

URL, Domain Name, Domain Name Identifier, Country Domain Name Identifier

1. URL (Uniform Resource Locator)

A **URL** is like the detailed address of a specific webpage, document, or file on the internet. It tells your web browser where to go and how to get there. A URL has several parts:

- ❖ **Protocol:** This is the way your browser communicates with the website. Common protocols are:
 - https:// (secure connection)
 - http:// (less secure)
- ❖ **Domain Name:** This is the name of the website (e.g., example.com).
- ❖ **Path:** This directs you to a specific page or file on the site (e.g., /about-us).
- ❖ **Parameters:** These are additional instructions, often used for searches or specific data (e.g., ?id=123).

Example: **https://www.example.com/about-us?id=123**

- ❖ https:// = Protocol
- ❖ www.example.com = Domain Name
- ❖ /about-us = Path
- ❖ ?id=123 = Parameters

2. Domain Name

A **domain name** is the part of the URL that acts as the "name" of a website. It's easy for humans to remember and replaces complicated IP addresses. Without domain names, we'd need to type in numbers like 192.168.1.1 to access websites, which would be hard to remember.

A domain name has two main parts:

- ❖ **Second-Level Domain (SLD):** This is the name of the website. For example, in example.com, the "example" part is the SLD.

- ❖ **Top-Level Domain (TLD):** This comes after the name. Common ones include .com, .org, .net. For example:
 - .com is for commercial use
 - .org is for organizations
 - .edu is for educational institutions.

Domain names help users find the right website without needing technical details.

3. Domain Name Identifier

This refers to the **specific part** of the domain that uniquely identifies a particular website. In www.google.com, "google" is the identifier—it's the part that tells you the website belongs to Google. Think of it as the "personal name" of the website.

Other examples:

- ❖ www.amazon.com -> Identifier = "amazon"
- ❖ www.facebook.com -> Identifier = "facebook"

It's what makes the website stand out among millions of others on the internet.

4. Country Domain Name Identifier

Also called a **Country Code Top-Level Domain (ccTLD)**, this is a two-letter code in the domain that shows which country or region the website is associated with. For example:

- ❖ .pk = Pakistan
- ❖ .in = India
- ❖ .uk = United Kingdom
- ❖ .jp = Japan
- ❖ .us = United States

Websites that use these codes are often related to businesses, organizations, or government bodies in that specific country. For example:

- ❖ www.ptv.com.pk is a Pakistani website.
- ❖ www.bbc.co.uk is a UK-based website.

Some domains are **restricted** (only people or companies from that country can use them), while others are open for anyone to register.

Putting It All Together

Let's take an example URL: <https://www.university.edu/courses/science?id=456>

- ❖ **URL:** The whole thing is the URL. It tells your browser where to find the resource.
- ❖ **Domain Name:** university.edu is the domain name, showing it belongs to an educational institution.
- ❖ **Domain Name Identifier:** "university" is the identifier—it's the unique part of the name.
- ❖ **Country Domain Name Identifier:** Not applicable here, but if it were university.edu.pk, .pk would mean the site is from Pakistan.