# 4 Top-level domains and their allocation

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## What are top-level domains?

Top-level domains (TLDs) are the last part of a domain name – the part after the last dot. In the address www.example.com, '.com' is the top-level domain. TLDs form the highest hierarchical level in the Domain Name System (DNS) and are essential for the organisation of the Internet.

Every domain name follows a hierarchical structure that is read from right to left:

**www.kbw.ch**

- TLD: .ch (Switzerland)

- Second-level domain: kbw

- Subdomain: www

## Types of top-level domains

### 1. Generic top-level domains (gTLDs)

Generic TLDs are not country-specific and can be registered worldwide:

- **.com** – Commercial (originally for companies)
- **.org** – Organisation (for organisations)
- **.net** – Network (originally for network providers)
- **.edu** – Education (only for accredited educational institutions)
- **.gov** – Government (only for US government agencies)
- **.mil** – Military (only for the US military)

### 2. Country Code Top Level Domains (ccTLDs)

Each country is assigned a two-letter code according to ISO 3166-1:

- **.ch** – Switzerland (Confoederatio Helvetica)

- **.de** – Germany
- **.fr** – France
- **.uk** – United Kingdom
- **.us** – United States

There are a total of 249 ccTLDs for countries and territories.

### 3. New Generic Top Level Domains (ngTLDs)

Since 2013, over 1,200 new TLDs have been introduced:

- **.shop**, **.blog**, **.app**
- **.berlin**, **.paris**, **.swiss**
- **.google**, **.apple** (brand TLDs)

## The registry: ICANN and IANA

The **Internet Corporation for Assigned Names and Numbers (ICANN)** is the central organisation for the administration of the domain name system. It was founded in 1998 and is headquartered in Los Angeles, USA.

The **Internet Assigned Numbers Authority (IANA)**, a division of ICANN, manages the root zone of the DNS. This contains all TLDs and their associated name servers.

### Hierarchy of allocation

1. **ICANN/IANA** → Manages all TLDs
2. **Registry** → Operates a specific TLD (e.g. SWITCH for .ch)
3. **Registrar** → Sells domains to end customers
4. **Registrant** → The domain owner

## The allocation process for new gTLDs

### Phase 1: Application

Organisations can apply to ICANN for new TLDs. The last major application round was in 2012:

- **Application fee:** USD 185,000
- **Application period:** 4 months
- **Applications received:** 1,930

**Phase 2: Evaluation**

ICANN reviews each application for: - Technical competence - Financial stability - No trademark infringements - Public interest

**Phase 3: Delegation**

After successful review, the TLD is entered into the root zone. The entire process typically takes 18-24 months.

## Costs and fees

**For registry operators**

- **Annual ICANN fee:** USD 25,000 per TLD
- **Transaction fee:** USD 0.25 per domain registration
- **Operating costs:** Technical infrastructure, personnel, marketing

**For end customers (examples)**

- **.ch domain:** CHF 10-20 per year
- **.com domain:** CHF 15-25 per year
- **Premium ngTLDs:** CHF 50-500+ per year

## Special regulations

**Restricted TLDs**

Some TLDs have special registration conditions:

- **.edu** – Only for accredited US universities
- **.museum** – Only for museums
- **.aero** – Only for the aviation industry
- **.swiss** – Connection to Switzerland required

**Internationalised domain names (IDN)**

Since 2010, TLDs in non-Latin scripts have been possible:

- **.□□** (China)
- **.рф** (Russia)
- **.ελ** (Greece)

## Statistical overview

As of 2025, there are: - **Active TLDs:** ~1,500 - **Registered domains worldwide:** ~370 million - **Largest TLD:** .com with ~160 million domains - **Swiss .ch domains:** ~2.5 million

The distribution follows a power law: the 10 largest TLDs host around 75% of all domains.

## Significance and outlook

Top-level domains are more than just technical designations – they are digital identities. A .ch domain signals Swiss origin, while a .edu domain stands for education. With the continuous expansion of the Internet, the importance of a well-thought-out TLD structure is also growing.

The next ICANN application round for new gTLDs is planned for 2026. Experts expect another 500-1,000 new TLDs, including an increasing number of city and brand names. The challenge will be to maintain a balance between innovation and clarity.