

Warning: These results are preliminary - use with caution (they may e.g. be from different browser versions).Official results are published on my [blog](#).

The benchmark was run on a Razer Blade 15 Advanced (i7-8750H, 32 GB RAM, Manjaro 5.2.4-1-MANJARO mitigations=off, Chromium 76.0.3809.87 (64-bit))

Which frameworks? ▾

Which benchmarks? ▾

Display mode

Display results (mean results) ▾

☒ Separate keyed and non-keyed

Keyed results

Keyed implementations create an association between the domain data and a dom element by assigning a 'key'. If data changes the dom element with that key will be updated. In consequence inserting or deleting an element in the data array causes a corresponding change to the dom.

Duration in milliseconds ± 95% confidence interval (Slowdown = Duration / Fastest)

Name Duration for...	vanillajs-keyed	vanillajs-wc-keyed	inferno-v7.2.1-keyed	lit-html-v1.1.0-keyed	svelte-v3.5.1-keyed	aurelia-v1.3.0-keyed	preact-v8.4.2-keyed	angular-v8.0.1-keyed	vue-v2.6.2-keyed	react-v16.8.6-keyed	angularjs-v1.7.8-keyed
create rows creating 1,000 rows	101.0 ± 2.3 (1.00)	110.0 ± 2.3 (1.09)	112.8 ± 3.2 (1.12)	122.0 ± 7.5 (1.21)	121.8 ± 2.5 (1.21)	139.5 ± 2.1 (1.38)	138.9 ± 5.5 (1.38)	141.4 ± 3.8 (1.40)	153.7 ± 4.0 (1.52)	153.2 ± 3.8 (1.52)	180.3 ± 5.3 (1.79)
replace all rows updating all 1,000 rows (5 warmup runs).	105.1 ± 1.6 (1.00)	115.7 ± 2.2 (1.10)	111.5 ± 3.2 (1.06)	117.4 ± 1.6 (1.12)	131.9 ± 1.5 (1.26)	136.2 ± 2.9 (1.30)	131.2 ± 1.9 (1.25)	135.9 ± 1.2 (1.29)	129.5 ± 1.7 (1.23)	129.6 ± 1.6 (1.23)	176.3 ± 6.1 (1.68)
partial update updating every 10th row for 1,000 rows (3 warmup runs). 16x CPU slowdown.	133.8 ± 6.3 (1.00)	135.4 ± 6.5 (1.01)	141.0 ± 4.2 (1.05)	162.5 ± 8.6 (1.21)	154.5 ± 3.6 (1.15)	137.3 ± 3.5 (1.03)	178.5 ± 2.9 (1.33)	135.3 ± 5.0 (1.01)	223.2 ± 15.1 (1.67)	160.9 ± 2.7 (1.20)	156.1 ± 2.7 (1.17)
select row highlighting a selected row. (5 warmup runs). 16x CPU slowdown.	17.8 ± 1.7 (1.10)	16.2 ± 1.1 (1.00)	18.3 ± 1.4 (1.13)	24.4 ± 1.3 (1.51)	25.5 ± 1.5 (1.58)	45.2 ± 1.4 (2.79)	42.2 ± 1.7 (2.61)	25.0 ± 2.1 (1.54)	137.6 ± 16.3 (8.51)	32.9 ± 3.8 (2.03)	34.4 ± 1.5 (2.13)
swap rows swap 2 rows for table with 1,000 rows. (5 warmup runs). 4x CPU slowdown.	52.4 ± 3.2 (1.05)	49.7 ± 3.5 (1.00)	52.1 ± 3.8 (1.05)	53.5 ± 3.1 (1.07)	52.8 ± 3.6 (1.06)	52.5 ± 3.1 (1.06)	55.6 ± 3.0 (1.12)	434.9 ± 4.5 (8.75)	70.3 ± 1.5 (1.41)	440.3 ± 3.9 (8.86)	445.1 ± 3.5 (8.95)
remove row removing one row. (5 warmup runs).	37.3 ± 0.3 (1.03)	37.3 ± 0.4 (1.03)	38.7 ± 0.7 (1.07)	39.3 ± 0.9 (1.08)	38.4 ± 0.5 (1.06)	38.1 ± 0.4 (1.05)	40.0 ± 0.5 (1.10)	36.3 ± 0.4 (1.00)	44.6 ± 1.1 (1.23)	39.8 ± 0.4 (1.10)	40.8 ± 0.4 (1.12)
create many rows creating 10,000 rows	979.3 ± 23.8 (1.00)	1,077.0 ± 19.6 (1.10)	1,088.6 ± 35.2 (1.11)	1,202.0 ± 37.4 (1.23)	1,294.6 ± 22.8 (1.32)	1,245.6 ± 7.0 (1.27)	1,368.8 ± 27.6 (1.40)	1,381.2 ± 36.6 (1.41)	1,277.2 ± 39.7 (1.30)	1,541.6 ± 28.1 (1.57)	1,652.2 ± 34.8 (1.69)
append rows to large table appending 1,000 to a table of 10,000 rows. 2x CPU slowdown	212.5 ± 2.4 (1.00)	235.8 ± 6.6 (1.11)	227.2 ± 1.9 (1.07)	239.9 ± 2.6 (1.13)	266.4 ± 2.2 (1.25)	277.3 ± 3.5 (1.30)	284.6 ± 10.0 (1.34)	289.3 ± 6.6 (1.36)	295.0 ± 2.8 (1.39)	297.2 ± 3.3 (1.40)	362.1 ± 13.2 (1.70)
clear rows clearing a table with 1,000 rows. 8x CPU slowdown	98.4 ± 3.0 (1.00)	99.9 ± 3.1 (1.01)	117.3 ± 2.1 (1.19)	129.1 ± 4.1 (1.31)	143.0 ± 4.3 (1.45)	169.1 ± 3.4 (1.72)	160.4 ± 11.5 (1.63)	233.1 ± 4.5 (2.37)	155.5 ± 1.8 (1.58)	137.4 ± 3.5 (1.40)	315.8 ± 19.8 (3.21)
slowdown geometric mean	1.02	1.05	1.09	1.20	1.25	1.36	1.41	1.69	1.72	1.73	2.07

Startup metrics (lighthouse with mobile simulation)

Name	vanillajs-keyed	vanillajs-wc-keyed	inferno-v7.2.1-keyed	lit-html-v1.1.0-keyed	svelte-v3.5.1-keyed	aurelia-v1.3.0-keyed	preact-v8.4.2-keyed	angular-v8.0.1-keyed	vue-v2.6.2-keyed	react-v16.8.6-keyed	angularjs-v1.7.8-keyed
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consistently interactive a pessimistic TTI - when the CPU and network are both definitely very idle. (no more CPU tasks over 50ms)	1,840.3 ± 42.8 (1.02)	1,802.4 ± 0.3 (1.00)	1,877.3 ± 0.2 (1.04)	1,839.8 ± 73.6 (1.02)	1,821.4 ± 37.3 (1.01)	3,331.0 ± 1.9 (1.85)	1,914.8 ± 73.7 (1.06)	2,703.7 ± 0.2 (1.50)	2,102.2 ± 0.1 (1.17)	2,352.9 ± 0.9 (1.31)	2,704.2 ± 0.4 (1.50)
script bootup time the total ms required to parse/compile/evaluate all the page's scripts	16.0 ± 0.0 (1.00)	16.0 ± 0.0 (1.00)	16.0 ± 0.0 (1.00)	16.0 ± 0.0 (1.00)	16.0 ± 0.0 (1.00)	52.7 ± 71.9 (3.29)	16.0 ± 0.0 (1.00)	16.0 ± 0.0 (1.00)	16.0 ± 0.0 (1.00)	16.0 ± 0.0 (1.00)	52.9 ± 41.8 (3.31)
total kilobyte weight network transfer cost (post-compression) of all the resources loaded into the page.	147.2 ± 0.0 (1.01)	148.0 ± 0.0 (1.02)	163.1 ± 0.0 (1.12)	151.1 ± 0.0 (1.04)	145.7 ± 0.0 (1.00)	439.0 ± 0.0 (3.01)	152.5 ± 0.0 (1.05)	295.5 ± 0.0 (2.03)	211.0 ± 0.0 (1.45)	260.7 ± 0.0 (1.79)	324.1 ± 0.0 (2.22)
slowdown geometric mean	1.01	1.01	1.05	1.02	1.00	2.64	1.04	1.45	1.19	1.33	2.23

Memory allocation in MBs ± 95% confidence interval

Name	vanillajs-keyed	vanillajs-wc-keyed	inferno-v7.2.1-keyed	lit-html-v1.1.0-keyed	svelte-v3.5.1-keyed	aurelia-v1.3.0-keyed	preact-v8.4.2-keyed	angular-v8.0.1-keyed	vue-v2.6.2-keyed	react-v16.8.6-keyed	angularjs-v1.7.8-keyed
ready memory Memory usage after page load.	1.8 ± 0.0 (1.00)	1.8 ± 0.0 (1.01)	1.9 ± 0.0 (1.04)	1.9 ± 0.0 (1.05)	1.8 ± 0.0 (1.02)	3.8 ± 0.0 (2.09)	1.9 ± 0.0 (1.03)	4.8 ± 0.0 (2.67)	2.1 ± 0.0 (1.17)	2.3 ± 0.0 (1.27)	2.9 ± 0.0 (1.60)
run memory Memory usage after adding 1000 rows.	2.4 ± 0.0 (1.00)	2.7 ± 0.0 (1.11)	4.2 ± 0.0 (1.74)	4.1 ± 0.0 (1.69)	3.8 ± 0.0 (1.58)	8.4 ± 0.0 (3.45)	4.8 ± 0.0 (1.99)	9.2 ± 0.0 (3.78)	7.0 ± 0.0 (2.89)	6.8 ± 0.0 (2.82)	10.7 ± 0.0 (4.39)
update each 10th row for 1k rows (5 cycles) Memory usage after clicking update every 10th row 5 times	2.9 ± 0.1 (1.00)	3.0 ± 0.0 (1.05)	4.6 ± 0.0 (1.60)	4.5 ± 0.0 (1.56)	4.1 ± 0.0 (1.45)	8.6 ± 0.0 (3.01)	5.1 ± 0.0 (1.80)	9.5 ± 0.0 (3.31)	7.4 ± 0.0 (2.57)	8.0 ± 0.0 (2.78)	10.9 ± 0.0 (3.82)
replace 1k rows (5 cycles) Memory usage after clicking create 1000 rows 5 times	3.1 ± 0.1 (1.00)	3.3 ± 0.0 (1.06)	4.8 ± 0.0 (1.57)	4.7 ± 0.0 (1.54)	4.4 ± 0.0 (1.43)	9.0 ± 0.0 (2.93)	7.5 ± 0.0 (2.45)	9.8 ± 0.0 (3.20)	7.6 ± 0.0 (2.47)	8.8 ± 0.0 (2.87)	11.5 ± 0.0 (3.73)
creating/clearing 1k rows (5 cycles) Memory usage after creating and clearing 1000 rows 5 times	3.3 ± 0.0 (1.07)	3.1 ± 0.0 (1.00)	3.2 ± 0.0 (1.04)	3.4 ± 0.0 (1.12)	3.1 ± 0.0 (1.00)	6.2 ± 0.1 (2.02)	5.6 ± 0.0 (1.85)	6.4 ± 0.1 (2.10)	3.7 ± 0.0 (1.21)	4.7 ± 0.0 (1.52)	4.5 ± 0.0 (1.48)
slowdown geometric mean	1.01	1.05	1.36	1.37	1.27	2.64	1.76	2.95	1.92	2.13	2.71