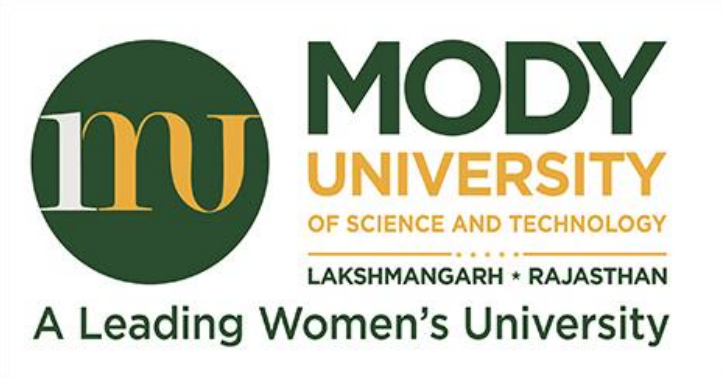


Experiment Title

FRAUD DETECTION IN THE INSURANCE BUSINESS

Student Name: Akshita Kanther **UID: 180161**

Branch: IIIrd yr CSE **Section/Group: C**

Semester: 6th

Date of Performance: 24/02/2021

Subject Name: Predictive Modelling Analytics

Subject Code: CS 18.338

I. Aim/Overview of the practical: To implement the **hypothesis 2** into the Fraud Detection **(Loss claim after Expired License)**.

II. Task to be done: Discuss How IBM Watson Studio empowers us to scale analysis across your org to speed dev time and simplify collaboration with data scientists, risk analysts, investigators, and other subject matter experts while adhering to strong governance and security posture. In order to respond to new types of fraud, waste and abuse while minimizing false negatives and accelerating response, the platform continuously accommodates real-time data, monitors and detects fraudulent activities and adapts as the patterns change and spot anomalies.

III. Apparatus (For applied/experimental sciences/materials based labs)**:** The following apparatus we need are:

- Internet connectivity
- IBM cloud account
- IBM WATSON service
- NIC Data Set

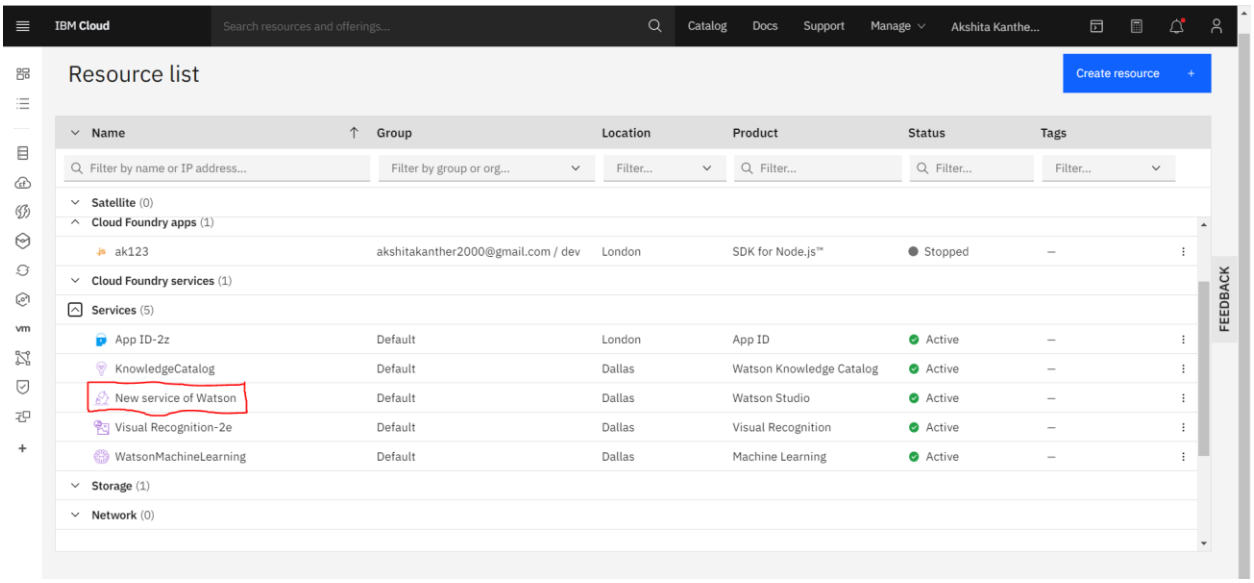
IV.Hypothesis

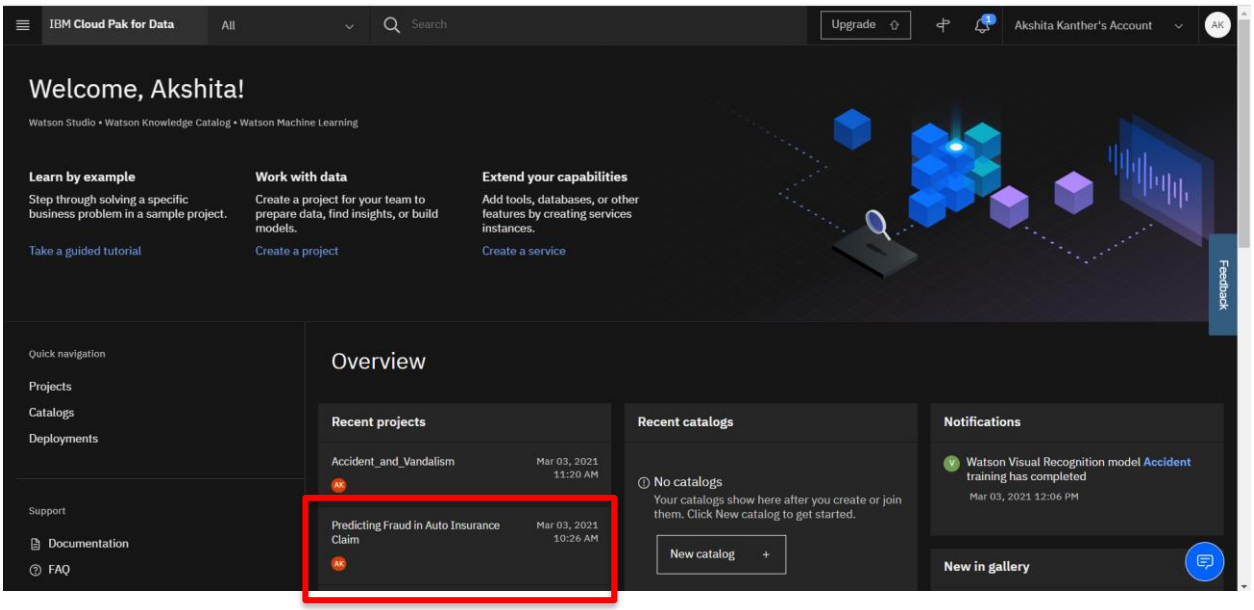
2. Claim filed after the license expiration date.
3. Excessive claim amount, which is over $10000 in value.

6. Steps for experiment/practical: The following steps are:

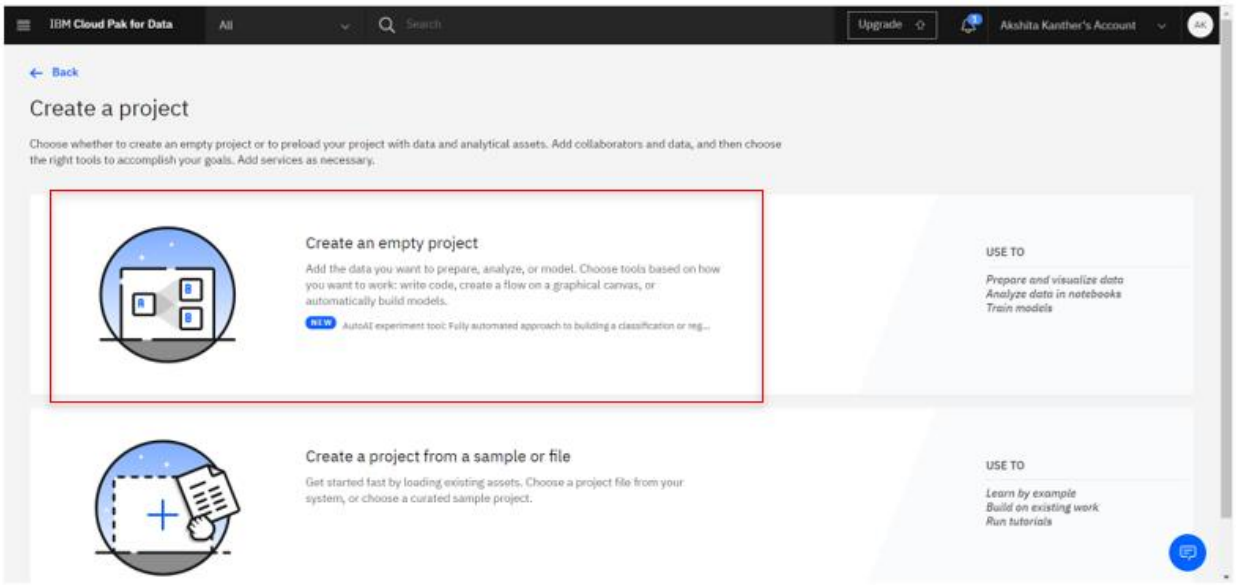
1. Login to your IBM Cloud account.

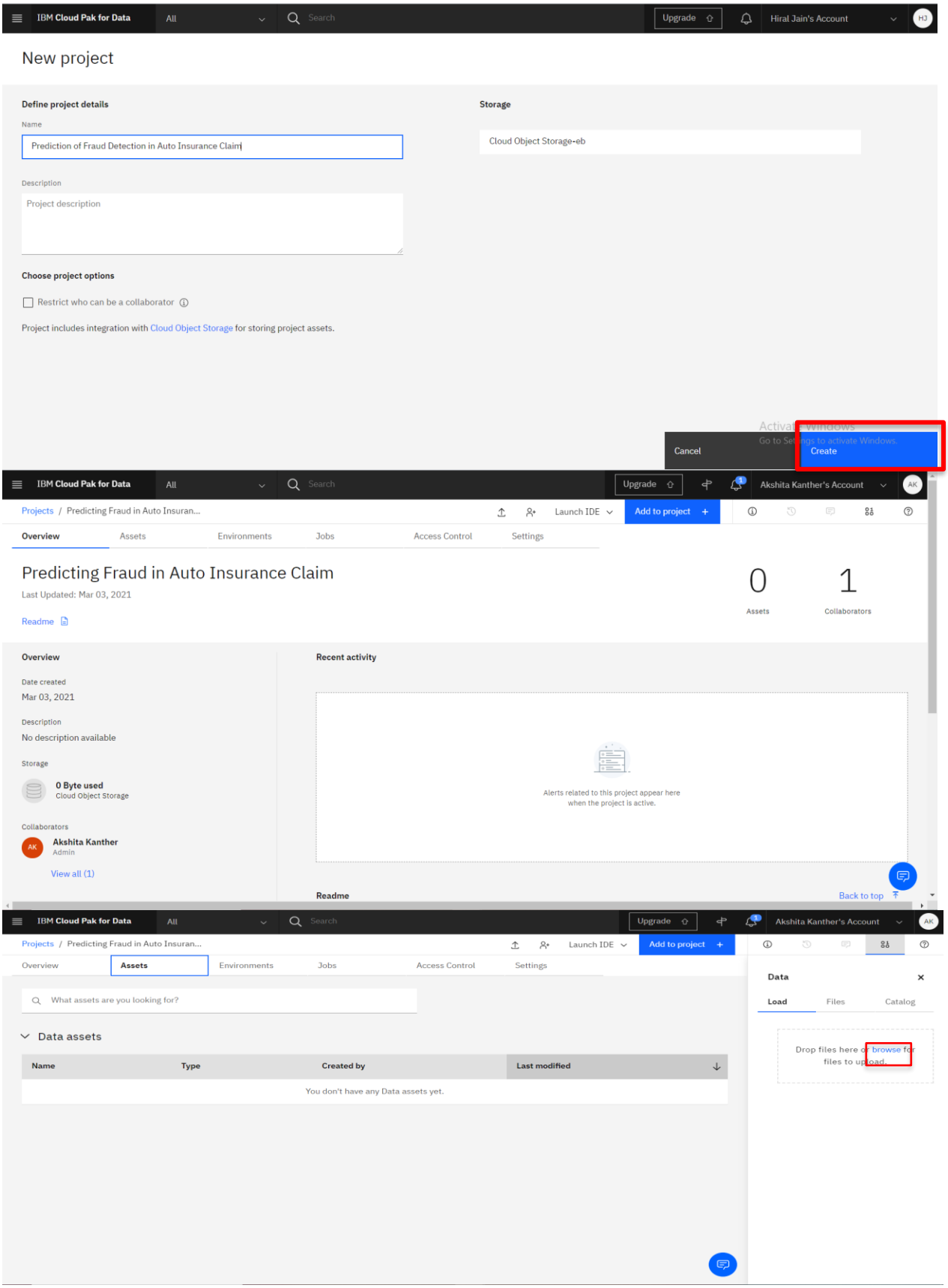
2. Go to your Watson Service and start a new project or start recent project which is already created.

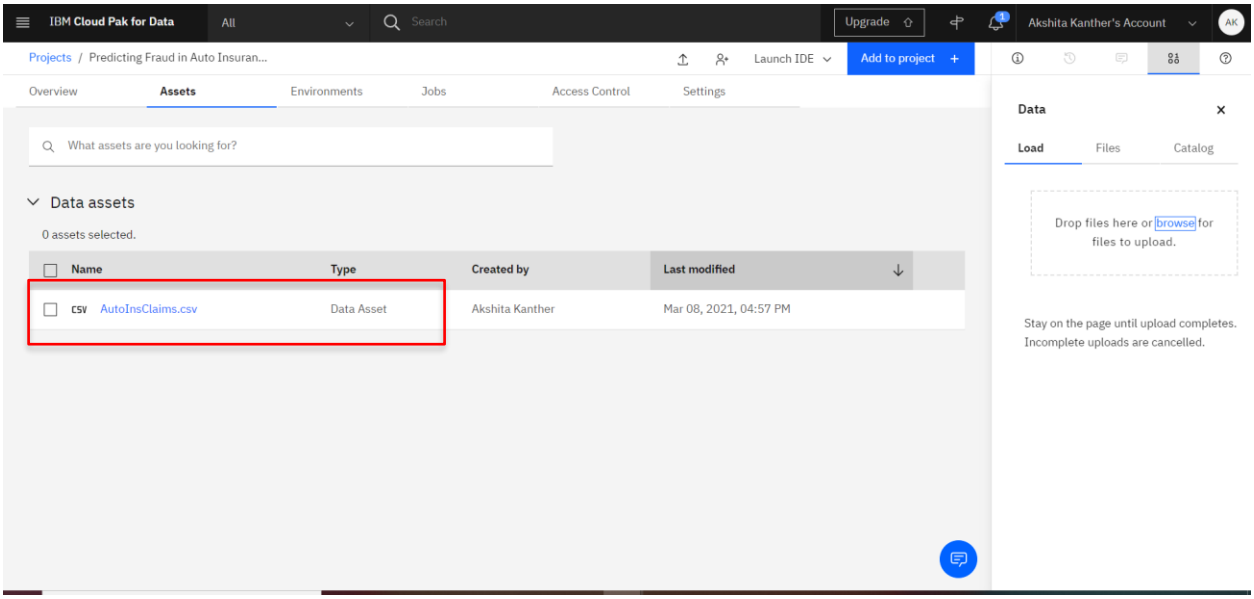




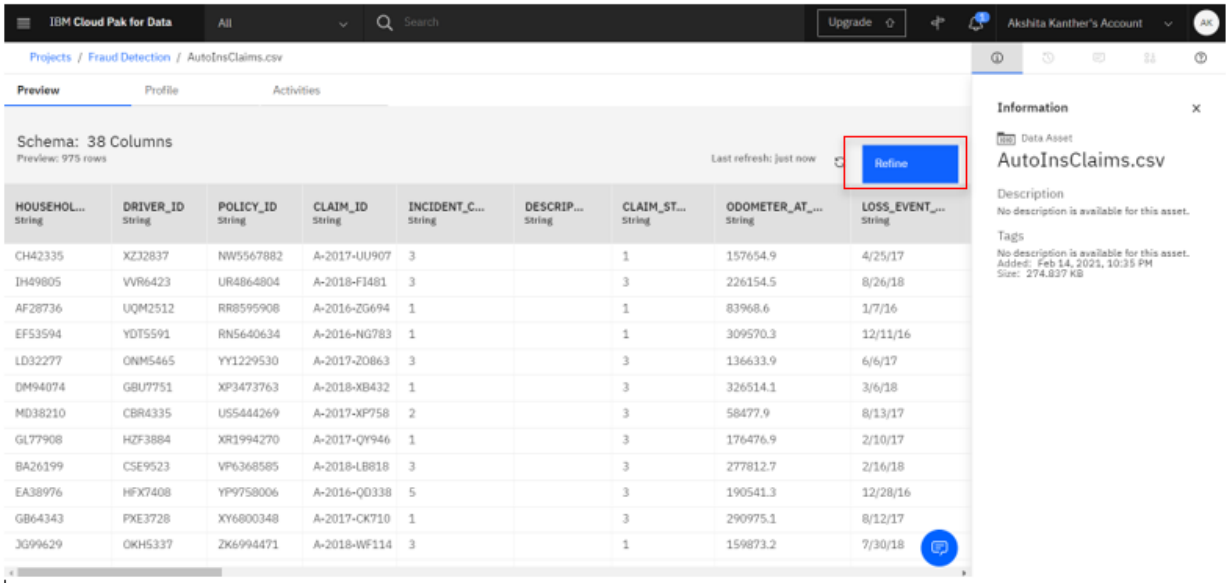
3. Load the AutoInsClaims dataset on the cloud.

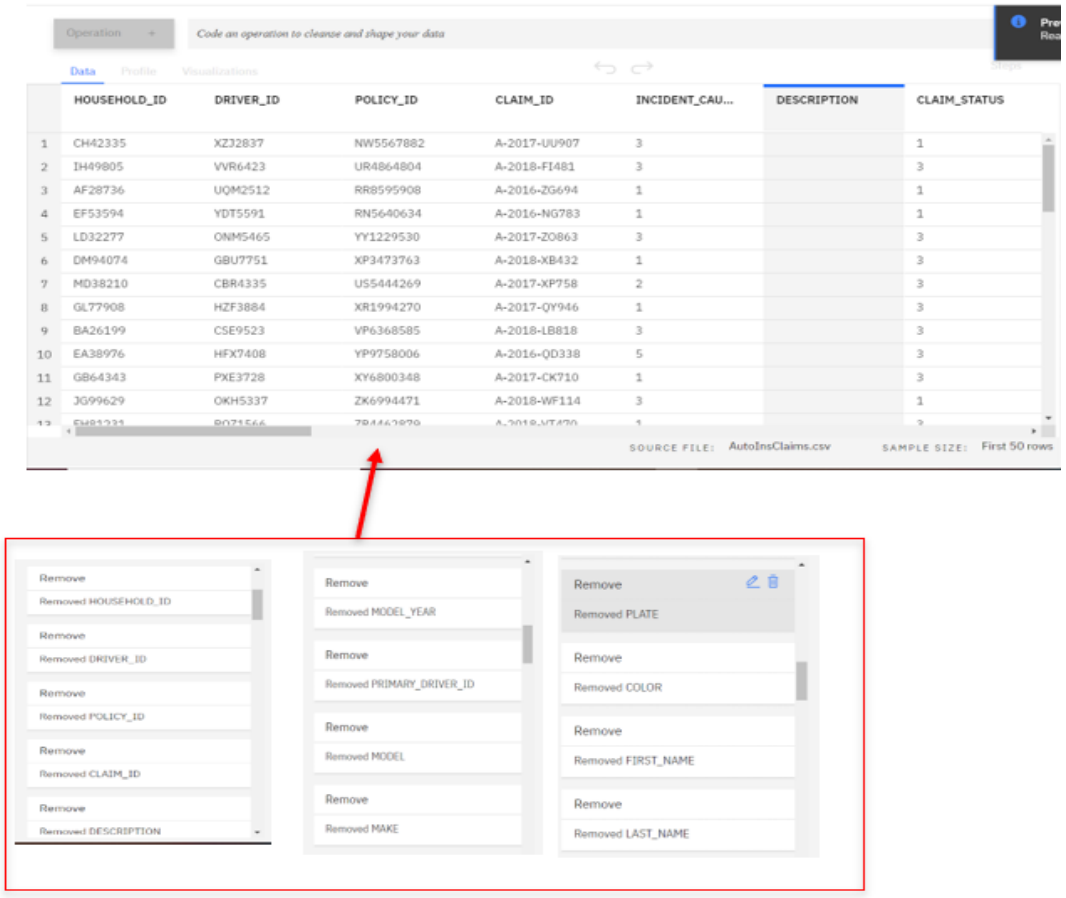



IBM Cloud Pak for Data
All
Search
Upgrade
Hiral Jain's Account
New project
Define project details
Name
Prediction of Fraud Detection in Auto Insurance Claim
Description
Project description
Choose project options
Restrict who can be a collaborator
Project includes integration with Cloud Object Storage for storing project assets.
Storage
Cloud Object Storage-eb
Cancel
Create
Akshita Kanther's Account
Projects / Predicting Fraud in Auto Insuran...
Launch IDE
Add to project
Overview
Assets
Environments
Jobs
Access Control
Settings
Predicting Fraud in Auto Insurance Claim
Last Updated: Mar 03, 2021
Readme
0
Assets
1
Collaborators
Overview
Date created
Mar 03, 2021
Description
No description available
Storage
0 Byte used
Cloud Object Storage
Collaborators
Akshita Kanther
Admin
View all (1)
Recent activity
Alerts related to this project appear here when the project is active.
Readme
Back to top
What assets are you looking for?
Data assets
Name
Type
Created by
Last modified
You don't have any Data assets yet.
Data
Load
Files
Catalog
Drop files here or browse for files to upload.



4. Clean the data, click on REFINE. Delete the following columns as they are not required for our hypothesis- household_id, driver_id, policy_id, claim_id, description, primary_driver_id, model_year, make, model, plate, color, first_name, ssn, last_name, driver_license_id, contact_number, e-mail, driver_license_state.

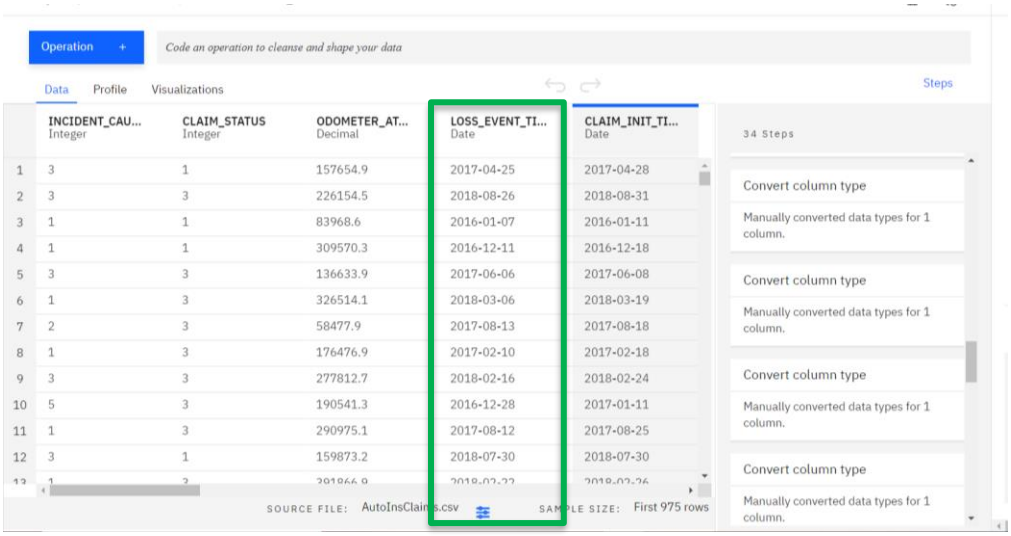




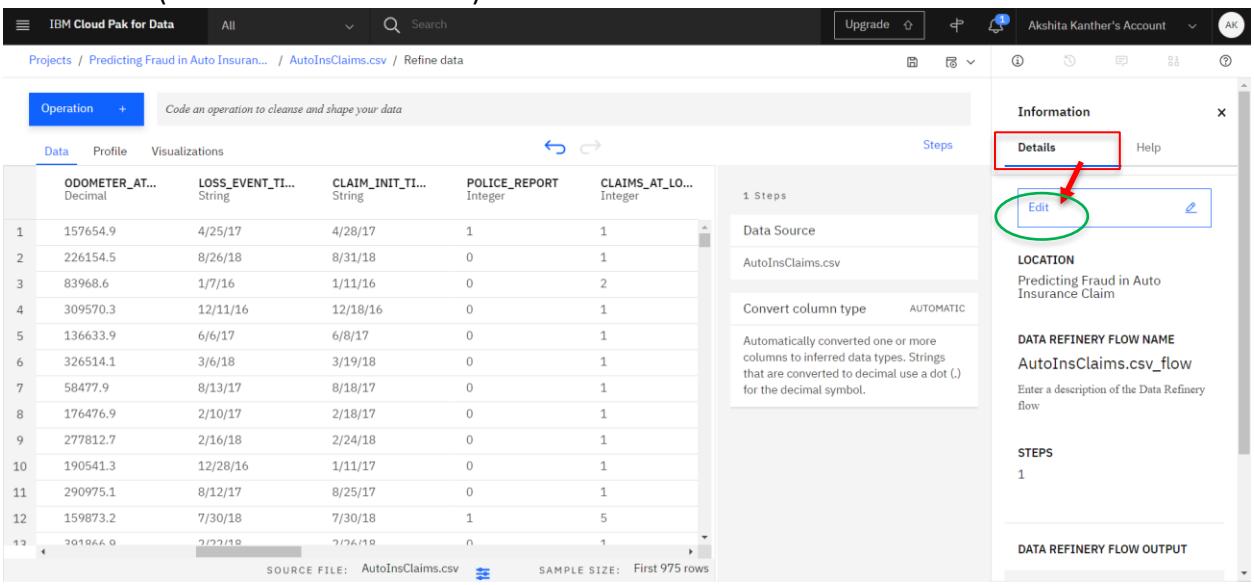
5. Convert all the date columns into MDY format. For the same, select the column, click on convert and select date, select current order as (mdy) and apply.

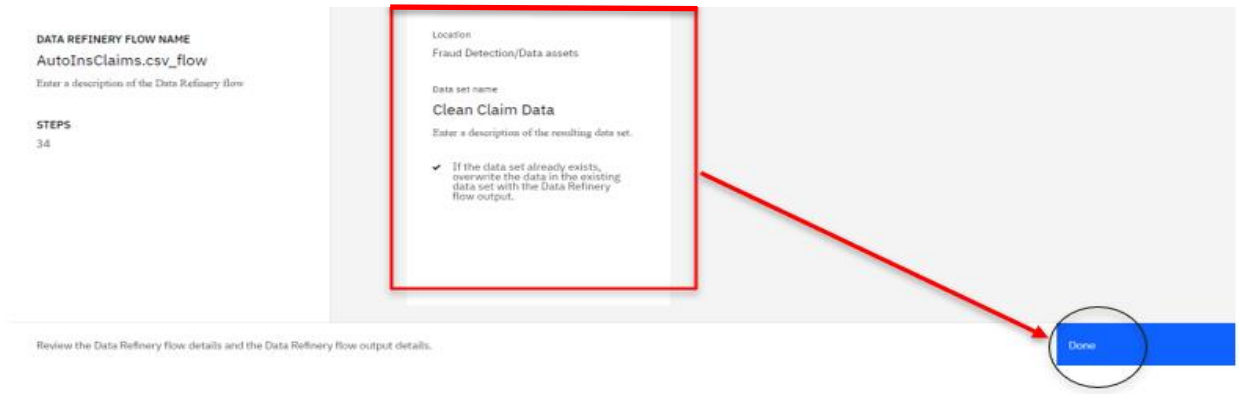
CLAIM_ST... String	ODOMETER_AT_... String	LOSS_EVENT_... String	CLAIM_INIT_... String	POLICE_RE... String	CLAIMS_AT_LOSS_... String	LOSS_LOCATION... String	LO... Stri
1	157654.9	4/25/17	4/28/17	1	1	41.90210313	-87
3	226154.5	8/26/18	8/31/18	0	1	41.96356191	-87
1	83968.6	1/7/16	1/11/16	0	2	41.73660156	-87
1	309570.3	12/11/16	12/18/16	0	1	41.90992525	-87
3	136633.9	6/6/17	6/8/17	0	1	41.9237502	-87
3	326514.1	3/6/18	3/19/18	0	1	41.90925707	-87
3	58477.9	8/13/17	8/18/17	0	1	41.92839511	-87
3	176476.9	2/10/17	2/18/17	0	1	41.88571554	-87
3	277812.7	2/16/18	2/24/18	0	1	41.89505399	-87
3	190541.3	12/28/16	1/11/17	0	1	41.89197561	-87
3	290975.1	8/12/17	8/25/17	0	1	41.91122338	-87
1	159873.2	7/30/18	7/30/18	1	5	41.73583545	-87

->After Converting

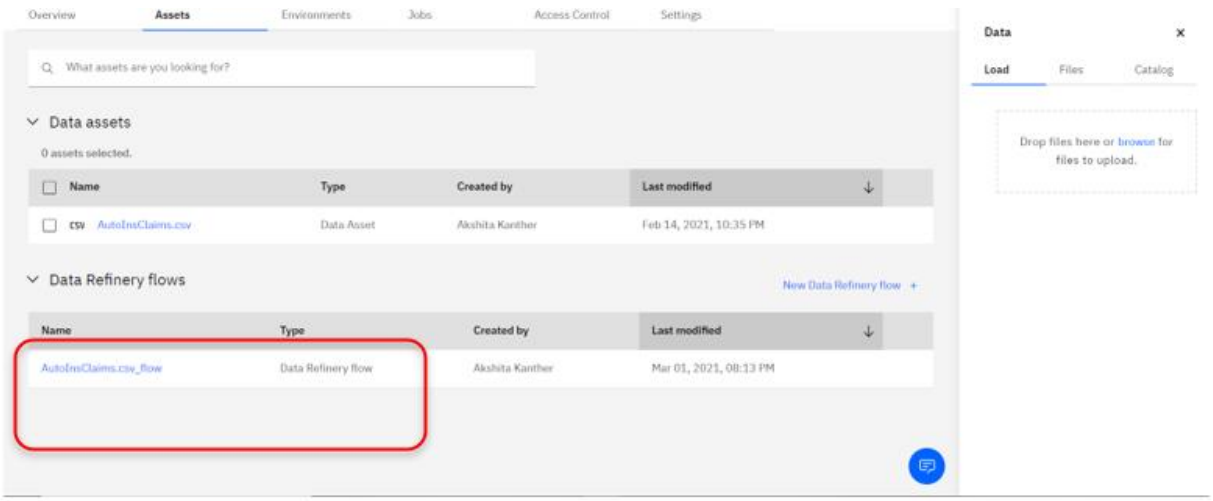


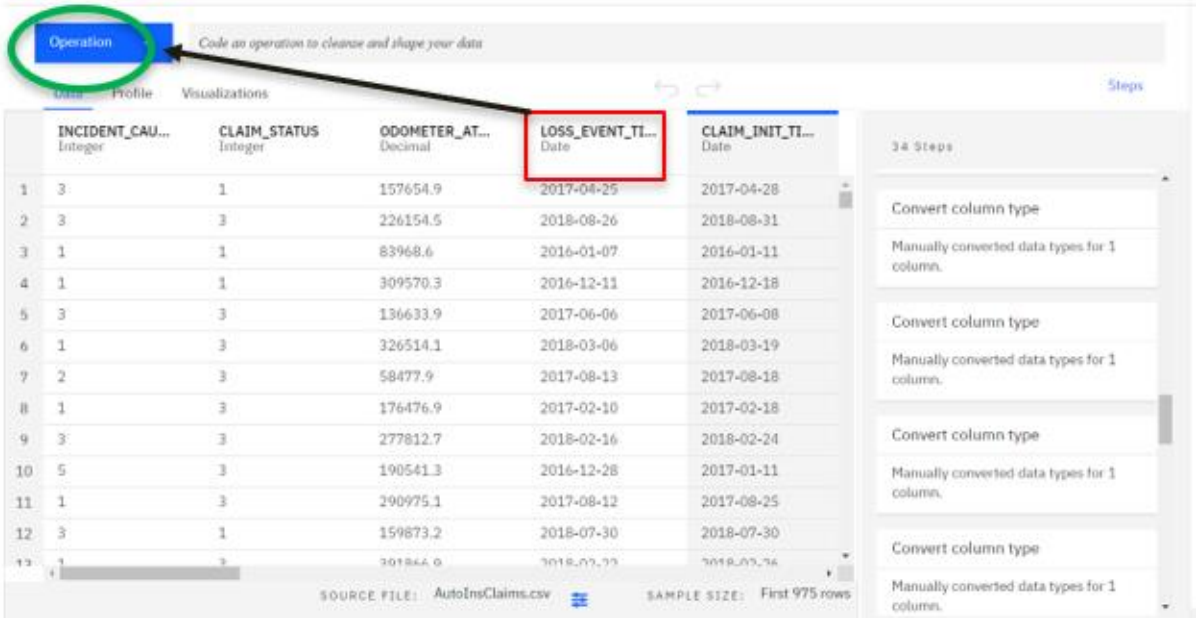
6. Save the refined data, click on Details then click on edit. Click on edit output and name the data set as (cleansed claim date.csv). click on done.

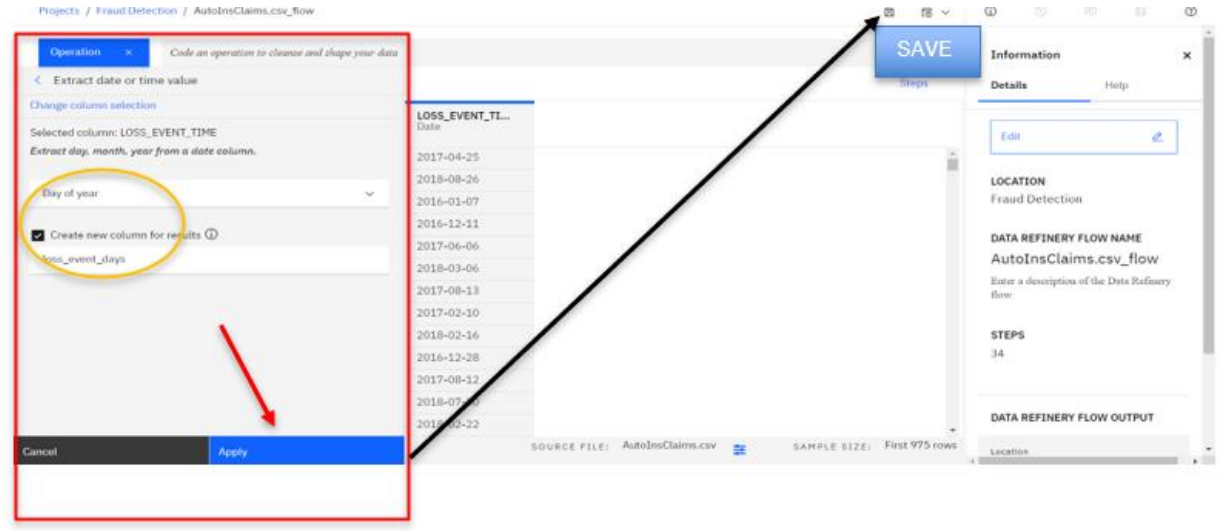




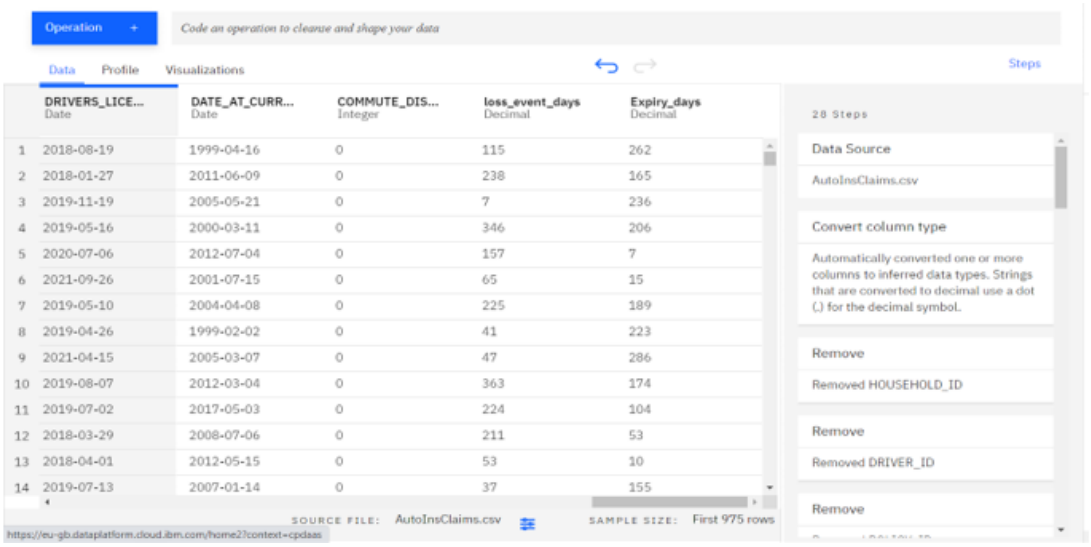
7. Go to Data Refinery Flow and select AutoInsClaims.csv_flow. Select Loss_event_time column, go on operations and select ext (extract date or time value), select Day Of The Year and create a new column with column name as (loss_event_days) and click on apply. Save the data.



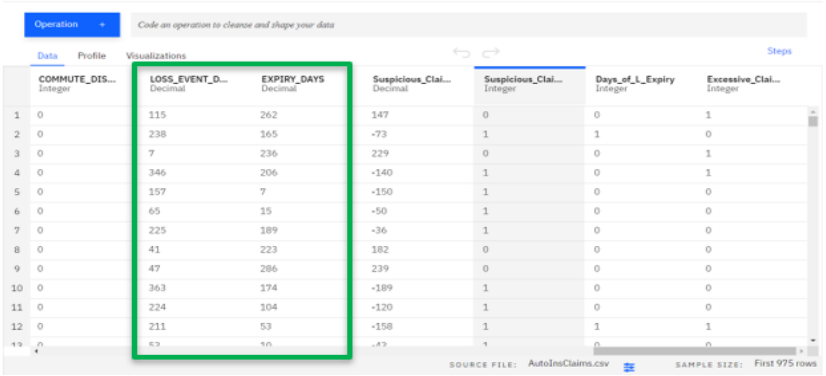




8. Similarly do for expiry_date column and name the new column as (expiry_days).



->After Saving

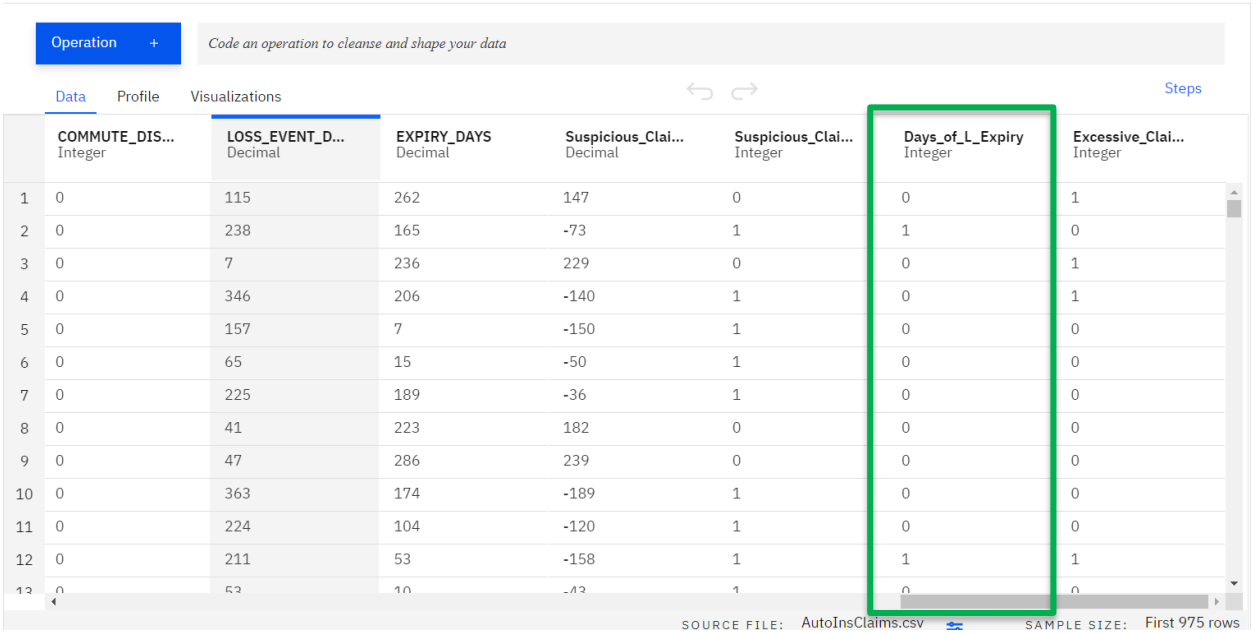


2. Claim filed after the license expiration date

This hypothesis tells if the claim for the car was filled till the validity of driver's license, or if it was filed after the expiration of driver's license. Steps for the hypothesis-

- Select driver_license_expiry column and add mutate operation. Select code
  Mutate (provide_new_column='<column>'<operator>'<column>').
  Provide_new_column = days_from_license_expiry
  Column = loss_event_time
  Operator = >
  Column = driver_license_expiry
  Apply. You will receive output in Boolean. Convert the Boolean type into Integer type.

->After converting

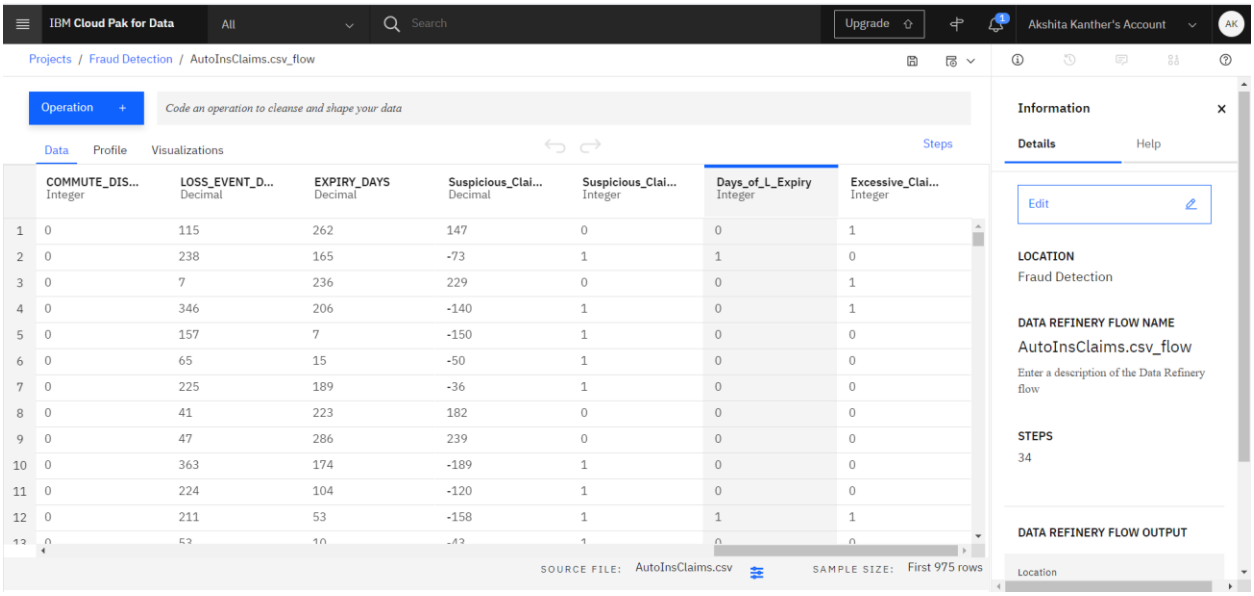


	COMMUTE_DIS... Integer	LOSS_EVENT_D... Decimal	EXPIRY_DAYS Decimal	Suspicious_Clai... Decimal	Suspicious_Clai... Integer	Days_of_L_Expiry Integer	Excessive_Clai... Integer
1	0	115	262	147	0	0	1
2	0	238	165	-73	1	1	0
3	0	7	236	229	0	0	1
4	0	346	206	-140	1	0	1
5	0	157	7	-150	1	0	0
6	0	65	15	-50	1	0	0
7	0	225	189	-36	1	0	0
8	0	41	223	182	0	0	0
9	0	47	286	239	0	0	0
10	0	363	174	-189	1	0	0
11	0	224	104	-120	1	0	0
12	0	211	53	-158	1	1	1
13	0	53	10	-43	1	0	0

3. Excessive claim amount, which is over $10000 in value

This hypothesis says that the car accidents who claim for over $10000 will not be given the entire claim amount. But the claims under $10000 will be fully claimed. Steps for the hypothesis-

- Select claim_amount column and select calculate operator. Select the greater than operator and enter the value as 10000. Create a new column with column name as (excessive_claim_amount). • Convert the column into Integer type of data from Boolean type.



7. Observations/Discussions (For applied/experimental sciences/materials-based labs): After conducting the above practical, we came to know about the IBM Watson service. We were able to generate the hypothesis for our data analysis according to the requirement of the customer.

Learning outcomes (What I have learnt): After conducting the practical, we now know how to work on IBM Cloud and its Watson service. We came to know how to work on a data set, how to clean the data and analyse the data.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			