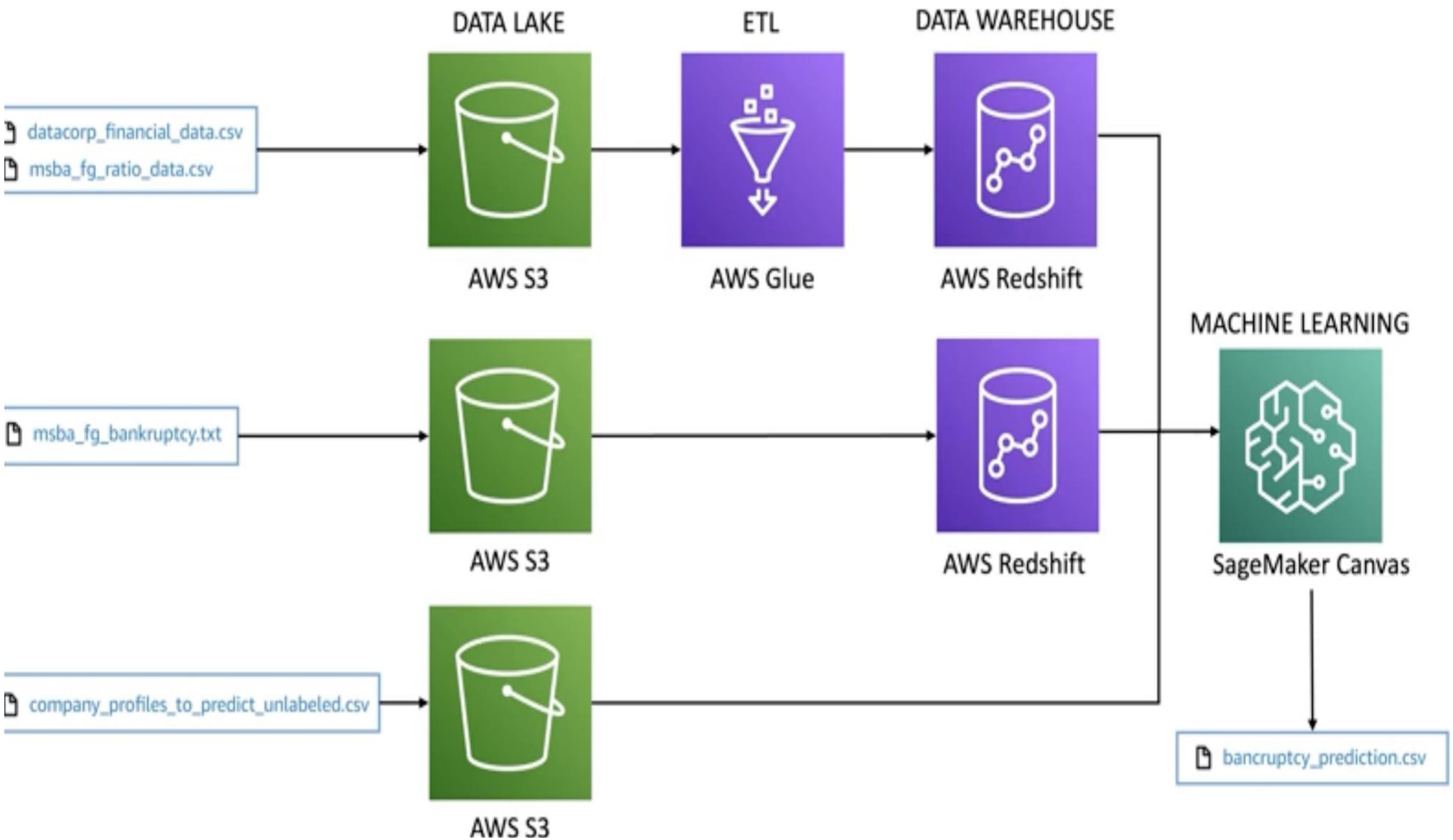
MSBA
FINANCIAL GROUP

MSBA
FINANCIAL GROUP

DATA ARCHITECHTURE



MSBA
FINANCIAL GROUP

S3

Amazon S3

- Buckets
- Access Grants
- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- IAM Access Analyzer for S3

- Block Public Access settings for this account

Storage Lens

- Dashboards
- Storage Lens groups

Amazon S3 > Buckets

Account snapshot - *updated every 24 hours* All AWS Regions

Storage lens provides visibility into storage usage and activity trends. Learn more

View Storage Lens dashboard

General purpose buckets | Directory buckets

General purpose buckets (12) Info All AWS Regions

Buckets are containers for data stored in S3.

Copy ARN | Empty | Delete | Create bucket

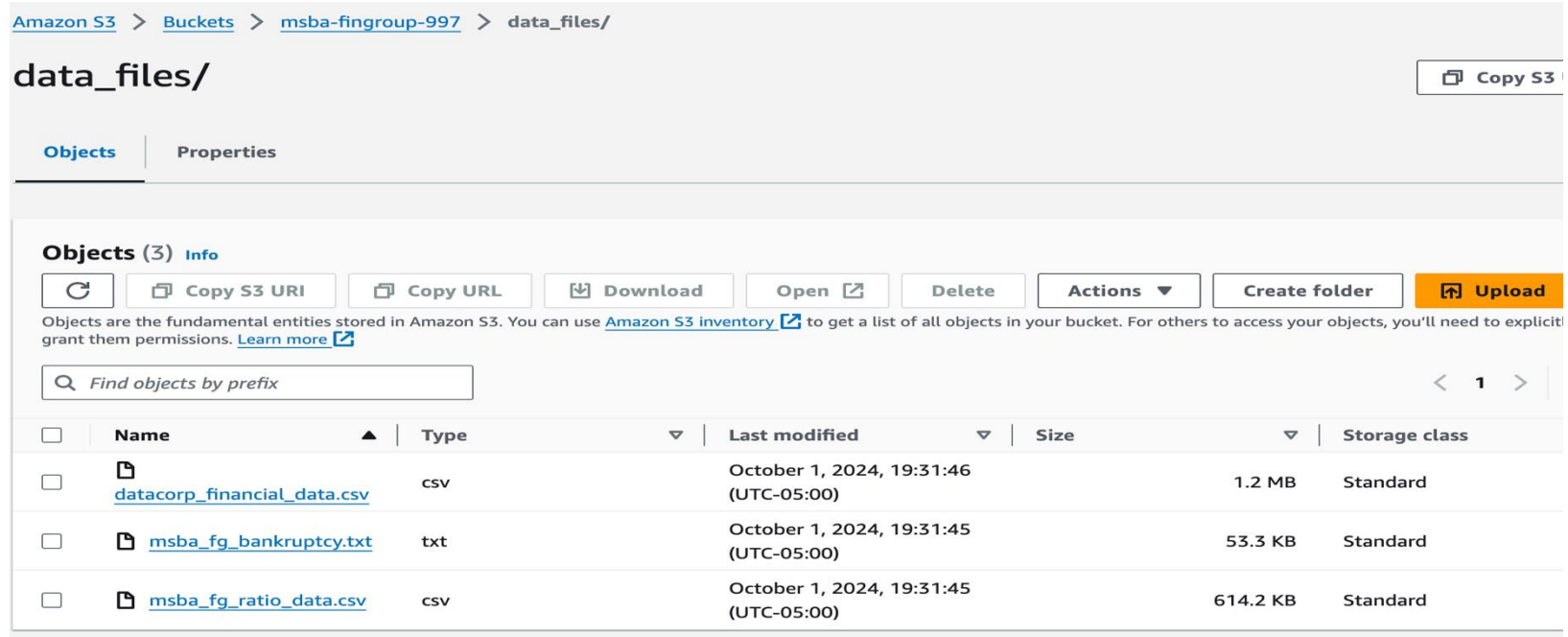
Find buckets by name

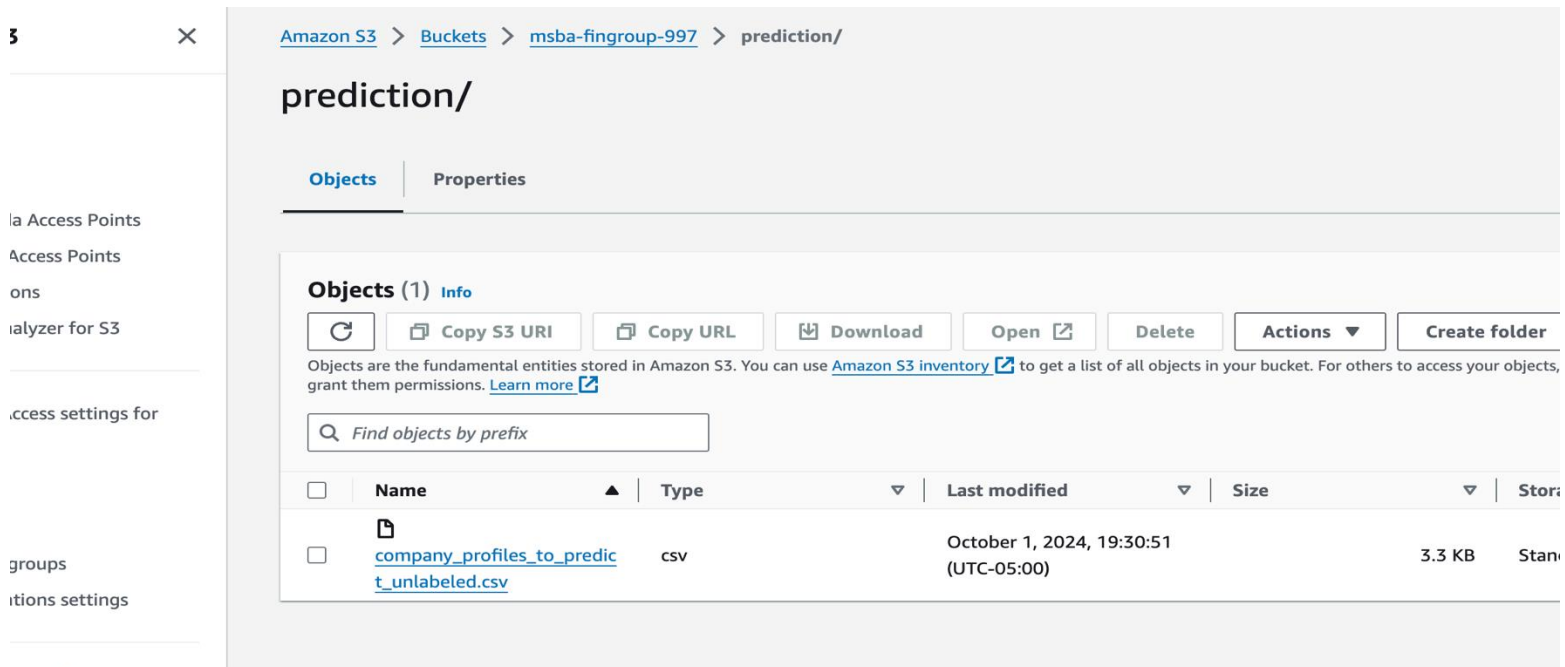
1

Name	AWS Region	IAM Access Analyzer	Creation date
msba-fingroup-997	US East (N. Virginia) us-east-1	View analyzer for us-east-1	October 1, 2024, 19:27:08 (UTC-05:00)

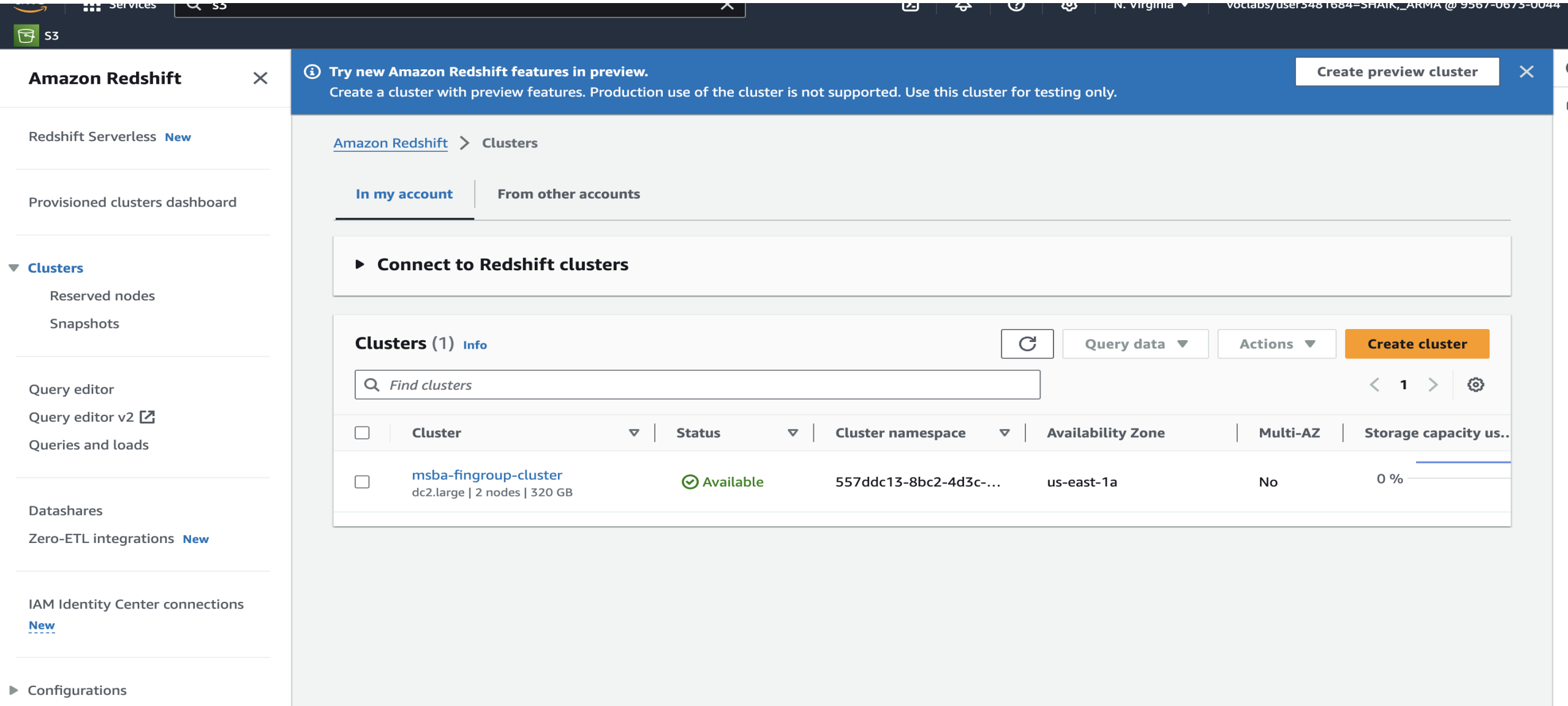
MSBA

FINANCIAL GROUP



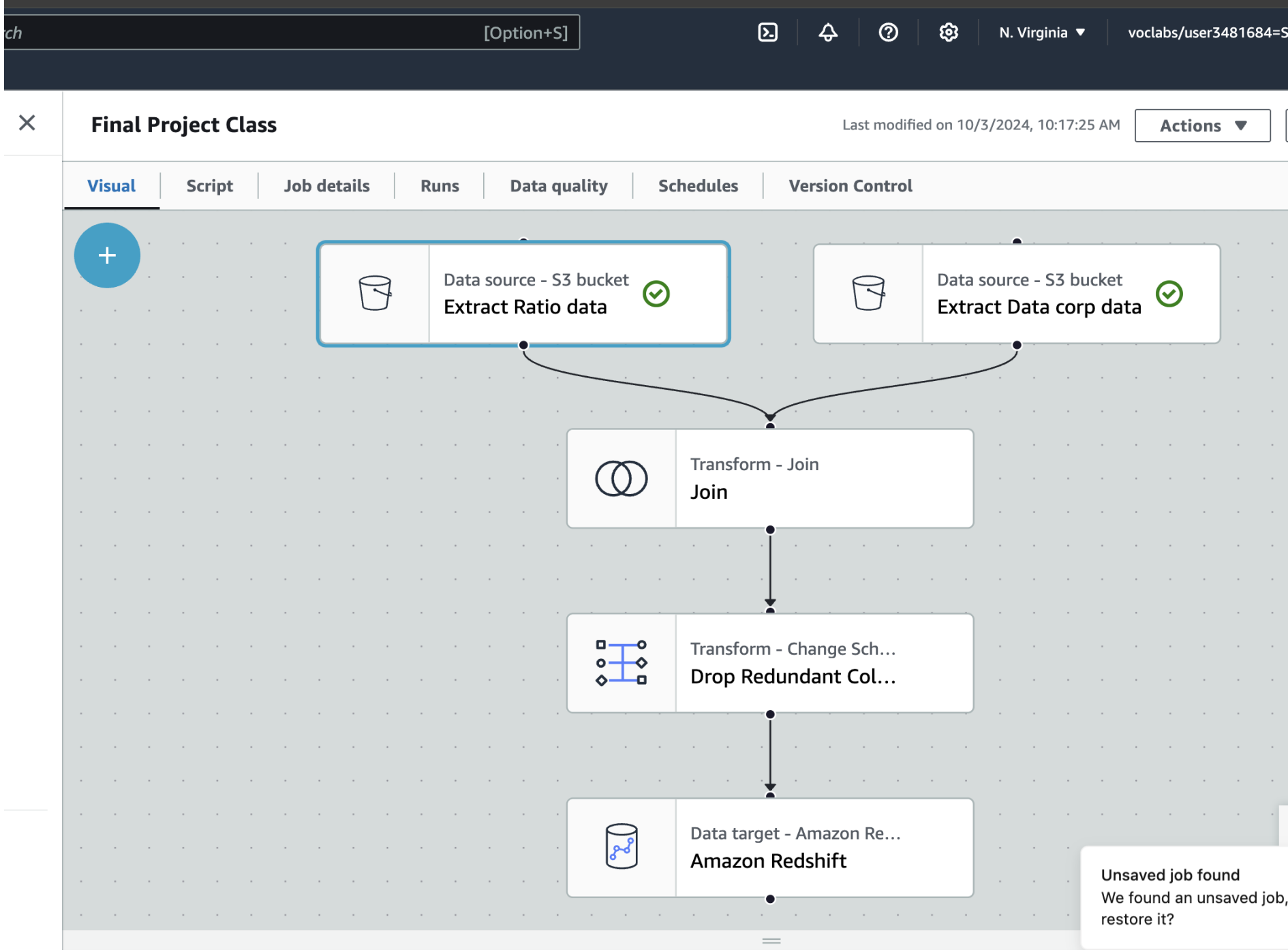


AMAZON REDSHIFT



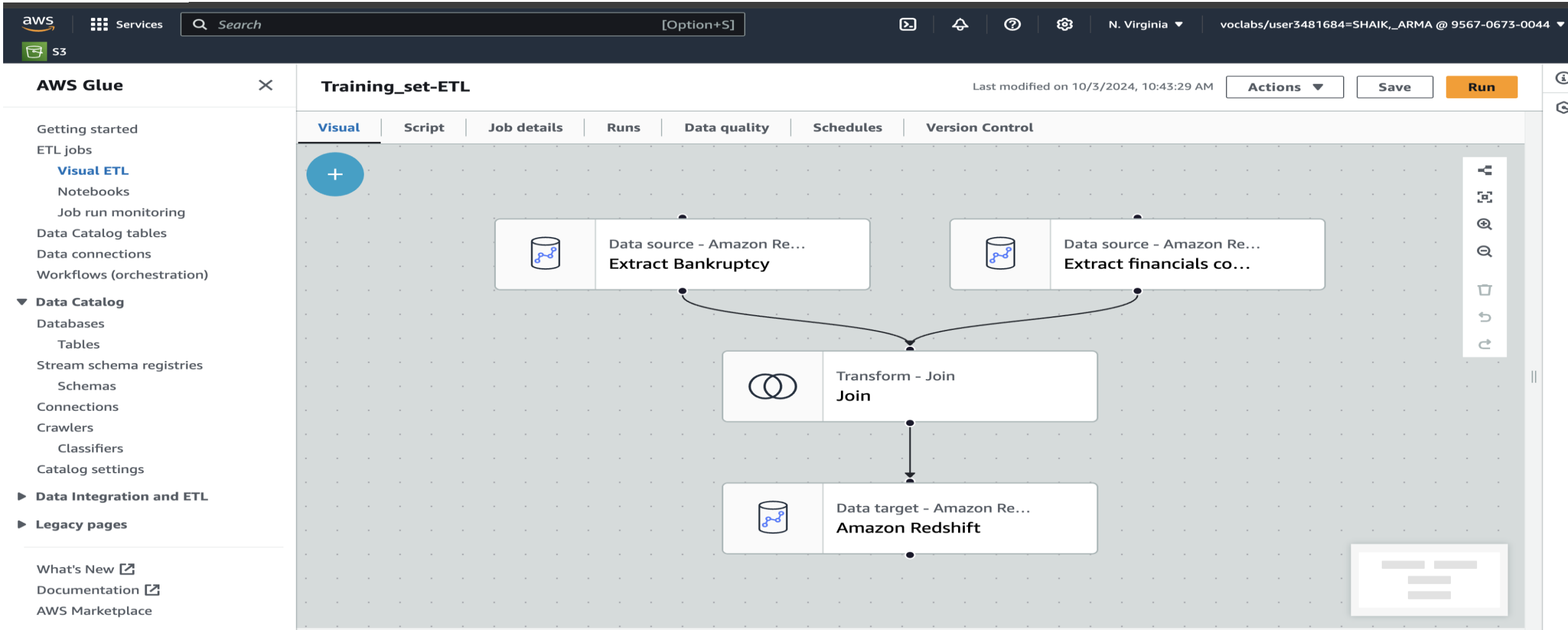
MSBA
FINANCIAL GROUP

AWS GLUE FOR ETL



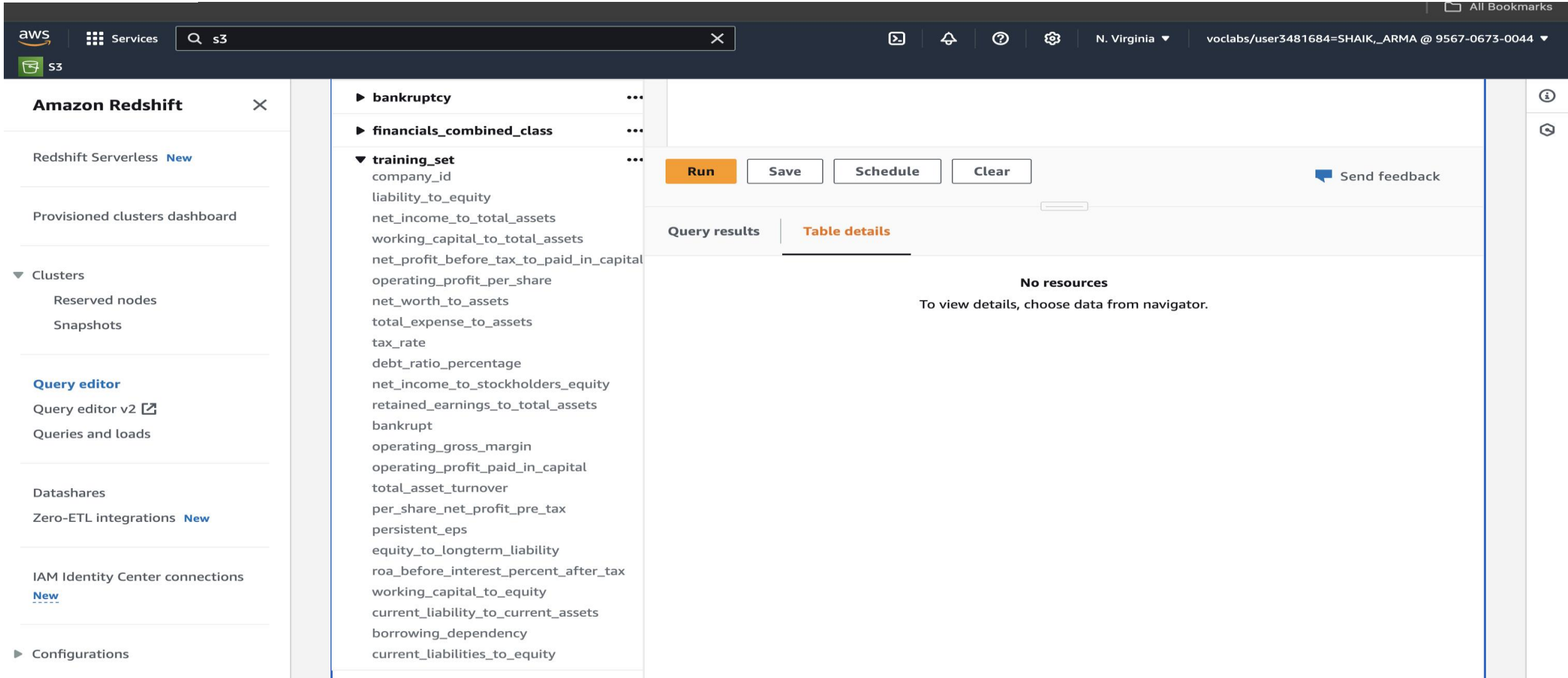
MSBA
FINANCIAL GROUP

VISUAL ETL for attaching the Bankrupt and the financials combined data



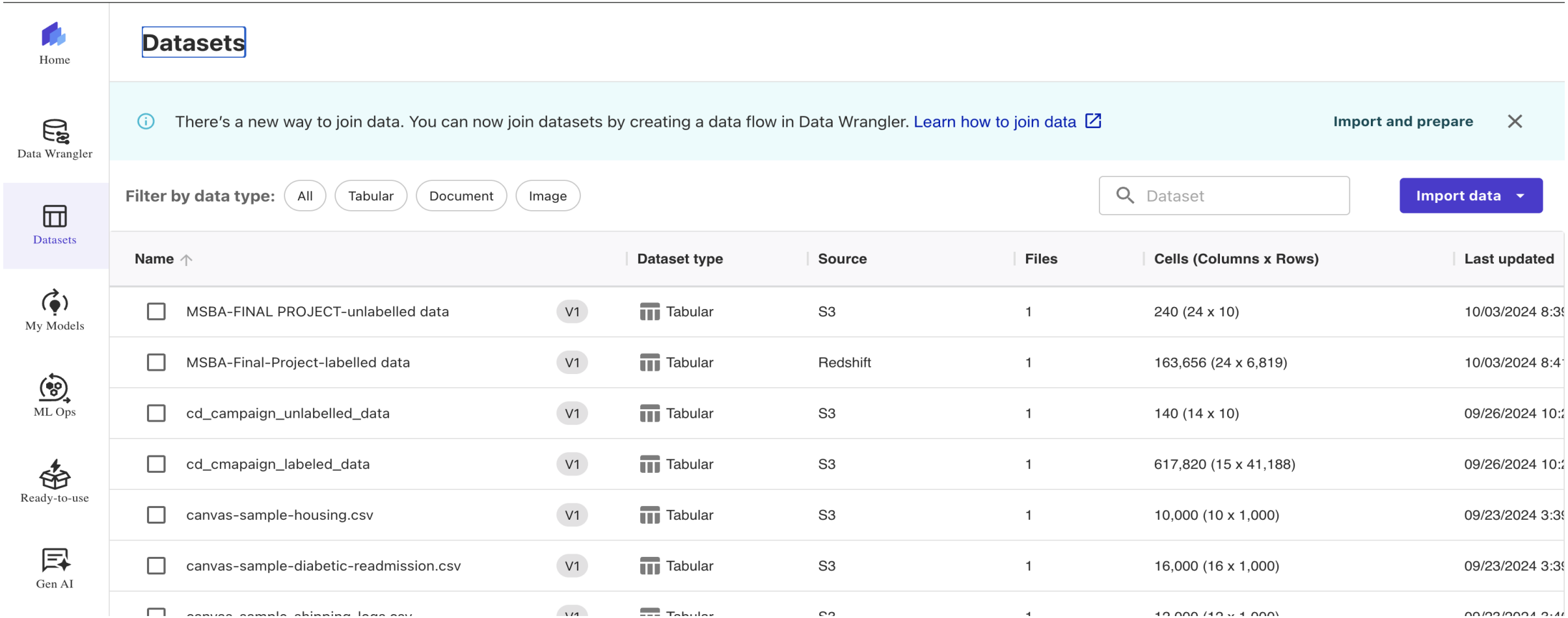
MSBA
FINANCIAL GROUP

Combining financials_combined and Bankruptcy tables and loading to Redshift Cluster for training data

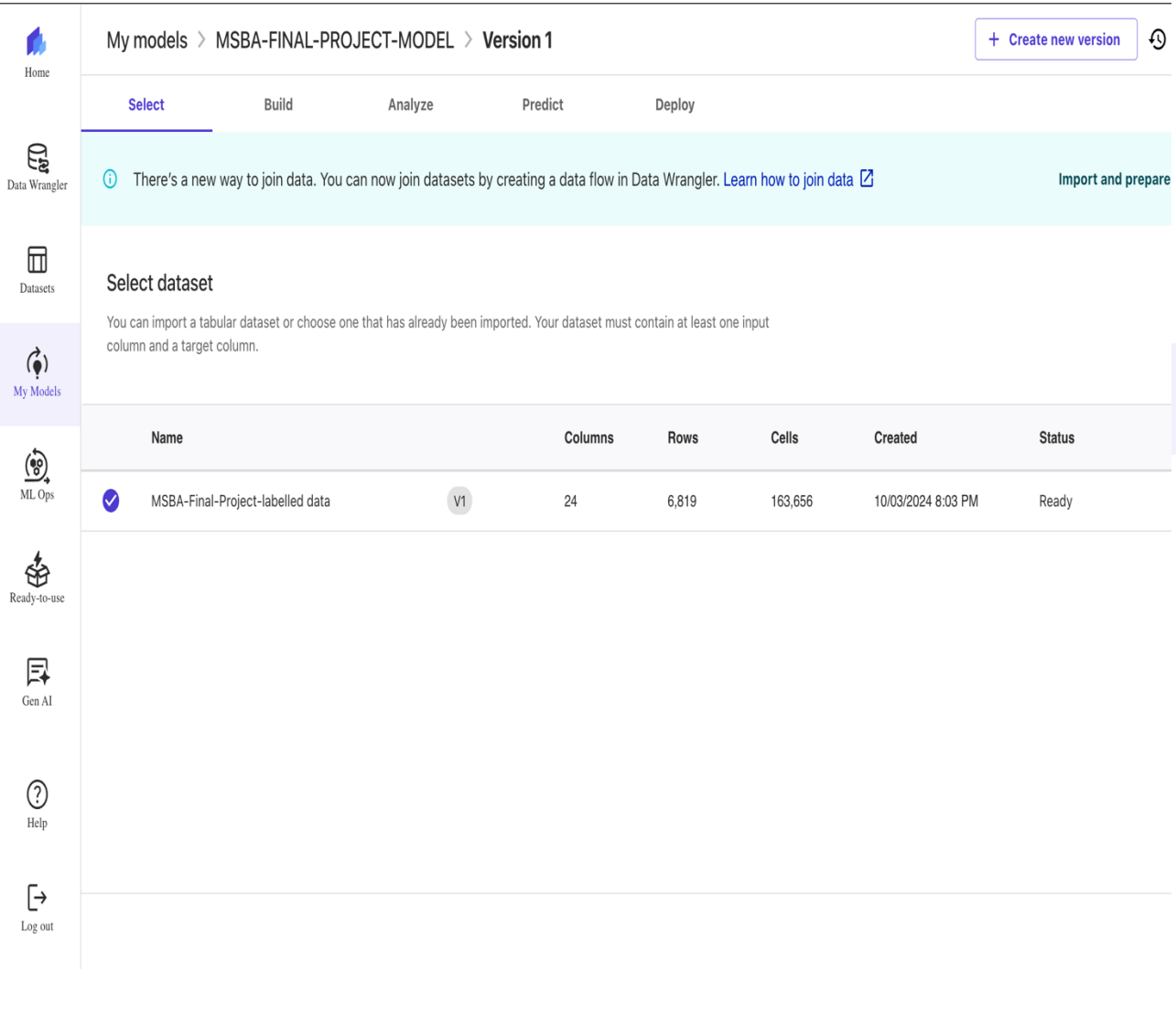


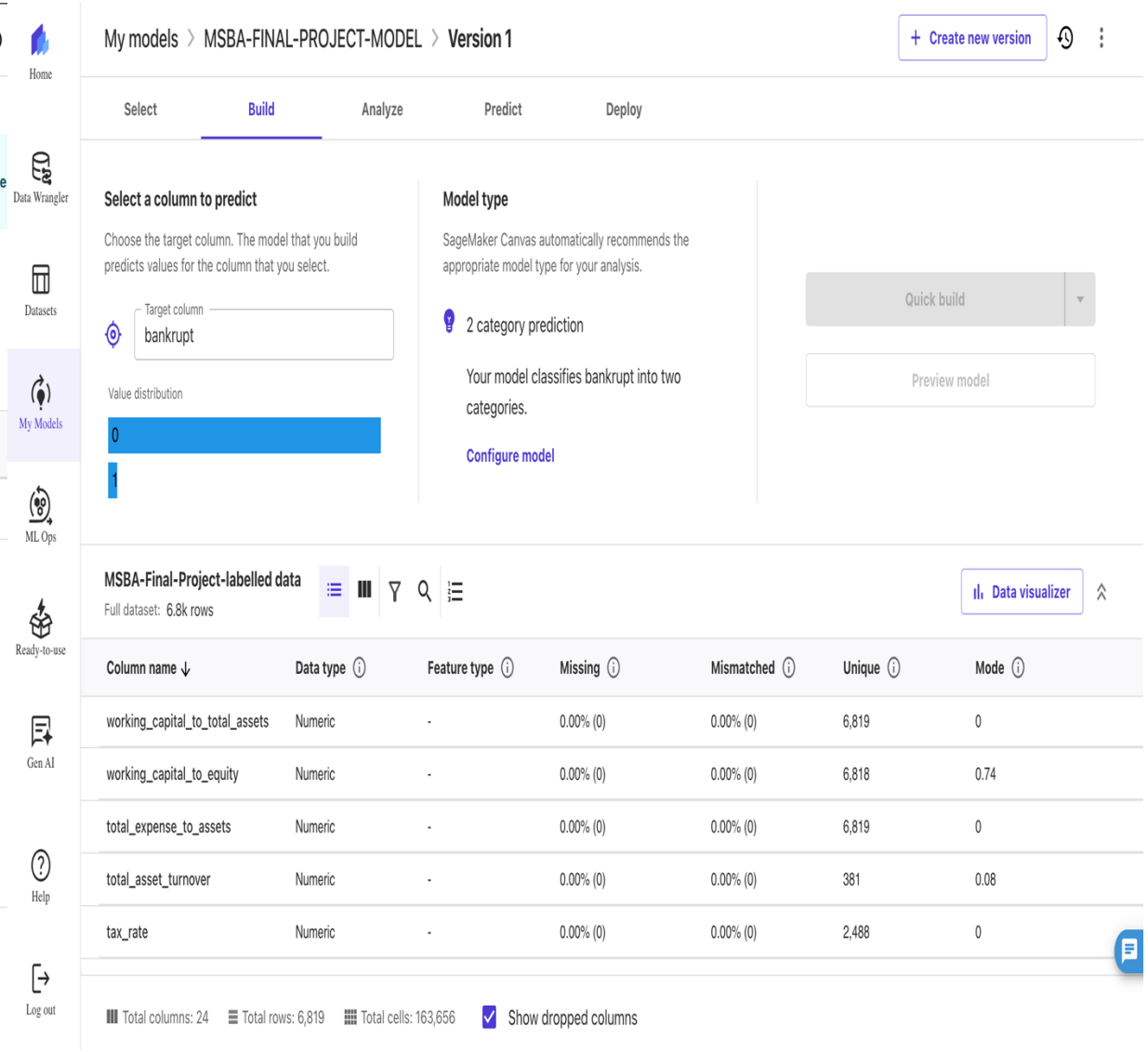
AMAZON SAGE MAKER

- Importing data from Redshift cluster(training data) and S3 bucket (unlabelleddata data) into Amazon sagemaker.



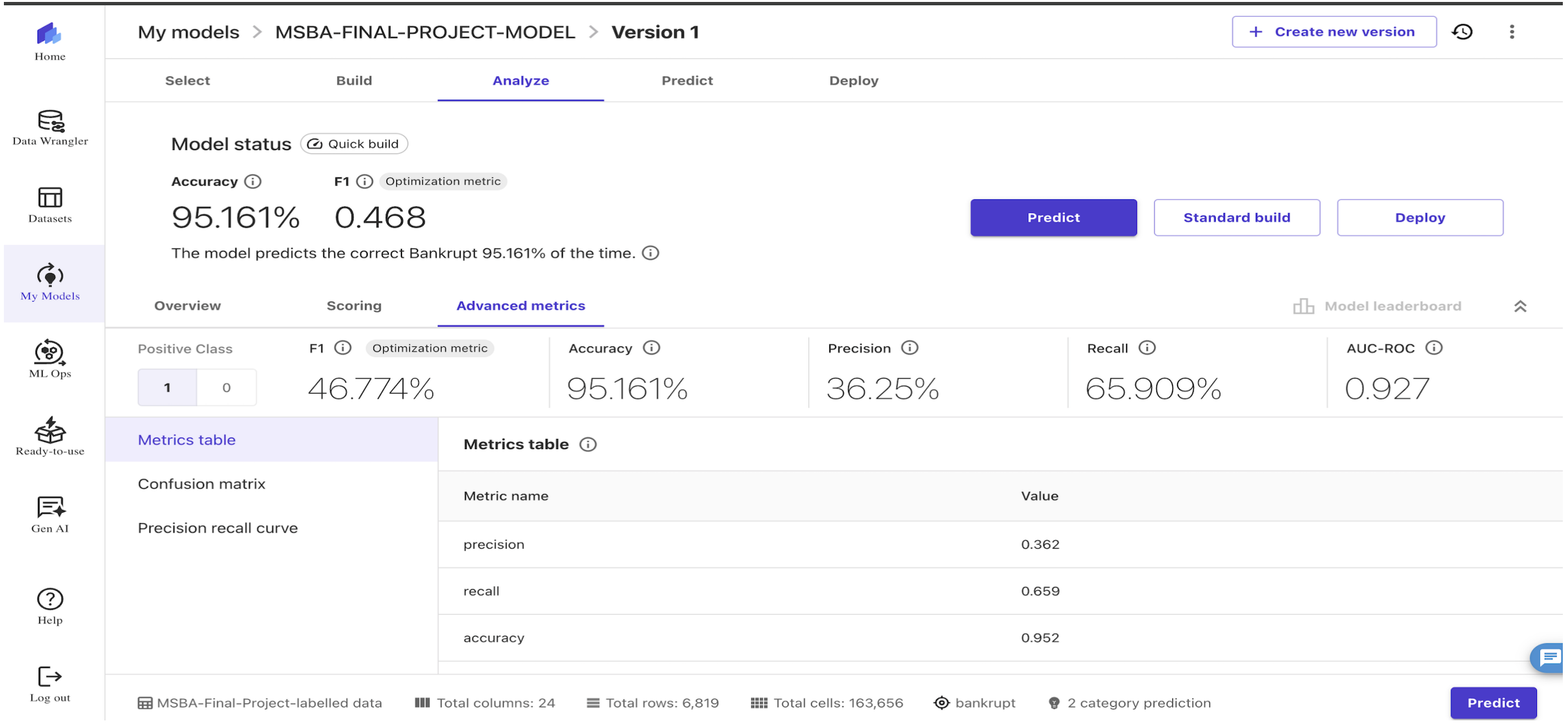
Building Machine Learning Model





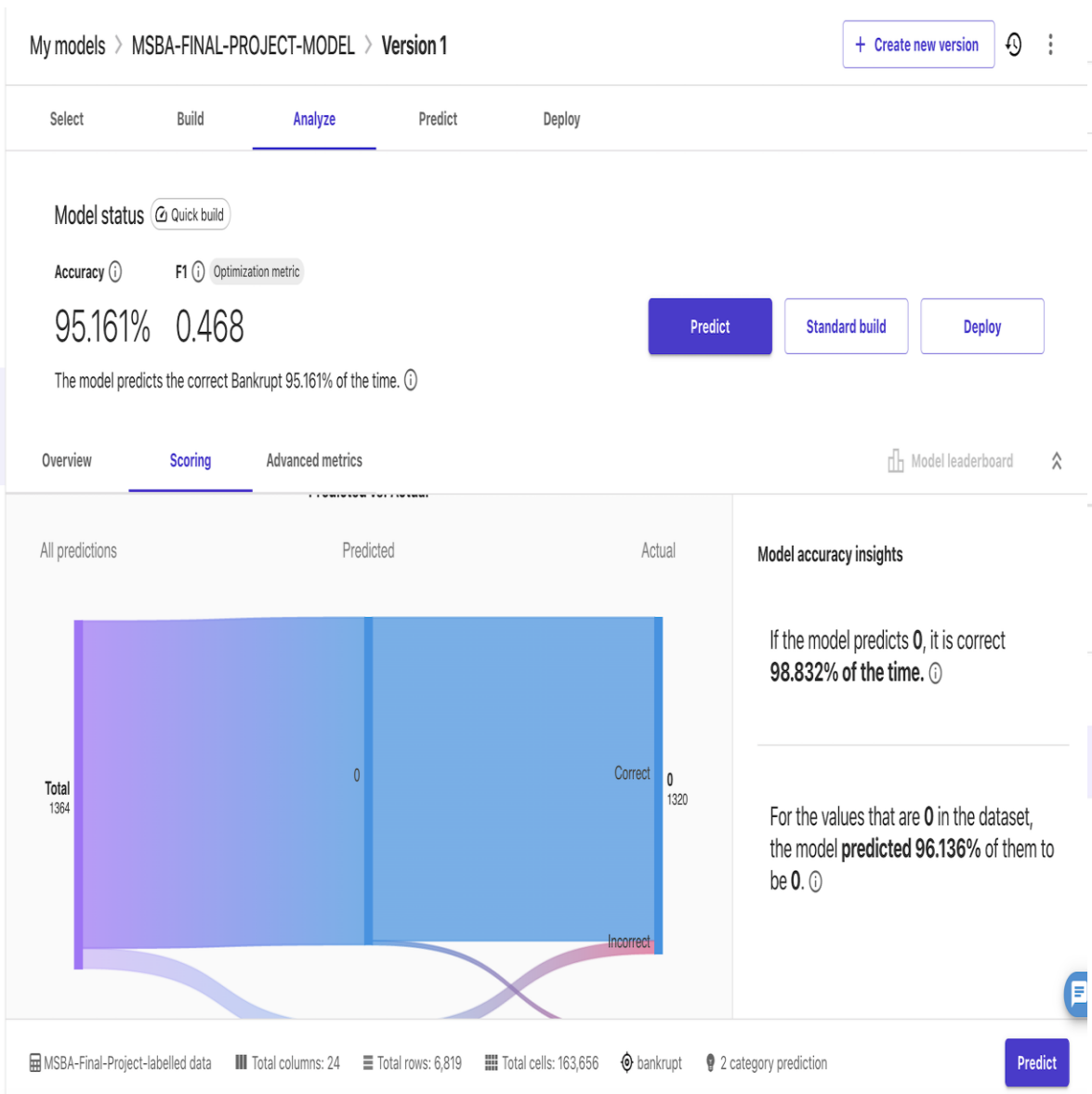
MSBA
FINANCIAL GROUP

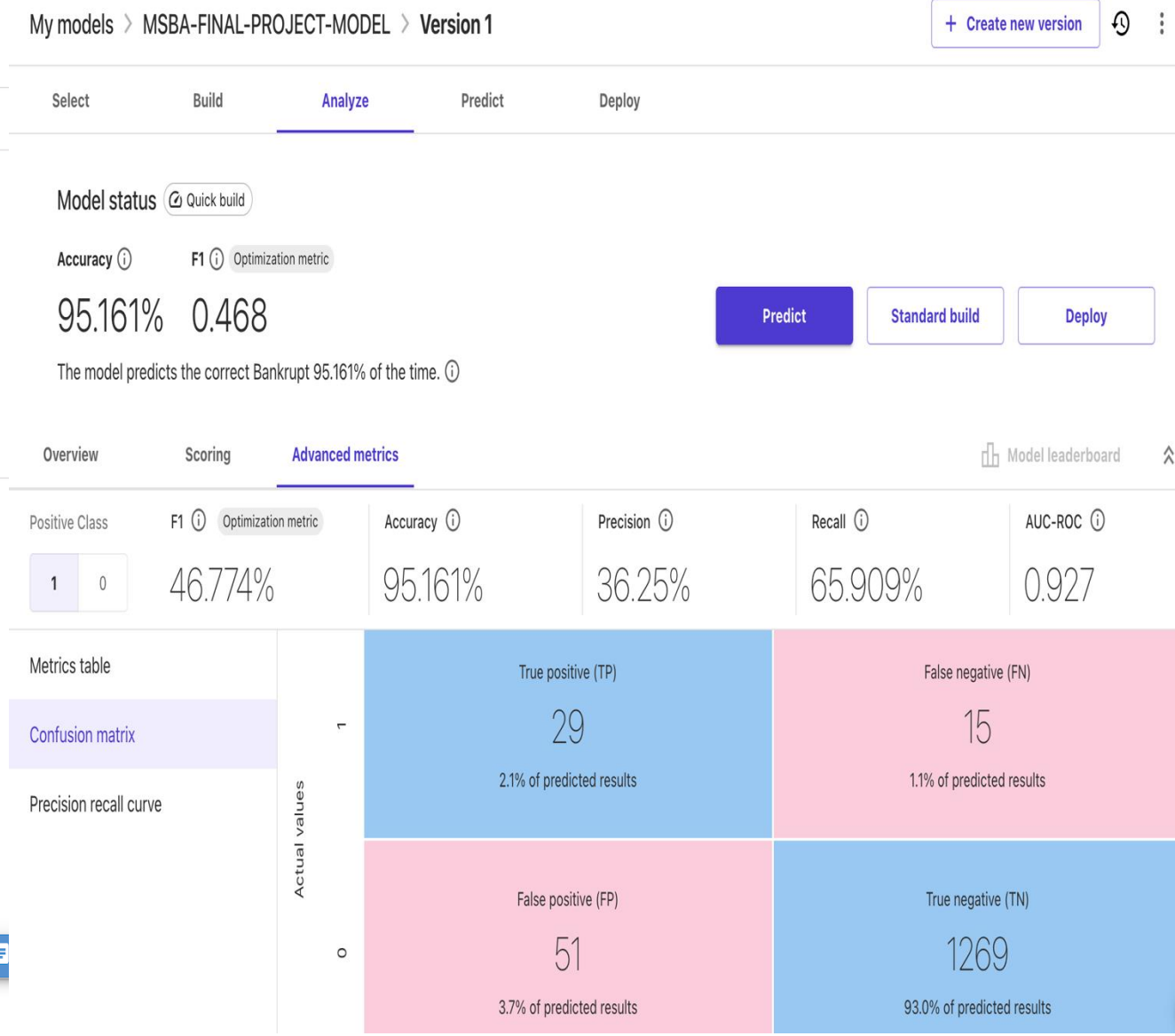
MODEL PREDICTIONS



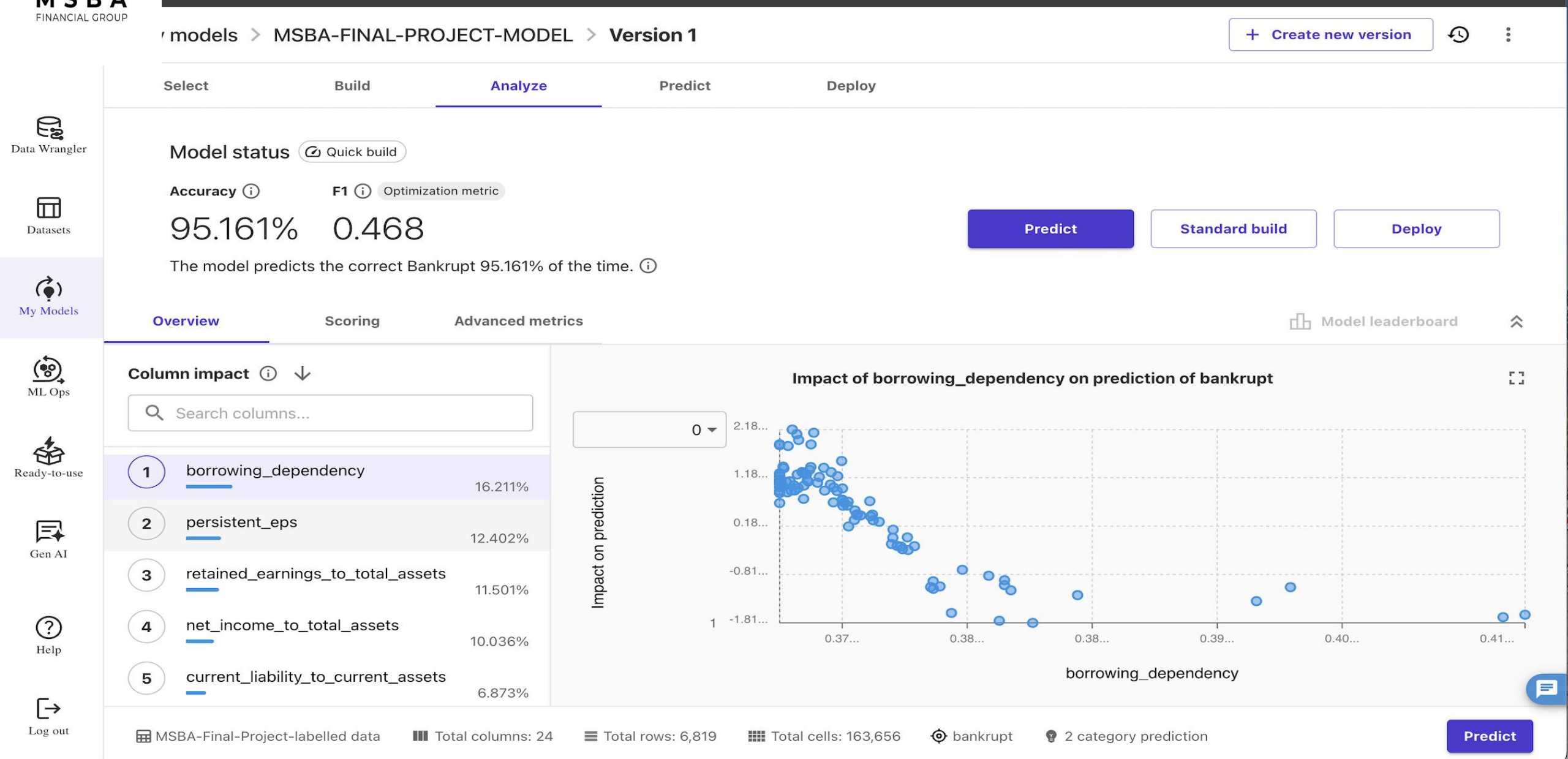
MSBA FINANCIAL GROUP

MODEL PREDICTIONS





Exploratory Data Analysis(Finding 1)



MSBA
FINANCIAL GROUP

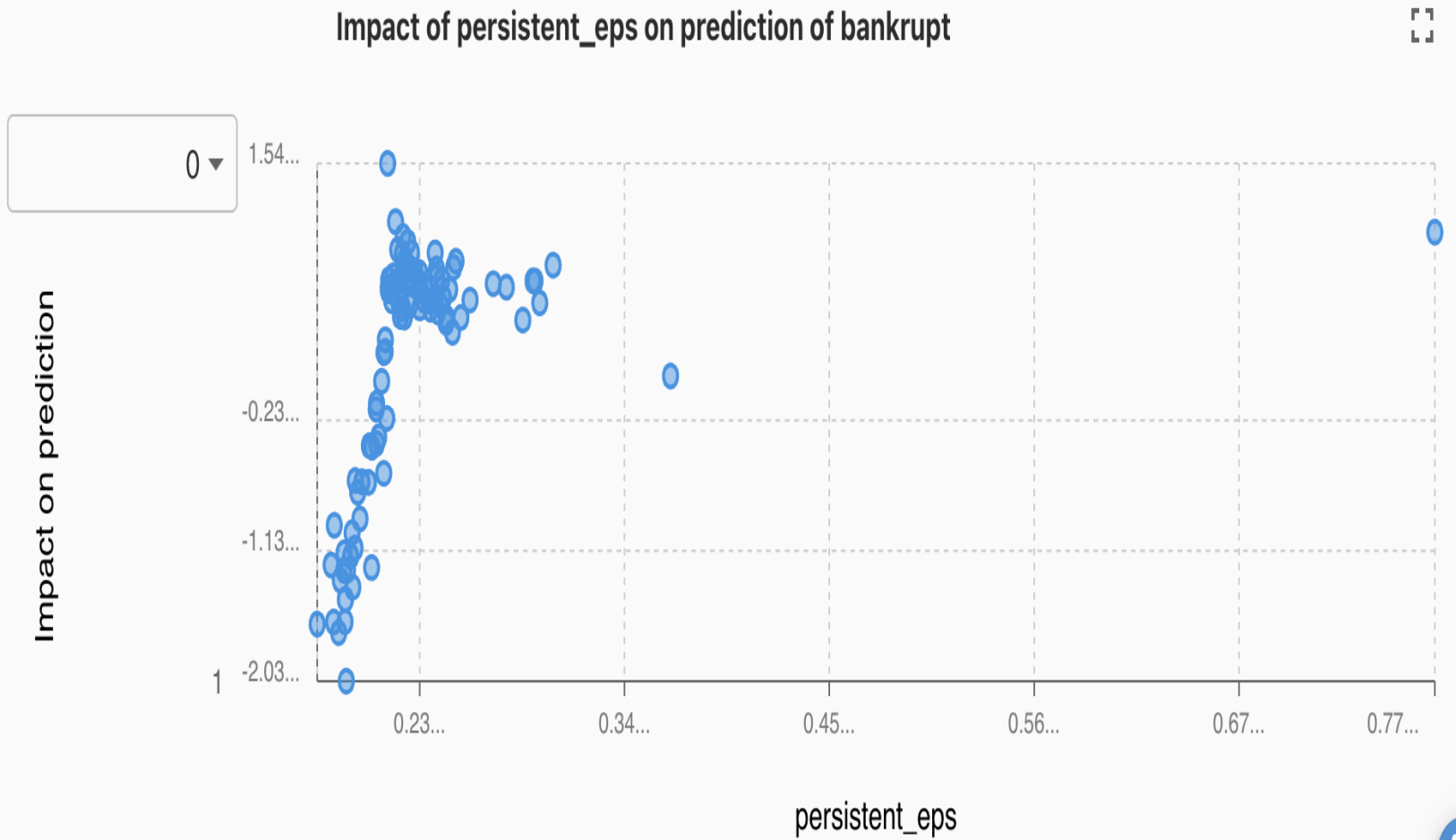
EXPLORATORY DATA ANALYSIS (FINDING 2)

Overview | Scoring | Advanced metrics | Model leaderboard

Column impact

Search columns...

1	borrowing_dependency	16.211%
2	persistent_eps	12.402%
3	retained_earnings_to_total_assets	11.501%
4	net_income_to_total_assets	10.036%
5	current_liability_to_current_assets	6.972%



Predictions of our model for the un-labelled data

batchInfer-MSBA-FINAL-PROJECT-MODEL-MSBA-FINAL PROJECT-unlabelled data-1728007712

Prediction (bankrupt)	Probability	borrowing_d...	company	company_id	current_liabi...	current_liabi...	debt_ratio_p...
1	99.2%	0.458818609	western corp	id_6988	0.372217526	0.060766259	0.269038909
1	97.4%	0.37930429	design solutions	id_7413	0.333345174	0.041219716	0.16186474
0	79.4%	0.384998982	innocore	id_8801	0.337392013	0.060765125	0.216101823
0	99.9%	0.374219105	pharmasolve	id_9614	0.329803726	0.030201105	0.108202074
0	99.9%	0.370253398	ninetech	[illegible]	[illegible]	[illegible]	[illegible]
0	99.7%	0.37450876	songster inc	id_7102	0.330409488	0.025494302	0.121292741
0	99.8%	0.374179962	rogers and sons	[illegible]	[illegible]	[illegible]	0.103576503
0	98.8%	0.373113046	Hallandall ag.	id_9904	[illegible]	[illegible]	[illegible]
0	99.5%	0.377306898	Foster & Kruse	id_6905	0.331114215	0.04351399	0.144662454
0	99.5%	0.37315107	Highwood & Hart	id_8039	0.329035251	0.028901672	0.10656952

Send to Amazon QuickSight

Download

MSBA
FINANCIAL GROUP

TOP 5 PREDICTORS FOR COMPANY GOING BANKRUPT

bankrupt	probability	company	company_id	borrowing_dependency	persistent_eps	Retained_earnings_to_total_assets	net_income_to_total_assets	current_liability_to_current_assets
1	0.99288565	western corp	id_6988	0.458818609	0.15429706	0.879444615	0.64180449	0.060766259
1	0.97423822	design solutions	id_7413	0.37930429	0.217736598	0.933467259	0.800780431	0.041219716
0	0.7941519	innocore	id_8801	0.384998982	0.161482462	0.911441408	0.736619098	0.060765125
0	0.99912834	pharmasolve	id_9614	0.374219105	0.225205635	0.935449309	0.815350392	0.030201105
0	0.9995966	ninetech	id_9131	0.370253398	0.218398412	0.935200209	0.80364729	0.021710461
0	0.99780607	songster inc	id_7102	0.37450876	0.217831143	0.938289897	0.804194657	0.025494302
0	0.99848729	rogers and sons	id_7012	0.374179962	0.21896568	0.942828956	0.814110614	0.047166348
0	0.98857784	Hallandall ag.	id_9904	0.373113046	0.20468942	0.932955215	0.804886953	0.033711602
0	0.99519491	Foster & Kruse	id_6905	0.377306898	0.219343859	0.930139635	0.803260161	0.04351399
0	0.9956789	Highwood & Hart	id_8039	0.37315107	0.212914815	0.930763203	0.794157853	0.028901672

RECOMMENDATIONS BASED ON THE PREDICTIONS

- I would suggest investing in the companies Pharmasolve , Nine-Tech, and Rodgers and Sons as all three show a very high probability of the companies not being bankrupt.

- Additionally, as per the top 5 attributes specified in the previous slide suggests that these companies have a lower borrowing dependency and high persistent earning per share when compared to the other companies.

CONCLUSIONS

- As per the model predictions, the following companies are at the highest probability of going bankrupt.
- -> Western Corp
- -> Design Solutions
- The companies Pharmasolve , Nine-Tech, and Rodgers and Sons are safe to invest in, as the model predicts a high chance for not going bankrupt.