



WIKIPEDIA  
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[Main page](#)  
[Contents](#)  
[Featured content](#)  
[Current events](#)  
[Random article](#)  
[Donate to Wikipedia](#)  
[Wikipedia store](#)

Interaction

[Help](#)  
[About Wikipedia](#)  
[Community portal](#)  
[Recent changes](#)  
[Contact page](#)


Tools

[What links here](#)  
[Related changes](#)  
[Upload file](#)  
[Special pages](#)  
[Permanent link](#)  
[Page information](#)  
[Wikidata item](#)  
[Cite this page](#)

Print/export

[Create a book](#)  
[Download as PDF](#)  
[Printable version](#)

Languages

 [Add links](#)

[Create account](#) [Log in](#)

Article

[Talk](#)

[Read](#)

[Edit](#)

[View history](#)



# Hash tree (persistent data structure)

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In computer science, a **hash tree** (or **hash trie**) is a [persistent data structure](#) that can be used to implement [sets](#) and [maps](#), intended to replace [hash tables](#) in [purely functional](#) programming. In its basic form, a hash tree stores the [hashes](#) of its keys, regarded as strings of bits, in a trie, with the actual keys and (optional) values stored at the trie's "final" nodes.<sup>[1]</sup>

[Hash array mapped tries](#) and [Ctries](#) are refined versions of this data structure, using particular type of trie implementations.<sup>[1]</sup>

## References [\[edit\]](#)

- <sup>a</sup> <sup>b</sup> Phil Bagwell (2000). [Ideal Hash Trees](#)  (PDF) (Report). Infoscience Department, [École Polytechnique Fédérale de Lausanne](#).

<span>v</span> <span>t</span> <span>e</span>	<b>Tree data structures</b>	<a href="#">[show]</a>
<span>v</span> <span>t</span> <span>e</span>	<b>Data structures</b>	<a href="#">[show]</a>



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Categories: [Functional data structures](#) | [Hashing](#) | [Computer programming stubs](#)

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