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Enterprise(d) Tomcat in Action



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What will we cover

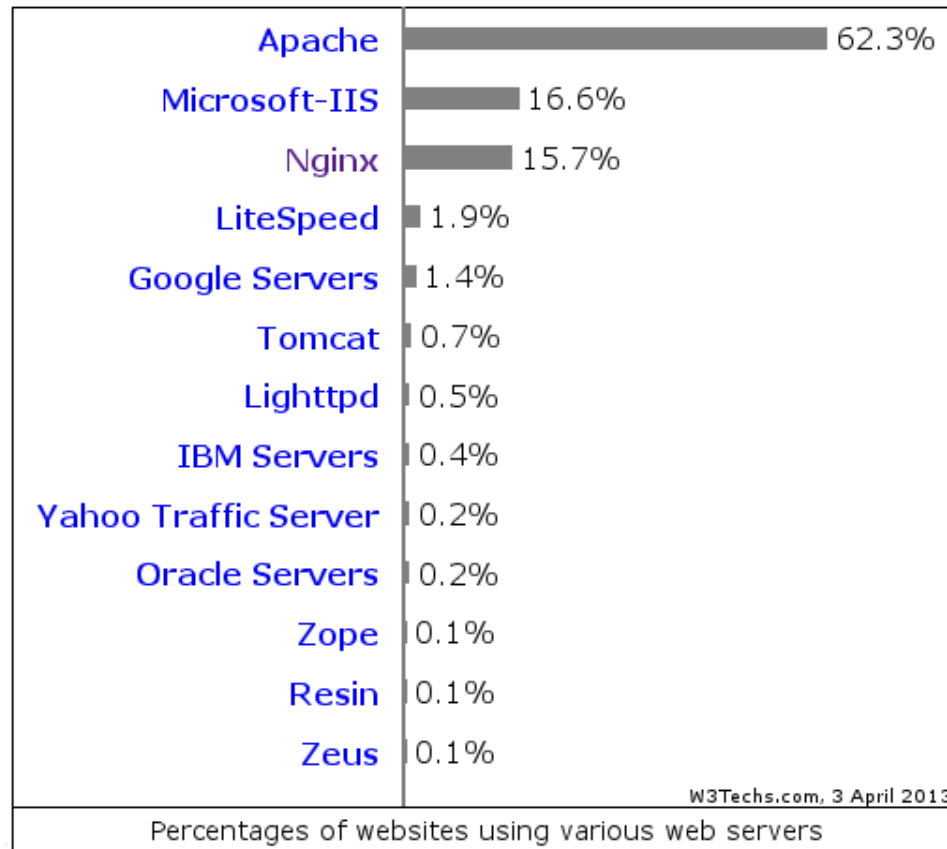
- Short intro to httpd and tomcat
- New features in httpd 2.4
- New features in Tomcat 7 & 8



httpd

- Multi-platform HTTP server with reverse proxy, load balancing, virtual hosting, ...
- httpd 1.0 was initially designed for a different situation than we have now
- A lot of clustered servers for backend (tomcat, AS, jetty), now we need clustering for httpd as well

Some statistics





httpd 2.4

- Improvements in performance
- Making httpd “cloud ready”
- Async I/O
 - Multi-Processing Module workers (MPM) as default.
- High-performance APR

Apache Portable Runtime

- Platform independent API for:
 - Memory allocation and memory pool functionality
 - Atomic operations
 - Dynamic library handling
 - File I/O
 - Locking
 - Thread, process and mutex functionality

Modules

- Bandwidth control: `mod_ratelimit`
- Security: `mod_reqtimeout`
- I/O buffer control: `mod_buffer`
- LUA support: `mod_lua`
- Making the proxy cloud friendly:
 - `mod_slotmem_shm` (from `mod_cluster`)

Reverse proxy

- Support for dynamic configuration.
- Runtime change of clusters w/o restarts.
- `mod_proxy_express` for cloud services.
- Connection pooling

Cloud ready

- Solving horizontal scalability.
- Low latency.
- Fast request-response turnover.

Time for Tomcat



Tomcat 7

- Servlet 3.0 compliant
 - asynchronous execution of processing
 - pluggability and extension support
 - new set of annotations
- JSP 2.2 – Jasper part of Tomcat project

Tomcat 7

- Valves replaced by Filters (Valves still work)
- Startup time reduced
- Easy to configure programmatically

Tomcat 8

- Servlet 3.1
 - Non-blocking I/O
 - HTTP protocol upgrade mechanism
 - Security improvements
- JSP 2.3
- SPDY
- Web sockets

References

- [1] [httpd usage according to W3Tech](#)
- Apache and Tomcat logos from [apache.org](#)
- Mladen Turk's [httpd and Tomcat presentations](#)

Questions?

