organisation, person, product or service
4. **in** is the Top Level Domain (TLD) of the Internet Infrastructure or world wide web where **in** stands for India in this example.

For instance, the Maharashtra state government's website is 'maharashtra.gov.in', the UIDAI website developed for Aadhaar card management is 'uidai.gov.in', and the railway ticket booking and management website is 'irctc.co.in'. These examples illustrate that a website's name or domain name consists of minimum two parts. The initial part typically reflects the organization, industry, or subject the website pertains to. The middle segment may denote "gov" for government, 'edu' for Education sector or "co" for a company, though recommended this segment is not mandatory. The final segment, known as the **top-level domain (TLD)**, is based on geographical designation, such as ".IN" for India, or according to the website's function, such as .com (commercial), .org (organization), and so forth.

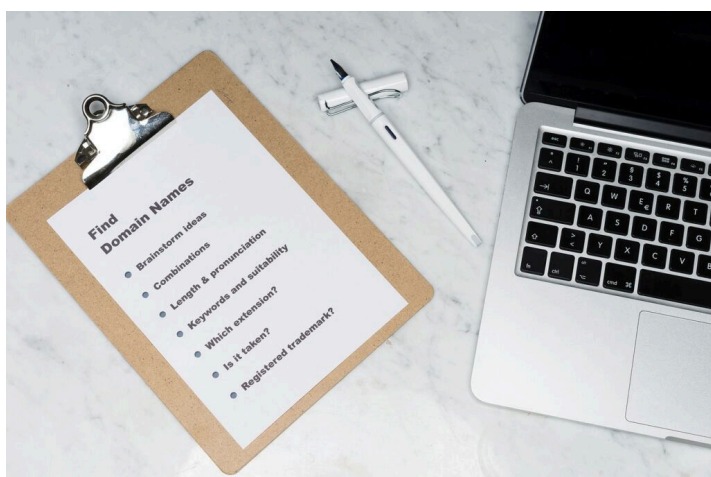
Geographically-based TLD selection designates specific codes for each country, such as ".UK" for England and ".CN" for China. The Internet Corporation for Assigned Names and Numbers (ICANN) oversees this regulation.

How does the website name works for a business

- A website has the capability to provide detailed, official information about a public figure, a business entity, A company's products or services, an organization, its activities, or projects.
- While they may have numerous pages on social media, their authentic identity resides on their website. Acting as a digital storefront it showcases the desired products or services attractively, enticing customers to explore further. To draw in more patrons, the store's name should be both catchy and meaningful.
- This name is not merely a collection of words; it embodies the identity of the individual, business, or organization in the virtual realm.
- **The purpose of the website should be evident from its name** alone, ensuring it captures public attention even without a search. For instance, names like makemytrip.com, bookmyshow.com, shaadi.com, gyanipandit.com, policybazaar.com, cardekho.com, gaana.com, and firstcry.com exemplify the concept of Naming system with clarity.

How to select and register a Domain name

Where do these domain names originate?



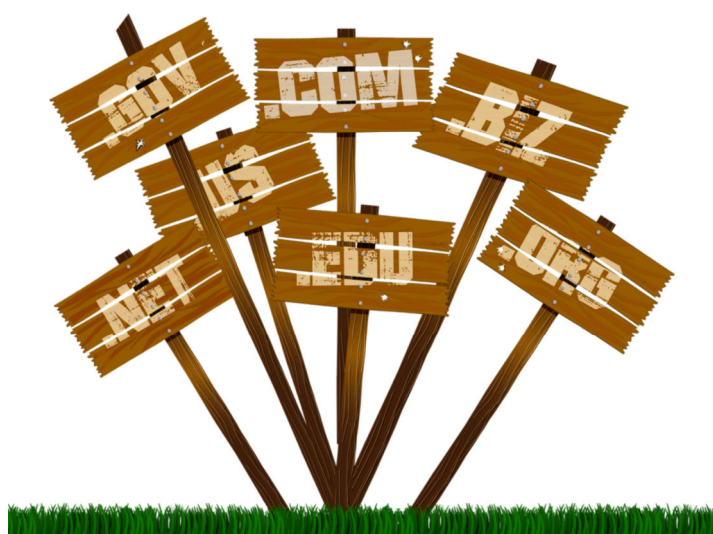
Numerous registrar companies, such as GoDaddy and Hostgator, possess the authority to register website (domain) names on the internet. Ernet would help for registering domain names in Indian education sector. On the registrar's website, one can book the desired name (if available).

Domain name availability

A customer standing beside might quickly purchase a dress you've admired but set aside. Similarly a desirable name can slip away swiftly. When finalizing a name, it is critical to determine the extension (signifies like a surname). The most popular domain on the internet is ".com". Name any giant website like google.com, facebook.com or name a website of a small vendor in a small town ".com" is the numero uno.

The first recorded website/domain name was symbolics.com, belonging to a computer manufacturing company in the United States. Overall,.com has had the longest journey, serving as a commercial shorthand.

Know about TLD other than .com



Apart from .com, you can also choose domain names such as .net (network), .org (organization), and .edu (education), depending on the type of business or organization the website is to be operated in.

Recently, more specialized domains such as .hospital, .club, .online, .art, .club, .online, .art, and .restaurant etc. have emerged, along with quirky options like .pizza or .ninja, albeit at a higher cost and gradually gaining popularity. [AI](#) can help in selecting an appropriate domain name.

Comparison between free and paid /Purchased Domain names

Purchased Domain Names

When booking a website, you must pay an annual fee to the registrar, such as GoDaddy. The website name signifies the company's or organization's presence on the internet, making it vital to retain control over that name. To prevent misuse, many prominent individuals/ companies reserve various domain names related to their identity. You must pay to renew the name each year avoid losing it. Some savvy companies quickly acquire highly ranked domain names and resell them at a premium cost. The cost of domain name to be purchased or renewed depends on the TLD and the registrar company.

Domain names available for free



For small, new enterprises, or budding bloggers and artists, these expenses can be daunting, and they often desire a personal website with a domain name offered for free. They can obtain a designated space at no cost on specific websites. However, this requires adherence to the website's rules and regulations, and the name must include the provider's prefix. For example:

xyz.**wordpress.com** or 123.blogspot.com

The hosting of Amitabh Bachchan's blog at srbachchan.tumblr.com His blog adds to the credibility of Tumblr, not the other way around. What benefit does the hosting company gain from offering free spaces? It's akin to Google providing free search capabilities or Facebook allowing free account usage, with advertising and valuable data in return for these services.

What is DNS ? How does it work ?

What is internet infrastructure and how does it work



To understand **what is Internet Infrastructure and how does it work**, we must understand how it is related to Domain naming system. Securing a name requires extra effort. When you click on a saved name in your mobile phone's contact list to call the number, the connection lies between two phone numbers, not the names.

- Similarly, in the Internet Infrastructure the browser queries the associated domain naming system (DNS) service for the corresponding IP address when you type a website name.
- The Domain Naming System maintains a directory of website names and their associated IP addresses, much like a phonebook, and directs the required IP to your browser.
- With the use of "http," (hyper text transfer protocol) the desired website's homepage begins to materialize. This entire process happens almost instantaneously in the background.

Without this service, you would need to remember the IP number of each website. For example, the IP address for the Indian Railways website 'irctc.co.in' is 103.252.142.21, a cumbersome number to remember. Even if you can memorize it, it's impractical to keep track of multiple such numbers. Many people struggle to recall their own or others' phone numbers, which further complicates the retention of IP addresses. Given the rapid expansion of the internet, it became apparent that connecting by remembering numbers would soon be exceedingly difficult; hence, Paul Mockapetris and his team developed the domain name system in November 1983, bringing WWW into our grasp.

Internet Infrastructure in a nutshell

In summary, business owners and professionals need to search for a fitting name for their website. For example, selecting the name techerstalking.com could potentially lead to a misinterpretation as "teacher stalking." While it may be simple for others to come up with names, selecting an appropriate, engaging, and indicative name for a website is a skilled endeavor. The name does not necessarily need to be in English; what matters is the target audience and the language best suited for them. The script, however, must be Roman. As I write this, an intriguing website name advertisement appears on TV: 'mutualfundssahihai.com'.

Author



[Mohini Modak](#)

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