[Pull Requests on Nushell](#)
[Link to this doc](#)

Thursday Dec 29, 2022
Major deep dive into understanding serde in the context of ron, json, yaml, toml, message pack et al. This is very interesting work. Stay tuned as to how this develops but it is definitely related to nushell and other stuff I have been working on possibly including Pest and Tree sitter tambien.

Monday Dec 19, 2022
More work on github actions. Today I found the Github [Marketplace](#) where community actions live. This is kind of cool and gives a big boost to what this stuff is all about !

Sunday Dec 18, 2022
Started looking into how to run the github actions on my own private nushell repo. I am starting out trying to get the one from nushell working on my own repo.

Thursday Dec 15
This week I am working on a better understanding of the nushell tests in concert with writing some new tests that show off deeply nested data structures in relationship to testing these as they go into json and parquet.

Thursday Dec 08
Just before going to play ping pong with Ken at the CCC I cut a release of nushell-parquet-72 and Darren took it for a spin around the block. I pretty coded it all up in the past couple of days and the precursor to the event was csv2par along with everything polars, datafusion, iox etc... So getting to this point was a long

time in coming :)

Thursday Dec 01
In our meeting yesterday I asked Darren if he thought doing a to parquet plugin made sense and he gave me the thumbs up so I am starting to explore this concept in more detail.

Wednesday Nov 30
Got the nushell plugin from parquet up and running.

Sunday Nov 27
Starting to consider possibly spending more time learning and understanding polars in the context of nushell. Dipping my toes in a bit more and testing the waters :)

Monday Nov 21
Spent the past two days exclusively working on trying to get dataframes into its own crate. JT this morning took out df from the [build system of nushell](#). So people will no longer get a binary loaded up with dataframes. They will have to build it themselves.

Friday Nov 18, 2022
Starting to spend time looking at tabled to be able to visualize arrow arrays.

Monday Nov 14, 2022
I figured out how to turn the optimizer off as well as reduce the number of Partitions down to one while running the examples. I feel that I am coming more up to speed on datafusion. I still believe getting the logging code going the other day back will be a very big win moving forward. Keep going and having fun with df.

Sunday Nov 13, 2022
Yesterday I sent off a message to JT about breaking out dataframes into a separate crate and he had a very nice response. Its a private message so you can quickly check it out.
Anyway, it got me thinking about dataframes in nushell and so I am starting to dip my toe back into nushell by taking another look at dataframes.

Friday Nov 11, 2022
Another breakthrough day, firing on all cylinders recently.
I am now able to see all of the log messages.
The secret was to enable it via env_logger

Monday Nov 07, 2022
Yesterday we went to Pedro's house with Mike and Kathy and in the early evening I had a nice talk with Sharon.
I have been flailing just a bit and this morning prior to taking Hb to KP for an annual checkup I came upon this test file user_defined_plan.rs and it made me create in ioxnotes testing.md [see this file for more details]
bottom line of this discovery is that I am now able to use the datafusion cli and run the explain command on a query to see the logical plan and the physical plan.
this is a HUGE breakthrough in my understanding for testing as well as understanding how to use datafusion. this is the "secret sauce" of actually what this project called datafusion does 🙂

Tuesday Nov 01, 2022
It has been about one month exactly since I started working in earnest on a daily basis on datafusion. I am starting to fire on all cylinders in understanding how datafusion works with the the sql being converted to a logical plan by focusing on the aggregate functions.

Sunday Oct 30
I now understand ScalarValue in the datafusion common crate. I am going back to first principles in datafusion and Scalar Value seems pretty fundamental.

Wednesday Oct 26
I now have a very high level understanding of the complete code flow of GlueSql.

Monday Oct 24
Day 1 of GlueSql. This is a great example of sqlparser-rs as well as sled. This will also tie in well with datafusion for understanding how you go from the sql AST that gets created via the sqlparser and how you get to the place where you have a way to query information. How does that work ? We will hopefully have an answer to this question fairly soon.

Saturday Oct 22
Now that I have been l looking at datafusion for a couple of weeks I now need to do a deep dive into the intrinsic components of datafusion using the tests as a way to understand DF for completely. Just focus on individual problems and learn more about them.

Sunday Oct 16
Johngi birthday party and KMP early morning gathering. Since Sep 29 I have been full force studying and learning datafusion and am making huge progress on this front.

Thursday Sep 29
Day 1 of Datafusion in concert with how it works in Iox.
Currently looking a iox_query as the heart of the puzzle.

Yesterday we had our nushell meeting and initially JT was excited about Pest but then realized it didn't do errors correctly. He decided to take a week off instead as he had been working for 6 months without a vacation. So he is gone for a bit and Pest is on the back burner.

Tuesday Sep 27, 2022
So I am in pretty good shape with arrow now that all of the crates have been busted up. Moving on back to Parquet and Iox and this PR dealing with [Parquet to Line protocol crate](#).

Friday Sep 23, 2022
It took me a day to get on board but JT introduced a demo of the Pest parser on Wednesday at our meeting and today I launched into a better understanding of it. Day 1 of Pest.

Wednesday Sep 21
Over the past week I have been spending more time focusing on arrow-rs; and today I created my own crate called narrow to do more testing and use some of the testing code located in benches which is not easily referenced from outside the crate.

Thursday Sep 8
Massive deep dive into shards and everything related to it. We are doing lots and lots of understanding of iox.

Tuesday September 06
Landed my [first Iox PR](#). I now need to learn how to both rebase as well as edit / change a commit message.

Monday August 29
Great trip to the coast last week. This morning I got Kafka up and running and reviewed everything it does. Final point is this.

Its pub/sub. Does that ring a bell ? And if you search in google like this : "spinnakr" rabbitmq guess who's name shows up at the top :) I believe the write buffer is an abstraction on top of either the file based or kafka based write buffer.

Sunday August 20
We are going to Coquille tomorrow morning. In the past few days I have been working with CLAP along with getting the router to run stand alone by itself and am now moving to the ingester, and compactor.   Finally the querier will come up by itself tambien.
So we are motoring down this route at the moment.

Thursday August 18
Learned today about [destructuring assignment](#). Also yesterday I started working on just bringing up the individual services and we are starting out with bringing up just the router. I am doing this via all-in-one and only passing the router service to the vector.

Thursday August 11
It looks like the Ctrl-c bug might finally be fixed; as I did an update and it appears to be working fairly smoothly. Stay tuned.

Friday August 5
We had our [20k celebration today](#) and I did my demo of influxdb_iox integrated into nushell.

Wednesday August 3
Spent the morning figuring out some iox stuff having to do with fixing a ctrl-c bug that I tracked down last evening. It was my first issue for iox and the first time interacting with folks on the iox core team.

By the end of the day the ctrl-c bug was fixed and landed.

I gave a short introduction to the iox work today to the core team and some folks including Darren would like to see a demo either next week or this Friday in our all hands meeting.

Sunday July 31
I released the Iox and Nushell integration suite to the influxdb-iox slack channel.

Saturday July 30
The error messages for ioxsql are looking pretty clean and ready to go for now. So I made big progress today on the nushell iox code base.

Friday July 29
Ported nushell 66 over to iox and upgraded iox to latest code base.

Thursday July 28
Mom's 88th birthday :)
I got the CSV reader up and running as a replacement for the Error check and it appears to be working well. I am no longer getting panics like I was before; so we may be well on our way to moving forward on these issues.

Thursday July 21
Day 1 of Nom. I got things going today. Nom is cool, it works and there are lots of repos using it.

Tuesday July 19
I am ready to start coding up the error algorithms. Turns out I have to parse the string first and then create the Nushell Error data structure.

Thursday July 14
Major push into understanding error messages and how they work in Rust.

Wednesday July 13
Its not done yet :) Now I need to work on the error messages so things don't crash when there is an error in the commands. Starting to work on understanding error messages in Rust today.

Tuesday July 12
Scott's birthday. Start working on the documentation for ioxnu in a Readme.md file.

Monday July 11
Fairly early in the morning just at about the time Michael arrived to paint I got nushell integrated into iox along with the nushell commands.
The big breakthrough was to port repl.rs over to the iox commands location and reference the objects from influxdb_iox_client.

Thursday July 7
ioxwrite and ioxwritefile are up and running ! On the nushell side of the world.

Sunday July 3
We are on a roll here. I got a nu-crate up and running. I will now have the ability to put all of my iox commands inside their own crate. This is a gigantic advance forward along with last evenings victory.

Saturday July 2

At the end of the night just before I took my shower I got iox sql commands integrated into nushell and displaying the csv tables from iox inside the nushell Value system tables :)

Thursday June 30
The last day of June and iox and nushell are finally working together at a bare bones level but the crates of both repos are now integrated and talking to each other.

Tuesday June 28
So this took me awhile to think about and figure out but I believe the way to go is to have nushell be the application that talks to iox, as opposed to bundling nushell inside iox at the command level similar to the way iox sql is working now with a Repl.

Reason being if you look inside a command like

influxdb_iox/src/commands/debug/namespace.rs

you will see that all it does is delegate out to influxdb_iox_client and this is the case for all of the iox commands that are not actually running the server but rather getting data from a running server...

So based on this idea nushell's commands will talk through influxdb_iox_client

Plus for starters this approach is much simpler as it means that you are tweaking out nushell with iox stuff rather than trying to shoehorn nu into iox.

If later down the road there is a lot of interest then we can explore adding this extra layer of indirection. But by that time

most of the nushell command work will be done and then it will be simply a task of breaking nushell outside its box and putting it inside the iox box.

Wednesday June 22
Nailed [this issue](#) in Zed about matching key sequence between Atom and Go. This took most of the day, here and there. Working on influxdb_iox_client.

Tuesday June 14, 2022
Its been 35 years since my fateful day back in 1987. Starting to look at getting the iox sql client running in nushell. Experimenting with tonic as a starting point. Flight sits on top of tonic.

Thursday June 9, 2022
I got the influxdb_iox sql client up and running by itself for the first time. I will start to migrate it towards nushell and reedline.

Tuesday June 7, 2022
I had a call with Nathan Sobo about the Zed code editor. I downloaded it in the afternoon and took it for a spin and the rust analyzer crashed my machine. I sent him feedback in the afternoon and 2 hours later I heard back from him that they would make a feature to turn off Rust analyzer on my behalf. All in a day's work.

Sunday June 5, 2022
Deep in the bowels of datafusion. I have enough knowledge about it now to circle back up to Iox and keep going there with a purpose driven approach of understanding datafusion in concert with my initial prototype of iox_query which is where the datafusion module ***execution*** kicks everything off.

Thursday June 2, 2022
Day 1 of datafusion. Got all of the tests up and running along with got the examples going too. I watched [the Andy Grove](#) video this morning on youtube which kicked everything off.

Wednesday June 1, 2022

JT had a meeting today with Carol from Iox and will meet with andrew lamb soon as well. We spent most of our meeting today discussing arrow, datafusion, and how we may integrate it into nushell. Some interesting times indeed. Its cool that JT is meeting with these folks.

https://discord.com/channels/601130461678272522/683070703716925568/981451736713682954)

Kubouch — Yesterday at 11:58 PM
Do you plan to stay working on Nushell after 1.0 or do you want to jump into a next project? 🙂

jt [they/them] — Yesterday at 11:59 PM
I haven't really thought that far ahead

jt [they/them] — Today at 12:00 AM
there's something to be said for being the ones to start it
but letting other people grow it.
With Rust, Graydon stepped down and let the design team take over. Same thing with Go and Rob Pike

Kubouch — Today at 12:03 AM
True. I guess it also depends on how the language is adopted and whether you personally think it's really missing something.

elferherrera — Today at 2:59 AM
But a language needs a benevolent dictator for some time

Saturday May 28, 2022
Massive progress on iox as I now understand how to create parquet files with a nice test. Just keep going on this topic. Got a lot done today as the weather sucked, so we made progress with the ingester and now moving on to understanding logging.

Tuesday May 24, 2022
After one week of working on iox I feel I am starting to get a bit of a grip on it. Nushell is on the back burner not just for me but for the whole team; as JT is off doing other stuff and Darren is on a summer vacation taking his daughter to college. Justin Hustcer joined the core team a few days back and Reilly joined it a month or two ago. Reilly was the first person to join the core team since I started last October.

Thursday May 19
Communication with Paul Dix about IOX. Day 1 of working on the **Parquet File spec** to better understand what the format looks like.

Wednesday May 18
Starting a deep dive into iox. Worked out more details of how postgresql works. JT broke the news to us today that he is developing a new programming language with the developer of Serenity OS whose name is Andreas Kling.

Tuesday May 17
Day 1 of Iox.

Monday May 16
Starting to look at other products which use Parquet including influxdb.

Thursday May 12
I wrote my note to Jerry yesterday, on his birthday, about Ben. Yesterday and today I got up and running with Parquet and got a reader and writer working by the end of the day today.

Tuesday May 10
Been spending lots of time the past few days coming up to speed on both dataframes and polars. Built out my own polars repos including (polars01a, 01b, 01c).

Thursday April 28
I did two PRs today. One was a minor one, and the other was a cleanup of the version command. Got it re-aligned with all of our new features in Cargo.toml.

Wednesday April 27
Started spending more time for the nth time looking at Dataframes.

Sunday April 24
My Tauri and nana days are over, it is here that I transition back to dataframes.

Saturday April 23
Figured out my next step with Tauri is to do a FileDialog and possibly store the files as images on some type of carousel or other way. Monday April 11 was day 1 of nana and here we are two weeks later and I am making an executive decision, to circle around a bit; and move on from Tauri full time. I have been

looking at Tauri full time and got it up and running with the HelloWorld and the embedded Tauri from which I can debug with along with seeing the event loop. Now I am working on a direct tauri project which will in concert help be better understand the tauri code base.

But I am going to continue my database / dataframe work in parallel which is much more directly related to Nushell now.

[Nana Day 1 on github](#) was Monday April 11, 2022 if you check the commit record you will see that...

Thursday April 21
First concepts in my head of visualizing Tauri events via nushell in Nana. Stay tuned, but I just thought I would note it down here. This is in coordination with [Reilly's work on sqlite](#). Reilly was added to the nushell team today as well by JT. So its all good and I learned that the Tokio Runtime is one of the core drivers of how all of this stuff works.

Monday April 18
Pretty much worked all day on understanding tauri. Late in the evening I made a minor change to tauri.conf.json which enabled me to see an actual binary of nana located in a completely different directory which I copied nana to, work like a charm. This platform works ! I am fairly convinced this is another good area to work in; this whole tauri framework stuff.

Sunday April 17
I am deep into nana. The core components that I will need to understand include in no particular order:

- rollup

- svelte
- tauri
- typescript

Saturday April 16
Up and running with nu-command-core and nushell-core. Its amazing how quickly I got all of this code up and running. It will be targeted for working with Nana and having a reduced footprint when developing. I have been wanting to do the nushell-core for awhile and glad I got it going. Rust mods are easy to work with, and I believe I now pretty much fully understand how they work.

Thursday April 14
Saw a [youtube video](#) on tauri by [nothingismagick](#)

Wednesday April 13, 2022
Day 1 of looking at Nana and tauri. This is a whole big CF for me as I spent along time, over a year or two working on React and Javascript UIs so I am very hesitant to get back into this world even a little bit. But it could be mildly interesting understanding how the tauri framework is put together etc... I landed rgwood's PR this evening on the open command reading a sqlite DB. I had a minor pilot error where I was reading nurun instead of his binary that I built by hand. Oh well, I will know this hopefully for next time. Buyer beware, or programmer maybe the problem is on your end.

Tuesday April 12, 2022
Reilly Wood (rgwood) and I have been working on getting from_sqlite up and running. I think he got it working with open. This has been motivating me to work more with nu_protocol and understand better how it / the crate / can be integrated into other rust development environments / including how the data from it

gets output. Specifically the List of Records which is also called a table.

Monday April 11
Day 1 of Nana. JT put out a UI today which is a combination of nushell and tauri. My thoughts are mixed and we will see how things develop. I don't want to work on UI's that are HTML things, but that is just my 2 cents. Working on rusqlite in coordination with nushell.

Tuesday April 5
Jason Booth's 48th birthday.
First rumblings of people on the core team talking about forming a company. JT got a call from a potential investor yesterday; and that set everyone's hair on edge. My opinion is pretty neutral on this one. Kubouch says initially to do a foundation or a non-profit which I tend to agree with.

Sunday April 3
Two weeks later.
Our trip home from Carson City was a good one. We love Alturas and will hopefully get back there this summer for a nice adventure. Spending lots of time working on csv, reviewing core nushell concepts, and a major deep dive into rusqlite.

Sunday March 20
Now down to 118 repos on github, this is pretty darn good.

Saturday March 19
I have been in Carson City now for one week and we arrived last Saturday on Hb's birthday.
Dataframes is fast and I loaded up the whole Shakespeare file in a second or so. Pretty amazing.

Massive github repo cleanup got it down from over 180 repos down to 144 which took me most of the day to do.

Friday March 18
I have been spending lots of time writing scripts and coming up to speed on how they work etc... Started out by working on the shakespeare.nu script and shakespeare.csv file. I am more excited now than ever about nushell and the power of the scripting language that it presents.

Monday March 14
This is my first note for being back in Carson City. We got here on Saturday afternoon 2 days ago. Today I moved the make_docs.nu script over to the website and deleted all of the commands and script from the nushell repo. This was a very big step forward as someone else came along and took my script on the website and within several hours had the whole command reference page up and running. This looks good.

Sunday March 06, 2022
Starting to look at dataframes again this time my thinking is to use it to write data to sqlite (possibly). It could be a nice possibility as I was looking at the python csv-to-sqlite code and they are using pandas.

Friday March 04
Working on Sqlite and looking at Darren's rsq repo.

Wednesday Feb 23
The past couple of days I have gotten the tests up and running for nu_plugin_query. Yesterday I landed my first batch of tests and today I did round 2 for the web_tables. These tests are cool as the underlying data and crates are [based on this](...)...

Tuesday Feb 15
Now that sort-by is behind me and on to others I am back to understanding core nushell datastructures and working on nu_scripts on the porting side to engine-q.

Sunday Feb 13, 2022
I believe **sort-by** is now finally completed. According to my log I started working on it on January 7. That is freaking crazy, but the key point is you hung in there and came up with a relatively nice solution. The hard points were finally understanding the vec.sort_by needs to receive an Ordering. Also challenging was my lack of understanding on how exactly Result and Option worked. My breakthrough was working out the details in the rust-examples vec directory and then porting across the concepts to engine-q and now nushell. Lets work on something else !!

Wednesday Feb 9, 2022
Started porting over some of the nushell scripts for the first time. This is kind of fun ! More scripts to port over.

Tuesday Feb 8, 2022
The engine-q merger happened this morning at around 6am my time. It is a day to celebrate in the life cycle of nushell.

Sunday Feb 6, 2022
I found a bug in the register command for plugins and got the wsj.nu nuscript up and running. This is very cool to have this working and shows the power of nu going forward. Very exciting.

Friday Feb 4, 2022
Making progress on the sort_by issues as well as today started landing some tests. JT spent tons of time earlier in the week

getting the nu-tests crate to work and back up and running so today was my first day getting into fixing some tests.

Wednesday Jan 26
We had our meeting today and at the end of it JT told me that a PR was in the queue for sort-by. I landed [this PR](#) by onthebridgetonowhere and then quickly landed my PR on the floats part leaving the error handling and processing for another day :) But its great to know that for the most part this whole mega job of getting sort-by to work is behind. I will continue to hone and understand better how to approach this problem from the error reporting point of view.

It is slightly tricky because of the _vec.sort_by(|a, b|)_ being in there. Normally you don't have to work around how you deal with the errors on the side of the library. But JT told me today that once you make that call to vec.sort_by there is nothing you can do from there on out. Meaning you want to do most of your processing up front prior to making the call into the library.

Monday Jan 24
Learned today that the HashSet is what is going to give me the ability to figure out what input columns are in the set of table columns. This was a HUGE breakthrough in my mind.

Sunday Jan 23
So a few hours later I spoke to JT and he said go ahead and land it. Then I discovered a bunch of issues that are broken, which is ok...

Saturday Jan 22
I finally landed sort_by without floats. It took me two weeks to do. I thought it was 3 weeks but actually it looks like I started

working on it around January 7. This one was a real bitch, mainly because it took me awhile to understand about **Ord** blocking things if I don't dive down into the underlying Primitive value that feeds into coerce_compare. Also, initially I was not using vec.sort_by(). The nice thing about this sort implementation is that it does not require an Ord as the other sorts in vec do. It appears I am still up against Ord with float but that is TBD. At least I landed something that is respectable and we can see where it takes us. Another HUGE issue with the past 2 weeks is that I got sucked into the old nushell implementation and was going down that rabbit hole for days instead of just solving the problem from first principles. But any who, hindsight is 20/20 and we are over part I of the line :)

Thursday Jan 20
So I started over today on sort_by and pretty much now understand what is going on. It looks like Ord has to be implemented on Value and I will still investigate if I can grab an Int or Float or String and sort on that instead of Value. But that is the last peg to drop (mas o menos).

Tuesday Jan 18, 2022
I am still working on sort_by and finally seeing a drop of light at the end of the tunnel. This has been a very long road / slog.

Friday Jan 07, 2022
Yesterday I finished up part I of bluemesa. I am now grabbing the data and creating a nice csv file with the T, B, M, and the % sign removed from the values in the columns. This is the first time I have ever had this functionality working in bluemesa. Nushell works real nice with the sort-by feature but it is not yet ported to engine-q; so I decided yesterday and then told JT that I will begin looking into porting sort-by. Also, I wrote up the

[spreadsheet for voting](#) of remaining commands left to port thanks to Darren's help and assistance.

Sunday Jan 02, 2022
Starting to come back up to speed with bluemesa, pandas et al to see if I can make a bit more progress on this front for doing more analysis of arkk type equities and others that have crashed hard recently including zoom.

Saturday Jan 01, 2022
The first entry of the new year ! Last evening at about 9pm my PR landed. This was the 2nd PR of the day after I landed the first one myself. Guess what ? It was commit #1000 of engine-q. [And here was JT's response](#).

2022

Friday Dec 31, 2021
I landed (*on my own*) my first PR today in engine-q. I got permission the other day from JT and now I am at the next level. This is yet another milestone for me.

Wednesday Dec 29, 2021
I had submitted a PR for adding the number of columns to the length command; but JT came back with a nice suggestion and tonight I leared about slices in Rust. I really never understood them to now. It was my confusion with a parameter being passed to a function that looked like an array but in actuality it was a slice of a vector. I love my job !

Wednesday Dec 22, 2021
I [landed a PR](#) in record time from inception to landing. Last

evening I had a long chat with JT and Darren about this whole nu-json crate and then when I woke up I realized and implemented a simple line of code inside the nu-json crate called in ser.rs called to_string_raw. When you nail it, you know it has to be simple and this turned out to be a trivial change and in my mind initially it was a big cf as noted yesterday.

Tuesday Dec 21
Working on the nu-test-support, nu-json, and testing infrastructure. Big cf.

Saturday Dec 18
I have been very busy doing all sorts of stuff with engine-q including porting commands, documenting the commands as they get ported, interacting with our user community and most recently starting to work some on our new plugin architecture.

Wednesday Dec 8
Learned today in our weekly meeting that JT is moving back to the USA for awhile and will be living with his parents in Virginia. He has been in New Zealand for five years. I finished off the nth command today, and it turned out to be easier than I had first thought once I wrapped my head around the Iterator.

Monday Dec 6
Finished off the reject command a few days back.
That one took forever, not sure why but it finally all came together.
I also did prepend today.
That one turned out to be trivial, which was a lucky break.

Tuesday November 23
This weekend (on my birthday) the drop command landed. JT

came back from taking the weekend off and landed my PR. I am now working on reject and today I clarified in my mind how follow_cell_path works.

Wednesday November 17
The append command took me over a week to understand. It was by far the most ambitious command so far to date that I have ported. In the end the code looks simple but getting here was not trivial. I got it working about one hour before our meeting where JT told us that Toyota had signed up to support the rust project.

Saturday October 30
Finished up the [filter/range.rs command and did a PR](#) with it. I got the PR ready this morning and was done with it by 11am.

Wednesday October 27
Worked all day yesterday and last night and then woke up this morning and I had a message from JT which answered my final question. I had the [filters/last command](#) T'd up and ready to go and JT merged just before our meeting today at 1pm. So I now have one command under my belt and I learned alot during this process.

Friday October 22
Big breakthrough on understanding streams in engine-q as well as nushell / I never really understood how the data moved through the stream and how you deal with it. The big light in my head was understanding the command last.

Wednesday October 20
First meeting ever with the nushell core team, cause last week was cancelled. Also got all of the subcommands into the issue on

porting commands from nushell to engine-q. That was a JT request.

Worked on this today:
```
let span = Span::unknown();
let val = Value::Int { val: 2, span };
let cell_path = CellPath::from_value(&val).unwrap();
```

Monday October 18, 2021
Working on **follow_cell_path** to get a better understanding of how to deal with table commands.

Sunday October 10, 2021
Day 1 of being on the nushell core team.
JT asked me to be on the nushell core team today !
Day 1 of nushell was July 12, 2020, and exactly one year after the day 1 of rust. [My first nushell commit](#) was 2828 on Dec 28, 2020.

Sunday October 3, 2021
So did I am doing a mini-review of the past couple of months. Reason being I am blowing away a directory of work I was doing June 24 - July 24 around the idea of a better understanding of

- wasmer, wasmtime, and cranelift
- webassembly-examples, cargo-wasi
- testsuite, kaleidoscope-cranelift
- mdn-webassembly-examples
- [wabt](#)

In reality this work is tabled for the time being as engine-q is front and center along with spanish and bioinformatics work, so

blowing this directory away makes sense in the context of where I am currently at. If in the future I come back to this place at least you documented the work you did in the mid part of the summer.

Wednesday Sep 29
And with the JT announcement, I am front and center making spanish my number one priority and the biology number two in concert with programming related to the biology.

Monday Sep 27, 2021
Jan's birthday, she is 76 born in 1945 on this day. Jan came by at the end of the day just before 8pm with some cake. We hung out with them last evening in front of their driveway along with Patrick. We also went to the fall festival this weekend. But enough of that, JT was named on the Rust Core Team today. In concert with this major announcement I am officially stating to myself that I am going to spend alot more time working in the area of Bioinformatics and continue my deep dive into understanding spoken spanish in all forms of media content. Yesterday I started looking at bedtools.

Wednesday Sep 22, 2021
More work on miette and engine-q. I now understand how the errors are written in concert with the error **VariableNotFound**

Monday Sep 20, 2021
Miette lands in engine-q for the first time. We had a great trip to Coos Bay a week or two back.

Monday Sep 6, 2021
My first PR for engine-q.

Sunday Sep 5, 2021

A few days back I started spending more time looking into bacteria and other protein type issues.

Wednesday August 25, 2021
The writeup happened today and is [located here](#).

Tuesday August 24, 2021
After working on engine-q since returning from CoosBay I figured out today how the if command works in nushell and compared that to what is going on in engine-q. Hopefully I will get a writeup out of this.

Saturday July 31, 2021
So yesterday was a breakthrough day in my nushell life. For the past couple of months or less I have been going back and forth with elfer / fernando on how dataframes should not be in nu-protocol / nu-protocol should not depend on the whole big giant polars / arrow stack. also as can be seen from the previous entry JT and I discussed this issue a day or two ago; and then yesterday morning as I was weighing on my reedline nu-completer project it came to me that why not bust up nu-protocol and have the nu-parser dependencies be separate. I mulled this idea for a few hours and then ran it by JT and at that moment all of the stars aligned [with his response](#). So we are full steam ahead on two fronts. One is to better understand engine-q and two is to use engine-q as another test bed for getting all of the nu-completer stuff up and running in engine-q in parallel with nushell. This is very cool and why I still like my job at age 60 :)

Wednesday July 28
Had a chat with JT last evening about dataframes and how we are going to probably make polars a nu-protocol dependency; stay tuned. Also, I am plowing ahead with nucli-reed and making

more progress on it.

Friday July 23
Had a chat with JT about the Completer project. I sent him a status update and then we chatted with me for awhile. I think I am ready to start writing some code. As always this is taking way to long and the road is very twisted.

Wed July 14
Nushell 0.34.0 integration with nucli-reed. JT assigned me a new task getting completions working in reedline in concert with nushell.

Monday July 12
Nice talk with Scott today. I am making more progress on running the tests in wabt. Now I have moved on to understanding the individual tests.

Monday July 5
Tonight was Russell's surprise birthday party at Natalie's house on Chintimini. More details and depth of understanding webassembly by reading in more detail [Understanding Text Format](#).

Sunday July 4, 2021
Yesterday I started working on wabt to get a better handle on webassembly as a whole.

Tuesday June 29
Deep in the throes of cranelift's ISA [Instruction Set Architecture] and ***machinist*** modules.

Saturday June 26, 2021

It has never been this hot here. Back into cranelift after a break from it while working on the work listed below.

Thursday June 24, 2021
JT mentions me in his stream
Creating a line editor in Rust 13: Improved vi parsing at 11:30
Went through a bunch of nushell issues that were automagically marked as stale via a new github action that fdncred put in place.

Wednesday June 23, 2021
nu-cli-reed is up and running and already announced to the reedline forum on discord. I am done with the initial version and did a nushell commit associated with this work to make nu-cli's mod app public.

Tuesday June 15
Day 1 of JT's reedline and getting it up and running with my new simple cli.

Friday June 11
deeper dive into the core rust compiler and the rustc dev guide spent yesterday looking at the history bug in nushell and re-visiting kaleidoscope as an example of cranelift.

Hour long talk with elfer on skype / discord about pulling dataframe dependency on polars out of nu-protocol.

Friday June 4
cranelift testing is up and running...

Thursday June 3, 2021
6:43AM
I am going hiking with David Mayfield today and Hb is going to

the dentist. It has been very hot here the past few days. I am reading Iberia by Michener and Dubliners by Joyce.

After about 10 days of exploring the RustPython repo I am moving on to a much broader sweep of understanding the compilation process in general including a detailed understanding of interpreted and compiled languages. A more detailed understanding of the rustc-dev-guide and LLVM in general. This of course is all motivated by my work in nushell and the importance of having a rock solid way of taking input and generating output that is easy to understand, manipulate and use by other developers.

Sunday May 24, 2021
Day 1 of Ast in RustPython and CPython

Friday May 21
Learning about all sorts of cool functions in Python I had no clue about... Starting out with crawl_sourcecode.py

Thursday May 20
Day 1 of RustPython... Just getting started...

Hb got home from Denver last evening. I picked her up at the Eugene airport. She had a good time in Abq and Denver. She left on May 3 and got back last evening.

Tuesday May 18
Finished up part 1 of the bluemesa reorg to get a nice dataframe display in the console.

Saturday morning May 15
Lots more work on pandas. I am starting to have a much better

understanding of dataframes and what they can do and the power of them. Wow ! Is all I can say. And its basically the next evolutionary step in the future of your own custom database. Its basically a [database with an API](). Once I figured that out this morning, the HUGE big light when on in my head. And pandas is by far the most advanced dataframe tool in the world today that is opensource. And having the associated doc with it, see above link --- makes it all the more palatable, usable, marketable, and a no brainer depending on what you want to to and the tool for the job.

Friday May 7
Earlier in the week JT asked me to put together a list of commands that needed to be ported over to engine-p. So I did that and today I did my first PR in awhile getting build-string up to speed. My last commit was awhile back.

Tuesday April 27, 2021
So its been awhile since I wrote an update. I have been "quietly" working on bluemesa and python-examples and have now made an **executive decision** to spend more time not only back in Python but specifically at the moment data frames more specifically pandas. I am currently working in the python-examples repo in the pandas folder on massaging and improving the bluemesa code base. For now that will be my working spot for my code.

Sunday April 4
Working on [issue #3248]() for the past couple of days.
Along with the details of the how the lexer and parser work.

Thursday March 25, 2021
Came back from Moscow and Pullman and got the $scope.aliases

code in there, and then Jonathan requested I write some tests; so that took me till today to get that tucked away.

Friday March 05, 2021
The last couple of days I have been working on scope; and today I nailed down how to startup / init nushell by sourcing an alias file located in my nuconfig repo.

Thursday Feb 25, 2021 [Sharon arrives tomorrow]
I am loving stylishthemes/github-dark

Two more commits to nushell in the past week; so I am cranking along on making progress.

Sunday Feb 14, 2021

Day 1 of Bevy, I got it up and running and the examples actually work out of the box, everyone I tried actually works which is very impressive. Don't worry; I will attempt to spend a small amount of time looking into this for now.

Day 1 of delta and tickrs too.

Saturday Feb 13, 2021

Starting to do more work on understanding lex and parse_block which used to be called block and I renamed to parse_block which was the content of PR #3047.

Friday Feb 12, 2021

Got home from Ashland and Kfalls 2 days ago on Wednesday and on Thursday I did [PR #3047](PR #3047). This morning Jonathan had fixed all

of the clippy warnings that got thrown post release of Rust 1.50. So I was able to merge main and Jonathan posted my PR.

Sunday Jan 31, 2021

After a week of work on #2972 I can move on for now. See the end of the issue and the discord conversation for more details. The bottom line is @lhkipp came up with a simple solution to fix the lexer; and it probably is the most elegant simple solution. But I don't feel I am up to the paygrade yet to go around fixing the lexer at this moment. Hopefully someone else will step up and do this work, or I will feel more confident to do this work at a later point in time.

Friday Jan 29, 2021

I have been working all week on [Issue 2972](#). It is making me understand a lot more about the lexer and the parser then I ever thought I would have to know. "The universe continues..." This is a good project... Also this week on [Hacker News](#) I discoverd an article where it states how long and how much work it takes to acquire the knowledge to better understand a big complex piece of software.

Friday Jan 22, 2021
Yesterday I started working in earnest on nushell scripts. Darren has been working for awhile on this stuff and he has a nice repo with scripts in it; so I am using that as a model in which to move forward.

[Jonathan's Big Todo List](#)

Friday Jan 15

So now that the nu-cli refactor is pretty much done; and I have taken a few days off on any hard core work; I am starting to think about what my next step in nushell is going to be...

As an aside, this is the beauty of what you are doing. You get to decide and get excited about what you are going to work on and work on next. So it looks like my focus could possibly be on the state in nushell, the context, the environment, and how all of that stuff is tied together and works in the bigger picture. This is a logical next step for me, and will get me more into the programming aspects of things as opposed to the mechanics of moving a bunch of code around.

This will also be related to the work on Jonathan's todo list of getting a new command going which....

maybe: would it be interesting to add the ability to query the context for what commands, variables, and aliases are in scope?

Monday Jan 11
Huge day. Too much. It ended with Jonathan taking over because one of the tests on windows was failing and he was able to take the ball over the line. I was talking with Dad at 5pm after working all day since literally 7 this morning on getting the nu-core-commands crate up and running.

Sunday January 10, 2021
Will post when commit #5 lands, its now in the queue.

Monday January 4, 2021
Cranking along on nushell with commit #4 landing...
My first commit 2828 was on Dec 28, 2020

2021

So I end the year on this note about my first day of programming in Rust which I noted again on Monday Oct 26 was on Scott's birthday 2019.

Wednesday Dec 30, 2020
One more commit lands, and one appears to be ready to land. I am on a roll and I am finally having fun programming in Rust after a very long while.

Monday Dec 28, 2020
I awoke this morning to a great piece of news...
My [first commit 2828 on Dec 28](#) into nushell was accepted by Jonathan. We are up and running at work.

Saturday Dec 26, 2020
Day 2 of Jonathan giving me the go ahead to refactor nu-cli. This is going to be a very interesting project, and challenging. Good luck.

Tuesday Dec 22, 2020
Starting to work on my own cli that calls into the nushell api parser et al. Finally starting to understand this stuff; as I am now writing code that calls into nushell and I am better able to understand what dependencies I need in Cargo.toml.

Sunday Dec 20, 2020
Continue down Jonathan's update path. Lets get this stuff now, and get it documented and move on past this initial phase. Put it out there so others will understand too.

Thursday Dec 17
More work on Jonathan's massive update as we move toward multiline scripts in nushell.

Friday Dec 11
Got bluemesa back up and running and added args to getfun. also starting to relook at parsing html via pandas.read_html which is used by yahoo_fin. Yesterday I tried parsing the yahoo finance quote page with rust but that was a complete failure so I am back to looking into parsing with pandas. It has 2 rock solid parsers including beautifulsoup which is also used to parse the edgar filings for xml / xbrl.

Tuesday Dec 8
As I was looking through github for hackernews repos I found hn which is a command line hn client. In there they use scraper which grabs the hn top posts. Day 1 of rust programs with the scraper technology.

Monday Dec 7
Starting to take a look at Jonathan's fork of nushell and the merging of nunu back into nushell. Last evening he told me where the fork was located. Also got hackernews favorites up and running with a fresh cut of all of the favorites through today.

Friday Dec 4, 2020
I am up to speed on nunu and jonathan is starting to merge it into nushell. rlox is in good shape now too. I want to switch gears now and re-focus my efforts on storing data in redis and sled and be up to speed on how to do it. So I am going to hold off on redis for awhile and just focus on sled. We will come back to redis later, but for now sled should get the job done, (I think)...

Saturday Nov 21, my 60th birthday
Found another implementation of lox called rlox by radogost.
This is very helpful for understanding how to write lang code in
rust. Keep going; as this is very helpful.

Friday Nov 20, 2020
Last night I sent in a PR for rulox and Mario responded back
within a few hours.   I awoke this morning and already had an
email from him. I am doing a deep dive into programming
languages and a much better understanding of how they work on
the inside. [Crafting Interpreters](#) is a marvelous read and will be
my seminal introduction (once again) to this aspect of computer
science. Bill Macready would be happy to know I am here. My
path in my work is all related and clearly this fork on the trail is
related to my work the past number of months with nushell. We
are at a point in the product where building a correct scripting
language is required and so --- I need to understand this stuff. I
love my job !

Tuesday Nov 10
Back into Bluemesa specifically grabbing more data from Edgar.
Using ubnt as my model data set.

Wednesday Nov 04
Spent some more time on sled. I believe I am going to move
back into bluemesa work to get a grip on how to push all 3
platforms forward: {bluemesa, nushell and sled}.

Sunday Nov 01
The corvallisoddfellows.org domain name is transferred over to us
from Wes in Hawaii, and the web site is up and running on
gh-pages. Congrats, this is a big win for me and a testament to

the ease of use of mdbook, which is rock solid.

Saturday Oct 31
I think I now finally am starting to understand the whole type system and what it is all about for nushell. I think the light went on when I started thinking about html template engines in the context of zola as well as what is going on with serde json and how the output that you see whether it be json, a nushell table, or an html page is moving the data through the Value to what the end user sees. More on this later.

Monday Oct 26
So I went back the other day and found out that the first day I started programming in Rust was on Scott's birthday 2019. It has now been well over a year and I consider myself a bit more than a beginner, but at least I am still focused on the language, and becoming more knowledgable. Today I came back in once again to review Chapter 13 of the Rust Book on closures and iterators. They are all over the nushell code and so I need to fully understand the concepts.

Sunday Oct 25
I learned today that mdbook allows us to copy the complete theme directory over to your local mdbook repo where you are creating the book and then it will use those themes instead of the default ones in the binary. This means that I don't need to have my own custom copy of mdbook lying around but can simply embed the theme files I need for each particular mdbook repo that I create. So even though the odd fellow mdbook needs some changes, another mdbook may want other ones.

Saturday Oct 24
Worked on a website for Bonnie and Oddfellows and had some

minor breakthroughs. First I decided to use mdBook and was able to fix the sidebar so it stayed open by default and reduced the sidebar from 300px to 200px giving the user a lot more realestate on the right side. I like mdBook and will continue to use it more and more in other projects; plus it is written in Rust !

Thursday Oct 22
Going through the async/await book in reference to the futures trait and the stream trait in nushell and all of the calls associated with the futures crate. So basically we are doing a deep dive into everything behind futures in relation to nushell. This is actually the first time I have revisited this concept since working with Tokio awhile back and the first time looking at it since I started working on nushell back in July 2020. Its amazing how all of this stuff doesn't really stick around in my brain until I relearn it or re-remember it again.

Sunday Oct 18
Finally realized that the tests in nu-cli need a binary to run and that is why main.rs gets sucked into the mix. It was not obvious till now that the nu! macro calls into the nu binary, upon thinking about it makes sense.

Friday Oct 16
nupro value/evaluate.rs
nucli   src/evaluate/mod.rs
evaluator::evaluate_baseline_expr

Wednesday Oct 14, 2020
Spent all day on a bug in nushell where tests fail unless config.toml is empty or the skip welcome message is not set. not sure today was productive, but I am very happy as all my tests are passing... and I know why !! it had to do with **config.toml**

Monday Oct 12, 2020
Deep dive into the underlying commands and how free data gets parse in nushell including all of the core commands {parse, each, split, etc...}

Sunday Oct 11, 2020
Working on Value as well as regex associated with the nushell parse command.

Saturday Oct 3, 2020
More work on exactly what a value is in Rust.

Thursday Oct 1, 2020
Massive dive into true understanding of Literals, Expressions, and Values in both the context of nushell and Rust.

Monday Sep 28
Luke's birthday. flexi_logger is up and running inside nushell and logging all log messages either to a file or to the console. It works exactly like I wanted it to. Once I figured out flexi_logger this afternoon I had the whole main.rs nushell file pared down and back up and running with the new logging code in about 1 hour. Very cool ! Rust logging is working the way it should, and nushell is very well designed from a logging perspective... Once you understand this stuff it is really trivial and easy. Today was an example of how things fall into place. However, it took me a number of days to finally get here and come up with this simple solution.

Friday Sep 25
A week has passed. We are now deep into how Rust logging works. I want to integrate a new logging solution into the Nushell

code for personal use. For now, the focus is as simple as; writing the log data out to file instead of stdout. (I think)...

Friday Sep 18
Moving quickly, I now understand that nu-table is the crate that draws the table data. I now need to work out exactly how this data gets fed to draw_table and when a table is drawn and when one is not... As always, more work to do. But I have gotten past the parser for now, and moved on to the other side of the equation. There is a lot more to understand with nushell; but I think we are making progress. Stay tuned here for more details :)

Wed Sep 16
still smoky during the day but by evening it cleared and we went for a big walk in WL. still working on lite_parse, with a major deep dive into all aspects of how ***lite_parse*** in nushell works.

Tuesday Sep 15
Day-1 working on the nushell-notes Day 1 of mdbook. This is the start of my adventure getting this book up and running.

Monday Sep 14
this evening we went for a walk at night and it was the first time since last Monday that the skies were clear. Its been a crappy week as far as smoke is concerned. I am way deep into understanding the crates {nu-parser, nu-source}... I assume this should go on at least another week or two, or until I fully understand these 2 crates plus {nu-protocol}.

Monday Sep 07
jturner and I had our first talk about nushell. He is a cool guy. This morning I read the RFC on dataframes and made some

comments on discord, and soon we were discussing the spec he wrote up. I am going to spend more time looking at streaming based on our talk today.

Friday Sep 04
Listened to most of this [podcast](#) which was shot in September 2019 of the 3 founders of nushell. Today was day 1 of looking into the plugins. It was motivated by this [chat](#) I had with jturner on 9/3 which was yesterday in the documentation thread. I was trying to understand why sys wasn't working and it was because I was copying the nu binary over to another directory that did not have the plugins in there. Once I fired up the /target/debug nu version everything worked and I pulled in all of the default plugins. Then today I got the sqlite plugin working and started to work on understanding how the underlying plugin architecture using jsonrpc works.

Wednesday Sep 02
Massive dive into nushell ! Its all I have been doing since the last entry on August 24. Yesterday I discovered the github repo [nushell/demo](#) which was great to find because for the past week I had been seeing the method ***parse_and_eval*** inside nu_cli but it was not referenced anywhere in the whole nushell repo.
Whenever I did a rg on it, nothing came up that was using it.
And then yesterday I discovered the wasm demo repo by reading over the old nushell blog posts. Wasm was introduced in the [17.0 version blogpost](#). So tonight, I got run_nu up and running with a simple example which is currently in my nuwasm repo which will probably eventually be moved somewhere else but for now thats its landing spot.

Monday August 24
Yesterday I started into the nushell discord which is giving me a

big insight as to how nushell works. Today I downloaded the first
version just to get a glimpse of the original ideas behind the
program. In concert with this info, I was able to convert the ui
xbrl 10q file into a table and then back into json and the whole
thing worked. This is amazing ! Also spent some time looking at
toml to get a handle on their very simple, very intuitive format.

Thursday August 20
Deep in the throes of Nushell, and making HUGE progress on
understanding the inner workings of it. Hopefully this will be
relevant going forward. Stay tuned.

Monday August 17
Pedro's bday. Today I launched in a big way back into nushell.
So I will attempt to work on 2 projects at the same time which
could be a bit tricky. Stay tuned.

Friday August 14
Contextref in soup-xbrl is ready to be written out to a dictionary.
Then I will do the other tags. Idea is to have a complete
dictionary representation of the xbrl 10q / 10k file and then write
that out to whatever including json, csv, redis, sqlite etc... We
are making massive progress on this front.

Tuesday August 11
Starting to break out a new class called ContextRef. Will
document here more what it does.

Wednesday August 5

Decided today to go away next Monday for a week or so. I
learned today that our shed will not be delivered for several
weeks so next Monday is a good day to go away. I now fully

understand data_processing and passing in the context_ids.

So here is whats on tap when I get back from my trip. I may update this further prior to departure but here goes for now.

So I am just at the point where I am understanding how to grab all of the correct context and associated context_ids that I need to get certains data points and data sets. I will work out exactly what data points in the 10Q's are associated with what particular contexts but this for now is where all of the work will be going upon return. Capturing all of the data is possibly a function of getting the correct 3 month intervals associated contexts. That is step 1. Getting all of the associated quarterly data.

Once this is done then you can move on to getting the annual data. And lastly the 2 quarters / 6 months and 3 quarters / 9 months worth of data.

But for now just getting all of the 3 month data is not obvious as the current 2 context id's that I am pulling does appear to get all of the data and I also don't know out of all of the data points on the 10q what data points are 3 month data points and what data points are other contextrefs.

Monday August 3

More parsing of the edgar xbrl docs. I now have the name of the tag along with the value and starting to work on the child tags and grabbing the context data.

Friday July 31

Day 2 of working on xbrl. I now understand the work I need to

do to move forward. Be able to get the date and the context id's automagically from the file name and a particular xml element.

Thursday July 30

Day 1 of Parsing XBRL Files

Lots of work on parsing XBRL and winnowing down the parsing for the quarterly UI files. We are up and running and getting a small subset of GAAP and cleaning up the xbrl parser file with just the bare essentials.

Tuesday July 28

Got all of the ubnt data going back to the beginning of time from their website and archived it in numerous locations. Now I can dive in further and make sure I have all of the data. This is a great model to better understand cash flow and the other interesting notes of a much bigger picture. Also calculated the avg share price of UI's purchases since the beginning of time. They spent just over 2B to purchase almost 28M shares at an average price of $75. I used the cash flow statement to see how much stock they bought back each year starting with year 2012.

Monday July 27

Major, massive push to a better understanding of the cashflow statement. In fact I got so excited, that I put together a google sheet for the first time for [ubnt's 2020 cash flow](#) statements. I copied over all of the numbers from the 10Q's and reconciled that the numbers were exactly correct.

I have been wanting to do this for years, and get a better hold

and understanding of how all of these numbers flow. I think my conversation yesterday with Lukas got me to do this today.

The main thing I wanted to see was how all of the numbers literally add up, and now I can prove to myself exactly what the heck is going on with the cash flow statement.

Sunday July 26

First contact with Lukas at Causal after reading their blog post [Financial Statements: A Beginner's Guide](#).

Thursday July 23

Starting to get a handle on nushell. Python regex up and running removing {M,B,%,$} from fun and mcap numbers so that nushell sorts correctly. It doesn't like to sort with other characters in the numbers. Yesterday I got a handle on how to search and go back in time on discord. Now I can go back to the beginning of the nushell history and get a better handle on how things work.

Tuesday July 21

So I have been pretty busy working on some different things. First of all bluemesa is in a good spot. The next thing I need to do is start sorting all of the data inside the CSV. I got the mcap fundamental data from Fidelity now pretty much up and running.

What I did was download all of the stocks whose market cap is greater than > 1B and broken it up into categories where the largest one is > 90B and on down. Then I got all of those symbols sorted out and accompanying names of the companies in the redis key symbol hash. Then from there I was able to create

a CSV file from the Yahoo Fun data. And then I hit the road block which sent me down my 2nd rabbit hole.

Nushell only sorts integer columns but not floats. So I dove into nushell to see what was up and came across an issue with running

cargo run src/main.rs

I found a solution but not sure of what the cause of the problem was. In the meantime, I went back to take a 2nd look at alacritty to make sure I understand what that is. Its a terminal emulator that brings up a new window. Clearly, nothing to do with shells but it took me a bit of time to remember what a terminal emulator is...

Sunday July 12, 2020
Day 1 of nushell. this may not be the exact first day, but it is close enough to this day, to revise history and note that my first day of nushell was exactly one year after my first mention in my blog of rust, or more exactly day 1 of rust. so nushell came one year to the day of rust.