

Bibliography

- [1] Go-mysql-driver. <https://github.com/go-sql-driver/mysql>, 2021. Accessed: 2021-05-18.
- [2] mysql. <https://github.com/mysqljs/mysql>, 2021. Accessed: 2021-05-07.
- [3] Mysql.data. <https://www.nuget.org/packages/MySql.Data/>, 2021. Accessed: 2021-05-18.
- [4] I. Balbaert. The way to Go: A thorough introduction to the Go programming language. IUniverse, 2012.
- [5] V. Beltran, J. Torres, and E. Ayguade. Understanding tuning complexity in multithreaded and hybrid web servers. In 2008 IEEE International Symposium on Parallel and Distributed Processing, pages 1–12, 2008.
- [6] D. Buettner, J. Kunkel, and T. Ludwig. Using non-blocking i/o operations in high performance computing to reduce execution times. In European Parallel Virtual Machine/Message Passing Interface Users' Group Meeting, pages 134–142. Springer, 2009.
- [7] C. G. Cassandras. The event-driven paradigm for control, communication and optimization. Journal of Control and Decision, 1(1):3–17, 2014.
- [8] I. K. Chaniotis, K.-I. D. Kyriakou, and N. D. Tselikas. Is node.js a viable option for building modern web applications? a performance evaluation study. Computing, vol. 97(no. 10):pages 1023–1044, Oct. 2015.
- [9] L. P. Chitra and R. Satapathy. Performance comparison and evaluation of node.js and traditional web server (iis). In 2017 International Conference on Algorithms, Methodology, Models and Applications in Emerging Technologies (ICAMMAET), pages 1–4, 2017.

- [10] S. Cleary. Async programming : Introduction to async/await on asp.net. <https://docs.microsoft.com/en-us/archive/msdn-magazine/2014/october/async-programming-introduction-to-async-await-on-asp-net>, 2015. Accessed: 2021-03-25.
- [11] P. DuBois. MySQL. Pearson Education, 2008.
- [12] Golang. Source file src/net/http/server.go. <https://golang.org/src/net/http/server.go#L2951>, 2009. Accessed: 2021-03-03.
- [13] Google_LLC. Frequently asked questions (faq). https://golang.org/doc/faq#What_compiler_technology_is_used_to_build_the_compilers, 2021. Accessed: 2021-04-08.
- [14] InternetLiveStats.com. Total number of websites. <https://www.internetlivestats.com/total-number-of-websites/>. Accessed: 2021-06-04.
- [15] K. Lei, Y. Ma, and Z. Tan. Performance comparison and evaluation of web development technologies in php, python, and node.js. In 2014 IEEE 17th International Conference on Computational Science and Engineering (CSE), pages 661–668, dec 2014.
- [16] Y. A. Liu and S. D. Stoller. From recursion to iteration: what are the optimizations? In Proceedings of the 2000 ACM SIGPLAN workshop on Partial evaluation and semantics-based program manipulation, pages 73–82, 1999.
- [17] X. Mao. Comparison between symfony, asp. net mvc, and node. js express for web development. Master’s thesis, North Dakota State University, 2018.
- [18] Microsoft. Performance and reliability monitoring getting started guide for windows server 2008. [https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/cc771692\(v=ws.10\)?redirectedfrom=MSDN](https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/cc771692(v=ws.10)?redirectedfrom=MSDN), 2012. Accessed: 2021-05-09.
- [19] Microsoft. Introduction to asp.net core. <https://docs.microsoft.com/en-us/aspnet/core/>

- introduction-to-aspnet-core?view=aspnetcore-5.0, 2020. Accessed: 2021-05-18.
- [20] Microsoft. A flexible easy-to-manage web server. <https://www.iis.net/>, 2021. Accessed: 2021-05-18.
- [21] Microsoft. Thread pools. <https://docs.microsoft.com/en-us/windows/win32/procthread/thread-pools>, 2021. Accessed: 2021-03-29.
- [22] Microsoft. Thread stack size. <https://docs.microsoft.com/en-us/windows/win32/procthread/thread-stack-size>, 2021. Accessed: 2021-03-29.
- [23] Netcraft_Ltd. April 2021 web server survey. <https://news.netcraft.com/archives/2021/04/30/april-2021-web-server-survey.html>, 2021. Accessed: 2021-05-23.
- [24] Node.js. v15.12.0 documentation. <https://nodejs.org/api/cluster.html>. Accessed: 2020-03-26.
- [25] Node.js. The node.js event loop, timers, and process.nexttick(). <https://nodejs.org/en/docs/guides/event-loop-timers-and-nexttick/>, 2021. Accessed: 2021-03-26.
- [26] A. Ojamaa and K. D    na. Assessing the security of node.js platform. In 2012 International Conference for Internet Technology and Secured Transactions, pages 348–355, 2012.
- [27] J. W. Park, A. Tumanov, A. Jiang, M. A. Kozuch, and G. R. Ganger. 3sigma: distribution-based cluster scheduling for runtime uncertainty. In Proceedings of the Thirteenth EuroSys Conference, pages 1–17, 2018.
- [28] D. Parker. JavaScript with Promises: Managing Asynchronous Code. "O'Reilly Media, Inc.", 2015.
- [29] B. Raghavan and J. Ma. The energy and emergy of the internet. In Proceedings of the 10th ACM Workshop on hot topics in networks, pages 1–6, 2011.
- [30] D. Rahmel. Testing a Site with ApacheBench, JMeter, and Selenium, pages 211–247. Apress, Berkeley, CA, 2013.

- [31] ReactPHP. Event-driven, non-blocking i/o with php. <https://reactphp.org/>, 2021. Accessed: 2021-04-05.
- [32] G. Reese. Database Programming with JDBC and JAVA. " O'Reilly Media, Inc.", 2000.
- [33] T. L. Sterling. Beowulf cluster computing with Linux. MIT press, 2002.
- [34] StrongLoop/IBM. Express fast, unopinionated, minimalist web framework for node.js. <https://expressjs.com/>, 2021. Accessed: 2021-05-07.
- [35] The_Apache_Software_Foundation. Apache mpm winnt. https://httpd.apache.org/docs/2.4/mod/mpm_winnt.html, 2020. Accessed: 2021-03-28.
- [36] The_Apache_Software_Foundation. Multi-processing modules (mpms). <https://httpd.apache.org/docs/2.4/mpm.html>, 2020. Accessed: 2021-03-27.
- [37] The_PHP_Group. mysqli_connect. <https://www.php.net/manual/en/mysqli.construct.php>. Accessed: 2021-05-24.
- [38] Transfon_Ltd. Swoole documentation. <https://www.swoole.co.uk/docs/>, 2021. Accessed: 2021-04-05.
- [39] W3Techs. Usage statistics of node.js. <https://w3techs.com/technologies/details/ws-nodejs>, 2020. Accessed: 2020-12-14.
- [40] W3techs. Usage statistics of go for websites. <https://w3techs.com/technologies/details/pl-golang>, 2021. Accessed: 2021-05-23.
- [41] N. A. Wedge and M. S. Branicky. On heavy-tailed runtimes and restarts in rapidly-exploring random trees. In Twenty-third AAAI conference on artificial intelligence, pages 127–133, 2008.
- [42] N. J. Yeager and R. E. McGrath. Web server technology. Morgan Kaufmann, 1996.

Appendix A

Thread Use

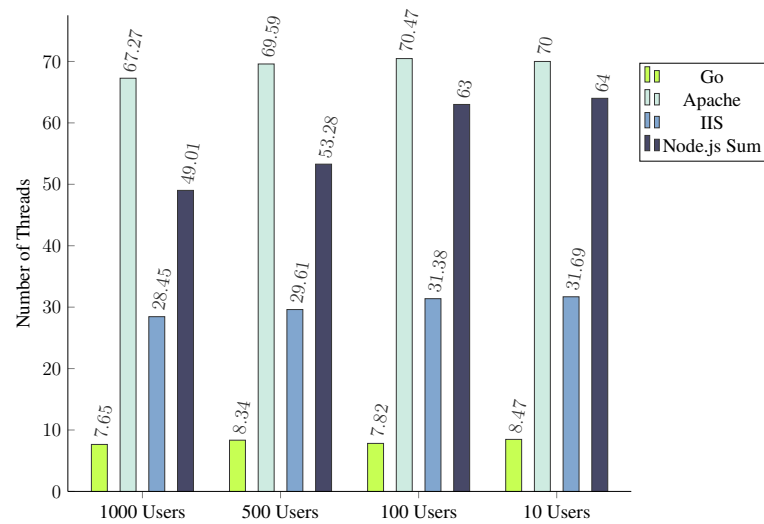


Figure A.1: Comparison of the number of threads used in the Fibonacci 10 test.