This is our entry for the growth genie hackathon, we were given a task to create two dashboards with some given data. We made some insertions, some omissoins and discounted ourselves from some requirements to build a realtime analytics solutions using dozer.

lets first have a walkthrough of the ui. go to our app endpoint http://dozer-fe.68.183.85.136.nip.io/

You can directly login, There is no authentication or authorization for ease of use. You have 3 options to login you can login as manager,login with a customer id or as random customer. lets login as random customer.

once logged in there are 3 tabs, portfolio, stocks and mutual funds

at The top we have customer's investment, You can switch between graphical and detail view

You also have balance, Estimated tax liability, recent transactions and your loans on home page.

lets go to the stocks tab At the top we have stocks owned by the customer which he can sell. At the bottom you have 4 tabs The top performers stocks have top performing stocks by yearly return in all stocks we have all the stocks. Customer can buy these stocks. we will come back to all these actions that customer can perform in later part of the video and then we have daily gainers and daily losers stocks.

The mututal funds tab is the same as stocks tab.

Now lets come to all the actions that the user can perform Add Money From here customer can add money to his a/c This will change the balance and add an entry in the recent transactions.

Lets buy some stocks now. lets first take a note of customers balance and investment value as they will change when we buy stocks go to all stocks tab. Lets buy a stock from textile industry. enter the number of shares you want to buy. remember you cannot buy stocks more than the balance you have. You can also see the stock in the customer's holding now. As you can see the values are updated you can also see an entry in recent transactions.

similarly you can buy a mutual fund as well.

Now lets sell a stock. lets take a note of balance, investment and your gains as they can change when we sell a stock.

go to stocks tab and click on sell, enter the number of shares you want to sell. remember You cant sell shares more than you own. You can see the updated quantity in customer's holding. As you can see the values are updated You can also see an entry in recent transactions.

similarly you can sell a mutual fund as well.

Moreover for every stock and mutual fund you can also check how their prices have changed in last year. Just click on the arrow button and it takes you to the stock detail page.

Now lets go to manager tab. At the top we have top 5 wealthy customers for the manager to check. The bottom section is very similar to what we saw in customer's section.

The list will also update if someone else breaks into top 5 we need investment worth more than ___ to break into top 5. lets bring a xyz in top5,

The ui was built with sveltekit and now lets look what is behind the scenes.

At the heart of our solution is dozer, You can think of dozer as realtime materialized view which stores data in low latency data store and exposes the data through rest and grpc endpoints. we just need to write some config where we specify the data that we want using sql queries and expose them as endpoint, rest is taken care by dozer. Dozer gets the data from postgres and incrementally computes the result of sql queries to provide realtime analytics.

All the data that we saw in the ui is fetched from dozer.

The update in the databse are performed using a golang server.

We also have couple of database triggers which are fired when you sell the stocks or mutual funds. they are used to calculate the long term and short term gains. The gains are calculated using fifo cost basis method in the trigger.

The initial data that you see in the ui is mostly generated through scripts. We also used webscrapper io to scrap some data like the images of the mutual funds, the industry and market cap of stocks.

We also have a cron job that update the daily stock and mutual fund prices. we also use healthchecks to monitor our cron job, on success, failure or delay in cron job we are notified with an email.

All the tools that we are using are open source and are hosted on a single digital ocean droplet. We achieve it using another open source solution called caprover. it converts our compute instance into a platform as service and we can easily deploy multiple application susing it. It makes the life easy with automatic nginx routing, CI/CD, and one click apps.

That is it for this video, A lot of thanks to clairvoyant team for conducting the hackathon and to everyone who creates these amazing open source tools.

here we have our stocks, lets sell some of our stocks this will reflect in recent transactions, balance, your currently stock holding, investment summary

you cant enter quantity more than the shares you hold. lets see the changes reflected by the operations

lets go to mutual funds tab

this tab shows details of your mutual funds holding and all mutual funds

The image and data is scraped using web scraper io

lets login as manager

here you can find top 5 investors and their details

on the lower side you can find top performing stocks, all stocks top gainers and top losers

we have deployed all the applications on single compute instance using caprover

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