

# Backend Components: DNS Record Types

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**A Record (Address Record)** - Maps a domain name to an IPv4 address. For example, `example.com` → `192.0.2.1`. This is the most fundamental record type that tells browsers where to find your website.

**AAAA Record** - Similar to A records, but maps a domain name to an IPv6 address (the newer, longer format). Example: `example.com` → `2001:0db8:85a3::8a2e:0370:7334`.

**CNAME Record (Canonical Name)** - Creates an alias from one domain name to another. For example, `www.example.com` → `example.com`. When someone visits the alias, DNS redirects them to the canonical (true) name. You can't use CNAME for the root domain itself, and it can't coexist with other record types for the same name.

**NS Record (Name Server)** - Specifies which DNS servers are authoritative for a domain. This tells the internet which servers to ask when looking up records for your domain.

**MX Record (Mail Exchange)** - Directs email to mail servers. It includes a priority number, so you can have backup mail servers. Example: `example.com` → `mail.example.com` (priority 10).

**TXT Record** - Stores arbitrary text data. Common uses include email authentication (SPF, DKIM, DMARC records), domain verification for services, and site ownership verification.

**PTR Record (Pointer)** - Does reverse DNS lookups, mapping an IP address back to a domain name. Mainly used for email server reputation.

**SOA Record (Start of Authority)** - Contains administrative information about the DNS zone, including the primary name server, administrator's email, and timing parameters for zone transfers.

**SRV Record (Service)** - Specifies the location of services like VoIP, instant messaging, or other specialized services, including port numbers and priorities.