

# How I Built An API For My Life...

...And How You Can Too!





# Apppsilon

This project heavily relies  
on the Rhinoverse

...or what we lovingly call:

The Apppsilon Zoo!





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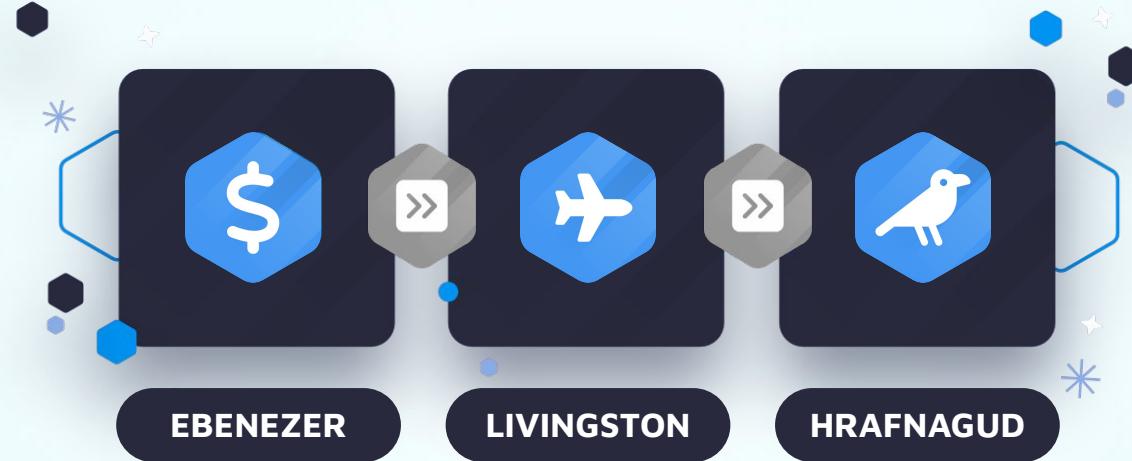
[rhinoverse.dev](https://rhinoverse.dev)



# Prologue



# The Blurb





mod\_table.R

```
# TODO Deepansh
#
# Whenever you get a chance to work on this next, remember:
#
# You need to find a way to get the file details + link to the table
# Once you do that, you will need to make the table selectable
# Once that is done, the next steps will magically make sense to you
# and you will thank the wonders of how human memory works

# But you need to do the first step first

# Otherwise, you will be lost at sea
```

often a delay with Google Finance.

### Portfolio

|                   | Investment   | Realized     | Unrealized   | Current |
|-------------------|--------------|--------------|--------------|---------|
| <b>30.2L</b>      | <b>60.3K</b> | <b>24.4L</b> | <b>54.6L</b> |         |
| Low               | High         | Low          | High         | Low     |
| <b>₹26.67</b>     | 11.36%       | 2.72         |              |         |
| <b>₹3,250</b>     | 5.39%        | 166.30       |              |         |
| <b>₹288.30</b>    | 4.06%        | 11.25        |              |         |
| <b>₹229</b>       | 3.86%        | 8.51         |              |         |
| <b>₹176.93</b>    | 3.23%        | 5.54         |              |         |
| <b>₹155.37</b>    | 2.86%        | 4.32         |              |         |
| <b>₹987.90</b>    | 2.73%        | 26.25        |              |         |
| <b>(3,189.90)</b> | 2.63%        | 81.85        |              |         |
| <b>₹520.55</b>    | 2.50%        | 12.55        |              |         |

Stock Name: Low to High

Search:

**AARIND** AARTI INDUSTRIES LTD  
 ₹ 34,985.02 (58) 6,832.98 (19.53%) 0.00 721 (0.35%)

**AARPHA** AARTI PHARMALABS LIMITED  
 ₹ 0.00 (# 7) 4,336.50 (Inf%) 0.00 619.5 (0.7%)

**ADAPOR** ADANI PORTS AND SPECIAL ECONOMIC ZONE LTD  
 ₹ 15,636.48 (# 32) 32,347.52 (206.87%) -765.10

Hi,  
Deepansh!



Net worth:

**2.01Cr**



on: 1.51Cr

Ebenezer

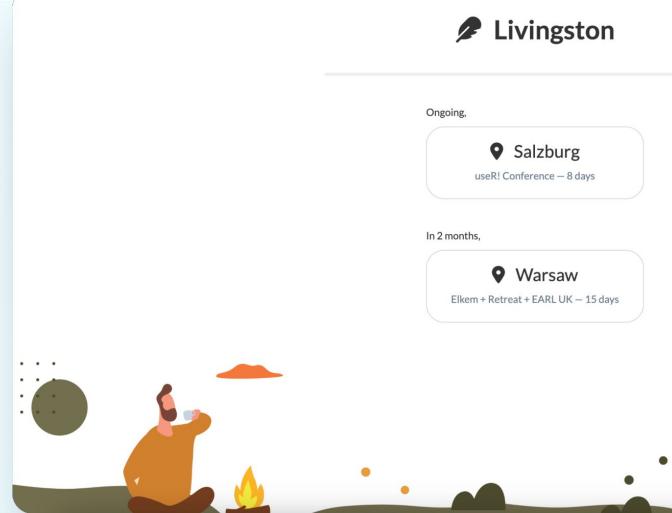
4 trip(s)

planned



16 trip(s) completed

Livingston



### Livingston

2024-07-07 02:50 New Delhi — Frankfurt

DEL FRA

Lufthansa "LH 761"

2024-07-07 08:15 Frankfurt — Salzburg

FRA SZG

2024-07-07 13:50 Frankfurt — Salzburg

FRA SZG

2024-07-07 12:50 Salzburg — Frankfurt

SZG FRA

Hello, Deepansh! 🙌



24°C

Clouds in Dehradun

Net worth: **2.01Cr**

on: 1.51Cr

Ebenezer

4 trip(s) planned

16 trip(s) completed



Tasks WIP



Under Construction

Fogg

Argus

Edit Data



Ebenezer

"Bah," said Scrooge, "Humbug."

ICICI

You are worth **2.01Cr**

on an investment of 1.51Cr

Deposits

Deposit

+ ₹ 5531

10L → 10.7L

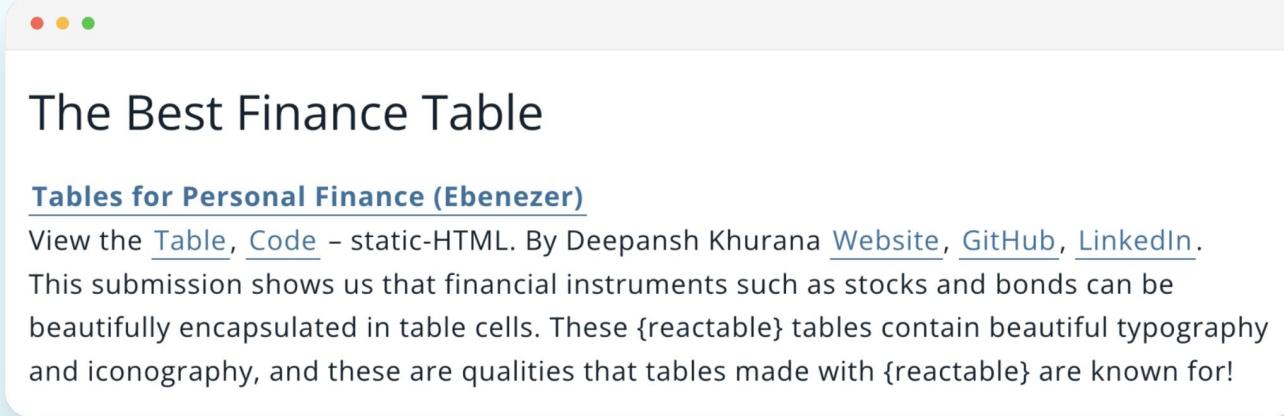
6.8% for 1 year

+ ₹ 8644

Progress

89%

# Interlude: Posit Table Contest 2024



The Best Finance Table

[Tables for Personal Finance \(Ebenezer\)](#)

View the [Table](#), [Code](#) – static-HTML. By Deepansh Khurana [Website](#), [GitHub](#), [LinkedIn](#).

This submission shows us that financial instruments such as stocks and bonds can be beautifully encapsulated in table cells. These {reactable} tables contain beautiful typography and iconography, and these are qualities that tables made with {reactable} are known for!

<https://posit.co/blog/2024-table-contest-winners/>

# Argus, The Giant (Editor)

⌚ Argus

Viewing 1. ⏪ of 299 entries from Ebenezer — ebenezer\_stocks

Viewing  
Editing

| ID                   | ACTION           | BROKERAGE         |
|----------------------|------------------|-------------------|
| 1                    | Buy              | 8.54              |
| COMPANY NAME         | EXCHANGE         | ISIN CODE         |
| AARTI INDUSTRIES LTD | NSE              | INE769A01020      |
| QUANTITY             | REMARKS          | SEGMENT           |
| 1                    | icicidirect      | Rolling           |
| STAMP DUTY           | STOCK SYMBOL     | STT               |
| 0                    | AARIND           | STT Paid          |
| TRANSACTION CHARGES  | TRANSACTION DATE | TRANSACTION PRICE |

⌚ Argus

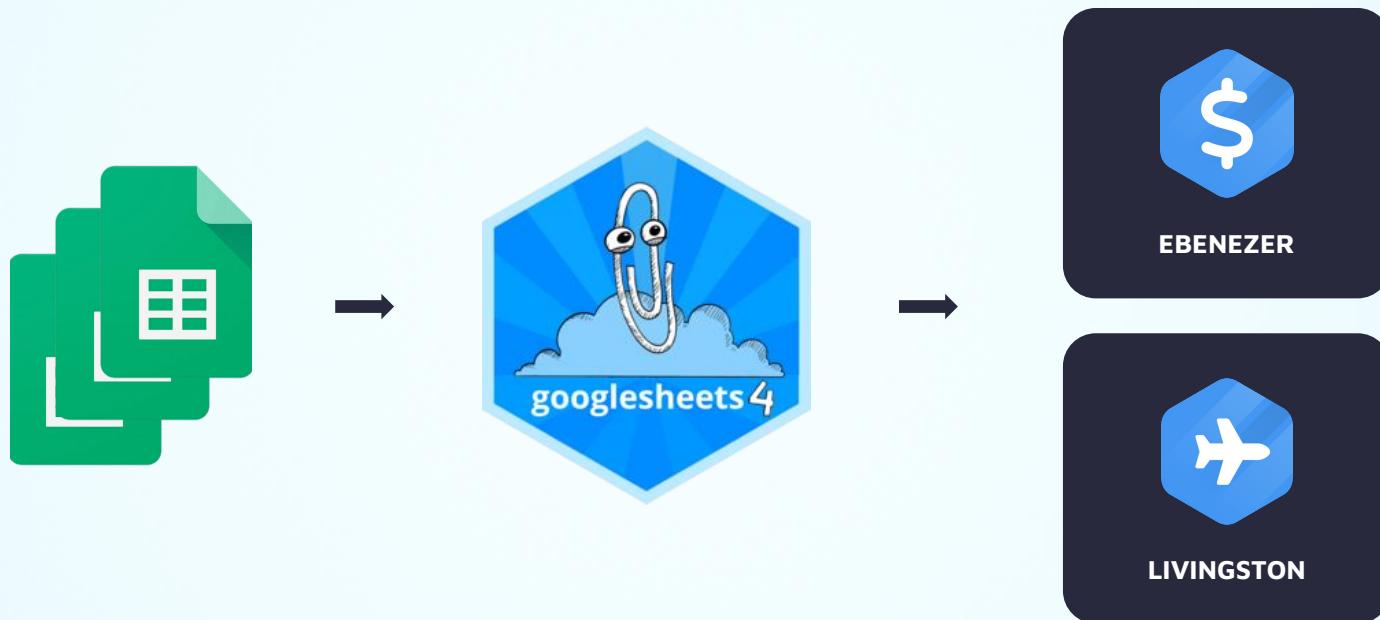
Adding new entry to Livingston — Livingston\_details

|                |    |
|----------------|----|
| ID             | 92 |
| ARRIVAL CITY   |    |
| ARRIVAL        |    |
| CATEGORY       |    |
| DEPARTURE CITY |    |
| DEPARTURE      |    |

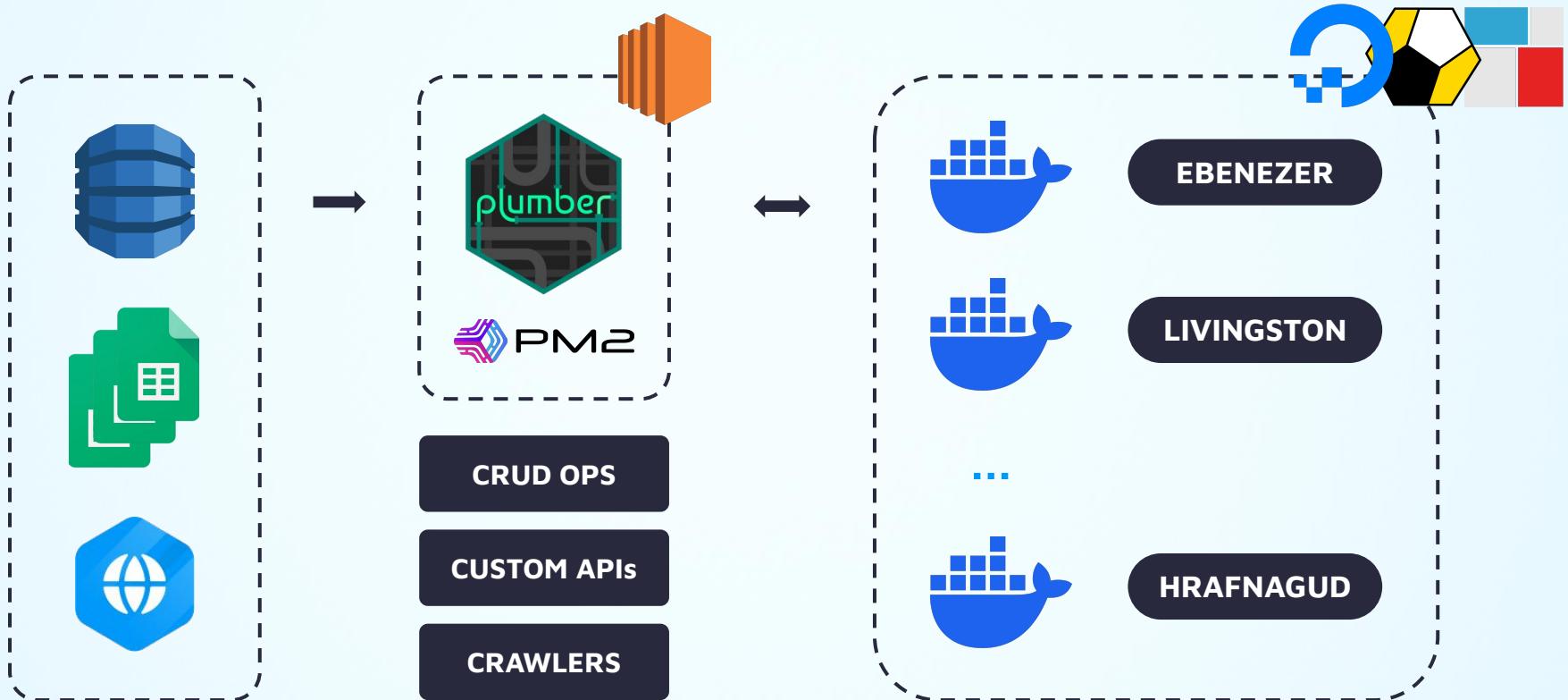


On A High-Level...

# How It Started



# How It's Going



# Endpoints



CRUD OPS



MIDAS



ROBIN



LIVINGSTON



EBENEZER





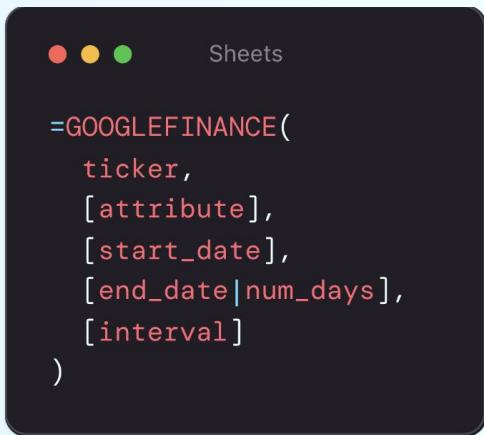
# Let's Dig Deeper

# Chapter 1: Ebenezer

# The Three Little Piggies Pieces



# Finance API



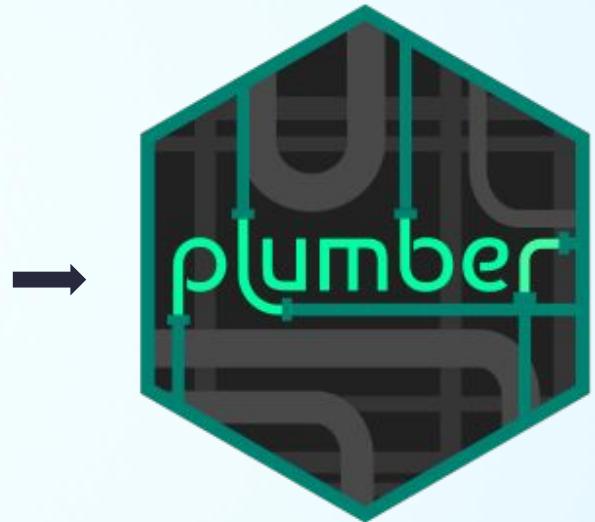
```
Sheets

=GOOGLEFINANCE(
  ticker,
  [attribute],
  [start_date],
  [end_date|num_days],
  [interval]
)
```



# Bullions Prices

```
get_bullions_price <- function(  
  web_link = "https://bullions.co.in/"  
) {  
  tryCatch({  
    html <- read_html(web_link)  
    price <- html_text(html_nodes(html, ".data-box-half-value"))[1]  
    price <- as.numeric(gsub(","," ",str_trim(price)))  
    price / 10 # Bullion's rate is per 10gm  
  },  
  error = function(e) {  
    message("Failed to fetch prices from the provided link. \  
           Setting prices to 0, 0.")  
    list(price = 0)  
  })  
}
```



# Chapter 2: Livingston

# Chapter 2: Livingston



**Card: How do I make a clickable <div> in Shiny?**



**Feed: How do I make many of these <div>s?**

# Clickable <div>s

```
index.js

export function getSelectedTrip() {
  $('.trips-container').click((evt) => {
    const currentId = evt.target.id;
    console.log(currentId);
    Shiny.setInputValue(
      'app-selected_trip',
      currentId,
      { priority: 'event' });
  });
}

window.onload = getSelectedTrip;
```



```
main.R

observeEvent(input$selected_trip, {
  ...
})
```

# Many <div> Elements

```
main.R
```

```
make_details_div <- function(
  category,
  departure_city,
  departure_place,
  arrival_city,
  arrival_place,
  start_date,
  start_time,
  end_date,
  end_time,
  seat,
  provider,
  reservation_number,
  notes
) {
...
}
```



```
mod_details.R
```

```
Map(
  make_details_div,
  details_data()$category,
  details_data()$departure_city,
  details_data()$departure,
  details_data()$arrival_city,
  details_data()$arrival,
  details_data()$start_date,
  details_data()$start_time,
  details_data()$end_date,
  details_data()$end_time,
  details_data()$seat,
  details_data()$provider,
  details_data()$reservation,
  details_data()$notes
)
```

# Chapter 3: Securing an API

# Add header authentication to the swagger UI in R plumber

Asked 1 year, 4 months ago

Modified 1 year, 3 months ago

Viewed 911 times



Part of [R Language](#) Collective

When in doubt, StackOverflow...





auth\_helper.R

```
'@param res the response object from Plumber
'@param req the request object from Plumber
'@param FUN the function call if authentication succeeds
'@param ... params to pass to the function handler
auth_helper <- function(
  res,
  req,
  FUN,
  ...
) {
  req_has_key <- "HTTP_X_API_KEY" %in% names(req)
  key_is_valid <- req$HTTP_X_API_KEY == Sys.getenv("API_KEY")
  environment_not_set <- nchar(Sys.getenv("API_KEY")) <= 1
  if (!req_has_key || !key_is_valid || environment_not_set) {
    res$body <- "Unauthorized"
    res$status <- 401
    return("Missing or invalid API key or bad config.")
  } else {
    FUN(...)
  }
}
```



plumber.R

```
##* Table
##* @param table_name:chr The table name
##* @param limit:numeric Number of rows to fetch
##* @get /read
##* @tag CRUD
function(
  res,
  req,
  table_name,
  limit
) {
  auth_helper(
    res,
    req,
    get_processed_table_data,
    table_name = table_name,
    limit = as.numeric(limit)
  )
}
```

# Hrafnagud 1.0.0

<https://api.hrafnagud.me/openapi.json>

An all-seeing API for personal use

Servers

<https://api.hrafnagud.me/> ▾

[Authorize](#) 

# Chapter 4: ~~Bringing it Together~~

*Making it Fun!*

# Greeting Message



greeting\_message.R

```
'#' Simple function to generate a greeting randomly
#' @export
greeting_message <- function(
  name = "Deepansh",
  greetings = c("Hello", "Hi", "Hey"),
  emoji = c("👋", "🤙", "🙌")
) {
  glue("{sample(greetings, 1)}, {name}! {sample(emoji, 1)}")
}
```

## Greeting Message

Hi, Deepansh! 🙌

Hey, Deepansh! 🖐

Hello, Deepansh! 🤝

# Odin's Many Names

Hnikarr // Spear-Clatterer

Hrafnagud // Raven God

Váfuðr // Wanderer

Gautr // Father of the Goths

Fjölnir // Very Mighty



```
generate_odin_name.R
```

```
#!/usr/bin/env Rscript
# @export
generate_odin_name <- function() {
  odin_names = list(
    "Wotan" = "Odin",
    "Alföðr" = "Allfather",
    "Hárr" = "High One",
    "Havi" = "High One",
    "Valföðr" = "Father of the Slain",
    "Grimnir" = "Hooded One",
    "Gautr" = "Father of the Goths",
    "Báleygr" = "Flame-eye",
    "Herteitr" = "Warlike",
    "Hnikarr" = "Spear-Clatterer",
    "Sigföðr" = "Father of Victory",
    "Óski" = "Wish",
    "Ygg" = "Dreadful",
    "Váfuðr" = "Wanderer",
    "Jólñir" = "Yule One",
    "Fjölnir" = "Very Mighty",
    "Sangetall" = "Very Truthful",
    "Hrafnagud" = "Raven God"
  )
}

random_index <- sample(length(odin_names), 1)
random_pair <- odin_names[[random_index]]
name <- names(odin_names)[[random_index]]
value <- random_pair
glue("{name} // {value}")
}
```

# Epilogue: Reflections

# Reflections



**There was a LOT of learning, and I mean A LOT!**



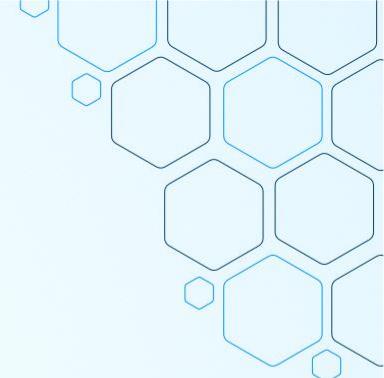
**Sunk Cost Fallacy is a real thing.**

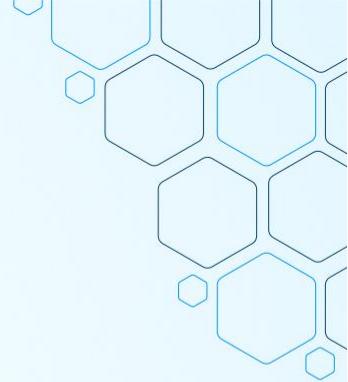


**Was it frustrating? Yes. Is it frustrating? Yes.**



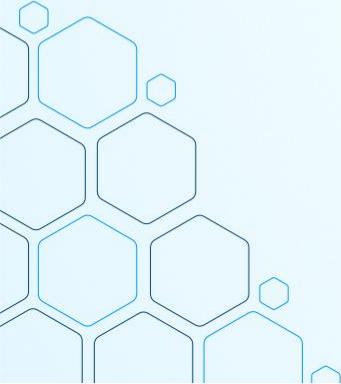
**Was it worth it? Also yes! Absolutely!**





## A thought for the road...

**If your ideal solution does not exist, make it yourself.**



Psst... start here: [github.com/DeepanshKhurana/Hrafnagud-Dynamo](https://github.com/DeepanshKhurana/Hrafnagud-Dynamo)