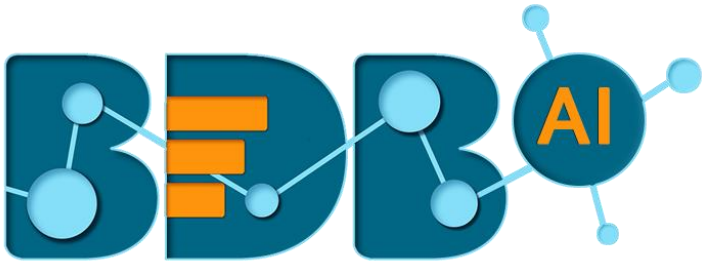


User Guide

Data Preparation- 4.0

Contents

1. About this Guide

1.1. Document History

Product Version	Date (Release date)	Description
BDB Data Preparation 4.0	December 31st, 2018	First Release of the Document

1.2. Overview

This guide covers:

- Explanation and usage of all the Data Preparation options
- Explanation and usage of the Transforms
- Integration with Data Pipeline

1.3. Target Audience

This guide is aimed at users who wish to use BDB Data Preparation option to prepare and transform their business data.

2. End User System Requirments Specification

This section provides information on the hardware and software parts to install and run the BDB Data Preparation.

Hardware Requirements

Processor	A 64-bit processor is required.
Allocated Memory	1GB minimum
Disk Space	500MB minimum + datasets = 5 GB + recommended

Software Requirements:

Operating System	Windows 7 64-bits or later version Mac OS X 10.7 Lion or later version Ubuntu 14.04 and above

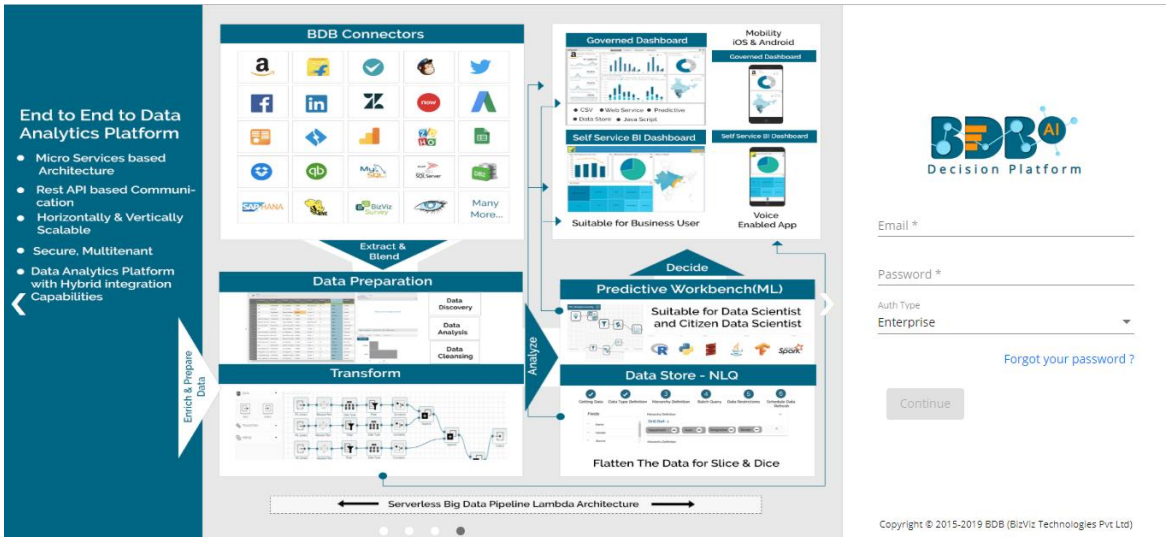
Compatible Web Browsers:

Mozilla Firefox/ Firefox ESR	Latest Version
Microsoft Internet Explorer	11
Microsoft Edge	Latest Version
Apple Safari	10
Google Chrome	Latest Version

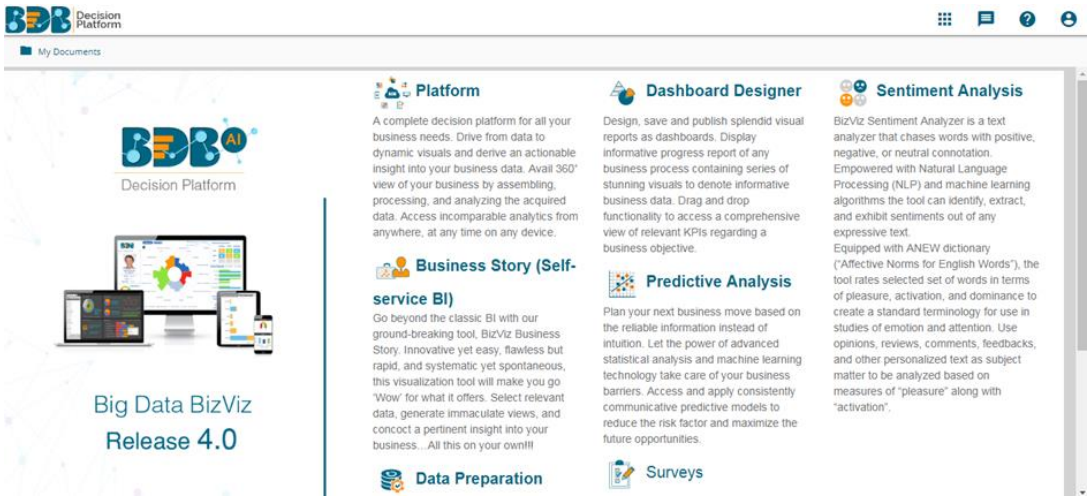
3. Getting Started with BDB Data Preparation

This section covers initial steps to access the BDB Dashboard Designer plugin using the BDB Platform.

i) Open the BDB Enterprise Platform Link: https://app.bdb.ai
ii) Enter your credentials to log in to the platform.
iii) Click the '**Continue**' option.

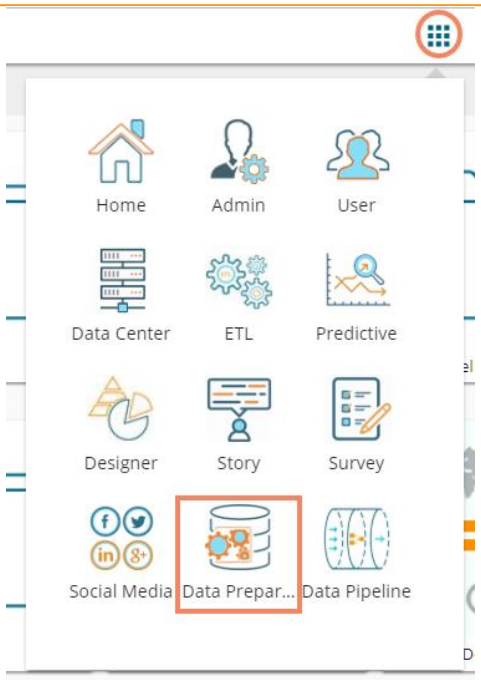


iv) BDB Platform homepage opens (The below page appears only for the first time when the user login. Once the user creates some document, he gets directed to the homepage by default).

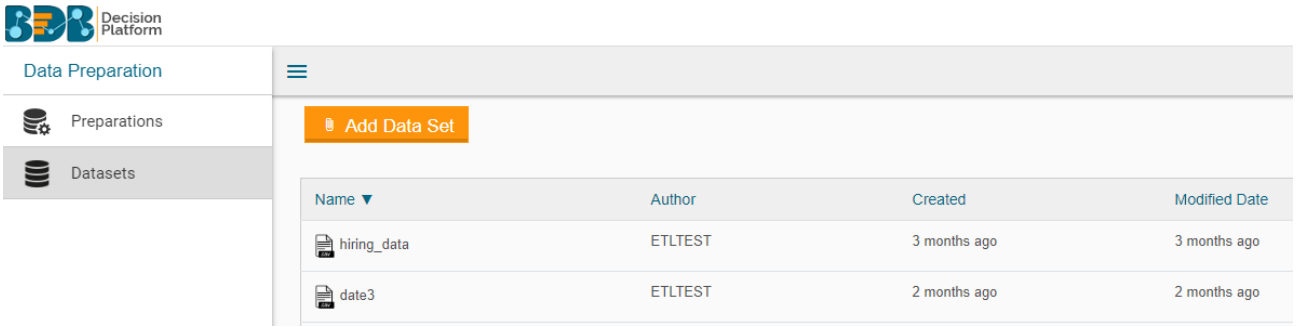


Note: The above screen opens only for those newly created users who have not yet created any document/folder using the BDB Platform.

v) Click on the '**App**' menu button.
vi) Select the '**Data Preparation**' plugin from the app menu.



vii) A new window opens displaying the landing page for the Data Preparation.



viii) The landing page of data preparation has two menus.

a. Preparations

It lists all the available preparations, when t was created, who created when it was last modified and on which data set.

The users also get an option to add a new preparation. The users can continue adding more steps to the existing preparations.

b. Datasets

The 'Datasets' section lists the data/input which was added to the system. The users can create a new preparation on any dataset.

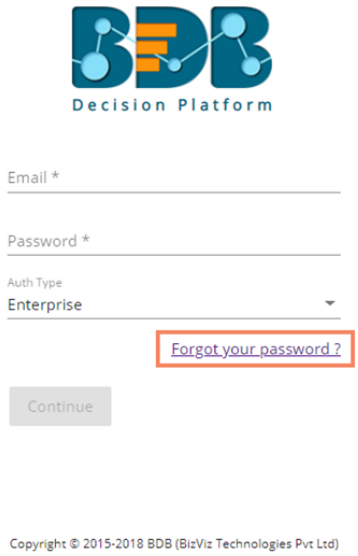
The window also provides an option to add new datasets.

Note: The standalone version of data preparation supports only CSV input of max 10k records. To work on other data sources and colossal volume, please use the ETL integrated version of data cleansing

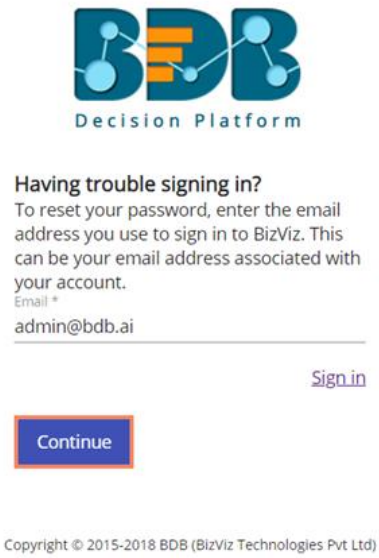
3.1. Forgot Password Option

Users are provided with a choice to change the password on the Login page of the platform.

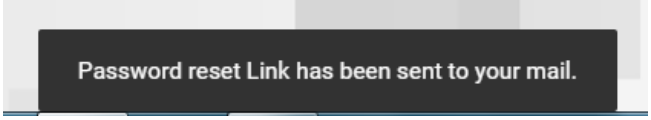
i) Navigate to the login page of the BDB Platform.
ii) Click the '**Forgot your password?**' option.



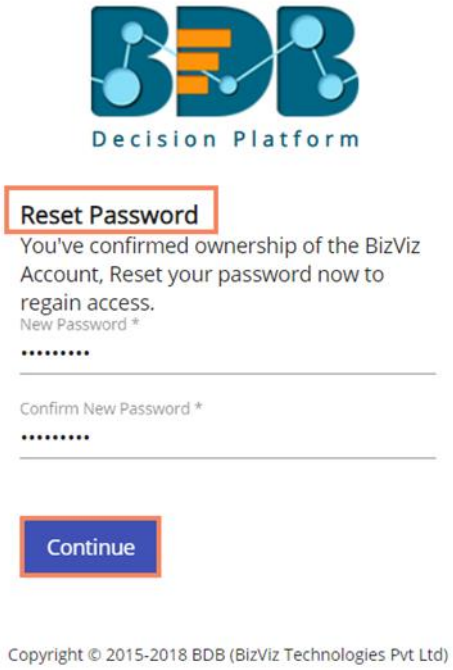
iii) Users get redirected to a new window.
iv) Provide the email id that is registered with BDB to send the reset password link.
v) Click the '**Continue**' option.



vi) Users may be redirected to select a space in case of multiple areas under one server link; they need to choose a space and click the '**Continue**' option once again. Otherwise, a message will pop-up to notify that the password reset link has been sent to the registered email.



vii) Click the link from your registered email.
viii) Users get redirected to the 'Reset Password' page to set a new password.
ix) Set a new password.
x) Confirm the newly set password.
xi) Click the '**Continue'** option.

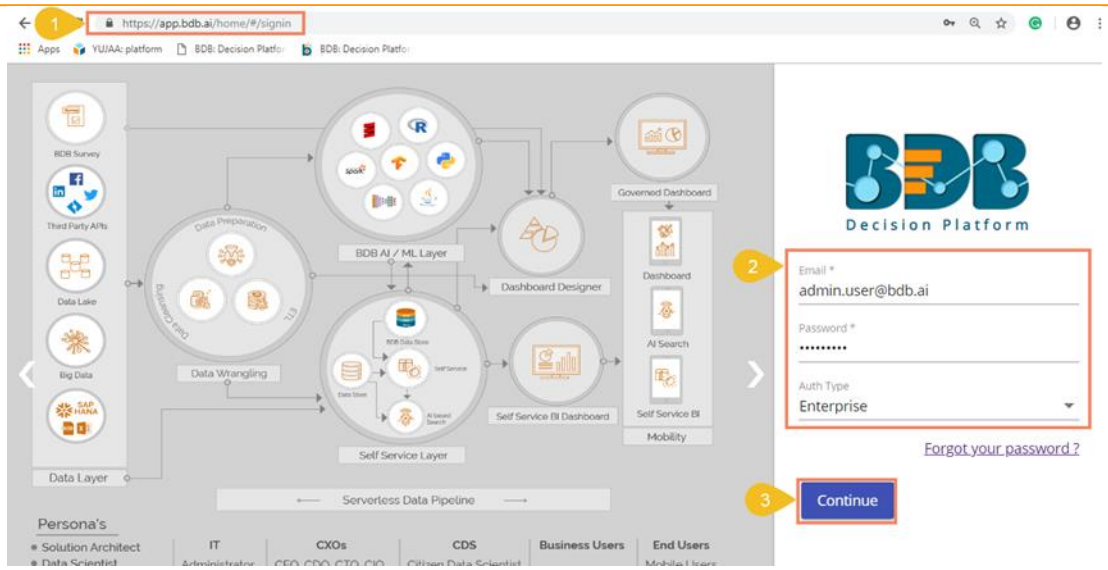


xii) The new password gets updated for the selected BDB account, and the user gets redirected back to the 'Log In' page of the BDB Platform.

3.2. Force Login

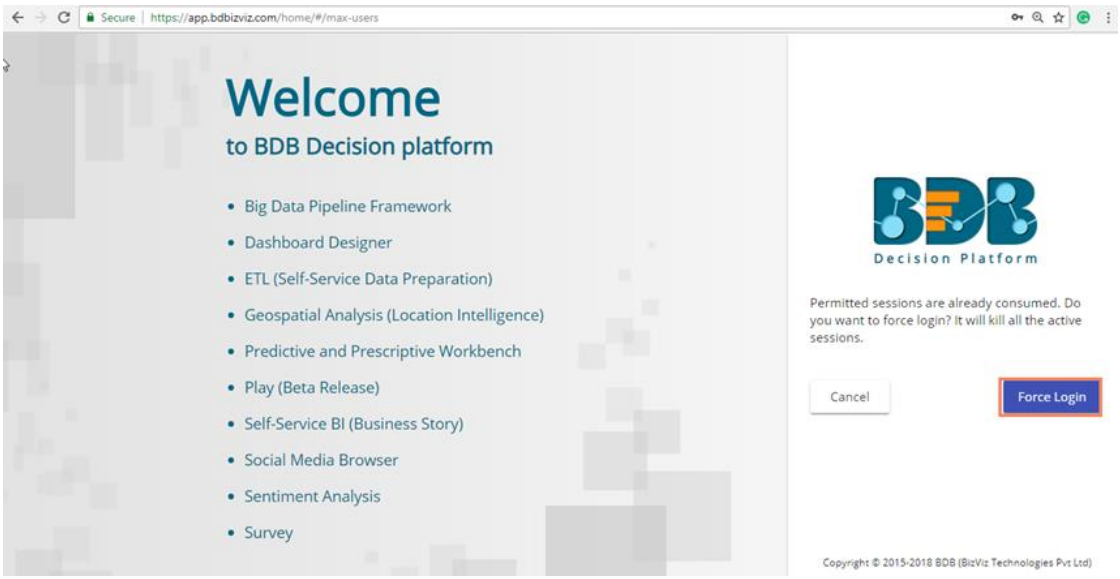
The '**Force Login**' functionality has been introduced to control the number of active sessions up to three. The users can access only 3 sessions at a time when they try to access 4th session a warning message displays to inform that the user has consumed the permitted sessions and a click on the '**Force Login**' would kill all those active sessions.

i) Navigate to the BDB Platform Login page.
ii) Enter the valid credentials to log in.
iii) Click the '**Continue**' option.



iv) The user will get the following message if the user already consumes the permitted active sessions (3 sessions at a time).

v) Click the '**Force Login**' option.



vi) A warning message appears that the currently active sessions get killed for the user and the user has redirected to the log in a page of the BDB Platform.

Note: The user can successfully login to the BDB Platform after selecting the '**Force Login'** option to log in the platform.

4. Data Grid

The data grid in the BDB Data Preparation is used for visualizing the data. The data displayed in the grid is a sample from the actual data set or complete data based on the data volume. The grid always shows the first 10 K rows in the dataset.

The displayed data in the grid changes based on the number of transforms performed on it.

4.1. Data Grid Header

The grid has a header which displays the column name from the dataset. The context menu in the header has an option to rename the column and delete the column. It also presents the data type of the column. It is analyzed based on the max match to any data type in the first 10K records.

Consider that a 10000 rows sample has 9000 integers and 1000 string values, the selected The datatype is Integer, and the 1000 rows will be detected as invalid rows.

4.2. Data Types

The BDB Data Preparation supports the following data types:

1. Integer
2. Double
3. String
4. Date
5. Timestamp

4.3. Panel to List the Selected Filters.

When a filter is selected, it gets added to the filter panel on top of the grid. The added filter has an option to remove it by clicking the '**Close**' (X) mark.

The left bottom of the grid displays the number of rows meeting the filter condition out of the total.

4.4. Data Quality Bar in the Grid

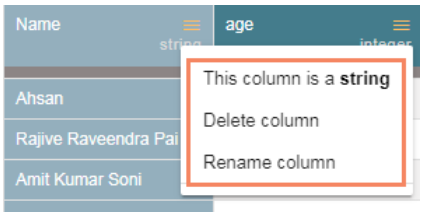
A Data Quality Bar appears in the header of the grid. The Data Quality is indicated through color coding as explained below:

- Brown-Valid Data
- Orange– Invalid data
- Light blue -Blank data

4.5. Pagination

Pagination is implemented for the grid data. The tool displays 20 records on each page. The maximum rows displayed for sampling is always 10k.

Note: The users can get information about the Column Type, option to Delete the column and option to Rename the column by clicking the '**Column Menu'** icon provided next to the column names in the data grid.

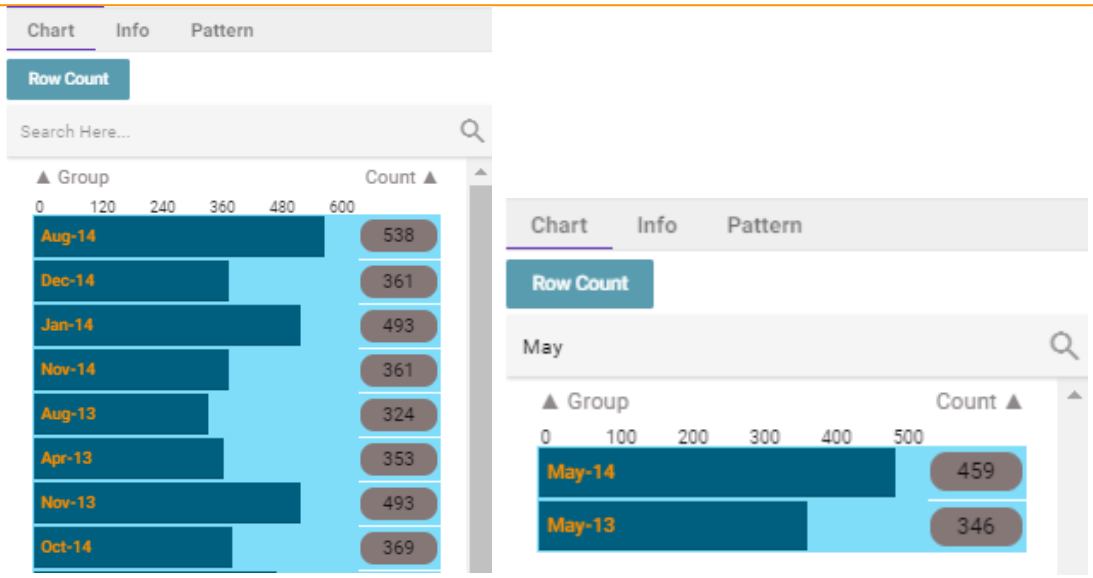


5. Summary Pane

The summary pane gives an overview of the data like different patterns of data, distinct values, and occurrences.

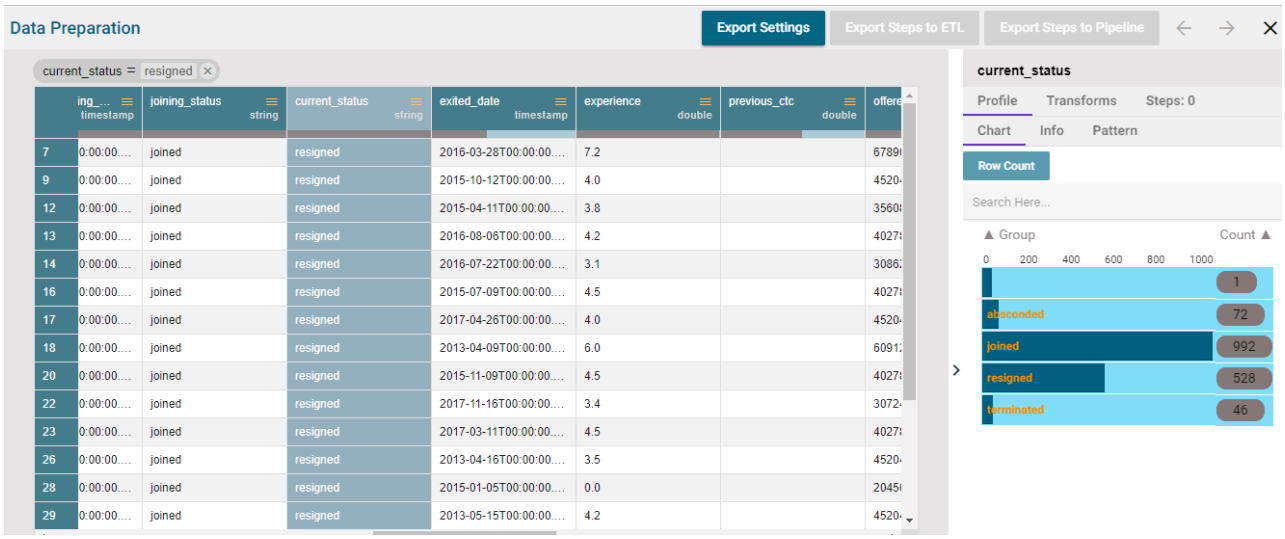
5.1. Charts

The in-built charts (Column and Bar charts) display the occurrence of each value. The Bar appears to display string value. The Column chart projects numeric value columns and dates.



The graph is interactive. When the user clicks on any bar, it will add a filter in the filter pane and filters the data displayed in the grid. Later the transform can be performed on the filtered data.

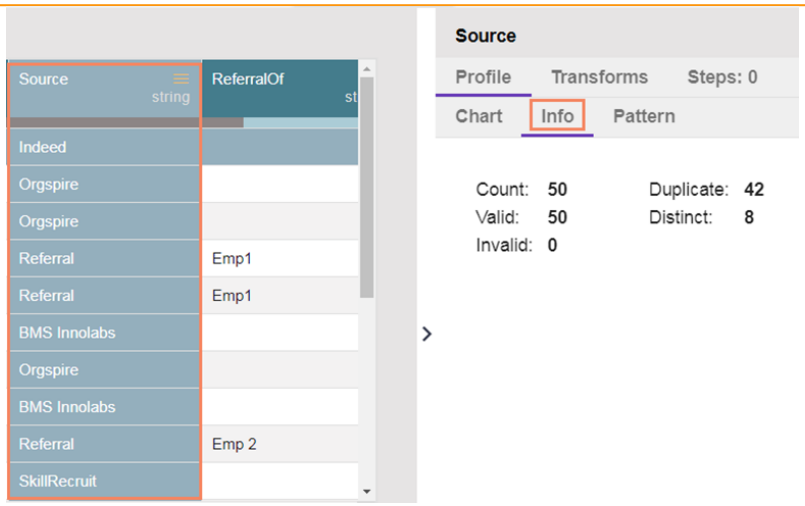
The chart can be sorted based on the group or the count of occurrence of a group.



5.2. Info: Value/Statistics

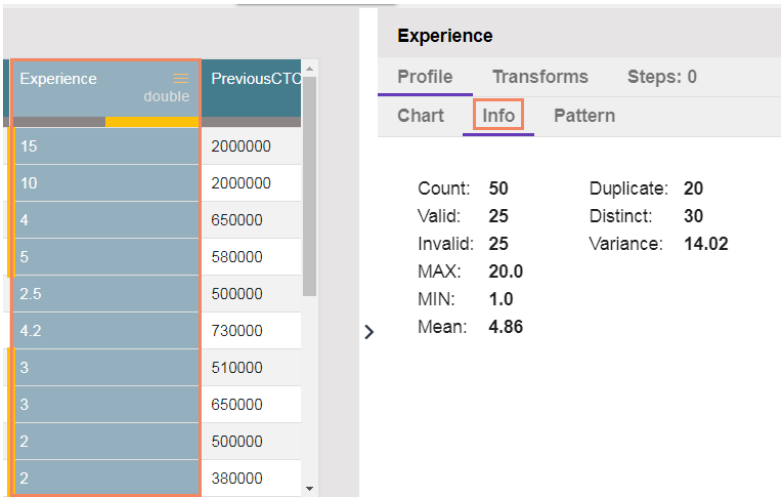
The information tab displays value or statistics of the data. The following aspects are displayed about the chosen data when the column is of string type:

- Count of Rows
- Count of Duplicates
- Count of Valid Data
- Distinct Values
- Count of Invalid Data



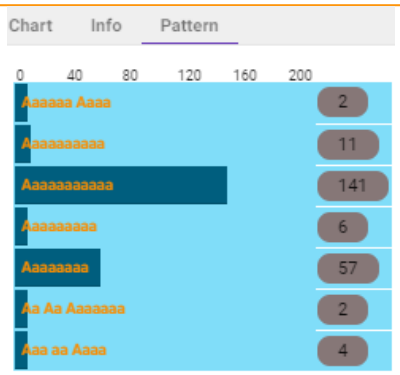
When the selected column is of numeric type, the additional displayed information under the 'Info' tab is based on aggregation functions as mentioned below:

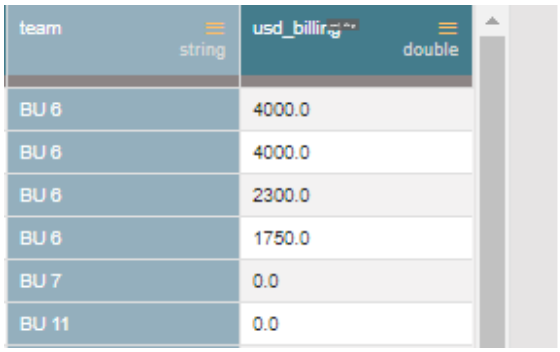
- Minimum
- Maximum
- Mean
- Variance

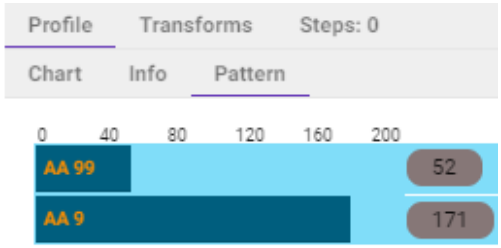


5.3. Pattern

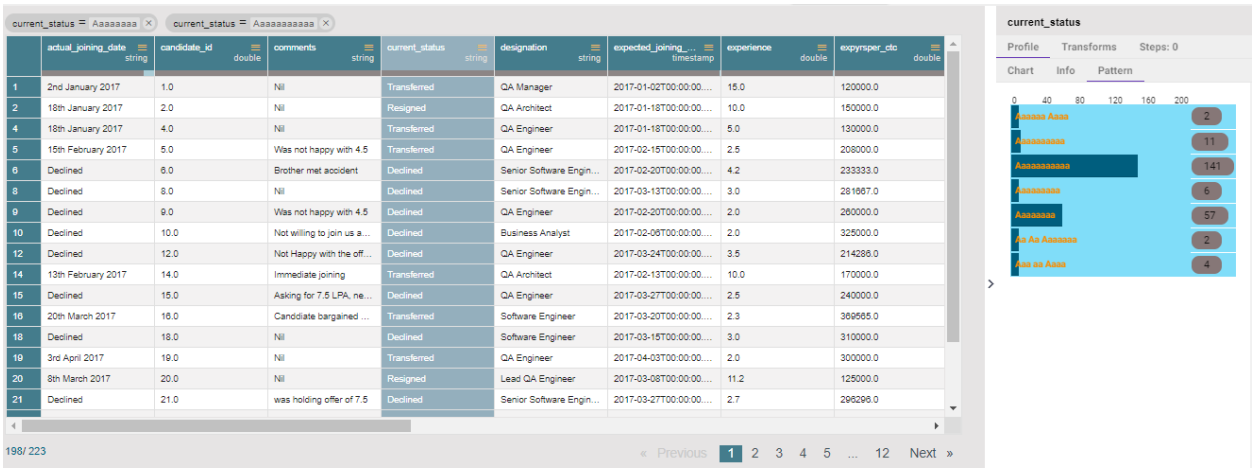
This section focuses on how data pattern and occurrences of each pattern in the dataset sample are plotted in a chart.







Note: The value displayed is not the actual value, and it's just a pattern of the value.



5.4. Transforms

Data Preparation module provides a list of transforms that can be performed on the data to clean /prepare the data for insightful visualization.
This section explains the details of the transforms.

5.4.1. Columns

5.4.1.1. Cast to Types

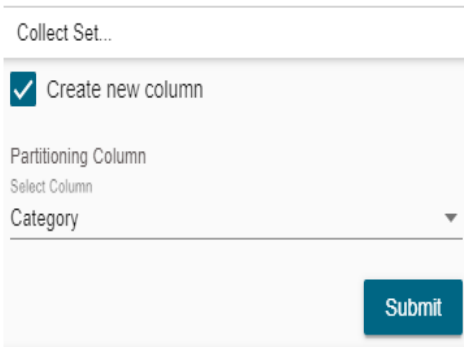
It is a table-based operation. The profiling of a column is done based on the data type present in the majority. Let's say in column A; we have four integer value and one string value, then the data type of column will be profiled as the integer despite one string value

present in it. Cast to type will remove the value with the invalid data type. In this case, it will convert data with a string data type to the null value.

**Note: *Cast to types is a lossy transformation. There is a possibility of some data loss.*

5.4.1.2. Collect Set

It will generate the list of all the unique values of the column based on the selected column. It will perform group concatenation.



CPU string	RAM string
AMD A12-Series 9720...	12GB
AMD A12-Series 9720...	12GB
AMD A12-Series 9720...	8GB
AMD A12-Series 9720...	6GB
AMD A12-Series 9720...	6GB

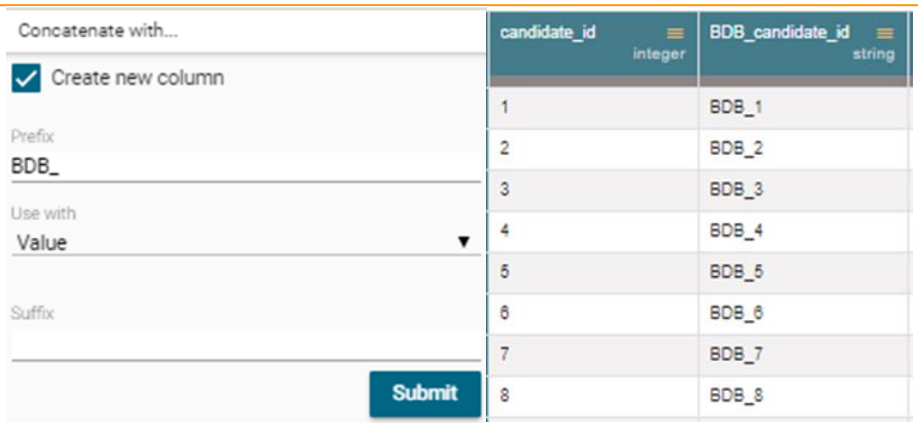
generates the list of all unique value

CPU string	RAM string
AMD A12-Series 9720...	[6GB,12GB,8GB]
AMD A12-Series 9720...	[6GB,12GB,8GB]
AMD A12-Series 9720...	[6GB,12GB,8GB]
AMD A12-Series 9720...	[6GB,12GB,8GB]
AMD A12-Series 9720...	[6GB,12GB,8GB]

5.4.1.3. Concatenate with

The users can concatenate a column value with some other column or with some prefix/suffix.
To perform the transform, select the column to which data must be concatenated and select the 'concatenate with' transform. The available options are:

a. **Prefix:** Specify the value to be prefixed to the selected column value
b. **Use with:**
   i. Select the '**Value**' to add a Prefix/Suffix
   ii. Select '**Other column**' to concatenate two columns
c. **Suffix:** Specify the value to be suffixed to the selected column value returns when performed on the 'candidate_id' column.



The users must select '**Use with Other column**' option to concatenate a value with another column and select the '**Use with Value**' option to add prefix/suffix.

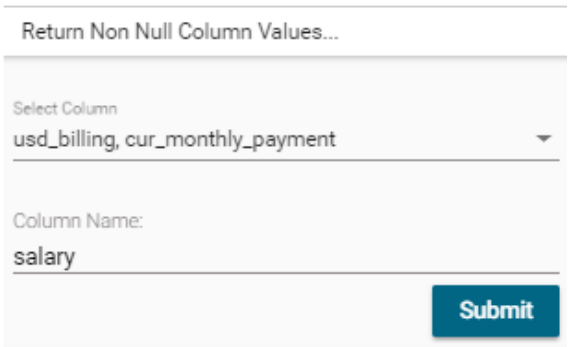
5.4.1.4. Delete Column

It deletes any selected column.
To perform the transform, select the column and click on the 'Delete Column' transform.

5.4.1.5. Return Non-Null Column Values

The transform returns the first non-null value from the list of columns specified to a new column. To perform the transform, select the columns which must be checked for null and specify a column name for the result.

a. **Select Column:** Select the columns to be checked for null
b. **Column name:** The name for the new result column returns



usd_billing double	cur_monthly_paym... double
3000.0	63824.17
2400.0	25603.75
2400.0	25718.58
3500.0	56575.33
2400.0	33565.75
2400.0	37670.42
2400.0	33565.75
	200000.0
2400.0	29673.58
2400.0	33565.75

returns the new result column

salary double
3000.0
2400.0
2400.0
3500.0
2400.0
2400.0
2400.0
200000.0
2400.0
2400.0

5.4.2. Conversions

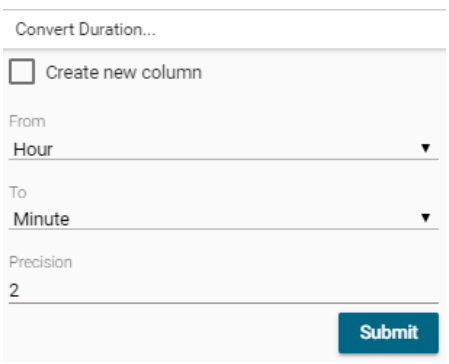
5.4.2.1. Convert Duration

The transform converts any duration (day, hour, minute, seconds, milliseconds) to any specified duration.

To perform the transform, select the column which has the duration to be converted and specify the duration type.

a. **From:** The type of source interval
b. **To:** The type of destination interval
c. **Precision:** The decimal points to be retained

Below is the snapshot of how the transform converts data:



Duration_hrs double
11.3
3.4
3.8
6.7
3.4
3.1
7.2
4.2
4.0
4.2

converts to

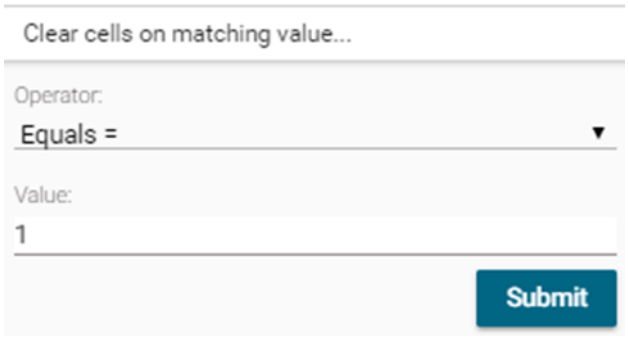
Duration_hrs double
678.00
204.00
228.00
402.00
204.00
186.00
432.00
252.00
240.00
252.00

5.4.3. Data Cleansing

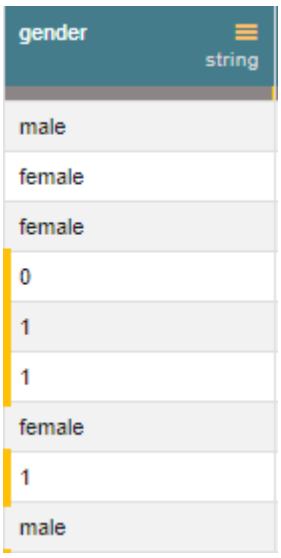
5.4.3.1. Clear Cells on Matching Value

Clear the cell value on matching the condition specified. Operators include contains, equals, starts with, end with and regex match. Transform applies on the same column.

- **Operator:** Select the operator required for matching from the list
- **Value:** The value or pattern to be searched for in the selected column



The value selected in the form clears the cell with 1 in the selected column.



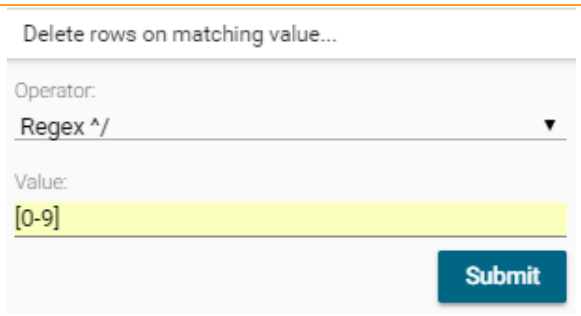
turns

when above transformation is applied

5.4.3.2. Delete Rows on Matching Value

Delete the rows on matching the condition specified for that column. Operators include contains, equals, starts with, ends with and regex match.

- **Operator:** Select the operator required for matching from the list
- **Value:** The value or pattern to be searched for in the selected column



The value selected in the form deletes the row with any numbers from 0-9 in the selected column.

gender (string)
male
female
female
0
1
1
female
1
male

turns to

gender (string)
male
female
female
female
male

when the above transform is applied.

5.4.3.3. Delete Rows with Empty Cell

a. The transform deletes any row which has a blank value in the selected column. The transform does not have a form.

name (string)	gender (string)	source (string)	referral_of (string)
Emp ID 1	male	internal	
Emp ID 2	female	internal	
Emp ID 3	female	internal	
Emp ID 4	0	internal	
Emp ID 5	1	internal	
Emp ID 6	1	agency	
Emp ID 7	female	portal	
Emp ID 8	1	portal	
Emp ID 9	male	portal	
Emp ID 10	1	portal	
Emp ID 11	male	referral	
Emp ID 12	1	portal	
Emp ID 13	male	referral	Emp ID 9
Emp ID 14	male	referral	Emp ID 1

b. When we perform the transform on column “referral_of” it deletes all the rows which have an empty value in that column returning the data as below:

	name (string)	gender (string)	source (string)	referral_of (string)
1	Emp ID 13	male	referral	Emp ID 9
2	Emp ID 14	male	referral	Emp ID 1

5.4.3.4. Delete Rows with Invalid Cell

a. The transform deletes any row which has invalid value in the selected column. The transform does not have form.

b. When we do the transform on the ‘gender’ column, it deletes all rows marked invalid as displayed below:

gender (string)
male
female
female
0
1
1
female
1
male

returns

gender (string)
male
female
female
female
male

5.4.3.5. Delete Rows with Negative Values

1. It deletes the rows which have a negative value in the selected column. This transform does not have a form.
2. When this transform is applied to experience column, it deletes all rows with negative as displayed below:

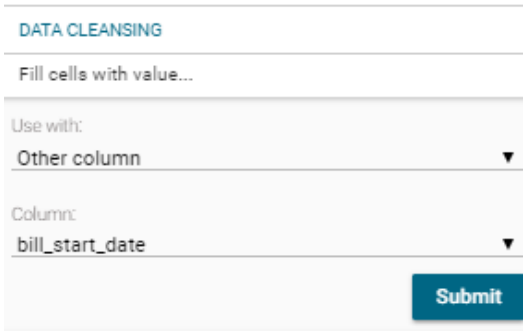
	string	exited_date (timestamp)	experience (double)
5			3.4
6			3.1
7		2016-03-28T00:00:00....	7.2
8			4.2
9		2015-10-12T00:00:00....	4.0
10			4.2
11			-1
12		2015-04-11T00:00:00....	3.8
13		2016-08-06T00:00:00....	4.2

3. It returns the transformed column as displayed below:

	exited_date (string)	exited_date (timestamp)	experience (double)
5			3.4
6			3.1
7		2016-03-28T00:00:00....	7.2
8			4.2
9		2015-10-12T00:00:00....	4.0
10			4.2
11		2015-04-11T00:00:00....	3.8
12		2016-08-06T00:00:00....	4.2

5.4.3.6. Fill Cells with Value

It fills the selected column with a value or a value from another column



- **Use with:** Specify whether to fill with a value or another column value
- **Column/ Value:** The value with which the column must be filled, or the column with which the value must be replaced

When the above transform is applied to the below data on the column 'created_datetime,' it copies the value from the 'bill_start_date' column to the 'created_datetime' column.

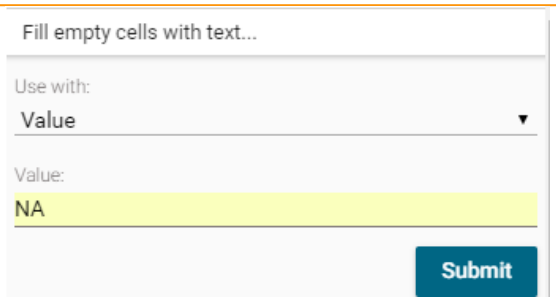
bill_start_date (timestamp)	created_datetime (string)
2013-01-04T00:00:00....	
2013-01-04T00:00:00....	
2013-01-04T00:00:00....	
2013-01-04T00:00:00....	
2013-01-04T00:00:00....	
2013-01-04T00:00:00....	
2013-01-04T00:00:00....	

converts into

bill_start_date (timestamp)	created_datetime (timestamp)
2013-01-04T00:00:00....	2013-01-04T00:00:00....
2013-01-04T00:00:00....	2013-01-04T00:00:00....
2013-01-04T00:00:00....	2013-01-04T00:00:00....
2013-01-04T00:00:00....	2013-01-04T00:00:00....
2013-01-04T00:00:00....	2013-01-04T00:00:00....
2013-01-04T00:00:00....	2013-01-04T00:00:00....
2013-01-04T00:00:00....	2013-01-04T00:00:00....

5.4.3.7. Fill Empty Cells with Text

It helps to fill the empty cells of a selected column with a value or a value from another column if the destination column is empty.



- **Use with:** Specify whether to fill with a value or another column value.
- **Column/ Value:** The value with which the column must be filled, or the column with which the value must be replaced.

When the transform is applied to the below data on column 'referral_of,' it fills the value 'NA' for all the empty cells of that column.

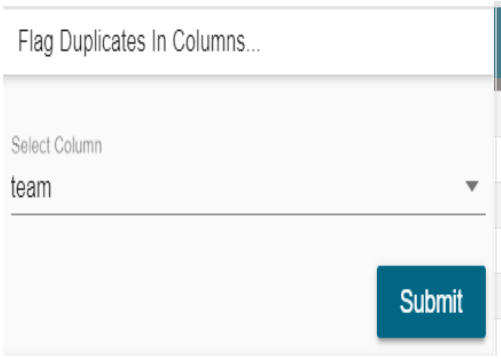
	source (string)	referral_of (string)
81	agency	
82	drive	
83	referral	Emp ID 7
84	referral	Emp ID 2
85	portal	
86	portal	
87	internal	

converts to

	source (string)	referral_of (string)
81	agency	NA
82	drive	NA
83	referral	Emp ID 7
84	referral	Emp ID 2
85	portal	NA
86	portal	NA
87	internal	NA

5.4.3.8. Flag Duplicates in Columns

This transform adds a new Boolean column based on duplicate values in the column. For original value it will give false, and for the duplicate value, it will provide true value.



team (string)
BU 6
BU 6
BU 11
BU 11
BU 7
BU 6

returns

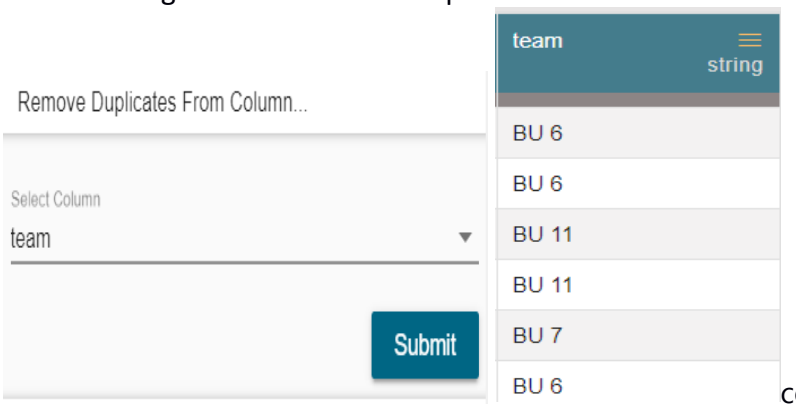
IsDuplicate_team (boolean)
false
true
false
true
false
true

5.4.3.9. Flag Duplicates in Tables

This transform adds a new Boolean column based on duplicate rows in the table. For original value it will give false, and for the duplicate value, it will provide true value.

5.4.3.10. Remove Duplicates from Column

It removes duplicate values from the selected columns. This transform can be performed on a single as well as on multiple columns.



converts to

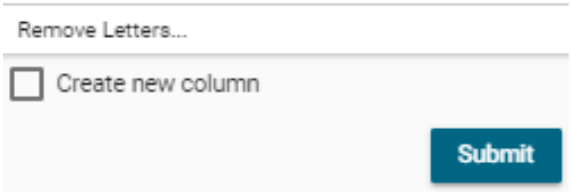
team (string)
BU 6
BU 11
BU 7

5.4.3.11. Remove Duplicates from Table

It Removes all duplicate rows from the table.

5.4.3.12. Remove Letters

It removes any letter present in the selected column. The users can either add a new column with the transformed value or overwrite the same column.



The selected column

Emp ID 9
Emp ID 1
Emp ID 13
Emp ID 7
Emp ID 9

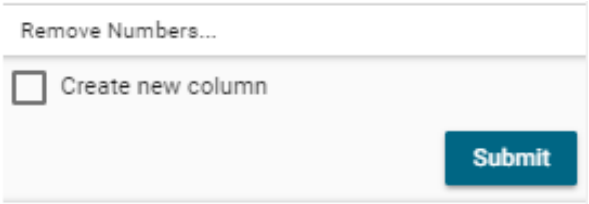
converts into

9
1
13
7
9

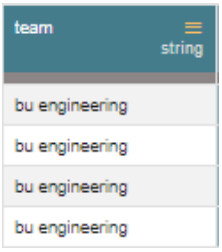
after transformation.

5.4.3.13. Remove Numbers

It removes any number present in the selected column. We can either add a new column with the transformed value or overwrite the same column.

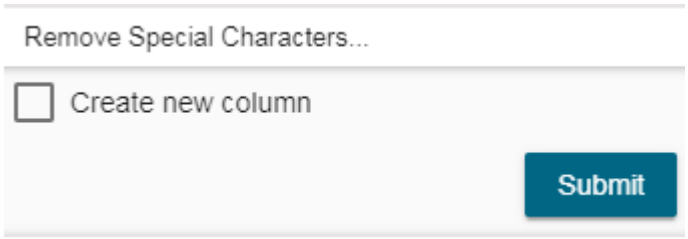


When the transform is performed on the selected column

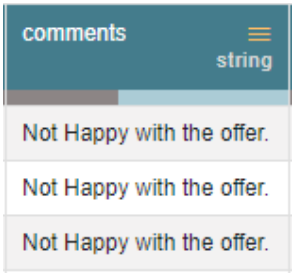
it removed numbers and displays column like this-


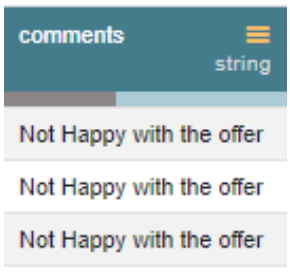
5.4.3.14. Remove Special Characters

It removes any special character present in the selected column. Only letters, numbers and spaces are retained. We can either add a new column with the transformed value or overwrite the same column.



When the transform is performed on the selected column, the punctuations get removed from the column as displayed below:



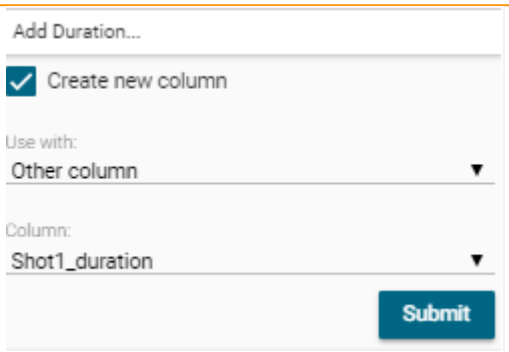
it returns transformed column as


5.4.4. Dates

5.4.4.1. Add Duration

The transform adds two-time values. It can either add the selected column with a time value or time from another column. The transform supports adding time into '**hh:mm:ss.mmm'** and '**hh:mm:ss'** formats.

- **Use with:** Specify whether to fill with a value or another column value
- **Column/ Value:** The value with which the column must be added, or the column with which the selected column value must be added.



The transform when performed on the data selecting 'Shot1_duration', it adds Shot1_duration and Shot2_duration and gives a new column with the result.

Shot1_duration string	Shot2_duration string
00:00:00.000	00:00:00.033
00:00:00.000	00:00:00.033
00:00:01.033	00:00:01.066
00:00:01.033	00:00:01.066
00:00:02.033	00:00:02.066
00:00:02.033	00:00:02.066
00:00:02.033	00:00:02.066
00:00:02.033	00:00:02.066

converts to

Shot1_duration string	Shot2_duration string	Shot2_duration_ad... string
00:00:00.000	00:00:00.033	00:00:00.033
00:00:00.000	00:00:00.033	00:00:00.033
00:00:01.033	00:00:01.066	00:00:02.099
00:00:01.033	00:00:01.066	00:00:02.099
00:00:02.033	00:00:02.066	00:00:04.099
00:00:02.033	00:00:02.066	00:00:04.099
00:00:02.033	00:00:02.066	00:00:04.099
00:00:02.033	00:00:02.066	00:00:04.099

5.4.4.2. Add Interval to Date

It adds the time duration specified to the selected datetime column.

- **Input Format:** It is used to specify the format of the selected date column format. It can have values 'Year first', 'Month first' and 'Day first.'
- **Value Type:** It specifies the type of duration which acts as the operand for the addition. The value type can be years, months, days, weeks, hours, minutes or milliseconds
- **Value:** The value or the operand that must be added with the selected column

Note: The transform supports datetime column of '**yyyy-mm-dd'** into the '**hh:mm:ss'** format.

5.4.4.3. Extract Time

Extract the time units from a selected column with a time value. The time units that can be extracted include hours, minutes, seconds, milliseconds and time to milliseconds.

- **Hours:** Extracts hours from a time
- **Minutes:** Extracts minutes from a time
- **Seconds**: Extracts seconds from a time
- **MilliSeconds:** Extracts milliseconds from a time
- **Time to MilliSeconds:** Converts the time given to milliseconds

Note : The transform supports time format like- hh:mm:ss:mmm, hh:mm:ss, hh:mm

5.4.4.4. Extract Date

It extracts the date part from a selected column with a date value.
The date parts that can be extracted include day, month, year, the day of the week, the day of the year and a week of the year.

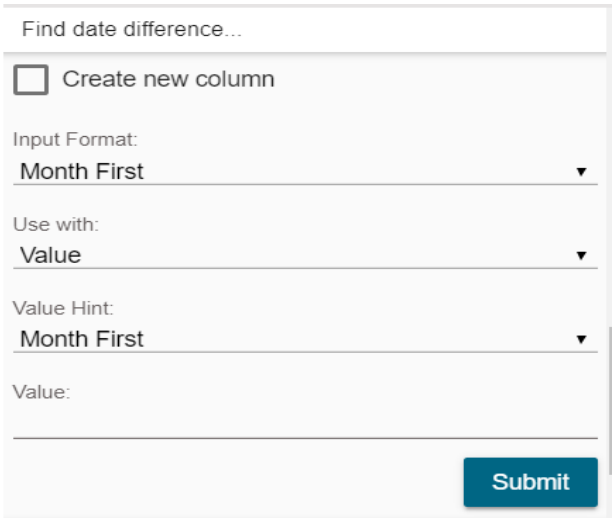
- **Day:** It extracts day from a date
- **Month:** It extracts the month from a date/datetime. We can specify the pattern in which the month value has to be returned. Month pattern can be 0-12, Jan - Dec or January - December
- **Year**: It extracts the year from a date. We can specify the pattern in which the year has to be returned. Year pattern can be in the 'yy' or 'yyyy' format.
- **Day of Week:** It returns the 'day of week' for the selected date. Day of week pattern can also be specified. The pattern can be 1-7, Sun-Sat or Sunday-Saturday
- **Day of Year:** It returns a number between 1 and 365, which indicates the sequential day number starting with day one on January 1st.
- **Week of Year:** It replaces a number between 1 and 53, which indicates the sequential week number beginning with 1 for the week January 1st falls.

Note: The transform supports Date and DateTime format (date hh:mm:ss)

5.4.4.5. Find Date Difference

The transform finds the difference between two date values. It can either subtract the selected column with a date value or date from another column. The transformed value can replace the existing column value or can be added as a new column.

- **Input Format**: Specifies the format of the given date column
- **Use with**: Specify whether to fill with a value or another column value
- **Value Hint**: Specifies format of value from which we want to find the difference
- **Value**: Pass the date value from where you want to find the date difference



This transform gives the number of days by finding out the difference between the given date and value/date column which we have used.
Here value used is: 2016-01-01

expected_joining_... date
2017-01-02
2017-01-18
2017-01-19
2017-01-18
2017-02-15
2017-02-16
2017-02-17

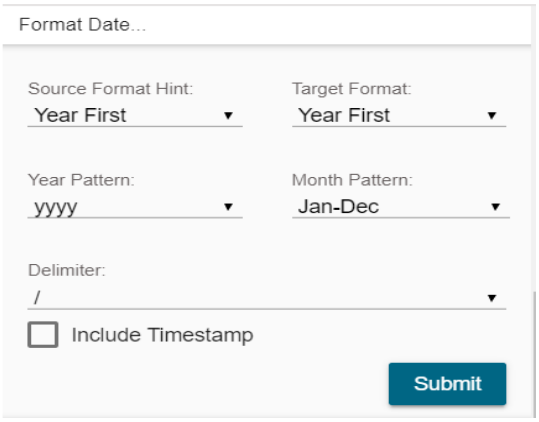
converts to

expected_joining_... integer
367
383
384
383
411
412

5.4.4.6. Format Date

The users can change the format of a date column by using this transform.

- **Source Format Hint:** Specifies the current format of the date column.
- **Target Format:** Specifies what we want first(Year, Month, Day) in our output format of the date column
- **Year Pattern:** Specifies format of the year (yyyy or yy) in the output date column.
- **Month Pattern:** It specifies the format of the month (number, Jan-Dec, January-December) in the output date column.
- **Delimiter:** Specifies Delimiter(like- slash, hyphen, comma, full stop, space) for the output date column.
- **Include Timestamp:** It will add a timestamp to the current date format if enabled with a tick mark.



expected_joining_... date
2017-01-02
2017-01-18
2017-01-19
2017-01-18
2017-02-15
2017-02-16

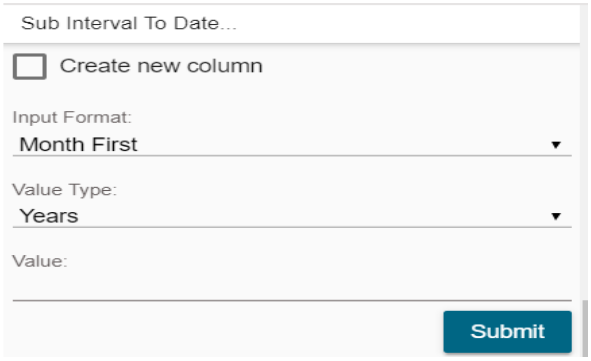
converts to

expected_joining_... timestamp
2017/Jan/02 00:00:00
2017/Jan/18 00:00:00
2017/Jan/19 00:00:00
2017/Jan/18 00:00:00
2017/Feb/15 00:00:00
2017/Feb/16 00:00:00

5.4.4.7. Sub Interval to Date

The 'Sub Interval to Date' transform subtracts specified value(interval) from the given date column. The transformed value can replace the existing column value or can be added as a new column.

- **Input Format**- Format of date column(given) should be specified here.
- **Value Type**-specifies what we want to subtract like years, months, days, weeks, etc.
- **Value**- specifies how many years(value type) we want to subtract.



This transform when performed subtracts four months from the date column and gives this new column having the date which is four months back from the given date.

expected_joining_... date
2017-01-02
2017-01-18
2017-01-19
2017-01-18
2017-02-15
2017-02-16

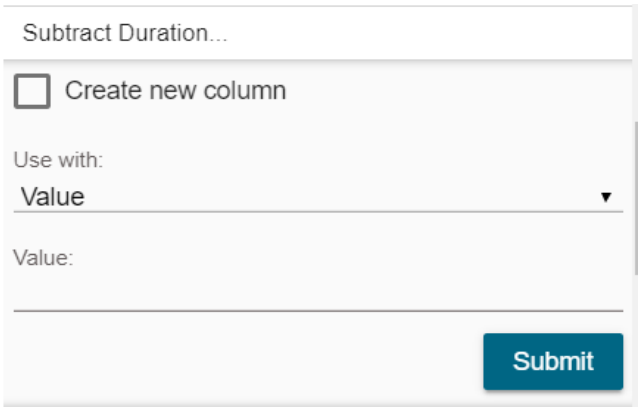
converts to

expected_joining_... date
2016-09-02
2016-09-18
2016-09-19
2016-09-18
2016-10-15
2016-10-16

5.4.4.8. Subtract Duration

The 'Subtract Duration' transform deducts the time values in two ways. It can either subtract the selected column with a time value or time from another column. The transform supports subtracting time into '**hh:mm:ss.mmm' ,'hh:mm:ss'** and **'hh:mm'** formats. The transformed value can replace the existing column value or can be added as a new column.

- **Use with:** Specify whether to fill with a value or another column value
- **Column/ Value:** The value with which the column must be subtracted, or the column with which the selected column value must be subtracted.



This transform when performed on Time1_split1 for subtracting 01:00:00 from this column provides a new column having values after deducting 01:00:00.

Time1_split_1 string
1:00:00
2:00:00
3:00:00
4:00:00
5:00:00
6:00:00

converts to

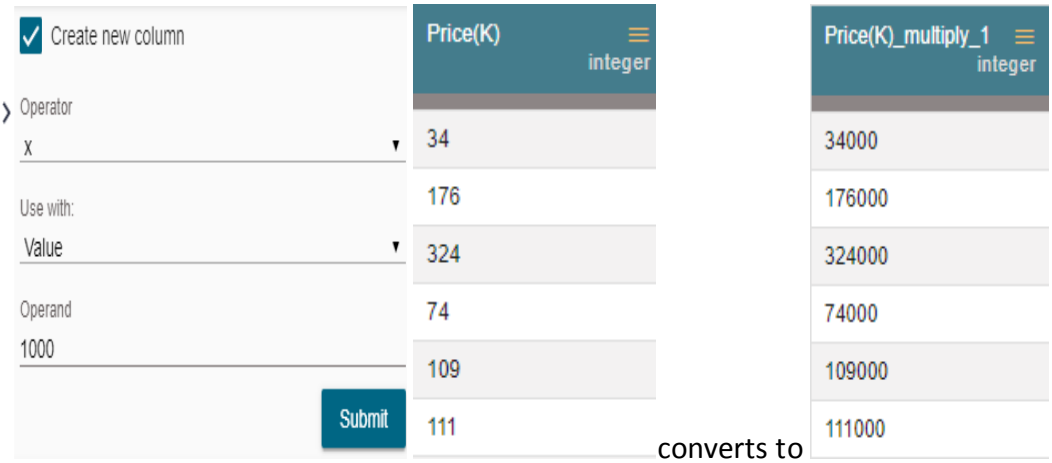
Time1_split_1_sub... string
00:00:00.000
01:00:00.000
02:00:00.000
03:00:00.000
04:00:00.000
05:00:00.000

5.4.5. Integer

5.4.5.1. Add, Multiply, Subtract or Divide

It performs the arithmetic operation on the selected numerical column.

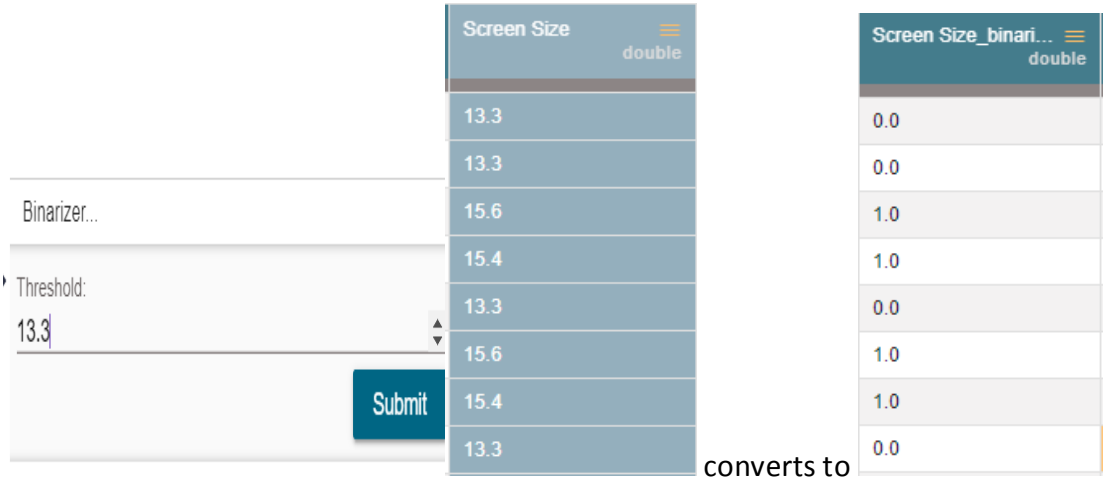
- **Operator:** There is four arithmetic operation to choose from +, -, / and *.
- **Use with:** The operation can be performed between column-column and column-value.
- **Operand/Column:** The arithmetic operation needs two operands. The first operand is one on which the operation is being performed. The second operation can be either be a value or other numerical column based on the choice of use with an option.



5.4.6. ML

5.4.6.1. Binarizer

It converts the value of a numerical column to zero when the value in the column is less than or equals to the threshold value and one if the value in the column is greater than threshold value.



5.4.7. Numbers

5.4.7.1. Max

It gives the maximum value from the selected columns row-wise. The selected column should be numerical and more than one.

5.4.7.2. Mean

It gives the average value of the selected columns row-wise. The selected column should be numerical and more than one.

5.4.7.3. Min

It gives the minimum value from the selected columns row-wise. The selected column should be numerical and more than one.

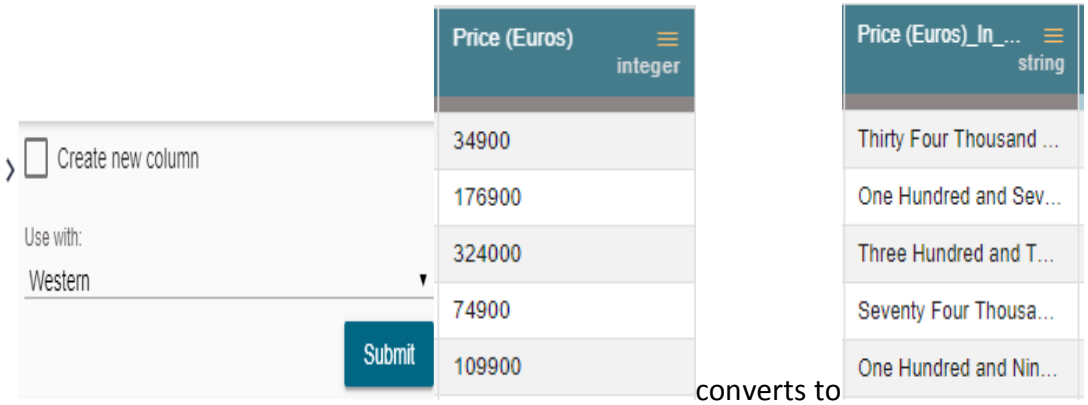
5.4.7.4. Negate

It will complement the sing of a numeric value. If the value is positive, then a negative value will come and vice-versa.

5.4.7.5. Number Name

It will convert the value of the selected column into words. The column must be of integer type.

Use with: It gives the users an option to convert word into either western format or Indian format.

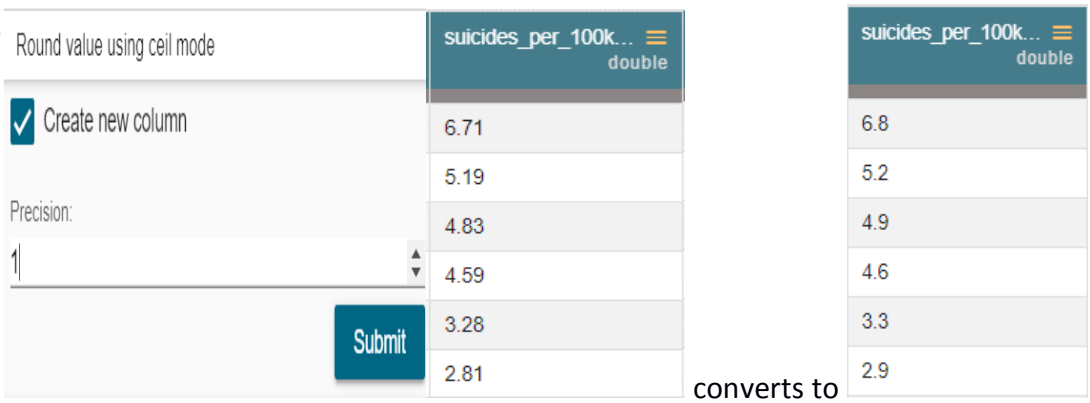


5.4.7.6. Remove Fractional Part

It removes the fractional part from the numerical column. The float column is converted into the integer data type.

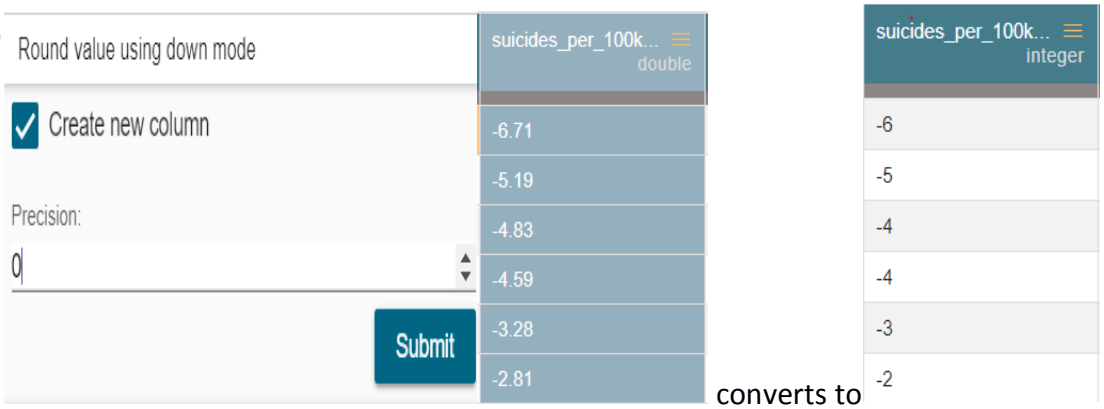
5.4.7.7. Round Value using Ceil Mode

It replaces the number with a greater integer value if the number is between two integer value. The transformed value can replace the existing column value or can be added as a new column.



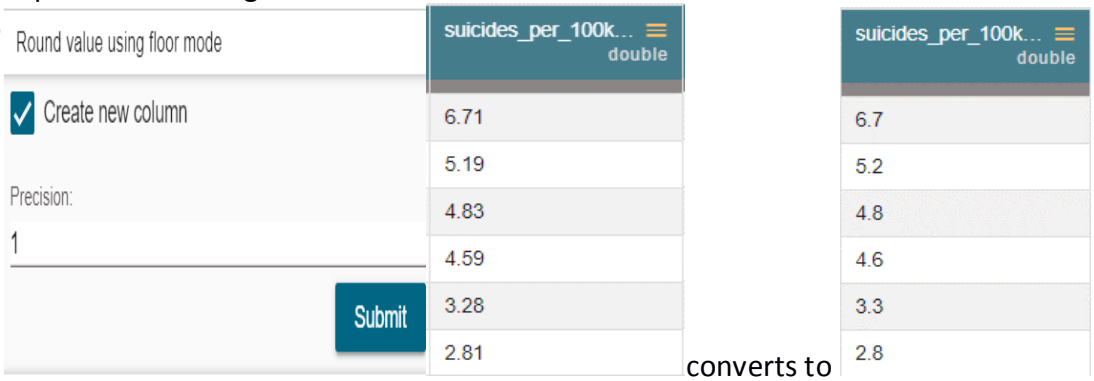
5.4.7.8. Round Value using Down Mode

It rounds the number down to a specified digit or gives the specified number of decimals without any change in value. The transformed value can replace the existing column value or can be added as a new column.



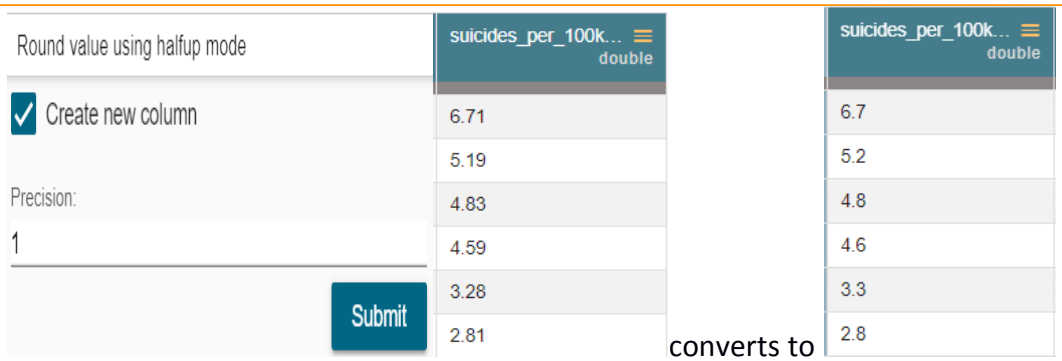
5.4.7.9. Round Value using Floor Mode

It replaces a number with the lesser integer value, if the number is between two integer value, or it rounds the number down to nearest multiple of Specified significance. It does not consider weather next digit is 5 or less than or greater than 5. The transformed value can replace the existing column value or can be added as a new column.



5.4.7.10. Round Value usingHalf-up mode

It replaces a number with next integer value if its next digit is 5 or greater than 5. The transformed value can replace the existing column value or can be added as a new column.



5.4.8. String

5.4.8.1. Change to lower case

It converts the selected column value to the small case. The transformed value can replace the existing column value or can be added as a new column.

5.4.8.2. Change to Title Case

It converts the selected column value to title case. The transformed value can replace the existing column value or can be added as a new column.

5.4.8.3. Change to Upper Case

It converts the selected column value to capital letters. The transformed value can replace the existing column value or can be added as a new column.

5.4.8.4. Extract Substring at Position

It extracts the substring from the selected column based on the starting position and the length of the extract. The transformed value can replace the existing column value or can be added as a new column.

- **Position:** This value is required and is the start position. It can be both a positive or negative number. If it is a positive number, this function extracts from the beginning of the string. If it is a negative number, this function extracts from the end of the string.
- **Length:** This value is optional. It specifies the number of characters to extract. If omitted, the whole string will be returned starting from the given position.

5.4.8.5. Extract Substring before Delimiter

It extracts the substring from the selected column, before the 'n^{th}' occurrence of the delimiter specified where 'n' is the count. The transformed value can replace the existing column value or can be added as a new column.

- **Delimiter:** The delimiter on whose occurrence the extract should happen
- **Count:** This value is mandatory and specifies the count of occurrence of the delimiter before which the extract should happen

5.4.8.6. Remove Consecutive Characters

The transform removes the repeated whitespace or character and modifies the selected column /adds the result to a new column. It removes only the repetition.

- **Separator**: it has values whitespace /other. If whitespace, the transform searches for multiple white spaces and return a single-spaced value.
- **Custom repeated Character:** When a repeated character is 'Other,' this provides an option to give the character whose consecutive occurrence must be searched.

5.4.8.7. Remove Part of Text

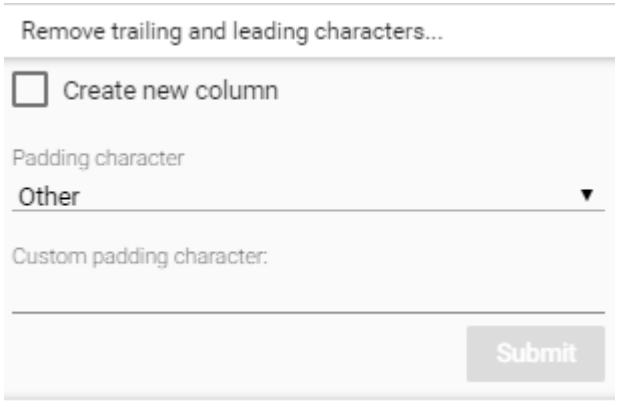
It matches and removes the matching part or entire value based on the condition. The transformed value can replace the existing column value or can be added as a new column.

- **Operator:** Select the operator required for matching from the list
- **Value:** The value or pattern to be searched for in the selected column

5.4.8.8. Remove Trailing and Leading Characters

It removes trailing and leading characters from the column. The transformed value can replace the existing column value or can be added as a new column.

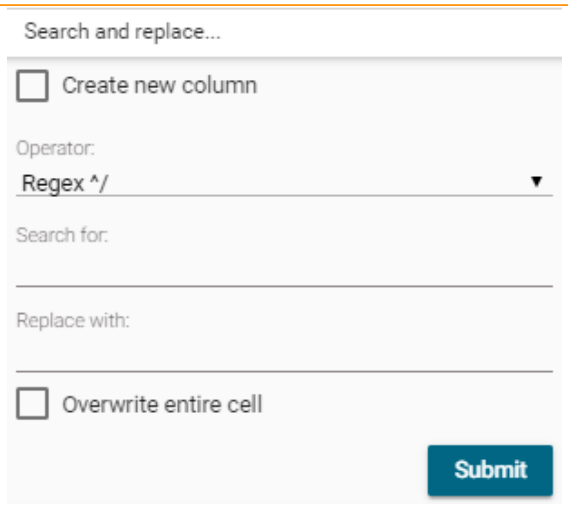
- **Padding character:** Specify whether to remove whitespace or another character using the drop-down menu.
- **Custom padding character -** If 'other' is selected as a padding character, specify which is the character to be removed



5.4.8.9. Search and Replace

It searches and replaces the matching part or entire value based on the option selected. The transformed value can replace the existing column value or can be added as a new column.

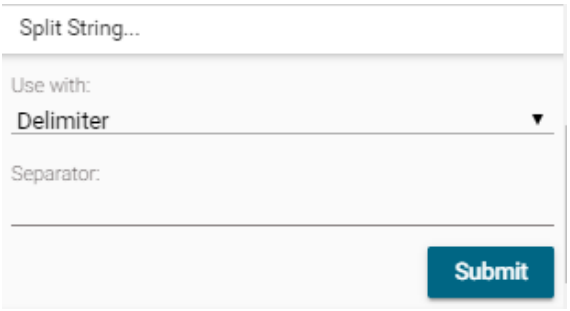
Operator- Select the operator required for matching from the list. Operators include contains, equals, starts with, end with and regex match
Value: The value or pattern to be searched for in the selected column



5.4.8.10. Split String

It splits the string based on condition. It will give new columns based on the number of delimiter and on position.

- **Use With:** Specify whether to split with a delimiter or at position
- **Delimiter:** The delimiter on whose occurrence the split should happen
- **Position:** After which position split should happen if use with is 'position.'



Here splitting of the column is done based on position (after 5th character)

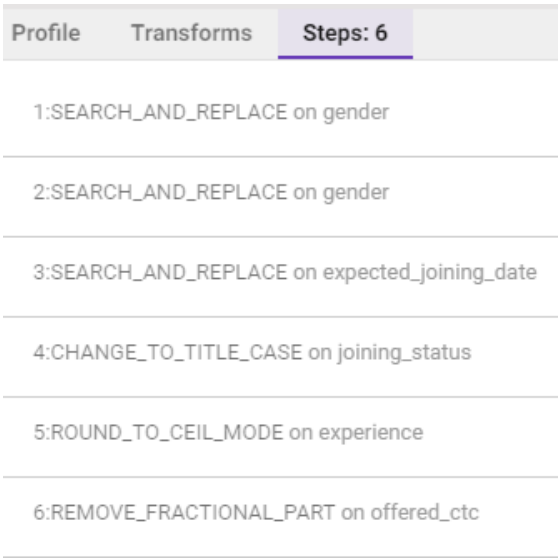
age (string)
15-24 years
35-54 years
15-24 years
75+ years
25-34 years
75+ years
35-54 years

converts to

age (string)	age_split_1 (string)	age_split_2 (string)
15-24 years	15-24	years
35-54 years	35-54	years
15-24 years	15-24	years
75+ years	75+ y	ears
25-34 years	25-34	years
75+ years	75+ y	ears
35-54 years	35-54	years

5.5. Steps

This tab lists all the transforms that were performed on the data. It also gives a count of steps performed.



6. Navigation Pane

The navigation pane provides an option to export the data, move out of the BDB Data Preparation and Perform Undo or Re-do options.

a. **Export Settings:** Export settings provides an option to specify the elastic into which the cleansed data must be moved.
b. **Export Steps to Pipeline**: This button provides an option to specify the name in which the steps/transforms created as part of cleansing must be exposed to the pipeline module of the platform.
c. **Undo** ← : Undo a list of last few transforms. This button will be enabled only if, we have applied some transform on the data.
d. **Redo** →: Redo a list of last few transforms, that was undone. If we have not undone any transform, then the '**redo**' icon will be disabled.
e. Close the Preparation: We will exit from the preparation window and reach the landing page of data preparation.

Note: The standalone version of data preparation provides an option to export the prepared data to elastic so that that visualization modules can consume it.

7. Signing Out

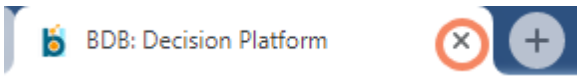
The users can Sign-out from the Data Preparation tab at any given stage, but preferable is that the users should complete all the preparation tasks they wish to perform and save it before closing the tab or singing out from the Platform.

The Signing Out process for the Data Preparation has two steps:

1. Closing the BDB Data Preparation

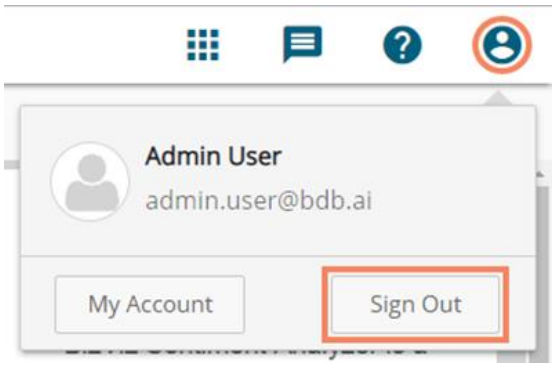
Once you have completed the Data Preparation tasks, save your work and close the Data Preparation tab.

Click the **'Close'** button (the 'X' on the right edge) from the Data Preparation tab.



2. Sign Out from the BDB Platform

i) Click the '**User**' icon on the Platform homepage.
ii) A menu appears with the logged in user details (User's name and email id).
iii) Click '**Sign Out**.'



iv) Users successfully log out from the **BDB Platform**.

Note: Clicking on the '**Sign Out**' option will redirect the user back to the login page of the BDB platform.