## What is a DNS A record?

The "A" stands for "address" and this is the most fundamental type of [DNS](https://www.cloudflare.com/learning/dns/what-is-dns/) record: it indicates the [IP address](https://www.cloudflare.com/learning/dns/glossary/what-is-my-ip-address/) of a given [domain](https://www.cloudflare.com/learning/dns/glossary/what-is-a-domain-name/). For example, if you pull the DNS records of cloudflare.com, the A record currently returns an IP address of: 104.17.210.9.

A records only hold IPv4 addresses. If a website has an IPv6 address, it will instead use an ["AAAA" record](https://www.cloudflare.com/learning/dns/dns-records/dns-aaaa-record/).

Here is an example of an A record:

|  |  |  |  |
| --- | --- | --- | --- |
| **example.com** | **record type:** | **value:** | **TTL** |
| @ | A | 192.0.2.1 | 14400 |

The "@" symbol in this example indicates that this is a record for the root domain, and the "14400" value is the [TTL (time to live)](https://www.cloudflare.com/learning/cdn/glossary/time-to-live-ttl/), listed in seconds. The default TTL for A records is 14,400 seconds. This means that if an A record gets updated, it takes 240 minutes (14,400 seconds) to take effect.

The vast majority of websites only have one A record, but it is possible to have several. Some higher profile websites will have several different A records as part of a technique called [round robin load balancing](https://www.cloudflare.com/learning/dns/glossary/round-robin-dns/), which can distribute request traffic to one of several IP addresses, each hosting identical content.

## **When are DNS A records used?**

The most common usage of A records is IP address lookups: matching a domain name (like "cloudflare.com") to an IPv4 address. This enables a user's device to connect with and load a website, without the user memorizing and typing in the actual IP address. The user's web browser automatically carries this out by sending a query to a [DNS resolver](https://www.cloudflare.com/learning/dns/dns-server-types/).

DNS A records are also used for operating a Domain Name System-based Blackhole List (DNSBL). DNSBLs can help mail servers identify and block email messages from known spammer domains.

If you want to learn more about DNS A records, you can see the original 1987 RFC where A records and several other DNS record types are defined [here](https://tools.ietf.org/html/rfc1035). To learn more about how the Domain Name System works, see [What is DNS?](https://www.cloudflare.com/learning/dns/what-is-dns/)