// WEB ENGINEERING FUNDAMENTALS — PDF 06

What Is a Domain Name?

A complete beginner's guide to website addresses — and how they connect users to the internet.

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Inside this guide

01 — INTRODUCTION

Would you remember 142.250.190.78, or google.com?

Most people would find a number like that almost impossible to remember. Humans are good at remembering names, not long sequences of digits.

Computers, however, communicate using IP addresses. To make the internet easier for people to use, domain names were introduced. A domain name acts as the human-friendly address of a website — instead of memorizing a complex IP address, users simply type a name like haas.dev or google.com, and the internet handles the rest.

// WHY THIS MATTERS

If you want to build websites professionally, understanding domain names is essential — every public website starts with one.

02 — WHAT IS A DOMAIN NAME?

The unique, human-readable name of a website

Instead of using an IP address, people use domain names because they are easy to read, remember, and share. For example: haas.dev, google.com, github.com, wikipedia.org. Each domain name points to a specific server where the website is hosted.

```
// THINK OF IT LIKE A HOUSE ADDRESS
```

Just as a street address helps people find a home, a domain name helps browsers find the correct website.

03 — WHY ARE DOMAIN NAMES IMPORTANT?

Without them, every visitor would memorize numbers

Domain names make the web easier to use, easier to remember, easier to share, and more professional. For businesses, a domain name is also part of their brand identity.

// THE BRAND ANGLE

A company called "Tech World" would rather use **techworld.com** than ask customers to remember **104.26.15.120**.

04 — HOW DOMAIN NAMES WORK

The domain doesn't hold the website — it points to it

1. You type: haas.dev
2. Your browser asks the DNS system to find the corresponding IP address.
3. DNS returns the server's IP address.
4. Your browser connects to that server.
5. The server sends the requested website files.
6. Your browser displays the website.

// GO DEEPER

For a detailed explanation of this lookup process, read **"What Is DNS?"** — next in this series.

05 — PARTS OF A DOMAIN NAME

Breaking down blog.haas.dev

```
blog.haas.dev
```

SUBDOMAIN

blog

Organizes a separate section of a website — e.g. blog.example.com, docs.example.com, api.example.com.

SECOND LEVEL DOMAIN

haas

The main name chosen by the website owner — usually the brand or business.

TOP LEVEL DOMAIN (TLD)

.dev

The last part of the domain — examples include .com, .org, .net, .dev, .io.

06 — TYPES OF DOMAIN NAMES

Three broad categories

GENERIC DOMAINS

The most common

— .com
— .org
— .net

COUNTRY CODE DOMAINS

Target a specific country

— .pk
— .uk
— .jp
— .ca

INDUSTRY SPECIFIC DOMAINS

Communicate purpose

— .dev
— .app
— .tech
— .store

Businesses targeting a local audience often choose country-specific domains, while modern products lean toward industry-specific extensions that signal purpose at a glance.

07 — DOMAIN NAME VS URL

Many beginners think these mean the same thing. They don't.

DOMAIN NAME

Only identifies the website

`haas.dev`

URL

Identifies the exact resource

`https://dev-roast-app.vercel.app/resources`

The URL contains much more information than the domain name.

// RELATED GUIDE

Read **"What Happens When You Type a URL?"** to understand the complete request process.

08 — DOMAIN NAME VS IP ADDRESS

One for humans, one for machines

DOMAIN NAME

Easy for humans to remember

`google.com`

IP ADDRESS

Easy for computers to understand

`142.250.190.78`

DNS connects these two systems together — translating the name you type into the number your computer actually needs.

09 — HOW TO CHOOSE A GOOD DOMAIN NAME

It becomes part of your online identity — choose carefully

AIM FOR

— Short
— Easy to pronounce
— Easy to spell
— Memorable
— Related to your brand

AVOID

— Unnecessary numbers
— Difficult spellings
— Long names
— Confusing abbreviations

10 — HOW TO REGISTER A DOMAIN NAME

Straightforward — six steps, start to launch

1. Choose a domain name.
2. Check whether it is available.
3. Purchase it through a domain registrar.
4. Connect it to your hosting provider.
5. Configure DNS records.
6. Launch your website.

```
// IMPORTANT DISTINCTION
```

Owning a domain does not automatically create a website. It simply reserves the address.

12 — REAL-WORLD EXAMPLES

Three domains, three purposes

GOOGLE

google.com

Services: Search, Gmail, Maps, Drive

GITHUB

github.com

Services: Code hosting and collaboration

HAAS.DEV

haas.dev

Purpose: Educational platform for self-taught developers learning software engineering and web development through structured thinking.

11 — COMMON BEGINNER MISTAKES

Where most beginners get stuck

- × Thinking a domain name contains the website files.
- × Confusing a domain name with a URL.
- × Believing purchasing a domain automatically includes hosting.
- × Choosing long or difficult domain names.
- × Ignoring branding when selecting a domain.

13 — PRACTICAL ACTION PLAN

Inspect three domains you visit often

- Identify the domain name.
- Identify the top-level domain.
- Check whether it uses any subdomains.

Then think about why the company may have chosen that domain.

14 — KEY TAKEAWAYS

What to carry forward

- A domain name is the human-readable address of a website.
- Computers use IP addresses, while people use domain names.
- DNS converts domain names into IP addresses.
- A domain is different from a URL.
- Buying a domain does not mean you have web hosting.
- Choosing the right domain helps build a strong online brand.

// THE TAKEAWAY

A domain is a reservation, not a website. Everything else — hosting, DNS, content — still has to be built on top of it.

// 15 — SUMMARY PAGE

Cheat sheet

The whole guide, compressed to seven lines.

domain name
Human-friendly website address

ip address
Computer-friendly address

dns
Connects domains to IP addresses

tld
Last part of the domain

subdomain
Separate section of a website

domain ≠ url
A domain is only part of a URL

domain ≠ hosting
Owning a domain just reserves the address

16 — DOMAIN SELECTION CHECKLIST

Before you register anything

- [ ] Is the domain short?
- [ ] Is it easy to remember?
- [ ] Is it easy to pronounce?
- [ ] Does it match the brand?
- [ ] Is the extension appropriate?
- [ ] Will people be able to type it correctly?

If you can check all six honestly, you've found a domain worth registering.

// 17 — RELATED RESOURCES

Keep going

why read it

What Is a Website?

Understand the overall structure of websites before learning how users find them.

why read it

How the Internet Works

Learn how devices communicate across the internet.

why read it

What Happens When You Type a URL?

Follow the complete journey from entering a website address to loading a webpage.

why read it

HTTP vs HTTPS

Understand how browsers securely communicate with servers after finding the correct website.

why read it

What Is DNS?

Learn how domain names are translated into IP addresses.

// 18 — RECOMMENDED NEXT LEARNING PATH

Where to go from here

1. What Is a Website?
2. Website vs Web Application
3. How the Internet Works
4. What Happens When You Type a URL?
5. HTTP vs HTTPS
6. **What Is a Domain Name? — you are here**
7. What Is DNS?

haas.dev

Engineering mindset over syntax memorization. Learn to think like a systems builder, one fundamental at a time.

haas.dev