

Crystal

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Crystal

What?

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 - aka Crystal Reports
 - aka <https://www.crystalreports.com/>

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- You might also try searching for “Crystal-lang”

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- General Purpose Programming Language
 - aka crystal-lang aka Crystal Language
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CRYSTAL

Why?

Crystal - Why?

- Why another programming language?
 - Ruby (or fill in your favorite language) is Awesome!
 - So, why bother creating another language?
 - Keep Ruby-like style
 - easy to read for humans and computers
 - Fast like C
 - compile with LLVM; including cross-compiling to other platforms

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- Why might you be interested?
 - You might and you might not. I'm not you. :)

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 - I LOVE RUBY!!! But, I Want MORE!!! (Call me greedy; lol.)
 - I wanted stand-alone binaries and more speed.
 - I looked at Jruby, Mruby, Traveling Ruby, Crystal
 - Crystal seems to live up to it's goals, which match up with that sweet-spot that I was looking for...

Crystal - Why?

- Crystal is ...
 - Ruby-like in style
 - In some cases, you can (and I did) run pure Ruby code **as-is** from Crystal!
 - However, there are some **gotcha's**!
 - Crystal for Rubyists: <https://github.com/crystal-lang/crystal/wiki/Crystal-for-Rubyists>
 - But, what about all those Ruby Gems I use?
 - Crystal doesn't use Ruby Gems; instead, it uses Shards
 - Crystal Shards for Ruby Gems:
<https://github.com/crystal-lang/crystal/wiki/Crystal-Shards-for-Ruby-Gems>

Crystal - Why?

- Crystal is ...
 - Fast like C ... Benchmarks (Yeah, yeah, your mileage may vary...)
 - <https://crystal-lang.org/reference/guides/performance.html>
 - https://github.com/drhuffman12/bench_vs/tree/master/math/nodes_times_weights_sum
 - <https://www.techempower.com/benchmarks/#section=data-r20&hw=ph&test=composite&l=zdk54v-sf>:
 - <https://web-frameworks-benchmark.netlify.app/result?l=ruby,crystal>
 - <https://www.stefanwille.com/2015/05/redis-clients-crystal-vs-ruby-vs-c-vs-go/>
 - <https://dev.to/jgaskins/performance-comparison-rust-vs-crystal-with-redis-1a17>
 - Long story short Crystal vs Ruby:
 - 5x's to 10x's seems common for web-related
 - 200x's or faster in some cases
 - Comparison of ray-tracer in raw code (misc languages): <https://github.com/edin/raytracer>



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- Platforms Supported
 - https://crystal-lang.org/reference/platform_support.html
 - Linux and OSX; some others (more or less)

Crystal – Where?

- NixOS Support

> nix-env -iA nixpkgs.crystal

<https://search.nixos.org/packages?channel=21.05&from=0&size=50&sort=relevance&query=crystal>

... More about NixOS from my co-host ...

Crystal – Where?

- Windows Support
 - Getting very close!!! As of Apr 16, 2021:
 - ... basically you can see status at the top of page. Concurrency and networking doesn't work on Windows, (almost) everything else does.
 - <https://github.com/crystal-lang/crystal/issues/5430>
 - <https://github.com/crystal-lang/crystal/labels/platform%3Awindows>



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Where to now?

Crystal – Where to now?

- Crystal site: <https://crystal-lang.org/>
- Github: <https://github.com/crystal-lang/crystal>
- Forum: <https://forum.crystal-lang.org/>
- Misc. Official References: <https://crystal-lang.org/docs/>

Crystal – Where to now?

- Crystal 1.0 Conference: July 8th 2021
 - For tickets and schedule, see: <https://crystal-lang.org/>

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 - Yeah, sorry for short notice...



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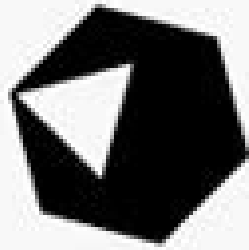
For Example?

Crystal – For example?

- A bunch of examples on the main Crystal site
 - <https://crystal-lang.org/>
- Try online at Crystal Playground
 - <https://play.crystal-lang.org/>
- How to create a new ...
 - app: ``crystal init app (DIR | NAME DIR)``
 - library (aka 'shard'): ``crystal init lib (DIR | NAME DIR)``
 - See also: ``crystal --help``

Crystal – For example?

- Some of my Crystal examples
 - <https://github.com/drhuffman12?tab=repositories&q=&type=&language=crystal>
 - https://github.com/drhuffman12/star_burst
 - https://github.com/drhuffman12/ascii_bar_charter
 - https://github.com/drhuffman12/counter_safe
 - <https://github.com/drhuffman12/ai4cr>



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