HW5: Simple visualizations, with Qlik and Sisense

Total points: 6 (1*6)

Summary: For this (last!) HW, you are going to use 'cloud' tools that let you upload your data, and do analytics+visualizations. The idea is to expose you to powerful cloud capabilities that are just clicks away ["no coding!"].

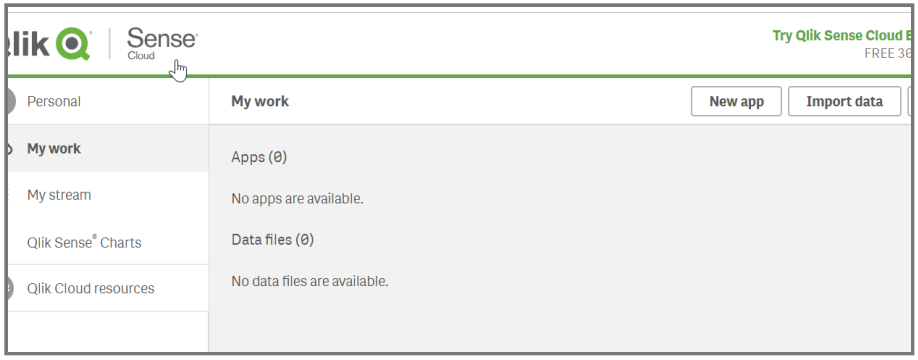
Description

1. Qlik

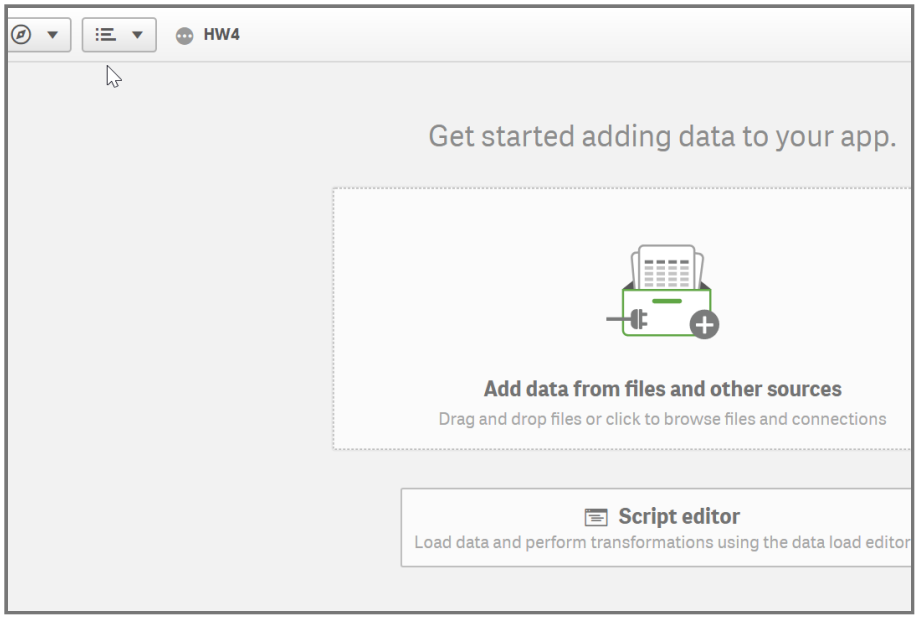
Qlik (http://www.qlik.com) provides online data analytics capabilities. For this HW, you are going to use the personal edition of their Qlik Sense Cloud. (https://us.qlikcloud.com/hub/personal)

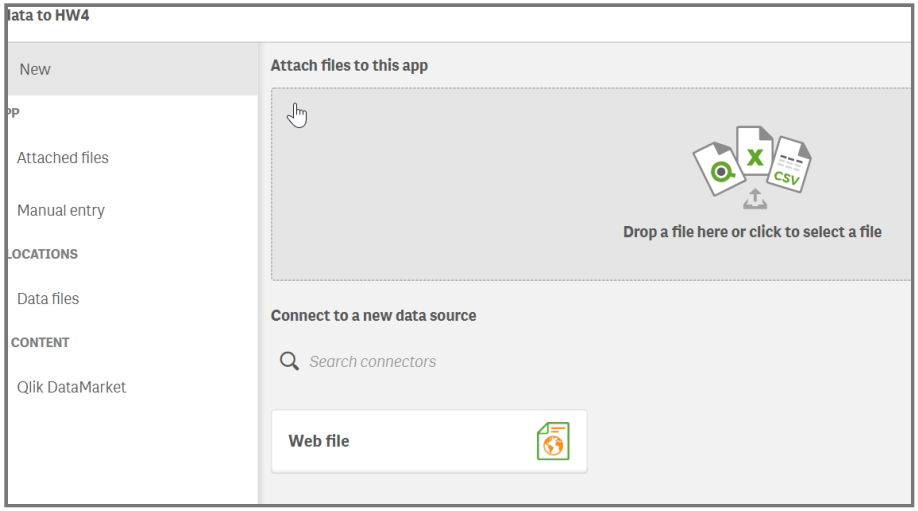
Start by signing up for a free account, at https://us.qlikcloud.com/hub/personal (https://us.qlikcloud.com/hub/personal). The overall idea is to create an "app", then add (upload etc) data to it, then do analytics [alternately you can upload data first (separate from the app) and attach it to the app, we won't do that here].

Click on the 'New app' button, and create an app (eg. 'HW5').

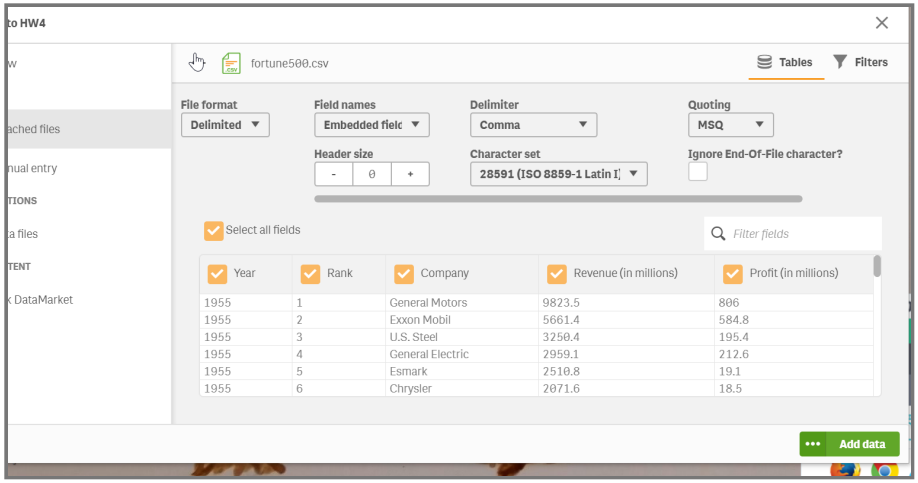


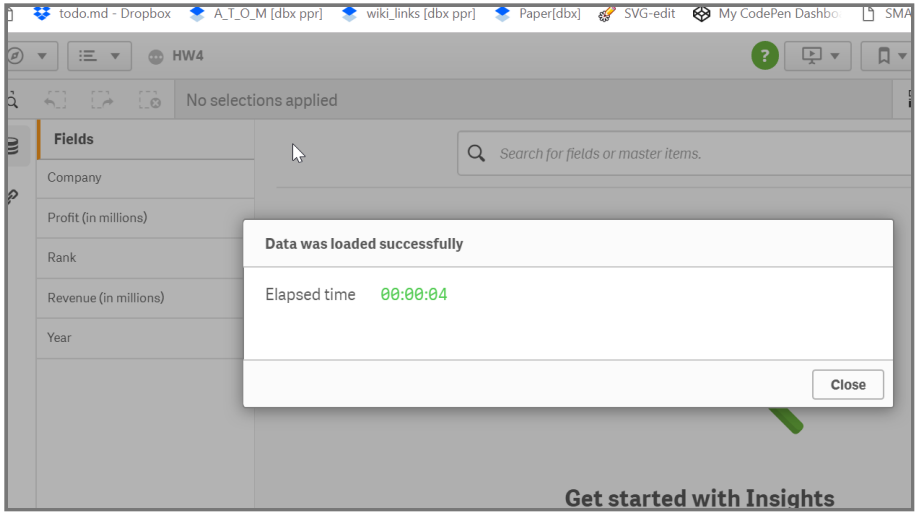
Now that you have an app, you can add data to it. Click on the 'Add data from files...' button, and upload this (data/fortune500.csv) dataset - 51 years (1955-2005, both years inclusive) of Fortune 500 companies' revenues and profits (each year, top 500 companies [ie. 'Fortune 500'] for that year are listed).



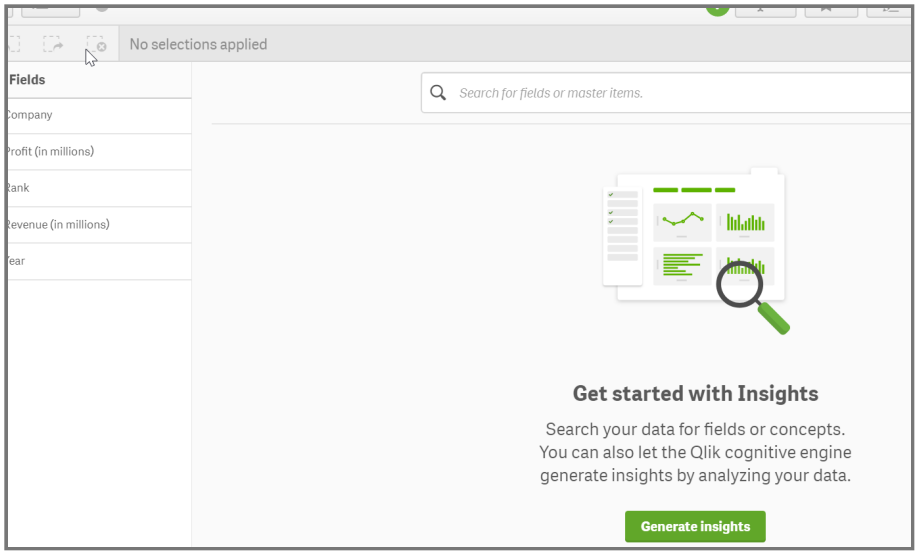


Now you can see a preview of the data. Click the 'Add data' button at the bottom right, to add this to your app:



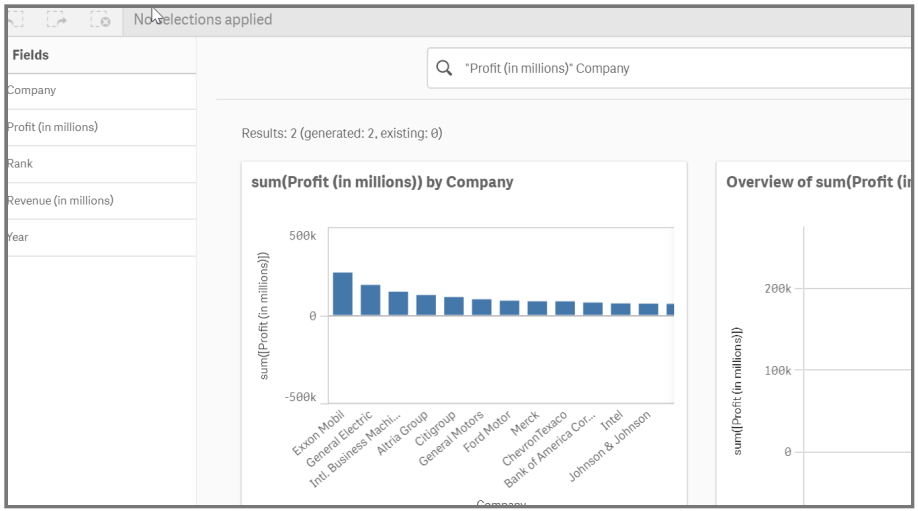


Now we do analysis! LATER, you can revisit this, and click on 'Generate Insights', to see some automated analysis of your data.

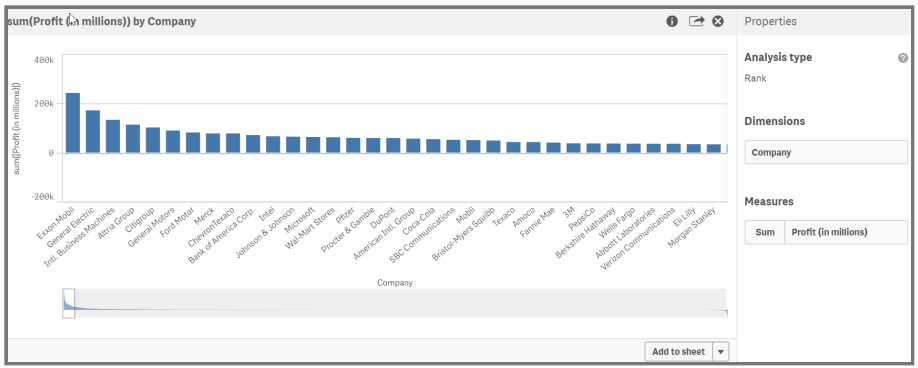


But for now, we are going to plot (get 'manual insight on') the total profits, 1955-2005, for each company. Click on the 'Profit (in millions)' field on the left, then the 'Company' field (note that you are (need to be) on the 'Insights' tab at

the top right). The software automagically adds up the profit value for each company, for all the years, and plots it - cool:



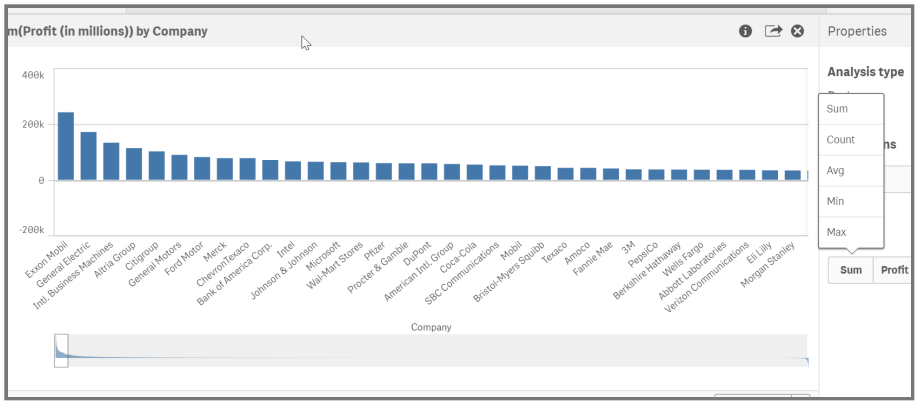
Click on the bar chart, to maximize it, and to see/specify the analysis type on the right:



Q1. Create the above plot, make a screenshot.

Note - optionally, you can click 'Add to sheet', to create an 'analysis' sheet that can hold multiple visualizations; you can use these sheets to create a 'Data story' after that. So overall, the workflow is: create app -> load data -> do analyses, add to sheets -> create a data story from the various sheets.

Q2. What are the top three companies with the highest **average** profit?



Q3. Create a text file to write in the answer for this: why are the top three companies in the 'sum' chart, different from the top three in 'average'?

---

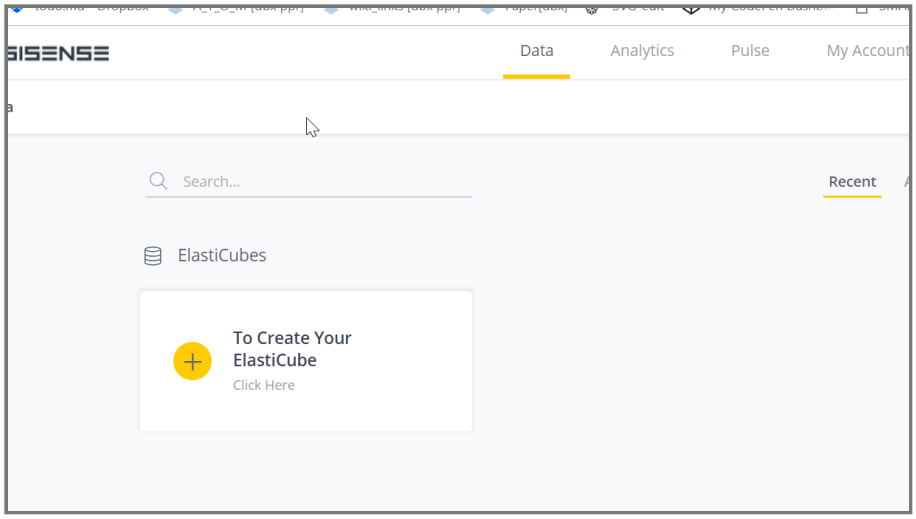
2. Sisense

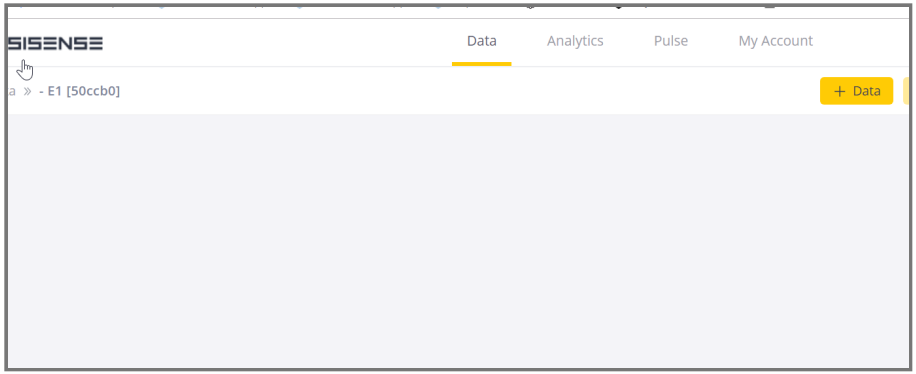
Next, you are going to use Sisense, another data-focused cloud company.

Sign up for a trial account. (https://trial.sisense.com/)

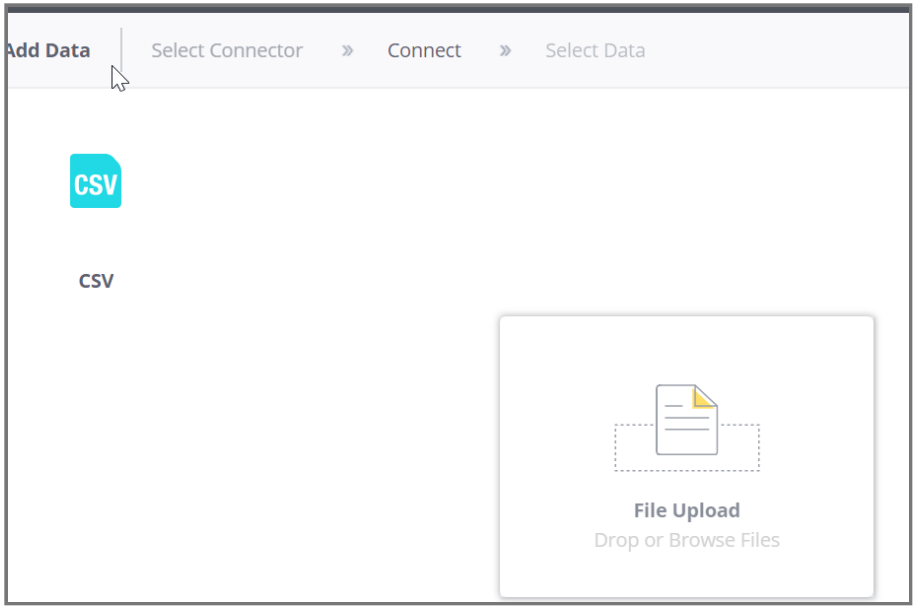
The workflow is this: create a data holder ("ElastiCube"), add (import) data into it, then do analytics on it, using "dashboards".

Create an 'ElastiCube', eg. "E1":

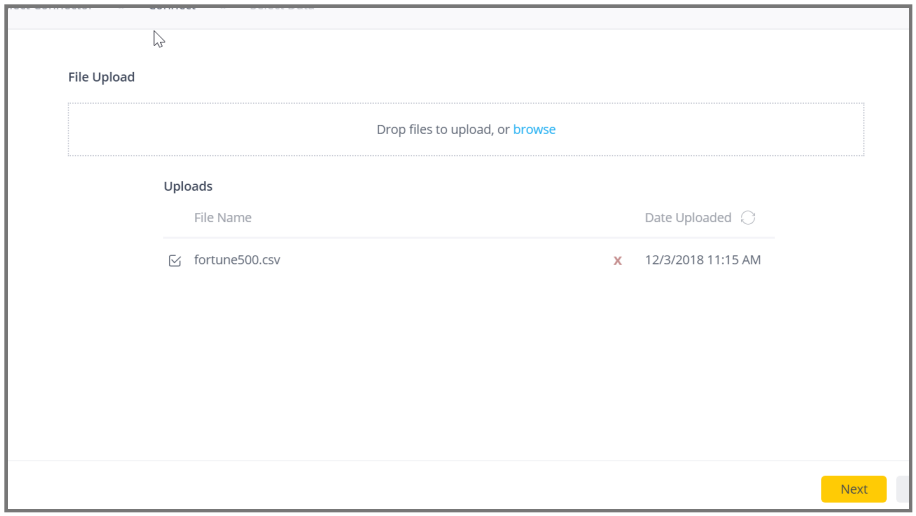


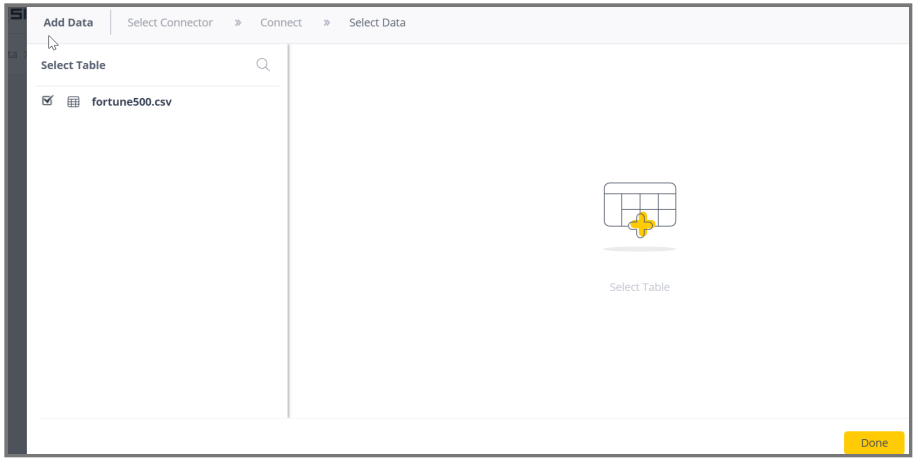


Click on Data, then CSV, then import your Fortune500 .csv dataset.

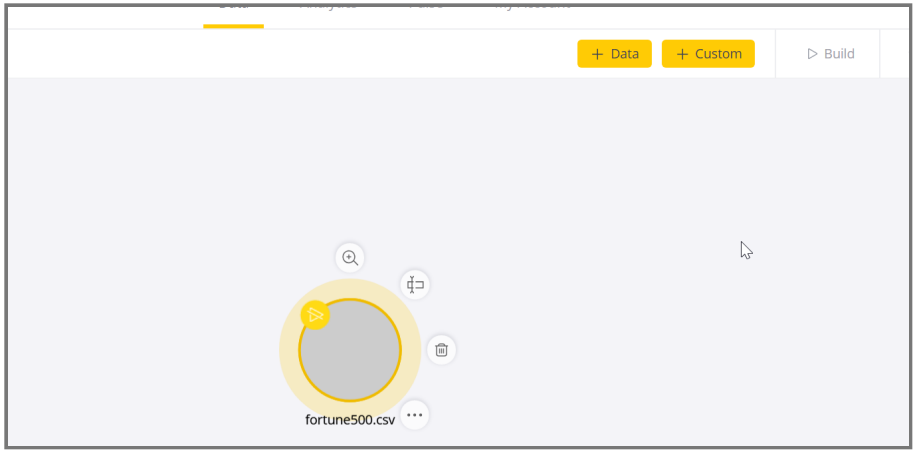


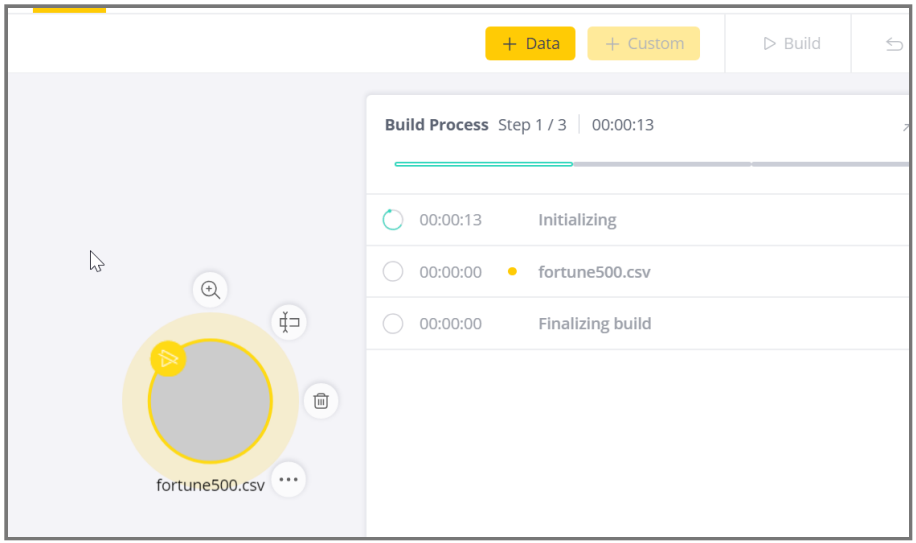
Check 'on' fortune500.csv and click 'Next', and again select it and click 'Done':

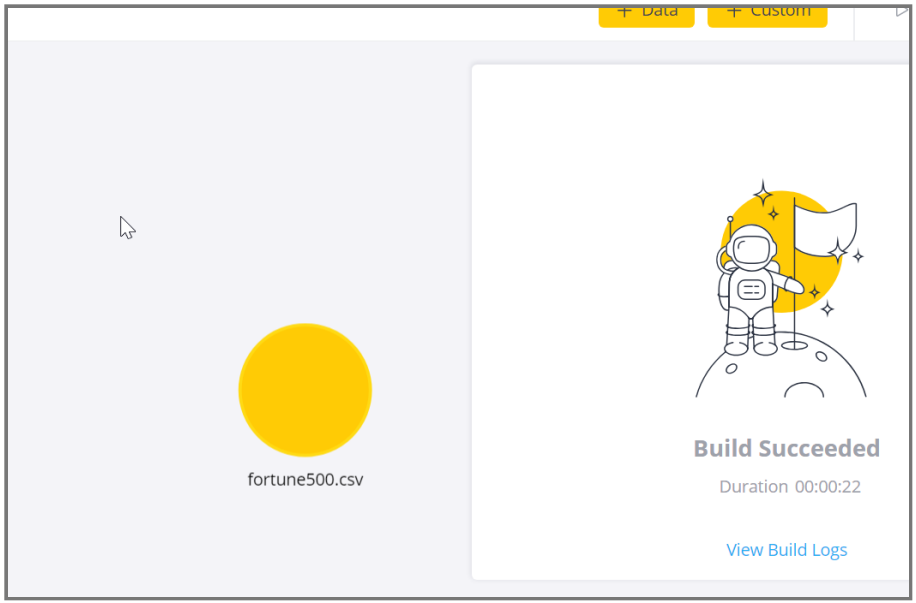




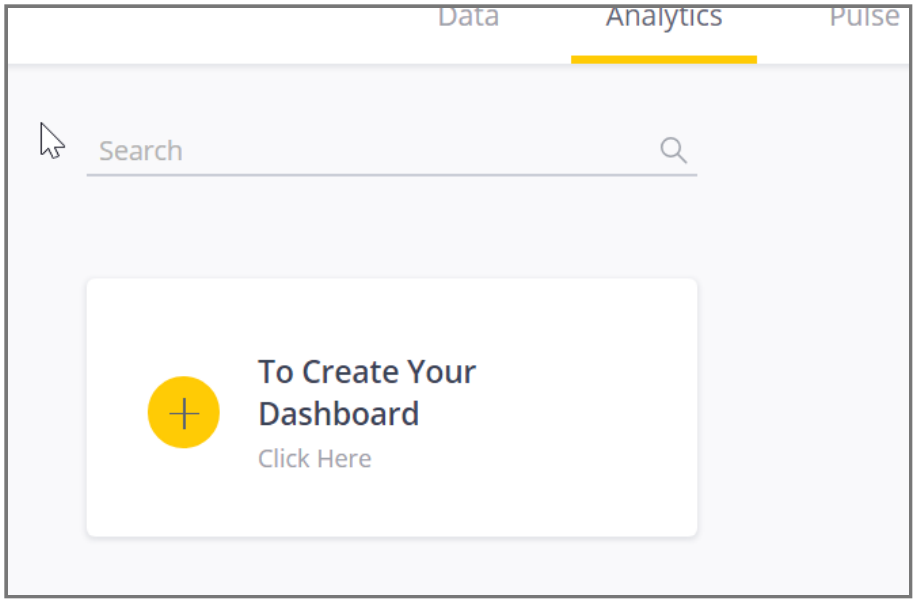
Now our data is in the container, but we still need to 'Build' it (there are too many needless steps!) - click on the yellow icon to watch it pulse, then click 'Build':

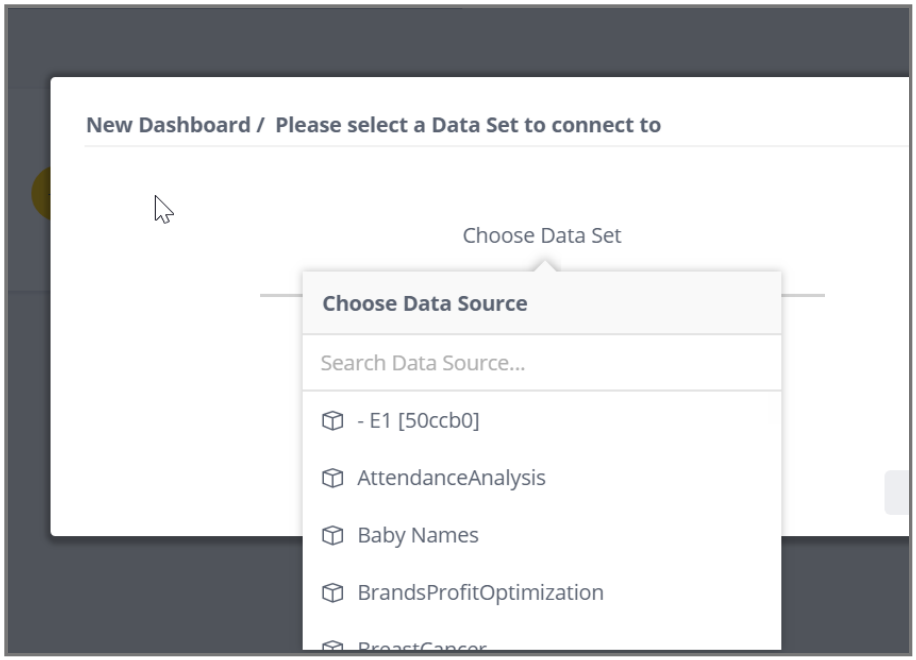




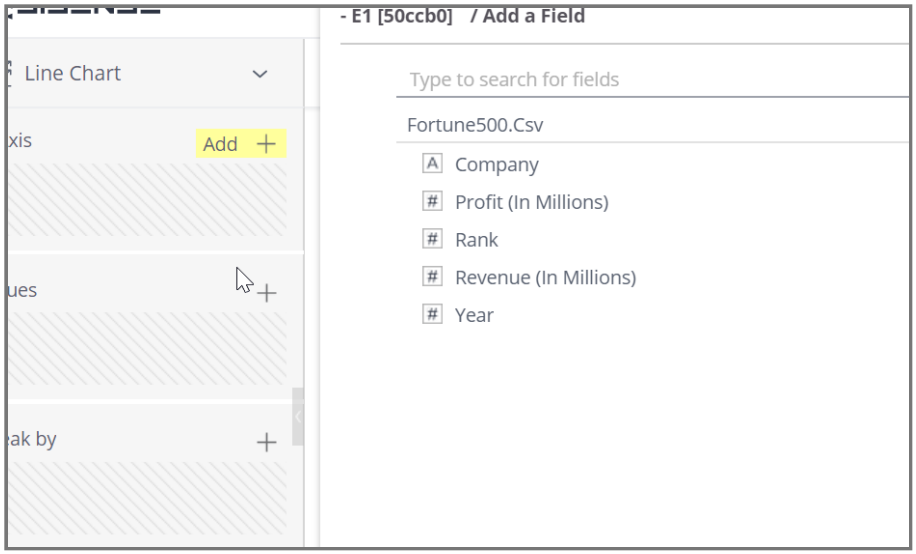


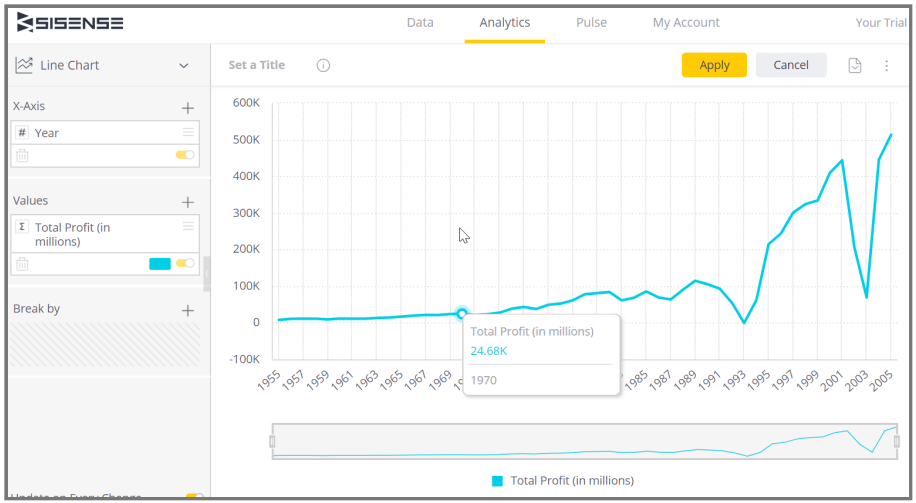
Now we can do analytics! Create a new dashboard, and for its data source, specify the ElastiCube you built earlier:

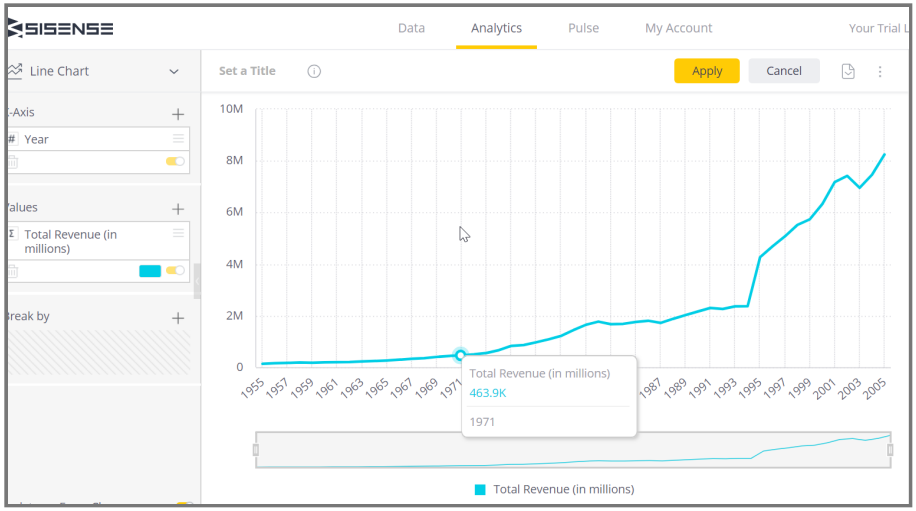

Data
Analytics
Pulse
Search
To Create Your Dashboard
Click Here


New Dashboard / Please select a Data Set to connect to
Choose Data Set
Choose Data Source
Search Data Source...
- E1 [50ccb0]
AttendanceAnalysis
Baby Names
BrandsProfitOptimization

You can create a variety of charts for the dashboard. We are going to do a couple of line charts, first - Total Profit vs Year, and Revenue vs Year. Click on X-Axis to choose the x value, and 'Values' to choose the y value. Again, the software automagically adds up ("rolls up") the values (profits, revenues) for all the companies for each year.



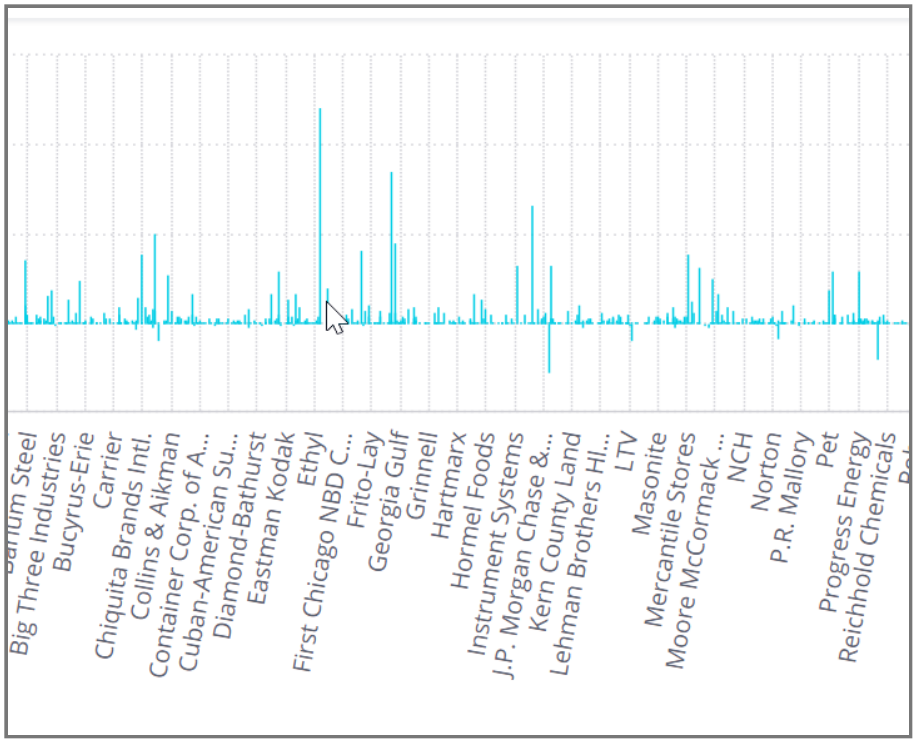




Q4. Create a Total Profit vs Year plot like the one above, make a screenshot.

Q5. Create a Total Revenue vs Year plot like the one above, make a screenshot.

Q6. Create a Company vs Total Profit 'Column Chart' like the one below, make a screenshot. You can see the 'top three' stick out - Exxon, GE, IBM :)



EXTRA CREDIT (1 point) - create two visualizations (basic charts) of your choice with the provided data, using either Tableau (https://sso.online.tableau.com/public/idp/SSO (https://sso.online.tableau.com/public/idp/SSO)) for both, or using Periscope Data for both (https://lp.periscopedata.com/start-free-trial (https://lp.periscopedata.com/start-free-trial); watch the video at https://reviews.financesonline.com/p/periscope-data/ (https://reviews.financesonline.com/p/periscope-data/)). The purpose of providing this is two-fold: to help you pull up your total score for the course, and to encourage you to dive into one more of these powerful online analytics environments [see the note below]. Please create a snapshot for each viz, to submit.

The above was enough to get you started on 'cloud analytics' (including viz) - the idea is to simply upload your data to a cloud data container, then start doing analyses and building dashboards and deploying them for consumption by end-users [most software can update the dashboards 'live', and offer interactivity as well]. Other similar software: Tableau, Periscope, Salesforce, Domo... [and SAS, SAP, IBM Watson Analytics, Microsoft Power BI, Looker, Teradata, Splunk, Chartio, Logi, Alteryx, Tibco...]. That's a LOT of point-and-click analytics tools!! Underneath the hood, they contain implementations of practically all the DM/ML algorithms we touched upon in this course. After the course, **do continue exploring** as many of the above as you can, all with the same 'Fortune 500' dataset - that way you can see the similarities and differences that exist between all these tools (and you'll gain impressive-to-employers hands-on expertise!).

Please upload your (.zip) submission of your screenshots plus a .txt file.

ENJOY!!
