

Node.js (2026 Edition)

Complete Detailed eBook

Covers Node 22 LTS, 24 LTS, 25 Current; Test Runner; Permissions; SEA; Undici; WinterCG

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1. Executive Summary

As of early 2026, Node.js 22.x is LTS through April 2027, 24.x is Active LTS through Oct 2026, and 25.x is Current. The platform now ships stable `fetch()`, a built-in test runner, a maturing permission model, and first-class tooling for single-executable apps (SEA). HTTP is powered by Undici under the hood, aligning runtime APIs with web standards and the WinterCG/WinterTC "minimum common API" direction. [Node Releases/VersionLog/WG]

2. Release Landscape (2026): 22 LTS, 24 Active LTS, 25 Current

Official schedule lists: v22 'Jod' (Maintenance LTS to Apr 30, 2027), v24 'Krypton' (Active LTS; Maintenance from Oct 20, 2026), and v25 'Current' (EoL Apr/June 2026 per schedule). [nodejs.org Releases; Release WG; VersionLog]

3. What's New in Node 22/23/24

Node 22 LTS: V8 12.4, stream highWaterMark increases, fetch/Web Streams maturity, performance work; entered LTS Oct 29, 2024. Node 23: require(esm) by default (experimental), node --run stabilized, test runner enhancements; short-lived 'Current'. Node 24 (May 2025): continued modernization on the even-numbered LTS track. [Node 22 LTS blog; VersionLog 22; Node 23.0.0; LogRocket Node 24]

4. Built-in Test Runner (`node:test`)

The built-in test runner (stable since v20) supports subtests, hooks, snapshotting, coverage, watch mode and multiple reporters via CLI (`--test`) or API. [Official docs; guides]

5. Permission Model (--permission)

Process-level permissions restrict FS, network, child processes, workers, addons, WASI, inspector, etc. Enabled with --permission and granular --allow-* flags; graduated from experimental in v23.5.0 (with backports landing on v22.x in later minors). [Permissions docs; security guides/blogs]

6. Single Executable Applications (SEA)

SEA lets you bundle an app into one binary. In late 2025/early 2026, Node added a built-in `--build-sea` flow that removes the need for external injection tools, simplifying distribution to machines without Node installed. [SEA docs; Joyee Cheung blog]

7. HTTP in Node: fetch, Web Streams & Undici

Node's global `fetch()` (v18+) is powered by Undici, offering spec-aligned Request/Response/Headers and Web Streams interfaces; Undici also provides advanced client APIs (pipeline/stream) and connection pooling, often outperforming legacy `http/https` usage. [Undici site/npm; Web Streams docs; articles/benchmarks]

8. Standards & Interop: WinterCG/WinterTC

WinterCG (now Ecma WinterTC) coordinates runtimes to adopt a minimum common API (e.g., fetch, URL, streams) and collaborates with WHATWG/W3C on server-side applicability of Fetch/Crypto, improving cross-runtime portability. [W3C WinterCG; WinterTC; Fetch standard updates]

9. Package Management & Corepack status

The Node TSC voted in Mar 2025 to stop distributing Corepack starting with Node 25; Corepack remains in 24 and earlier. Node's website/docs were updated accordingly. Use npm■installed yarn/pnpm or version managers (nvm, fnm).
[Socket news; GitHub issue; Node Weekly; AWS SDK alignment]

10. Production Guidance: Security, Perf, Deploy

Use LTS (22/24) per schedule; enable permission model in CI/cron tools; prefer fetch/Undici for HTTP; adopt the built-in test runner; consider SEA for CLI tools; track deprecations and the release WG schedule for upgrade windows.
[Release schedule; Red Hat Node 22 notes]

11. References

- Node 22 LTS release blog (v22.11.0) [turn15search300]
- Version timelines for Node 22/23/24/25
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- VersionLog Node 22 branch (dates/support) [turn15search301]
- Node 23.0.0 announcement [turn15search318]
- Node 24 overview – LogRocket [turn15search304]
- Built-in test runner docs [turn15search323] & guides
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- SEA docs [turn15search329] & core build integration blog [turn15search332]
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