

ADT Project  
Group 8  
**Final Demo Of project**

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## Instagram Insights Using Business Intelligence

**Step 1:** We have connected to Instagram Graph API and collected Instagram data using python. We have used data from an Instagram business account. Note that in milestone II we used data for testing. Next step is to collect our actual instagram data and visualize insights through Tableau.

The image shows a screenshot of the Panoply website on the left and a Tableau dashboard on the right. The Panoply website has a navigation bar with links: Product, Pricing, Integrations, Solutions, and Resources. A 'Try Free' button and a 'Login' link are in the top right. The main heading is 'All Your Business Data in One Place'. Below it, text says 'Sync and store all your business data. Explore your data with SQL or visualize it with your favorite BI or analytics tools.' There are two buttons: 'Try Panoply Free' and 'Request Demo'. The Tableau dashboard is titled 'Engagement Analysis for Accounts'. It features a date range selector (Nov 15, 2017 to Nov 22, 2017) and a company dropdown (All). Below this is a table with columns: Control Activity Type, Activities Total, Contacts Total, and Activities per Contact. The data rows are: PageView (1,026), WebVisit (189), and FormSubmit (5.4). Below the table is a bar chart titled 'Accounts' showing 'Total Activity' and '% of Activity by Type' for various companies. A tooltip bubble says: 'Looking to sync, store, and access all your business data, all in one place?'. A small red notification icon with the number 4 is in the bottom right corner of the Tableau dashboard.

panoply Product Pricing Integrations Solutions Resources Try Free Login

### All Your Business Data in One Place

Sync and store all your business data. Explore your data with SQL or visualize it with your favorite BI or analytics tools.

Try Panoply Free Request Demo

tableau

#### Engagement Analysis for Accounts

Day of Activity Date: Nov 15, 2017 to Nov 22, 2017 Company: All

Control Activity Type	Activities Total	Contacts Total	Activities per Contact
PageView	1,026	189	5.4
WebVisit			
FormSubmit			

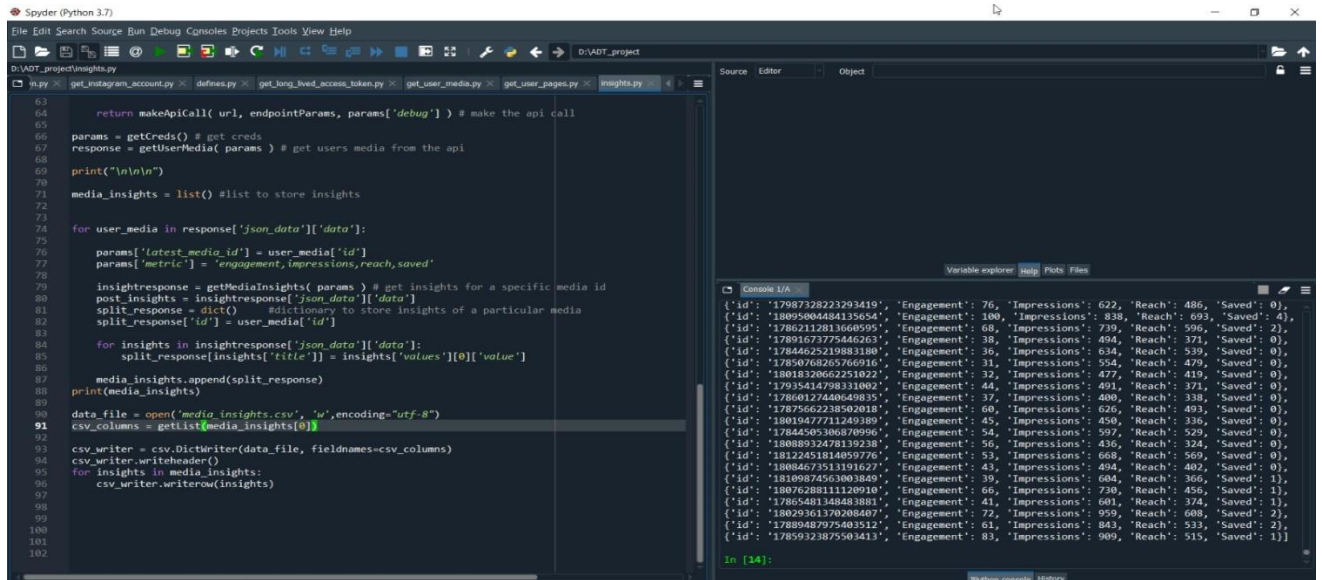
Accounts Click to Add Filter

Company	Total Activity	% of Activity by Type
Singer Lumber		
Simply Save		
Environ Architectural Design		
Food Barn		
Multi Tech Development		

Looking to sync, store, and access all your business data, all in one place?

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**Step 2:** For this, we made different python files in order to extract data, there are total seven different python files namely business discovery, debug access token, defines, get Instagram account ,get long live access token, get user media and get user insights.

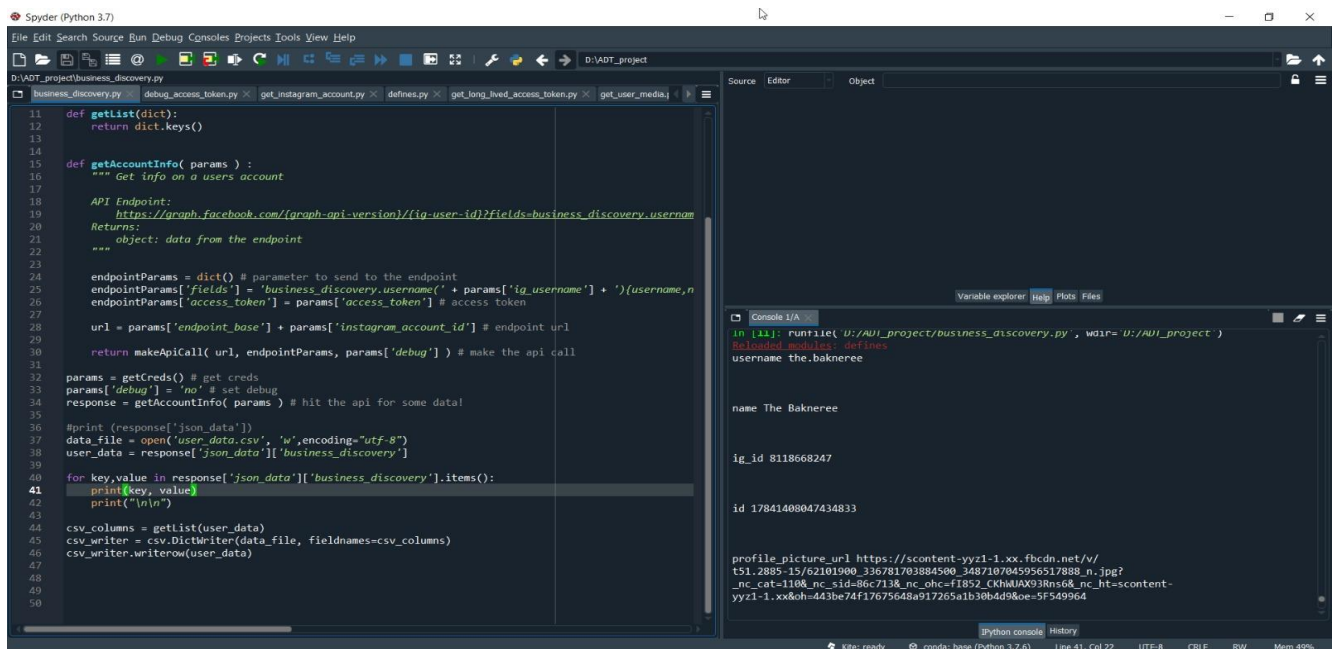


```
63 return makeApiCall( url, endpointParams, params['debug'] ) # make the api call
64
65 params = getCreds() # get creds
66 response = getUserMedia( params ) # get users media from the api
67
68 print("\n\n")
69
70 media_insights = list() #list to store insights
71
72 for user_media in response['json_data']['data']:
73     params['latest_media_id'] = user_media['id']
74     params['metric'] = 'engagement,impressions,reach,saved'
75
76 insightresponse = getMediaInsights( params ) # get insights for a specific media id
77 post_insights = insightresponse['json_data']['data']
78 split_response = dict() #dictionary to store insights of a particular media
79 split_response['id'] = user_media['id']
80
81 for insights in insightresponse['json_data']['data']:
82     split_response[insights['title']] = insights['values'][0]['value']
83
84 media_insights.append(split_response)
85
86 print(media_insights)
87
88 data_file = open('media_insights.csv', 'w', encoding='utf-8')
89 csv_columns = getList(media_insights[0])
90
91 csv_writer = csv.DictWriter(data_file, fieldnames=csv_columns)
92 csv_writer.writeheader()
93 for insights in media_insights:
94     csv_writer.writerow(insights)
95
96
97
98
99
100
101
102
```

Console I/O:

```
{'id': '17987328223293419', 'Engagement': 76, 'Impressions': 622, 'Reach': 486, 'Saved': 0},
{'id': '18095004484135654', 'Engagement': 100, 'Impressions': 838, 'Reach': 693, 'Saved': 4},
{'id': '17862112813660595', 'Engagement': 68, 'Impressions': 739, 'Reach': 596, 'Saved': 2},
{'id': '17891673775446263', 'Engagement': 38, 'Impressions': 494, 'Reach': 371, 'Saved': 0},
{'id': '17844625219883180', 'Engagement': 36, 'Impressions': 634, 'Reach': 539, 'Saved': 0},
{'id': '17850768265766916', 'Engagement': 31, 'Impressions': 554, 'Reach': 479, 'Saved': 0},
{'id': '18018328662251022', 'Engagement': 32, 'Impressions': 477, 'Reach': 419, 'Saved': 0},
{'id': '17935414798331002', 'Engagement': 44, 'Impressions': 491, 'Reach': 371, 'Saved': 0},
{'id': '17860127440649835', 'Engagement': 37, 'Impressions': 400, 'Reach': 338, 'Saved': 0},
{'id': '17875662238502018', 'Engagement': 60, 'Impressions': 626, 'Reach': 493, 'Saved': 0},
{'id': '1801947771249389', 'Engagement': 45, 'Impressions': 450, 'Reach': 336, 'Saved': 0},
{'id': '17844505306870996', 'Engagement': 54, 'Impressions': 597, 'Reach': 529, 'Saved': 0},
{'id': '18088932478139238', 'Engagement': 56, 'Impressions': 436, 'Reach': 324, 'Saved': 0},
{'id': '18122451814059776', 'Engagement': 53, 'Impressions': 668, 'Reach': 569, 'Saved': 0},
{'id': '18004673513101027', 'Engagement': 43, 'Impressions': 494, 'Reach': 402, 'Saved': 0},
{'id': '18109874563003849', 'Engagement': 39, 'Impressions': 604, 'Reach': 366, 'Saved': 1},
{'id': '18076288111120910', 'Engagement': 66, 'Impressions': 730, 'Reach': 456, 'Saved': 1},
{'id': '17865481340483881', 'Engagement': 41, 'Impressions': 601, 'Reach': 374, 'Saved': 1},
{'id': '18029361370208407', 'Engagement': 72, 'Impressions': 959, 'Reach': 608, 'Saved': 2},
{'id': '17889487975403512', 'Engagement': 61, 'Impressions': 843, 'Reach': 533, 'Saved': 2},
{'id': '1785932387503413', 'Engagement': 83, 'Impressions': 909, 'Reach': 515, 'Saved': 1}]
```

Inights.py fil



```
11 def getList(dict):
12     return dict.keys()
13
14
15 def getAccountInfo( params ) :
16     """ Get info on a users account
17
18     API Endpoint:
19     https://graph.facebook.com/(graph-api-version)/(ig-user-id)?fields=business_discovery.username
20     Returns:
21     object: data from the endpoint
22     """
23
24     endpointParams = dict() # parameter to send to the endpoint
25     endpointParams['fields'] = 'business_discovery.username' + params['ig_username'] + '(username,n
26     endpointParams['access_token'] = params['access_token'] # access token
27
28     url = params['endpoint_base'] + params['instagram_account_id'] # endpoint url
29
30     return makeApiCall( url, endpointParams, params['debug'] ) # make the api call
31
32 params = getCreds() # get creds
33 params['debug'] = 'no' # set debug
34 response = getAccountInfo( params ) # hit the api for some data!
35
36 #print( response['json_data'])
37 data_file = open('user_data.csv', 'w', encoding='utf-8')
38 user_data = response['json_data']['business_discovery']
39
40 for key,value in response['json_data']['business_discovery'].items():
41     print(key, value)
42     print("\n\n")
43
44 csv_columns = getList(user_data)
45 csv_writer = csv.DictWriter(data_file, fieldnames=csv_columns)
46 csv_writer.writerow(user_data)
47
48
49
50
```

Console I/O:

```
In [14]: runfile('D:/ADT_project/business_discovery.py', wdir='D:/ADT_project')
Reloaded modules: defines
username the.bakneree

name The Bakneree

ig_id 8118668247

id 17841408047434833

profile_picture_url https://content-yyz1-1.xx.fbcdn.net/v/
t51.2885-15/62101900_336781703884500_3487107045956517888_n.jpg?
_nc_cat=110&_nc_sid=86c713&_nc_ohc=f1852_CKH0IA93Rns6&_nc_ht=content-
yyz1-1.xx&oh=443be74f17675648a917265a1b30b4d9&oe=5F549964
```

Business\_discovery.py file

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```

12 def getList(dict):
13     return dict.keys()
14
15
16 def getUserMedia( params, pagingUrl = '' ):
17     """
18     Get users media
19
20     API Endpoint:
21     https://graph.facebook.com/{graph-api-version}/{(ig-user-id)/media?fields={fields}&access_token={access_token}
22     Returns:
23     object: data from the endpoint
24     """
25
26     endpointParams = dict() # parameter to send to the endpoint
27     endpointParams['fields'] = 'id,caption,media_type,media_url,permalink,thumbnail_url,timestamp,use
28     endpointParams['access_token'] = params['access_token'] # access token
29
30     if '' == pagingUrl : # get first page
31         url = params['endpoint_base'] + params['instagram_account_id'] + '/media' # endpoint url
32     else : # get specific page
33         url = pagingUrl # endpoint url
34
35     return makeApiCall( url, endpointParams, params['debug'] ) # make the api call
36
37
38 params = getCredentials() # get creds
39 params['debug'] = 'no' # set debug
40 response = getUserMedia( params ) # get users media from the api
41 for data in response['json_data']['data']:
42     print(data)
43     print("\n\n")
44
45 data_file = open('user_media.csv', 'w', encoding='utf-8')
46 user_data = response['json_data']['data']
47 csv_columns = getList(user_data[0])
48 csv_writer = csv.DictWriter(data_file, fieldnames=csv_columns)
49 csv_writer.writeheader()
50 for post in user_data:
51     csv_writer.writerow(post)
52

```

### Get\_user\_media.py

With this python script, we extract instagram user data which consist of engagement, impression, reach & saved. Here, engagement defines total numbers of like and count of comment, impression is the total number of views on the media object while reach is the total number of unique accounts that have seen the media object.

Extracted data are shown below,

POSSIBLE DATA LOSS Some features might be lost if you save this workbook in the comma-delimited (.csv) format. To preserve these features, save it in an Excel file format.							
As a kid, I was always confused. Ice cream flavour decisions were always hard for me. Who am I kidding? They still are! 🙄							
	A	B	C	D	E	F	G
1	id	caption	media_type	media_url	permalink	timestamp	username
2	1.81E+16	Recently made this beautiful cupcakes for my best friend's	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2020-07-10T14:33:37+0000	https://www.instagram.com/p/2020-07-10T14:33:37+0000	the.bakneree	
3	1.79E+16	As a kid, I was always confused. Ice cream flavour decisions	CAROUSEL_ALBUM	https://scontent-yyz1-1.cdninstagram.com/p/2020-07-09T12:35:32+0000	https://www.instagram.com/p/2020-07-09T12:35:32+0000	the.bakneree	
4	1.81E+16	Finally! Was able to bake and post something!	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2020-07-08T12:59:30+0000	https://www.instagram.com/p/2020-07-08T12:59:30+0000	the.bakneree	
5	1.8E+16	Throwback to this beautiful cake that was designed by my	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2020-04-05T13:21:24+0000	https://www.instagram.com/p/2020-04-05T13:21:24+0000	the.bakneree	
6	1.8E+16	Made this 4kg Chocolate Strawberry Tall Cake with shading	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2020-03-18T17:22:37+0000	https://www.instagram.com/p/2020-03-18T17:22:37+0000	the.bakneree	
7	1.81E+16	A beautiful engagement cake that went out for the lovely	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2020-03-14T10:03:40+0000	https://www.instagram.com/p/2020-03-14T10:03:40+0000	the.bakneree	
8	1.79E+16	Tiramisu means pick me up in the Italian Language. The	CAROUSEL_ALBUM	https://scontent-yyz1-1.cdninstagram.com/p/2020-01-25T12:06:19+0000	https://www.instagram.com/p/2020-01-25T12:06:19+0000	the.bakneree	
9	1.79E+16	One more variety of basket that went out recently!	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2020-01-08T05:00:51+0000	https://www.instagram.com/p/2020-01-08T05:00:51+0000	the.bakneree	
10	1.78E+16	In picture - Dry Fruit Baklava!	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2019-12-31T12:50:26+0000	https://www.instagram.com/p/2019-12-31T12:50:26+0000	the.bakneree	
11	1.79E+16	In photo - chocolate truffle balls and Elaichi Pista truffles	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2019-12-31T12:48:00+0000	https://www.instagram.com/p/2019-12-31T12:48:00+0000	the.bakneree	
12	1.8E+16	Chocolate and Coconut is the best ever combination. It has	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2019-12-31T05:31:05+0000	https://www.instagram.com/p/2019-12-31T05:31:05+0000	the.bakneree	
13	1.79E+16	This dark chocolate cake went out for my friend's birthday	CAROUSEL_ALBUM	https://scontent-yyz1-1.cdninstagram.com/p/2019-12-31T03:30:09+0000	https://www.instagram.com/p/2019-12-31T03:30:09+0000	the.bakneree	
14	1.79E+16	Throwback to the time when I made 350-400 of these little	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2019-12-31T03:24:49+0000	https://www.instagram.com/p/2019-12-31T03:24:49+0000	the.bakneree	
15	1.79E+16	A throwback to all the beautiful baskets that went out this	CAROUSEL_ALBUM	https://scontent-yyz1-1.cdninstagram.com/p/2019-12-31T03:12:10+0000	https://www.instagram.com/p/2019-12-31T03:12:10+0000	the.bakneree	
16	1.8E+16	When a fridge full of these beautiful Strawberry cupcakes	CAROUSEL_ALBUM	https://scontent-yyz1-1.cdninstagram.com/p/2019-12-31T03:01:28+0000	https://www.instagram.com/p/2019-12-31T03:01:28+0000	the.bakneree	
17	1.78E+16	A chocolate Strawberry cake that went out for a girl who	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2019-12-31T02:50:54+0000	https://www.instagram.com/p/2019-12-31T02:50:54+0000	the.bakneree	
18	1.81E+16	The amazing dark chocolate cake that went out for a baby	CAROUSEL_ALBUM	https://scontent-yyz1-1.cdninstagram.com/p/2019-12-31T02:44:56+0000	https://www.instagram.com/p/2019-12-31T02:44:56+0000	the.bakneree	
19	1.81E+16	Christmas Tree Cupcakes that went out recently!	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2019-12-25T02:01:18+0000	https://www.instagram.com/p/2019-12-25T02:01:18+0000	the.bakneree	
20	1.81E+16	A cupcake for the background! Cos its been a while and I love	IMAGE	https://scontent-yyz1-1.cdninstagram.com/p/2019-12-23T10:04:06+0000	https://www.instagram.com/p/2019-12-23T10:04:06+0000	the.bakneree	



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	A	B	C	D	E	F
1	id	Engagement	Impressions	Reach	Saved	
2	1.81E+16	90	474	418	0	
3	1.79E+16	76	345	270	0	
4	1.81E+16	98	488	413	1	
5	1804870000	92	591	483	4	
6	0000000	76	622	486	0	
7	1.81E+16	100	838	693	4	
8	1.79E+16	68	739	596	2	
9	1.79E+16	38	494	371	0	
10	1.78E+16	36	634	539	0	
11	1.79E+16	31	554	479	0	
12	1.80E+16	32	477	419	0	
13	1.79E+16	44	491	371	0	
14	1.79E+16	37	400	338	0	
15	1.79E+16	60	626	493	0	
16	1.80E+16	45	450	336	0	
17	1.78E+16	54	597	529	0	
18	1.81E+16	56	436	324	0	
19	1.81E+16	53	668	569	0	
20	1.81E+16	43	494	402	0	
21	1.81E+16	39	604	366	1	
22	1.81E+16	66	730	456	1	
23	1.79E+16	41	601	374	1	
24	1.80E+16	72	959	608	2	

**Step 3:** Then in this step we link this tables to our panoply data warehouse.

Tables 243MB					Search Tables		Create Folder
Name	Table Rows	Schema	Data Size				
user_data	1 rows	public	75MB				
user_media	16 rows	public	84MB				
user_media_insights	100 rows	public	84MB				
Total Sum:	117 rows		243MB				

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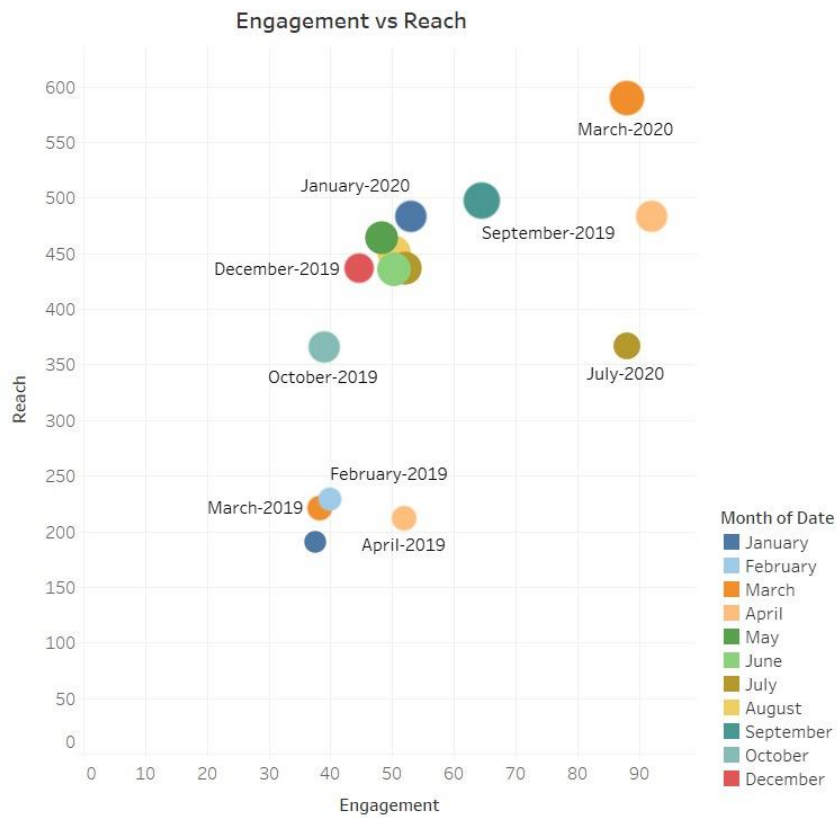
user\_media\_insights Query

#	id	__updateTime	engagement	impressions	reach	
1	1.78508e+16	2020-08-09T22:47:3...	31	554	479	0
2	1.78621e+16	2020-08-09T22:47:3...	68	739	596	2
3	1.78895e+16	2020-08-09T22:47:3...	61	843	533	2
4	1.80195e+16	2020-08-09T22:47:3...	45	450	336	0
5	1.80847e+16	2020-08-09T22:47:3...	43	494	402	0

**Step 4:** Now last step is to connect our panoply to a BI visualization tool, We went with Tableau and prepared the following 2 dashboards:-



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These are the step by step procedure of our project.