

McMaster University



SEP 720 – Cloud Computing : Assignment 3

Qwiklabs

Submitted by,

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Lab1: Creating a Data Transformation Pipeline with Cloud Dataprep

- Creating a BigQuery Dataset

The screenshot displays the Google Cloud Dataprep interface. On the left, the 'BI Engine' sidebar shows a 'Resources' section with a search bar and a list of datasets. The dataset 'ecommerce_1' under the project 'crack-map-265614' is selected. The main panel shows the details for 'crack-map-265614:ecommerce_1'. At the top of the main panel, there are buttons for 'Run', 'Save query', 'Save view', 'Schedule query', and 'More'. Below these buttons, the dataset name 'crack-map-265614:ecommerce_1' is displayed, followed by 'CREATE TABLE' and 'SHARE DATASET' buttons. The 'Description' and 'Labels' sections both show 'None'. The 'Dataset info' section contains a table with the following details:

Dataset info	
Dataset ID	crack-map-265614:ecommerce_1
Created	Feb 9, 2020, 11:00:10 PM
Default table expiration	Never
Last modified	Feb 9, 2020, 11:00:10 PM

BigQuery
FEATURES & INFO
SHORTCUTS

Query history

Saved queries

Job history

Transfers

Scheduled queries

Reservations

BI Engine

Resources + ADD DATA

Search for your tables and datasets

- crack-map-265614
 - ecommerce
 - ecommerce_1**
 - all_sessions_raw_dataprep
 - taxi
- bigquery-public-data
- data-to-insights

{{ctrl.queryPanelTitle}}Query editor

```

1 #standardSQL
2 CREATE OR REPLACE TABLE ecommerce_1.all_sessions_raw_dataprep
3 OPTIONS(
4   description="Raw data from analyst team to ingest into Cloud Dataprep"
5 ) AS
6 SELECT * FROM next-marketing-analytics.ecommerce.all_sessions_raw
7 WHERE date = '20170801'; # limiting to one day of data 56k rows for this lab

```

Run
Save query
Save view
Schedule query
More

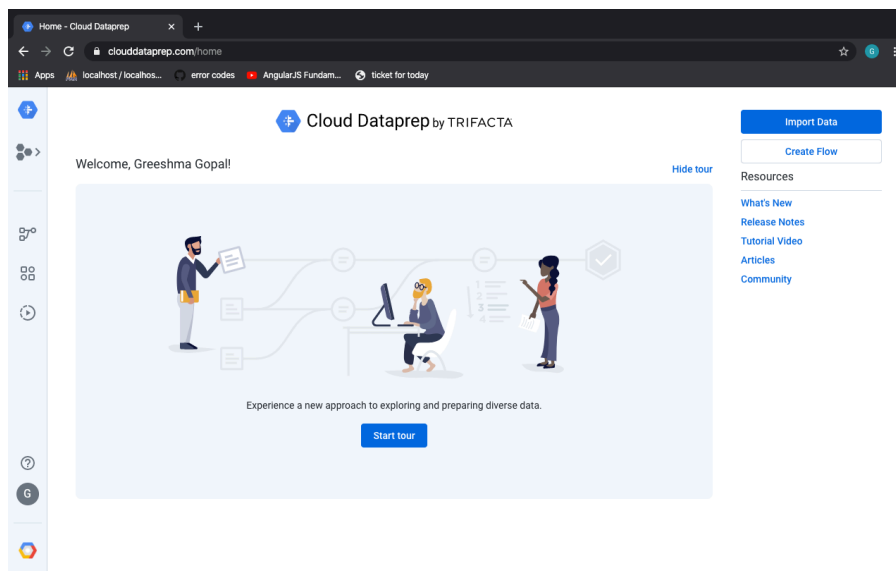
Query results

Query complete (4.7 sec elapsed, 5.6 GB processed)

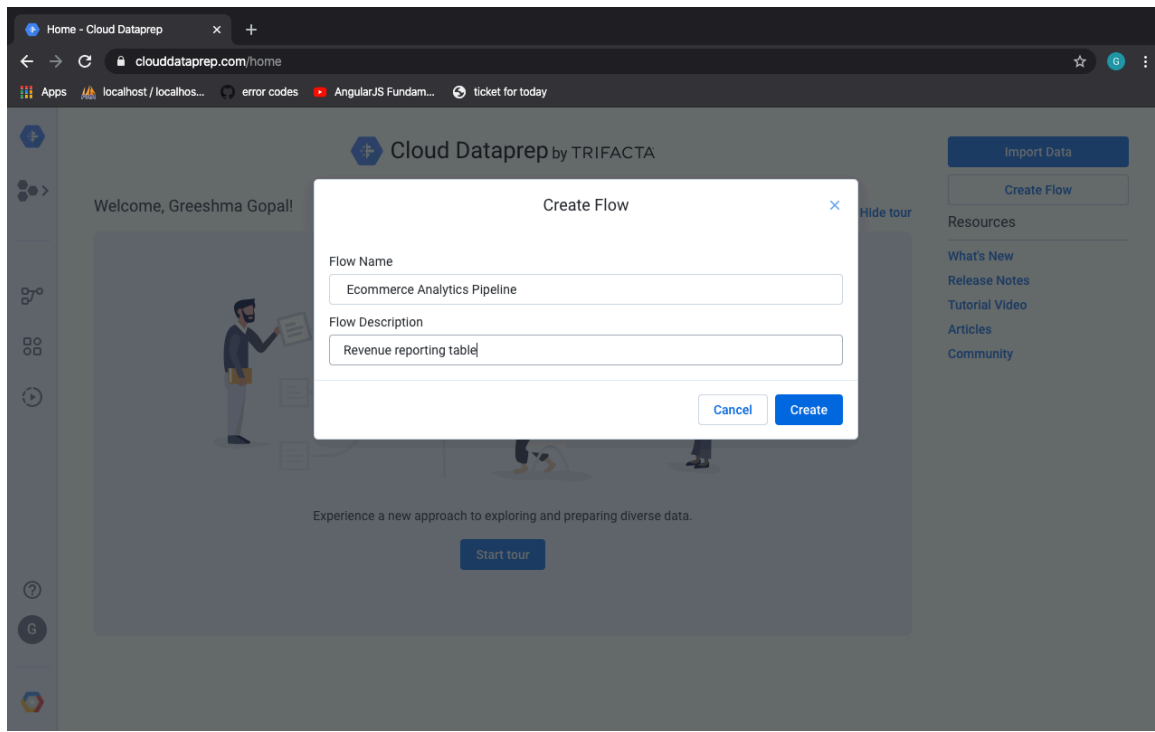
Job information Results JSON Execution details

This statement created a new table named crack-map-265614:ecommerce_1.all_sessions_raw_dataprep.

- Opening Cloud Dataprep



- Connecting BigQuery data to Cloud Dataprep



Import Data - Cloud Dataprep

clouddataprep.com/import/data?flows=235605

Appslocalhost / localhos...error codesAngularJS Fundam...ticket for today

Import Data and Add to Flow

Search...

Upload

GCS

BigQuery

Upload from your computer

Drag & drop a file here or

Choose a file

Upload location: gs://dataprep-staging-bf6301b0-fcba-486c-bbea-01975a3...Change

0 New Datasets

Choose data to import.

Import & Add to FlowCancel

Import Data - Cloud Dataprep

clouddataprep.com/import/data?flows=235605

Appslocalhost / localhos...error codesAngularJS Fundam...ticket for today

Import Data and Add to Flow

Search...

Upload

GCS

BigQuery

Choose a table

BigQuery / crack-map-265614

Search...

NAME
ecommerce
ecommerce_1
taxi

0 New Datasets

Choose data to import.

Import & Add to FlowCancel

- Exploring ecommerce data fields with a UI

The screenshot shows the 'Import Data - Cloud Dataprep' web interface. The browser address bar shows the URL `clouddataprep.com/import/data?flows=235605`. The page title is 'Import Data and Add to Flow'. On the left sidebar, there are options for 'Upload', 'GCS', and 'BigQuery'. The main area is titled 'Choose a table' and shows the path 'BigQuery / crack-map-265614 / ecommerce_1'. Below this is a search bar and a table listing available datasets. The table has columns for NAME, SIZE, and LAST UPDATED. One dataset, 'all_sessions_raw_dataprep', is listed with 32 Columns, 57k Rows, and was updated 'Today at 11:01 PM'. On the right, a '1 New Dataset' panel shows a preview of the 'all_sessions_raw_dataprep' dataset. It includes a table with columns 'RBC', 'fullVisitorId', and 'RBC channel'. The preview shows several rows of data, including visitor IDs and channel types like 'Organic Search', 'Display', and 'Direct'. At the bottom right, there are buttons for 'Import & Add to Flow' and 'Cancel'.

Import Data - Cloud Dataprep

cloudataprep.com/import/data?flows=235605

Apps localhost / localhos... error codes AngularJS Fundam... ticket for today

Import Data and Add to Flow

Search...

Upload

GCS

BigQuery

Choose a table

BigQuery / crack-map-265614 / ecommerce_1

Search...

NAME	SIZE	LAST UPDATED
+ all_sessions_raw_dataprep	32 Columns 57k Rows	Today at 11:01 PM

1 New Dataset Clear All

all_sessions_raw_dataprep

Add a Description

RBC	fullVisitorId	RBC channel
8074041050560984021		Organic Se
8074041050560984021		Organic Se
8685530477324183365		Display
3395445735354444853		Direct
3173566250804266498		Organic Se

Edit settings

Import & Add to Flow Cancel

Flow Details - Ecommerce Analy x +

clouddataprep.com/flows/235605?dataset=1260359

☆ 6 ⋮

Apps localhost / localhos... error codes AngularJS Fundam... ticket for today

Flows

Ecommerce Analytics Pipeline

Revenue reporting table

Add Datasets ⋮

all_sessions_raw_dataprep

all_sessions_raw_dataprep

Add new Recipe ⋮

Data Preview

ABC	fullVisitorId	ABC channelGrouping
8074041050560984021		Organic Search
8074041050560984021		Organic Search
8685530477324183365		Display
3395445735354444853		Direct
3173566250804266498		Organic Search
8230528872482379210		Paid Search
385231150756085903		Organic Search

Type

BIGQUERY

Location

bigquery://crack-map-265614/ecommmerce_1/all_sessions_raw_dataprep

File Size

-

Size

32 columns · 3 types

Updated

Today at 11:12 PM

Created

Today at 11:12 PM

Used in

1 Flow [More details](#)

Column Data

Enabled



ECOMMERCE ANALYTICS PIPELINE >



all_sessions_raw_dataprep - 2 ▾

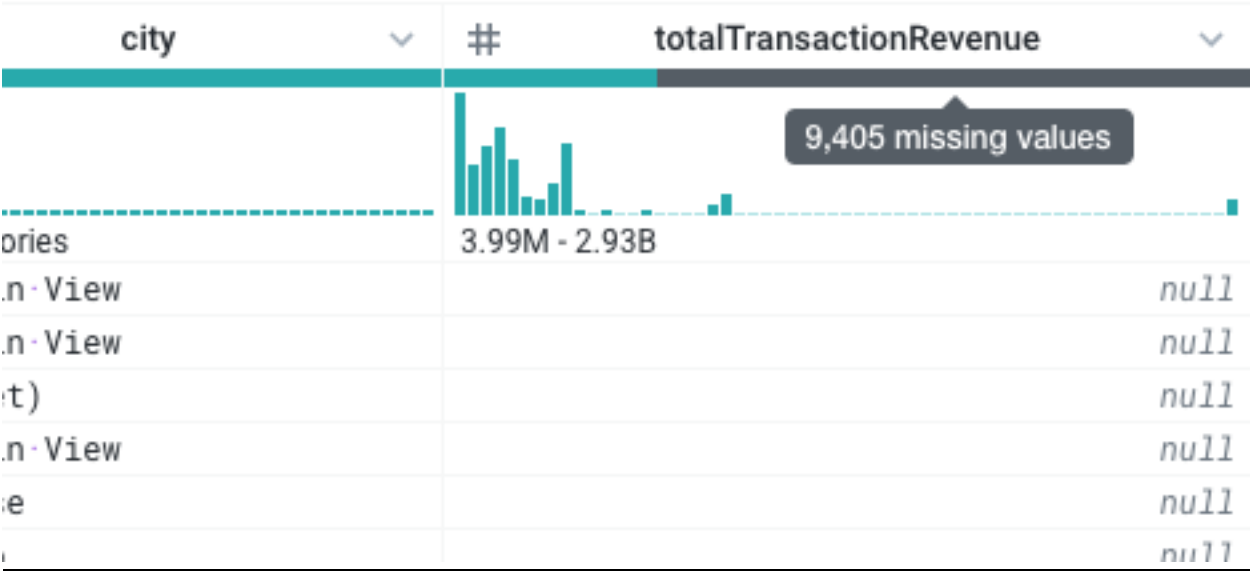
[Initial Sample](#)

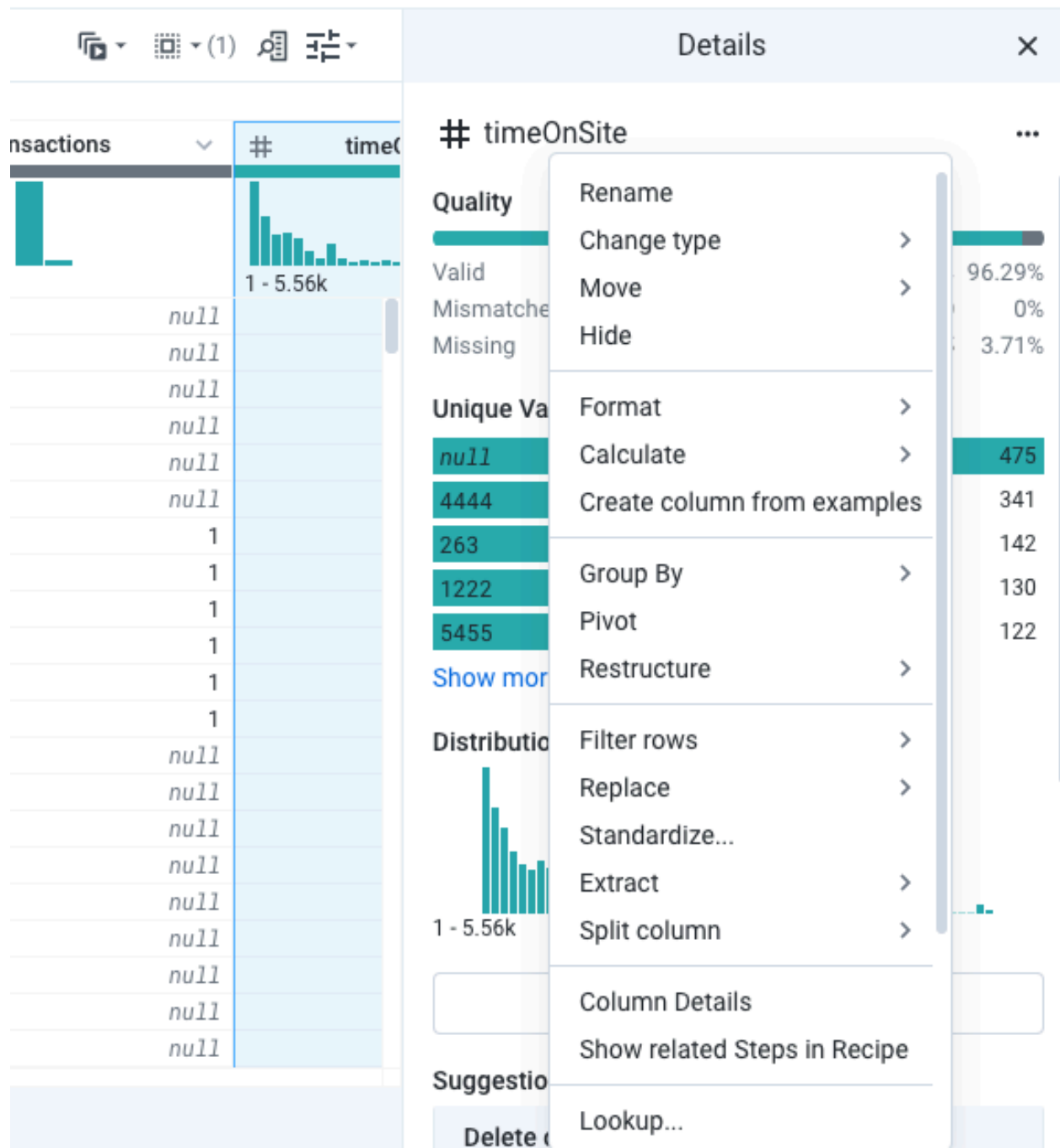


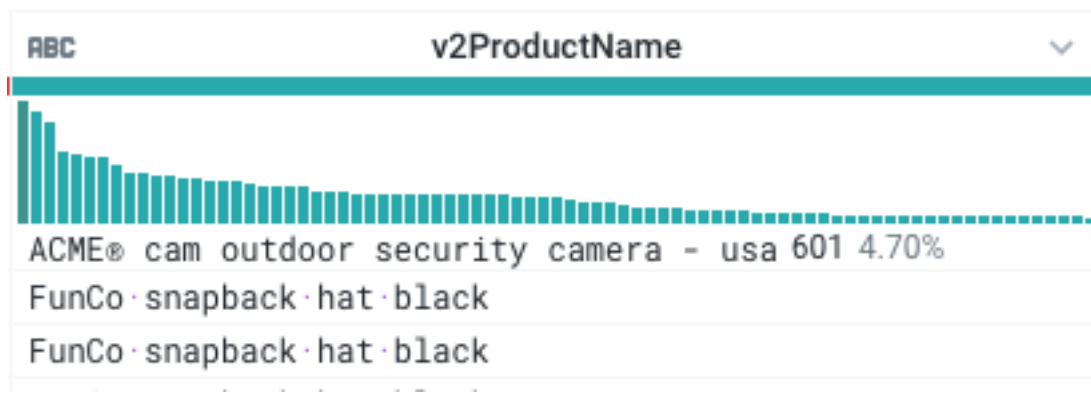
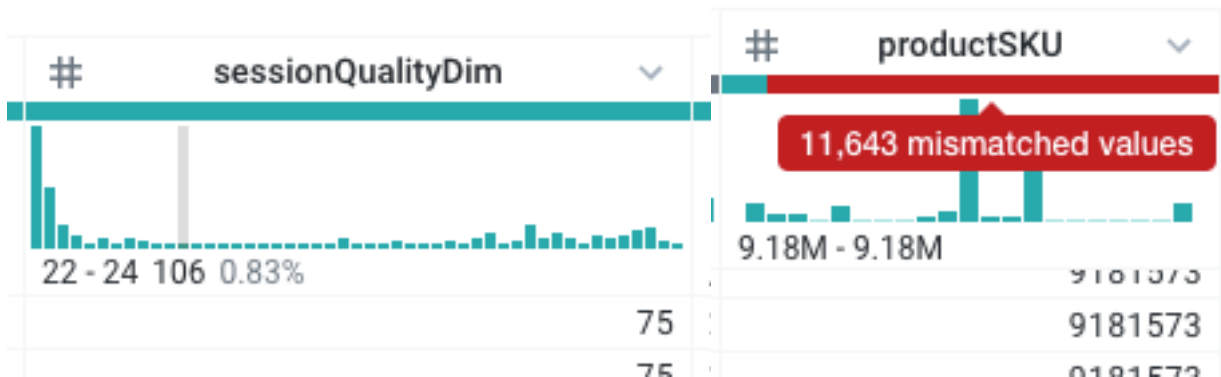
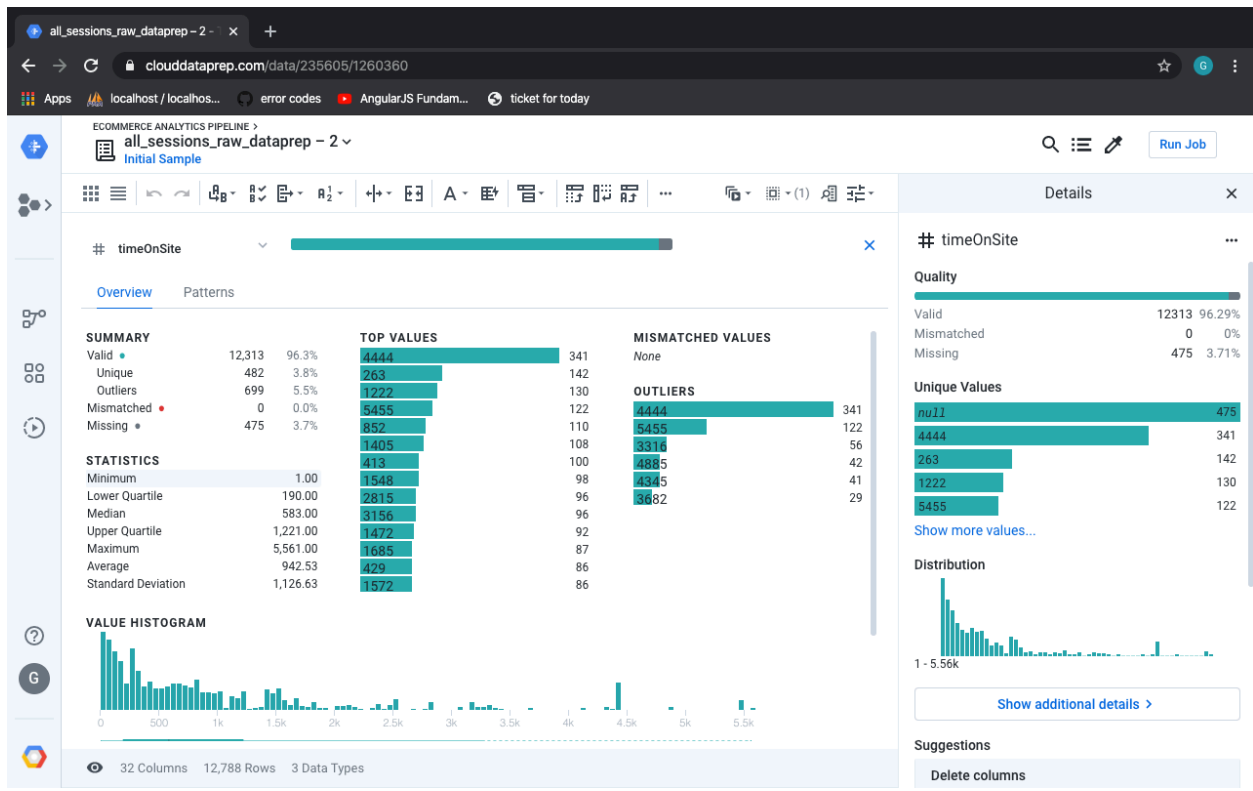
ABC	fullVisitorId	ABC	channelGrouping	:
	690 Categories		7 Categories	C
·	8074041050560984021	Organic · Search		
·	8074041050560984021	Organic · Search		
·	8685530477324183365	Display		
·	3395445735354444853	Direct		
·	3173566250804266498	Organic · Search		
·	8230528872482379210	Paid · Search		
·	385231150756085903	Organic · Search		
·	9947542428111966715	Referral		
·	9947542428111966715	Referral		
·	9947542428111966715	Referral		
·	9947542428111966715	Referral		
·	8812275451738413277	Referral		
·	9893914155363716533	Referral		
·	9893914155363716533	Referral		
·	1419842828452102862	Organic · Search		
·	7681490372890457184	Referral		
·	7681490372890457184	Referral		
·	7681490372890457184	Referral		
·	7681490372890457184	Referral		
·	7681490372890457184	Referral		
·	7681490372890457184	Referral		

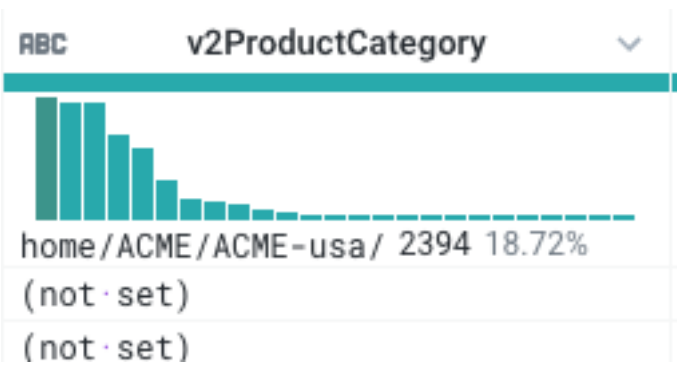


32 Columns 12,788 Rows 3 Data Types









RBC transactionId

Overview

Patterns

SUMMARY

Valid	582	4.6%
Unique	97	0.8%
Outliers	0	0.0%
Mismatched	0	0.0%
Missing	12,206	95.4%

STRING LENGTH STATISTICS

Minimum	15.00
Lower Quartile	15.00
Median	15.00
Upper Quartile	15.00
Maximum	15.00
Average	15.00
Standard Deviation	0.00

STRING LENGTH

TOP VALUES

ORD201708012517	48
ORD201708012584	44
ORD201708012558	22
ORD201708012449	20
ORD201708012572	20
ORD201708012481	18
ORD201708012533	16
ORD201708012550	16
ORD201708012562	14
ORD201708012360	12
ORD201708012415	12
ORD201708012493	12
ORD201708012543	12
ORD201708012473	10

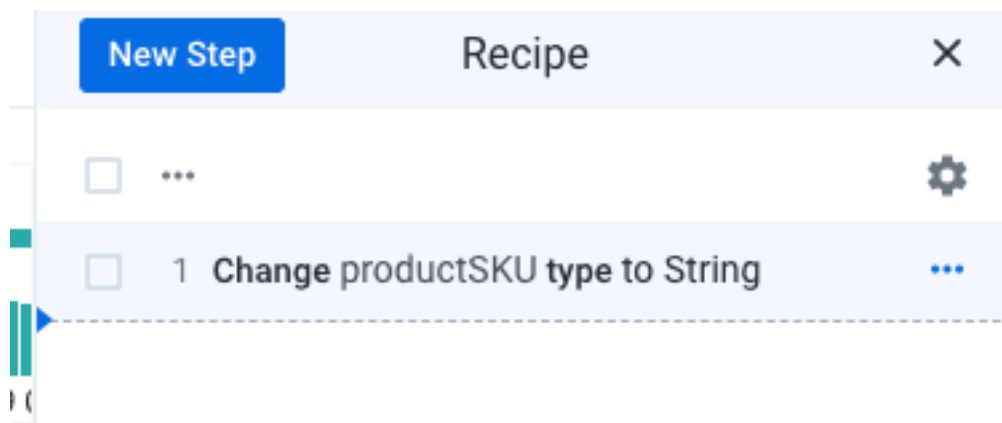
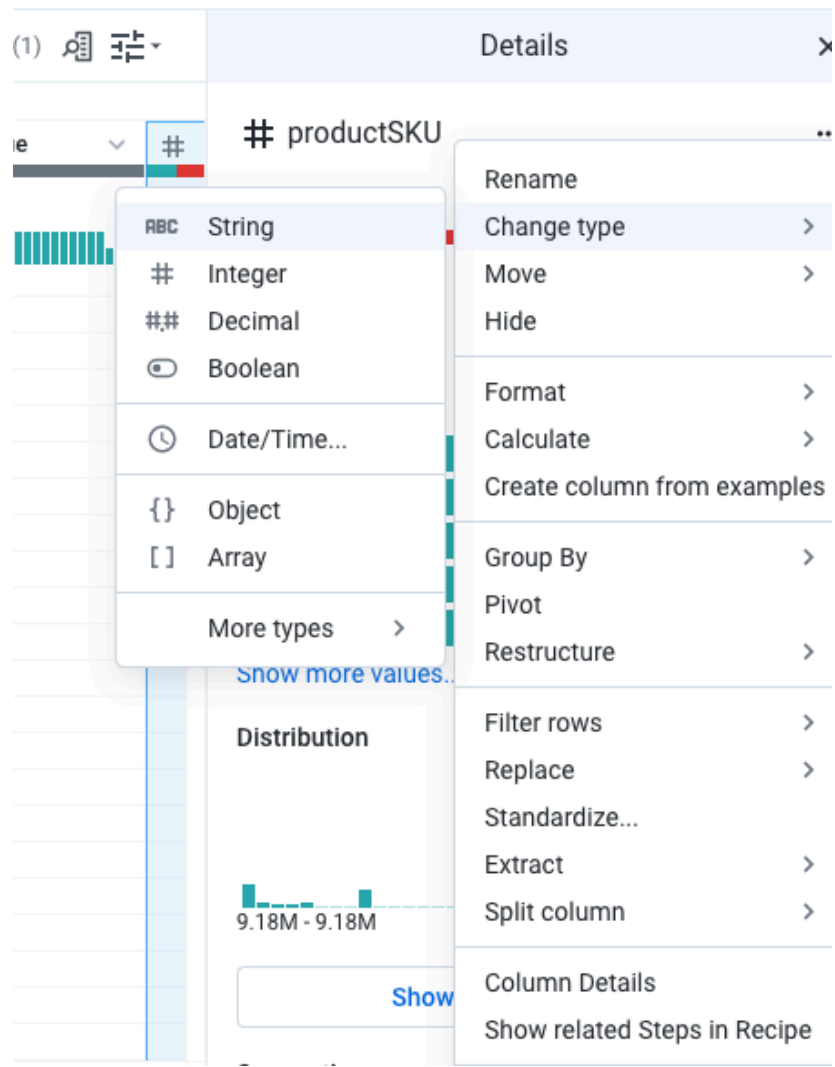
MISMATCHED VALUES

None

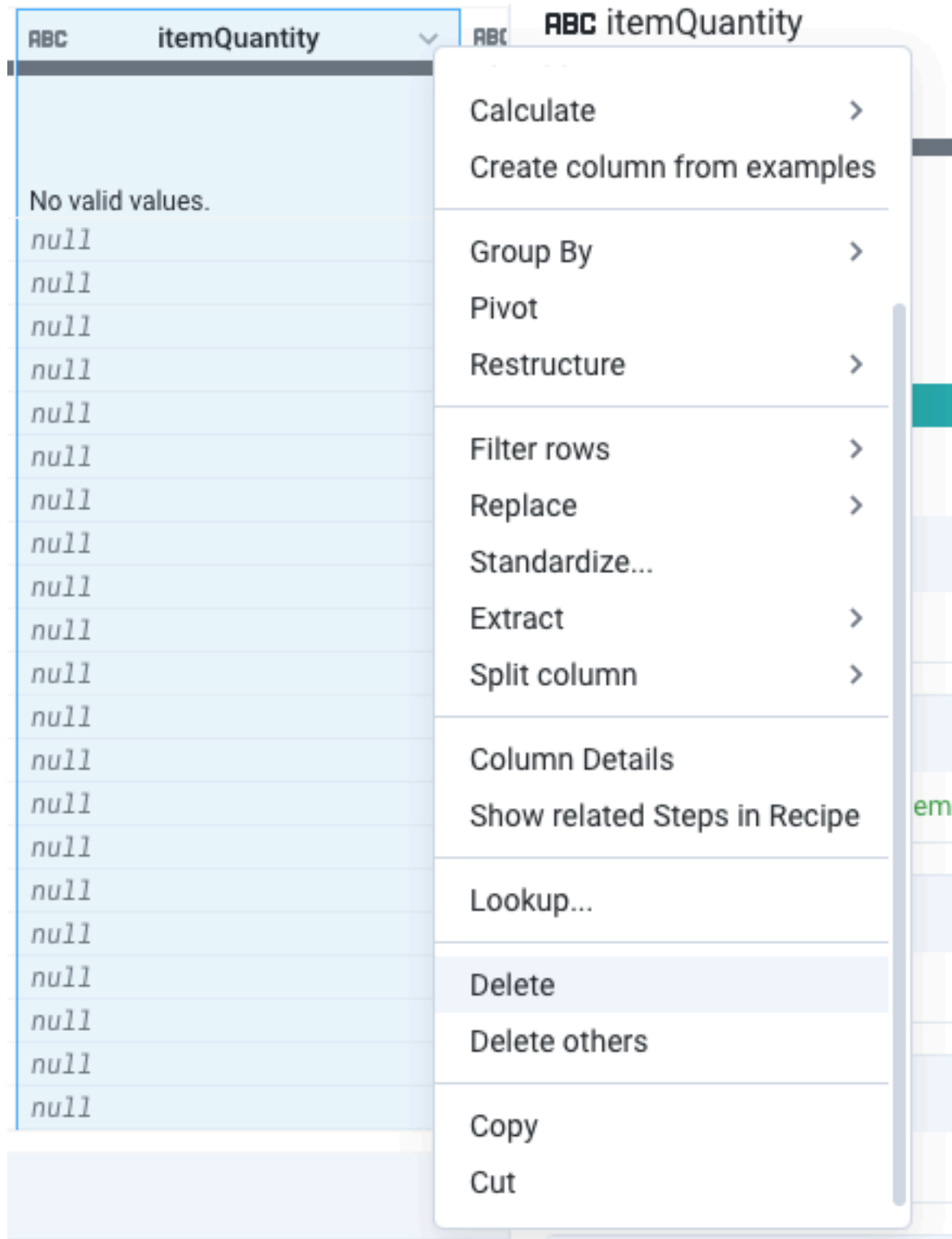
STRING LENGTH OUTLIERS

None

- Cleaning the data



- Deleting unused columns



- Deduplicating rows

The screenshot shows a data tool interface. At the top, a toolbar contains icons for various operations: a curly brace, a formula icon, a sum icon, a filter icon, a union icon, a sort icon, and a comment icon. Below the toolbar, a data table is visible with columns labeled 'RBC' and 'RI'. The 'RBC' column contains values like '89', 'null', 'null', 'null', 'null', 'null', and 'null'. The 'RI' column contains values like '9', 'n', 'n', 'n', 'n', 'n', and 'n'. A context menu is open over the table, showing the option 'Remove duplicate rows' highlighted. Below the table, a 'New Step' button is visible. The 'Recipe' section shows a list of steps: 1. Change productSKU type to String, 2. Delete itemQuantity, 3. Delete itemRevenue, and 4. Remove duplicate rows. A dashed line is at the bottom of the recipe list.

On column values >

Remove duplicate rows

Rows from top

Rows in range

Rows at regular interval

New Step

Recipe

1 Change productSKU type to String

2 Delete itemQuantity

3 Delete itemRevenue

4 Remove duplicate rows

- Filtering out sessions without revenue

The screenshot shows the Clouddataprep interface for a data pipeline named 'all_sessions_raw_dataprep - 2'. The main area displays a preview of the data with columns: #, time, RBC, country, city, #, and totalTransactionRevenue. There are histograms for each of these columns. The 'Suggestions' panel on the right offers several actions:

- Delete rows:** with missing values in totalTransactionRevenue (Buttons: Edit, Add)
- Keep rows:** with missing values in totalTransactionRevenue
- Create a new column:** flag missing values in totalTransactionRevenue
- Set:**
 - missing values to NULL()
 - missing values to 0

At the bottom, it indicates '30 Columns', '12,788 Rows', and '3 Data Types'. There are also checkboxes for 'Show only affected' and 'Rows'.



...



- 1 Change productSKU type to String
- 2 Delete itemQuantity
- 3 Delete itemRevenue
- 4 Remove duplicate rows
- 5 Delete rows where
`ISMISSING([totalTransactionRevenue])`

- Filtering sessions for PAGE views

...

#

visitId

ABC

1.5B - 1.5B

2 Cate

1501603468	PAGI
1501608078	PAGI
1501608078	PAGI
1501608078	EVEI
1501608078	PAGI
1501651868	PAGI
1501639940	PAGI
1501639940	PAGI
1501639940	EVEI
1501639940	PAGI
1501639940	PAGI
1501639940	PAGI
1501639940	PAGI
1501639940	EVEI
1501639940	PAGI
1501639940	EVEI
1501639940	EVEI
1501639940	PAGI
1501639940	PAGI
1501639940	PAGI
1501639940	PAGI

Run Job

Suggestions

X

Keep rows

where type is 'PAGE'

Edit

Add

Delete rows

where type is 'PAGE'

Set

to NULL() where type is 'PAGE'

Create a new column

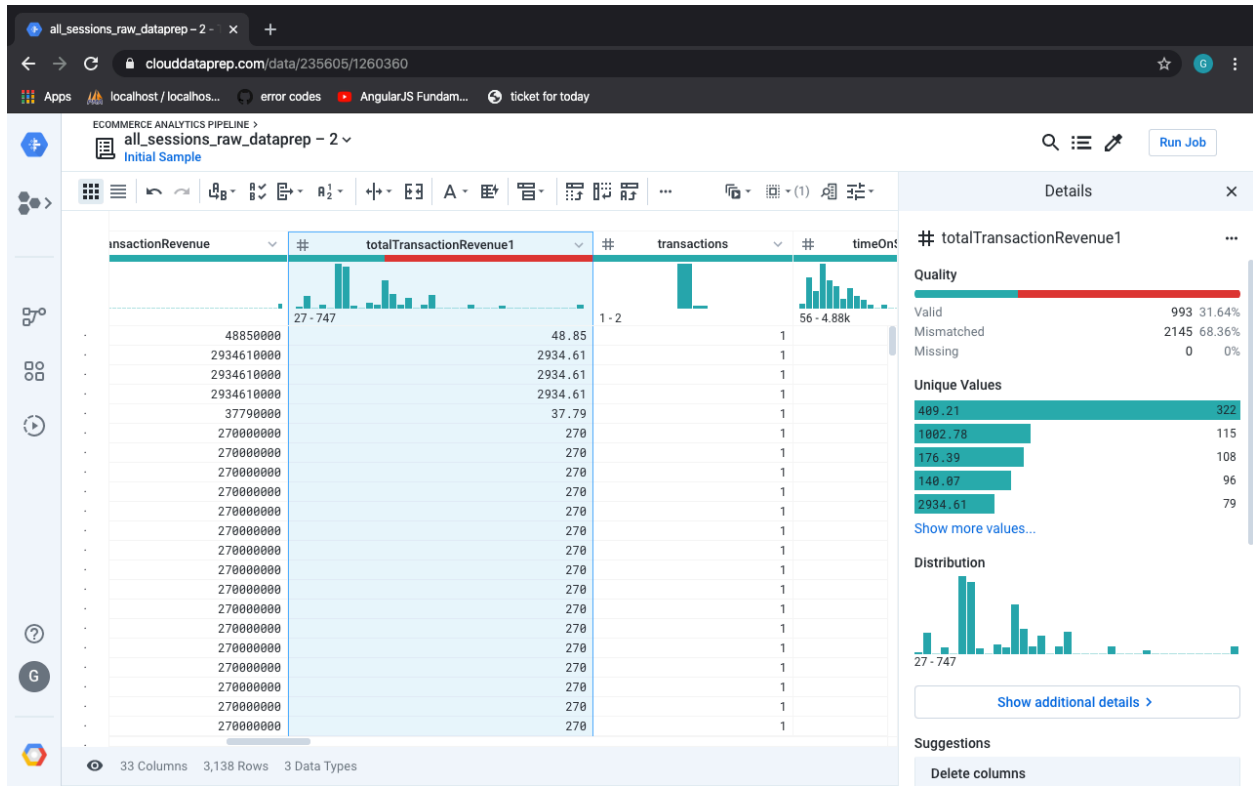
flag rows where type is 'PAGE'

Deduplicate rows

where every value is the same

- [illegible]

- Creating a new column for a unique session ID



- Creating a case statement for the ecommerce action type along with all other manipulations which were done can be viewed

1 **Change** productSKU **type** to String

2 **Delete** itemQuantity

3 **Delete** itemRevenue

4 **Remove** duplicate rows

5 **Delete** rows where
ISMISSING(totalTransactionRevenue)

6 **Keep** rows where type == 'PAGE'

☐ 7 **Concatenate** fullVisitorId, visitId separated by '-' ...

8 **Create** eCommerceAction_label from 9
case conditions on
eCommerceAction_type

9 **Create** totalTransactionRevenue1 from
DIVIDE(totalTransactionRevenue,
1000000)

10 **Change** totalTransactionRevenue1 **type** to
Decimal

- Running and scheduling Cloud Dataprep jobs to BigQuery

The screenshot shows the 'Flows' page in the Cloud Dataprep interface. The browser address bar is `clouddataprep.com/flows`. The page has a sidebar with navigation icons and a main content area. The 'Flows' section is active, showing a table of flows. The 'Ecommerce Analytics Pipeline' flow is selected, and a context menu is open over it. The menu options are:

- Schedule Flow...
- Share Flow...
- Make a copy...
- Export Flow
- Move to...
- Edit Flow name and description...
- Delete Flow...

The screenshot shows the 'Flow Details' page for the 'Ecommerce Analytics Pipeline' in the Cloud Dataprep interface. The browser address bar is `clouddataprep.com/flows/235605?output=1260360&tab=publishingSettings`. The page shows the flow's details, including its name, description, and a visual representation of the flow. The flow consists of two steps, both named 'all_sessions_raw_dataprep'. The right sidebar shows the 'Details' tab, which includes a 'Run Job' button and sections for 'Manual Destinations' and 'Scheduled Destinations', both showing a CSV destination and environment settings.

Flow Details:

- Flow Name: Ecommerce Analytics Pipeline
- Description: Revenue reporting table
- Visual Representation: A flow diagram showing two steps, both named 'all_sessions_raw_dataprep'.

Details Tab:

- Run Job: [Run Job](#)
- Destinations: [Destinations](#) | [Jobs](#)
- Manual Destinations: [Edit](#)
 - Create-CSV: `gs://dataprep-staging-bf6301b0-fcba-486c-bbea-01975a37d697/greeshma.gopal08@gmail.com/jobrun/all_sessions_raw_dataprep__2.csv`
 - Environment: Dataflow
 - Profiling: yes
- Scheduled Destinations: [Edit](#)
 - Create-CSV: `gs://dataprep-staging-bf6301b0-fcba-486c-bbea-01975a37d697/greeshma.gopal08@gmail.com/jobrun/Job_run/all_sessions_raw_dataprep__2.csv`
 - Environment: Dataflow
 - Profiling: yes

- Job scheduled is running. Can be verified this in the job status.

Jobs

Search for Jobs...

All jobs Completed Failed Canceled Running Queued

Job	User	Output	Status	Started
4671877	greeshma.gopal08@gmail.com (you)	all_sessions_raw_dataprep - 2 Ecommerce Analytics Pipeline	In progress	Today at 12:18 AM

Jobs - Cloud Dataprep x Dataflow - My Project 50323 - C x +

console.cloud.google.com/dataflow/jobs/us-central1/2020-02-09_21_19_14-3046540531844058049?project=crack-map-265614

Google Cloud Platform My Project 50323

Job details BACK TO OLD JOB PAGE STOP MAX TIME

JOB GRAPH JOB METRICS HIDE SIDE PANEL

Step info DESELECT STEP

Step name PMapTransform
Wall time 0 sec

Input collections

Throughput (elements/sec) alerting policy

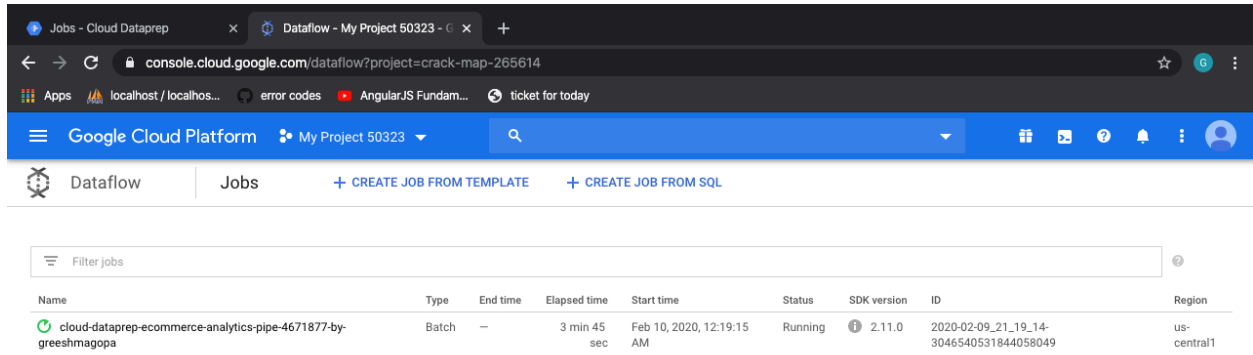
No data is available for the selected time frame.

PTableLoadTransformBigQuery/MapElements/Map.out0

Elements added -
Estimated size -

STEP WORKER LOGS

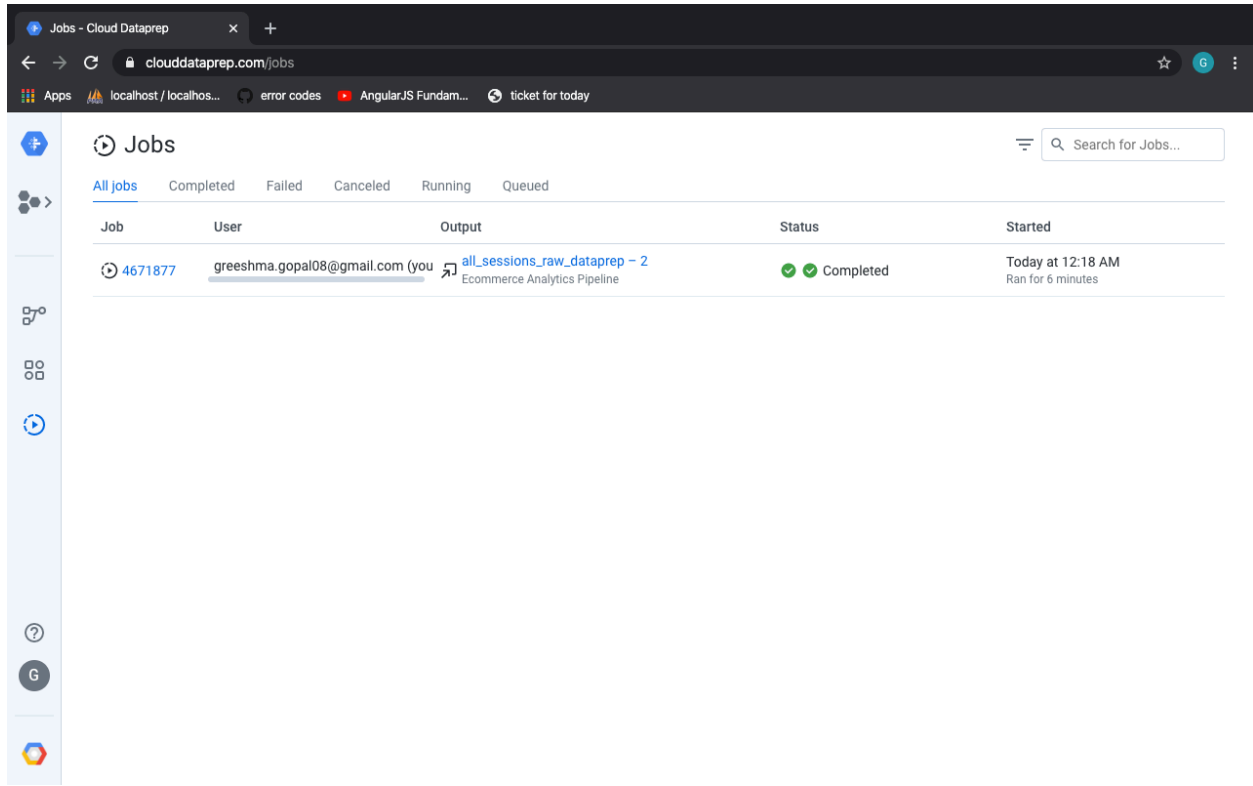
- The status of the job is running



The screenshot shows the Google Cloud Platform console for the 'Dataflow' service. The breadcrumb navigation indicates the path: Dataflow > Jobs. There are two buttons at the top: '+ CREATE JOB FROM TEMPLATE' and '+ CREATE JOB FROM SQL'. A search bar labeled 'Filter jobs' is present. Below it, a table lists the jobs. One job is shown with a green status icon, indicating it is running. The job name is 'cloud-dataprep-e-commerce-analytics-pipe-4671877-by-greeshmagopa'. The table columns are: Name, Type, End time, Elapsed time, Start time, Status, SDK version, ID, and Region.

Name	Type	End time	Elapsed time	Start time	Status	SDK version	ID	Region
cloud-dataprep-e-commerce-analytics-pipe-4671877-by-greeshmagopa	Batch	—	3 min 45 sec	Feb 10, 2020, 12:19:15 AM	Running	2.11.0	2020-02-09_21_19_14-3046540531844058049	us-central1

- The job has been successfully run and the first run is completed.

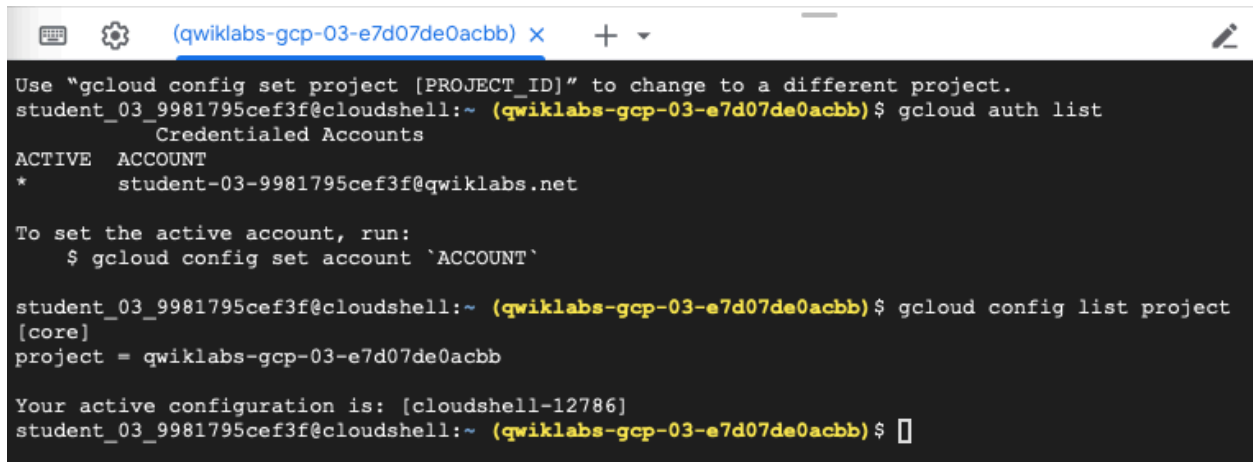


The screenshot shows a web browser window with the URL `clouddataprep.com/jobs`. The page title is "Jobs - Cloud Dataprep". On the left is a sidebar with navigation icons. The main content area is titled "Jobs" and includes a search bar "Search for Jobs...". Below the title are tabs for "All jobs", "Completed", "Failed", "Canceled", "Running", and "Queued". The "All jobs" tab is selected, displaying a table with one job entry.

Job	User	Output	Status	Started
4671877	greeshma.gopal08@gmail.com (you)	all_sessions_raw_dataprep - 2 Ecommerce Analytics Pipeline	Completed	Today at 12:18 AM Ran for 6 minutes

Lab 2: Visualizing Data with Google Data Studio

- Activating the Google Cloud Shell



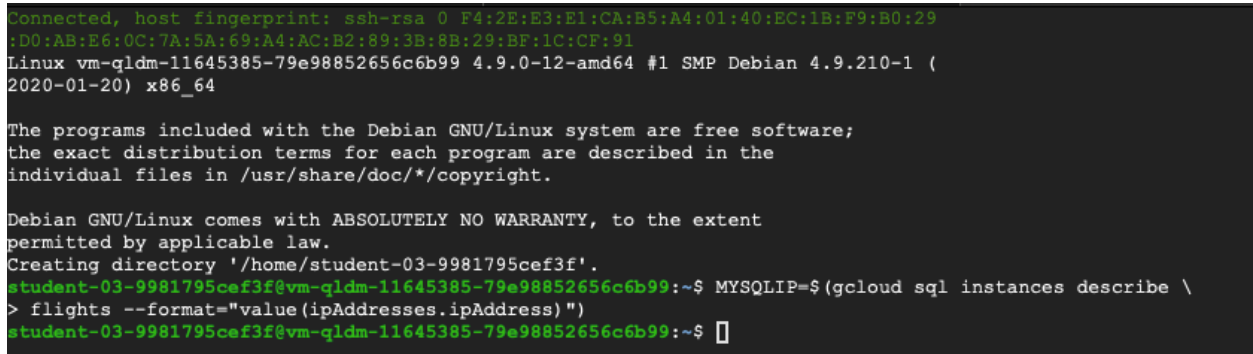
```
(qwiklabs-gcp-03-e7d07de0acbb) x + -
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
student_03_9981795cef3f@cloudshell:~ (qwiklabs-gcp-03-e7d07de0acbb) $ gcloud auth list
Credentialed Accounts
ACTIVE ACCOUNT
* student-03-9981795cef3f@qwiklabs.net

To set the active account, run:
$ gcloud config set account 'ACCOUNT'

student_03_9981795cef3f@cloudshell:~ (qwiklabs-gcp-03-e7d07de0acbb) $ gcloud config list project
[core]
project = qwiklabs-gcp-03-e7d07de0acbb

Your active configuration is: [cloudshell-12786]
student_03_9981795cef3f@cloudshell:~ (qwiklabs-gcp-03-e7d07de0acbb) $
```

- Connecting to the Lab Cloud SQL instance



```
Connected, host fingerprint: ssh-rsa 0 F4:2E:E3:E1:CA:B5:A4:01:40:EC:1B:F9:B0:29
:D0:AB:E6:0C:7A:5A:69:A4:AC:B2:89:3B:8B:29:BF:1C:CF:91
Linux vm-qldm-11645385-79e98852656c6b99 4.9.0-12-amd64 #1 SMP Debian 4.9.210-1 (
2020-01-20) x86_64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Creating directory '/home/student-03-9981795cef3f'.
student-03-9981795cef3f@vm-qldm-11645385-79e98852656c6b99:~$ MYSQLIP=$(gcloud sql instances describe \
> flights --format="value(ipAddresses.ipAddress)")
student-03-9981795cef3f@vm-qldm-11645385-79e98852656c6b99:~$
```

- Connect to the mysql command line interface

```
student-03-9981795cef3f@vm-qldm-11645385-79e98852656c6b99:~$ MYSQLIP=$(gcloud sql instances describe \
> flights --format="value(ipAddresses.ipAddress)")
student-03-9981795cef3f@vm-qldm-11645385-79e98852656c6b99:~$ mysql --host=$MYSQLIP --user=root --password
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 100
Server version: 5.7.25-google (Google)

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> 
```

- Count the number of records by running the SELECT query

```
Database changed
MySQL [bts]> describe flights;select count(*) from flights;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| FL_DATE | date | YES | MUL | NULL | |
| UNIQUE_CARRIER | varchar(16) | YES | | NULL | |
| AIRLINE_ID | varchar(16) | YES | | NULL | |
| CARRIER | varchar(16) | YES | | NULL | |
| FL_NUM | int(11) | YES | | NULL | |
| ORIGIN_AIRPORT_ID | varchar(16) | YES | MUL | NULL | |
| ORIGIN_SEQ_ID | varchar(16) | YES | | NULL | |
| ORIGIN_CITY_MARKET_ID | varchar(16) | YES | | NULL | |
| ORIGIN | varchar(16) | YES | | NULL | |
| DEST_AIRPORT_ID | varchar(16) | YES | | NULL | |
| DEST_AIRPORT_SEQ_ID | varchar(16) | YES | | NULL | |
| DEST_CITY_MARKET_ID | varchar(16) | YES | | NULL | |
| DEST | varchar(16) | YES | | NULL | |
| CRS_DEP_TIME | int(11) | YES | | NULL | |
| DEP_TIME | int(11) | YES | MUL | NULL | |
| DEP_DELAY | float | YES | MUL | NULL | |
| TAXI_OUT | float | YES | | NULL | |
| WHEELS_OFF | int(11) | YES | | NULL | |
| WHEELS_ON | int(11) | YES | | NULL | |
| TAXI_IN | float | YES | | NULL | |
| CRS_ARR_TIME | int(11) | YES | | NULL | |
| ARR_TIME | int(11) | YES | | NULL | |
| ARR_DELAY | float | YES | MUL | NULL | |
| CANCELLED | float | YES | | NULL | |
| CANCELLATION_CODE | varchar(16) | YES | | NULL | |
| DIVERTED | float | YES | | NULL | |
| DISTANCE | float | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
27 rows in set (0.00 sec)

+-----+
| count(*) |
+-----+
| 899159 |
+-----+
1 row in set (0.23 sec)

MySQL [bts]> 
```

- Creating some table views to fetch sets of flights that are delayed by 10, 15 and 20 minutes respectively

```
MySQL [bts]> CREATE VIEW delayed_10 AS SELECT * FROM flights WHERE dep_delay > 10;
Query OK, 0 rows affected (0.00 sec)

MySQL [bts]> CREATE VIEW delayed_15 AS SELECT * FROM flights WHERE dep_delay > 15;
Query OK, 0 rows affected (0.01 sec)

MySQL [bts]> CREATE VIEW delayed_20 AS SELECT * FROM flights WHERE dep_delay > 20;
Query OK, 0 rows affected (0.00 sec)
```

Connect Data Studio to visually analyze the dataset

- Creating datasource

Data Studio

Create

Recent

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To use Google Data Studio you must first accept the terms of service.

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☐ I acknowledge I have read and agree to the above Google Data Studio Additional Terms.

- Authorizing cloud SQL for MySQL for the datasource

Untitled Data Source

← SELECT CONNECTOR

**Cloud SQL for MySQL**
By Google

The Google Cloud SQL connector allows you to access data from Google Cloud SQL databases within Data Studio.

[LEARN MORE](#) [REPORT AN ISSUE](#)

Authorization


Data Studio requires authorization to connect to data.

AUTHORIZE

- Choosing the database to make the chart

Untitled Data Source

← SELECT CONNECTOR

**Cloud SQL for MySQL**
By Google

The Google Cloud SQL connector allows you to access data from Google Cloud SQL databases within Data Studio.

[LEARN MORE](#) [REPORT AN ISSUE](#)

BASIC	Database Authentication	TABLES	Table
JDBC URL	Instance Connection Name qwklabs-gcp-03-e7d07de0acbb-us-central1:f	CUSTOM QUERY	delayed_10 delayed_15 delayed_20 flights
	Database bts Username root Password *****		
	AUTHENTICATE		

- We can see 28 fields when connected to the flights database

Cloud SQL for MySQL - bts

Data credentials: Owner | Data freshness: 12 hours | Community visualizations access: Off | Field editing in reports: On

EDIT CONNECTION | FILTER BY EMAIL

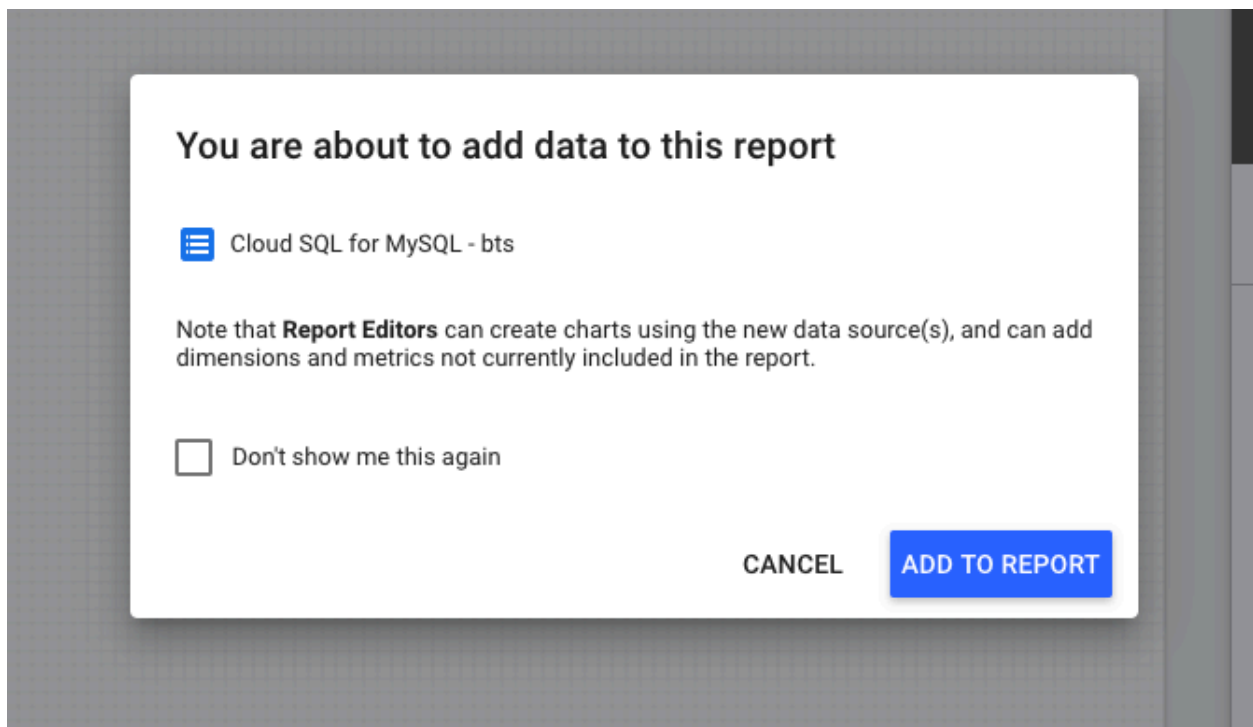
We've improved how dimensions and metrics work. You may see some changes, but no action is required on your part. [Learn more](#)

Index	Field	Type	Default Aggregation	Description
2	ARR_DELAY	123 Number	Sum	
3	ARR_TIME	123 Number	Sum	
4	CANCELLATION_CODE	RBC Text	None	
5	CANCELLED	123 Number	Sum	
6	CARRIER	RBC Text	None	
7	CRS_ARR_TIME	123 Number	Sum	
8	CRS_DEP_TIME	123 Number	Sum	
9	DEP_DELAY	123 Number	Sum	
10	DEP_TIME	123 Number	Sum	
11	DEST	RBC Text	None	
12	DEST_AIRPORT_ID	RBC Text	None	
13	DEST_AIRPORT_SEQ_ID	RBC Text	None	
14	DEST_CITY_MARKET_ID	RBC Text	None	

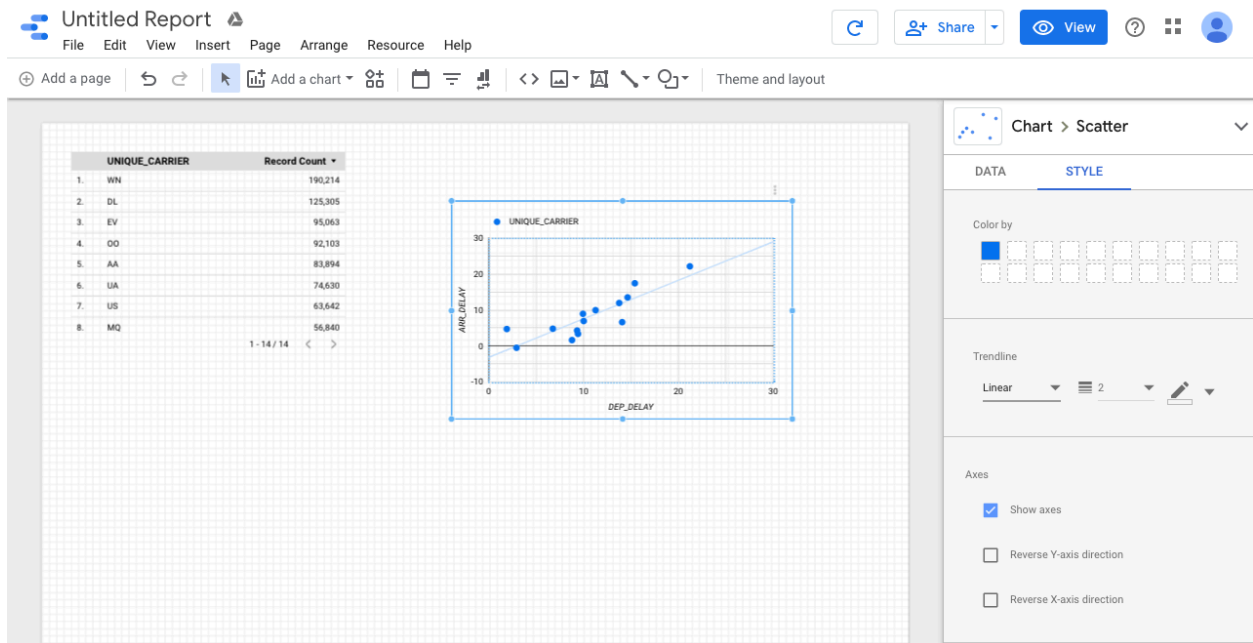
REFRESH FIELDS

28 / 28 Fields

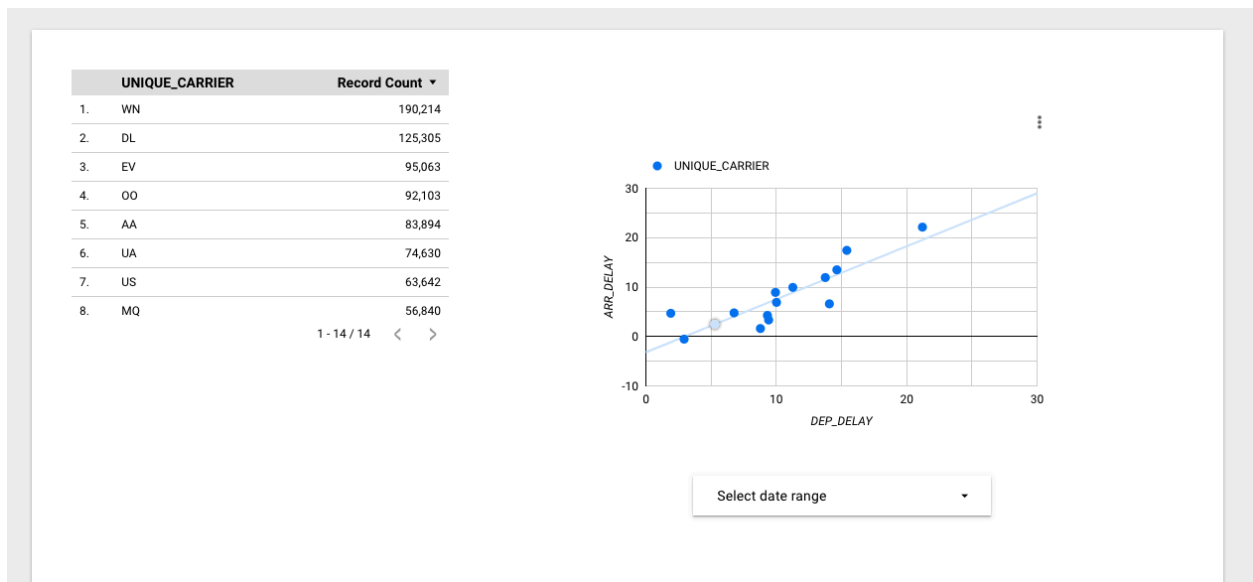
Create a Scatter chart using Data Studio



- Selecting the parameters to plot the scatter chart

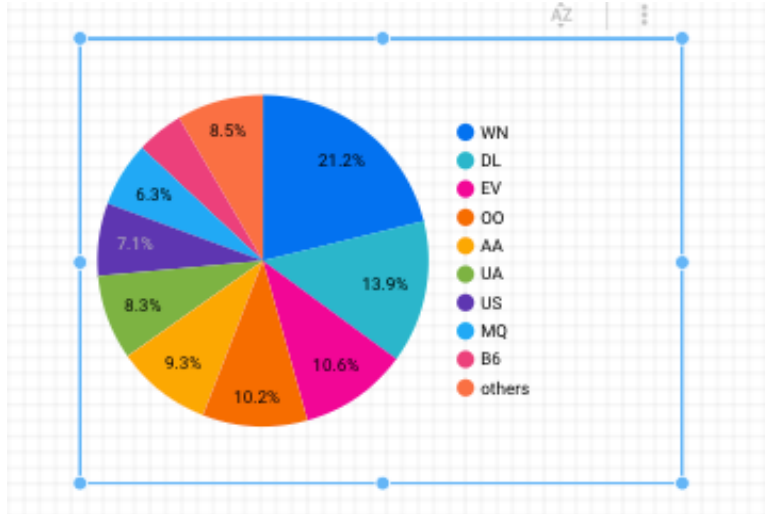


- Scattered chart along with date range selection has been added



Add additional chart types to your report

- Default pie chart has been created



- Creating new field for the chart

Cloud SQL for MySQL - bts Data credentials: Owner Data freshness: 12 hours Community visualizations access: Off Field editing in reports: On **DONE**

← ALL FIELDS

Available Fields

AIRLINE_ID

ARR_DELAY

ARR_TIME

CANCELLATION_CODE

CANCELLED

CARRIER

Field Name

ISLATE

Field ID

calc_3qcr7n1z5b

Formula

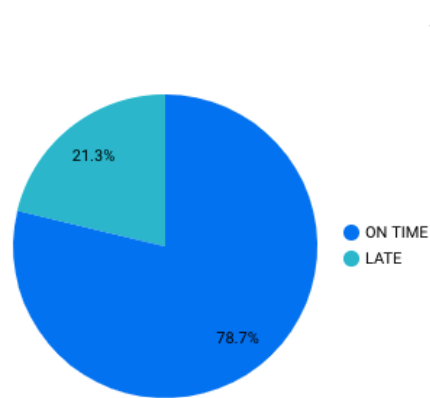
1 CASE WHEN (Copy of ARR_DELAY <15) THEN "ON TIME" ELSE "LATE" END

ENDS_WITH()

✓

CANCEL **SAVE**

- Pie chart displaying the on time and late flights



Add a bar graph

- Adding the settings of the bar chart

Chart > Bar

DATA

STYLE

Dimension

ABC

UNIQUE_CARRIER

Drill down

☐

Metric

SUM

DEP_DELAY

SUM

ARR_DELAY

+

Add metric

Optional metrics

☐

Sort

ABC

UNIQUE_CARRIER

Ascending

▼

Default date range

☒ Auto

☐ Custom

Available Fields

🔍

Type to search

ABC

AIRLINE_ID

ABC

CANCELLATION_CODE

ABC

CARRIER

ABC

DEST

ABC

DEST_AIRPORT_ID

ABC

DEST_AIRPORT_SEQ...

ABC

DEST_CITY_MARKET...

📅

FL_DATE

ABC

ISLATE

ABC

ORIGIN

ABC

ORIGIN_AIRPORT_ID

ABC

ORIGIN_CITY_MARKE...

ABC

ORIGIN_SEQ_ID

ABC

UNIQUE_CARRIER

123

ARR_DELAY

123

ARR_TIME

123

CANCELLED

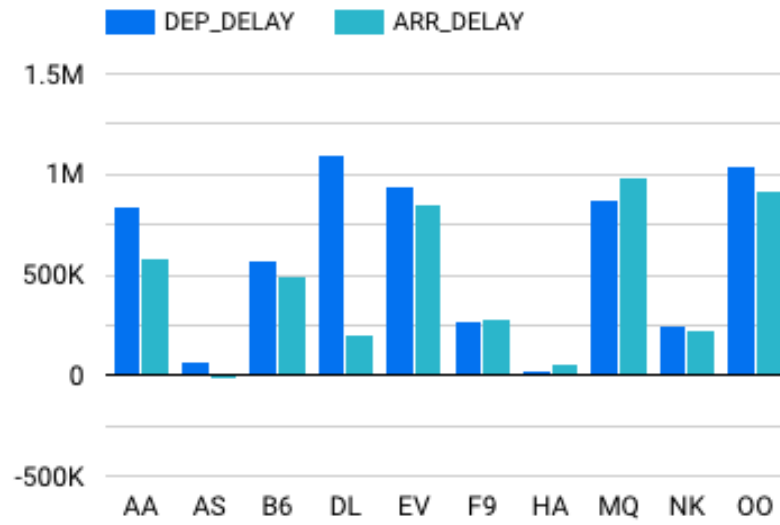
123

Copy of ARR_DELAY

+

CREATE NEW FIELD

- Final bar chart of the flights



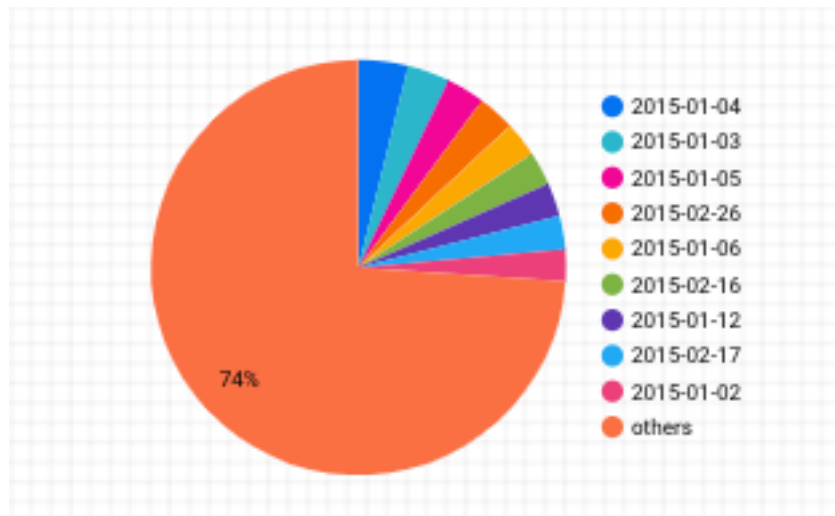
Create additional dashboard items for different departure delay thresholds

Added an additional Data Source for the Delayed_10 database table view

- Creating new datasource for delayed_10 view

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BASIC	Database Authentication	TABLES	Table
JDBC URL	<div>Instance Connection Name qwiklabs-gcp-03-e7d07de0acbb:us-central1:f</div> <div>Database bts</div> <div>Username root</div> <div>Password *****</div> <div>AUTHENTICATE</div>	CUSTOM QUERY	<div>delayed_10</div> <div>delayed_15</div> <div>delayed_20</div> <div>flights</div>



Recreate the copy of the Arr_Delay field and the ISLATE calculated field.

- New field for islate and The second pie chart now displays the percentage of ontime and late flights for the Dealyed_10 view. Dashboards were created for four views delayed_10, delayed_15 and delayed_20

