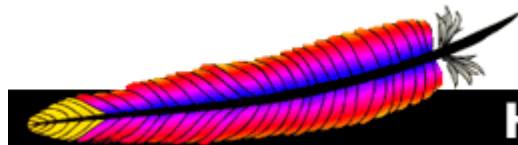


# About Apache

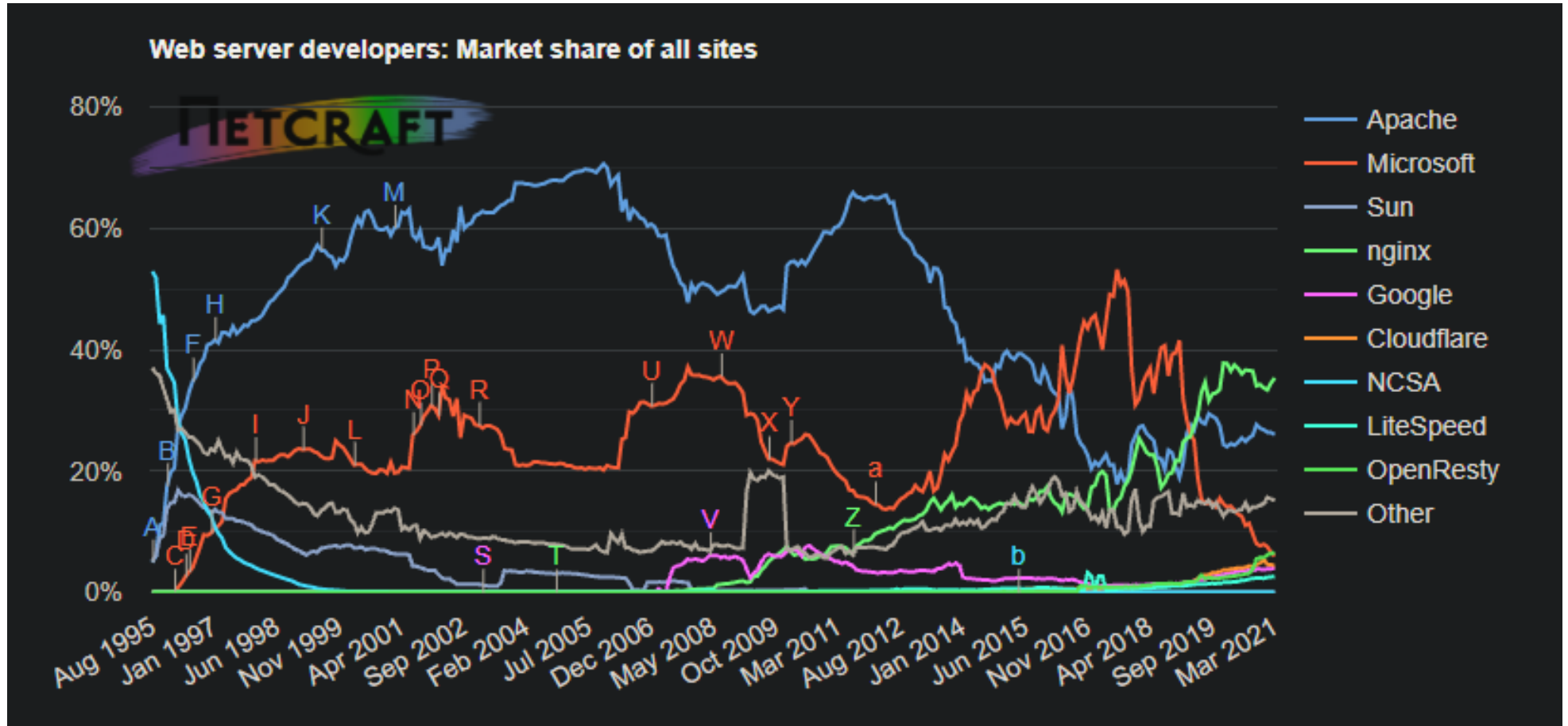
- Apache http server project
- <http://httpd.apache.org>
- Apache foundation started to support the web server project, but now extends to a multitude of other projects.



**Apache**

**HTTP SERVER PROJECT**

# Web Server Marketshare 2021



# Web server developers: Market share of active sites 2021

Developer	February 2021	Percent	March 2021	Percent	Change
Apache	50,562,247	25.48%	50,506,614	25.38%	-0.10
nginx	39,371,901	19.84%	40,111,872	20.15%	0.31
Google	19,538,140	9.85%	20,086,396	10.09%	0.25
Cloudflare	17,699,568	8.92%	16,932,600	8.51%	-0.41

# File System Layout

- config files are in `/etc/apache2/`
- files the webserver will serve are in `/var/www/`
- Restart

```
$ service apache2 restart
```

# Apache SSL

- Secure Socket Layer (SSL) port is 443
- SSL is important to protect communication between browser and web-server
- Requires the creation of SSL certificates and Certificate Signing Requests (CSR)
- For integrity SSL certificates are signed by a Certificate Authority's (CA) such as Verisign
- Self signed Certificates will also work but your browser will not trust it and will give a warning to users (which most don't read)
- *Refer to the Creating SSL Certificate Exercise Section*

# How SSL Works

- Each SSL certificate has a Public and Private key
- The Public Key is used to encrypt the information
- The Public Key is accessible to everyone
- The private Key is used to decipher the information
- The private should be not be disclosed

# Role of Certificate Authority

- There are a number of CA that certify certificates
- Most browsers have pre-included public Keys from the CA's
- A CA certified certificate will have validation information signed by the CA's private key
- The browser will decrypt the validation information using the public key and verify that the certificate is certified by the CA
- If this fails a warning is given

# Virtual Hosting

- Apache Provides multiple options of virtual hosting and scales
  - Name Based virtual hosts
  - IP Based Virtual Hosts
  - Aliases
- Its recommended to use an IP address over hostnames in virtual hosting configuration
- *Refer to virtual hosting Exercise section*



# Apache implementations

- Apache is widely used to serve many content applications
- Webmail, Blogs, Wiki's, CMS etc
- Attempt to install wordpress and configure it