

ASSIGNMENT 9

SAP Business Object Design Studio 1.5

Exercise: Twitter Data Load into SAP HANA

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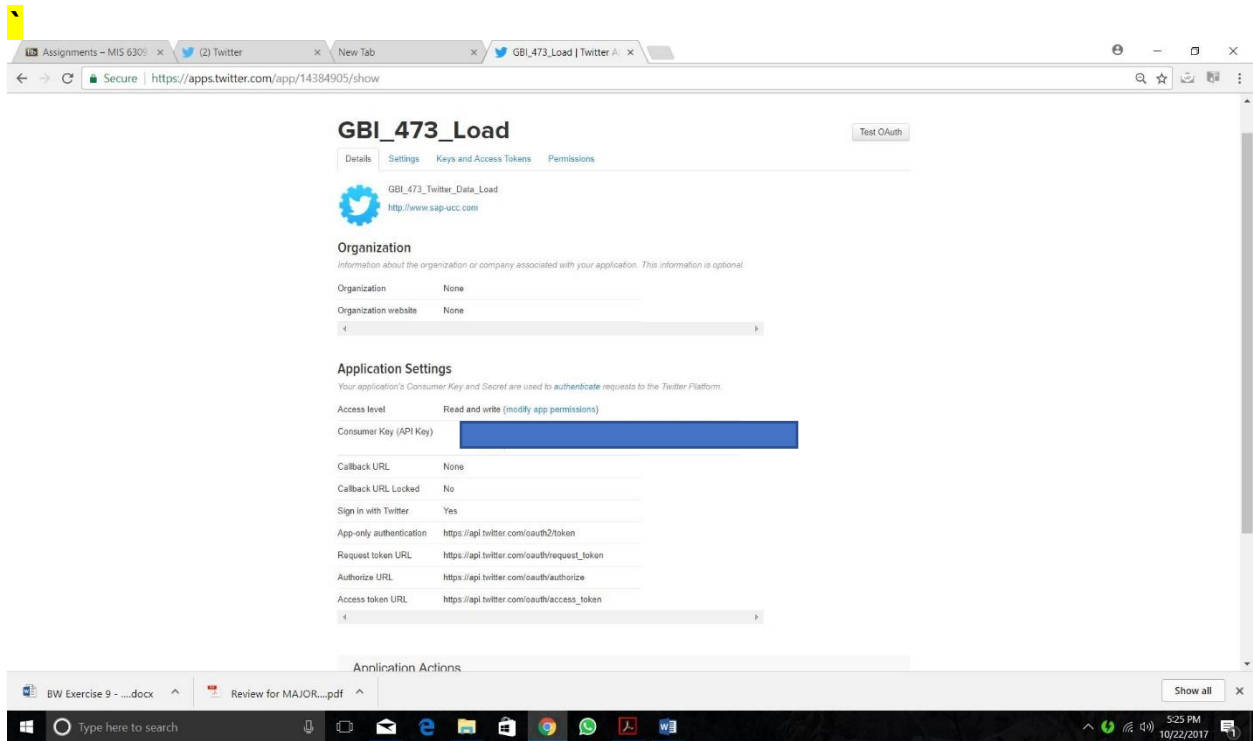
Date: 10/22/17



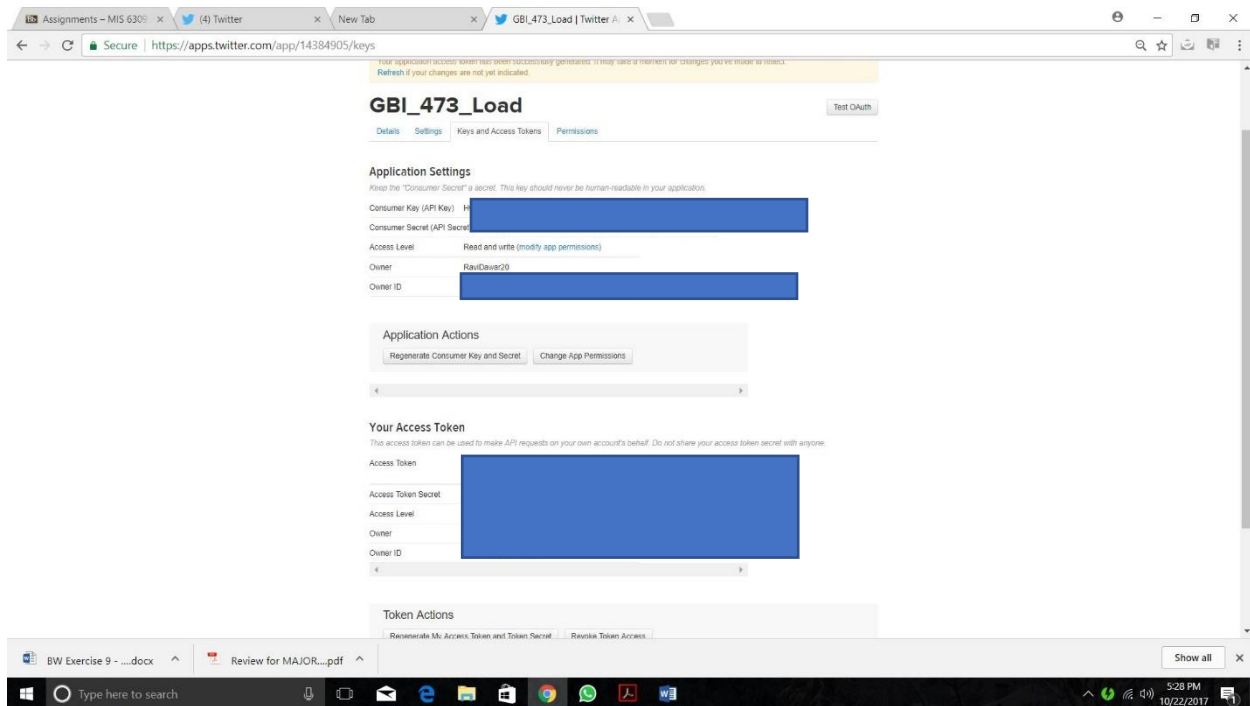
1) Create an App for your Twitter Account

A. Create your Twitter application

Paste your screenshot here.



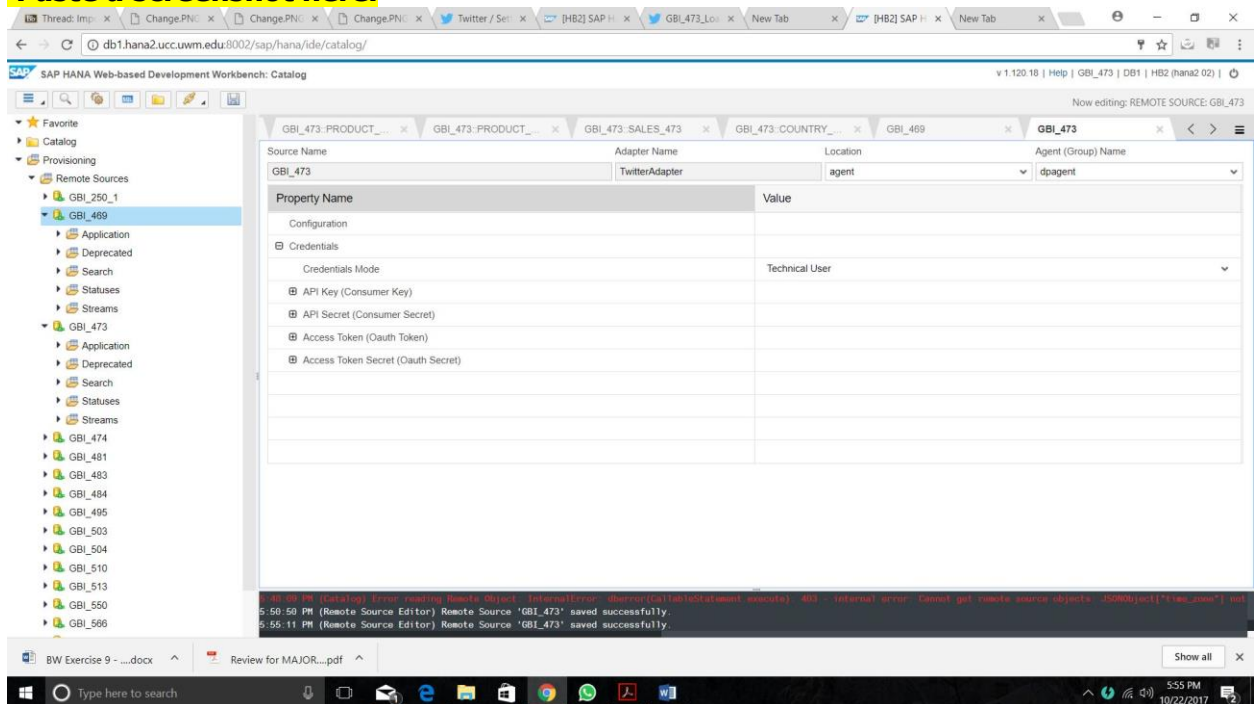
B. Create my access token



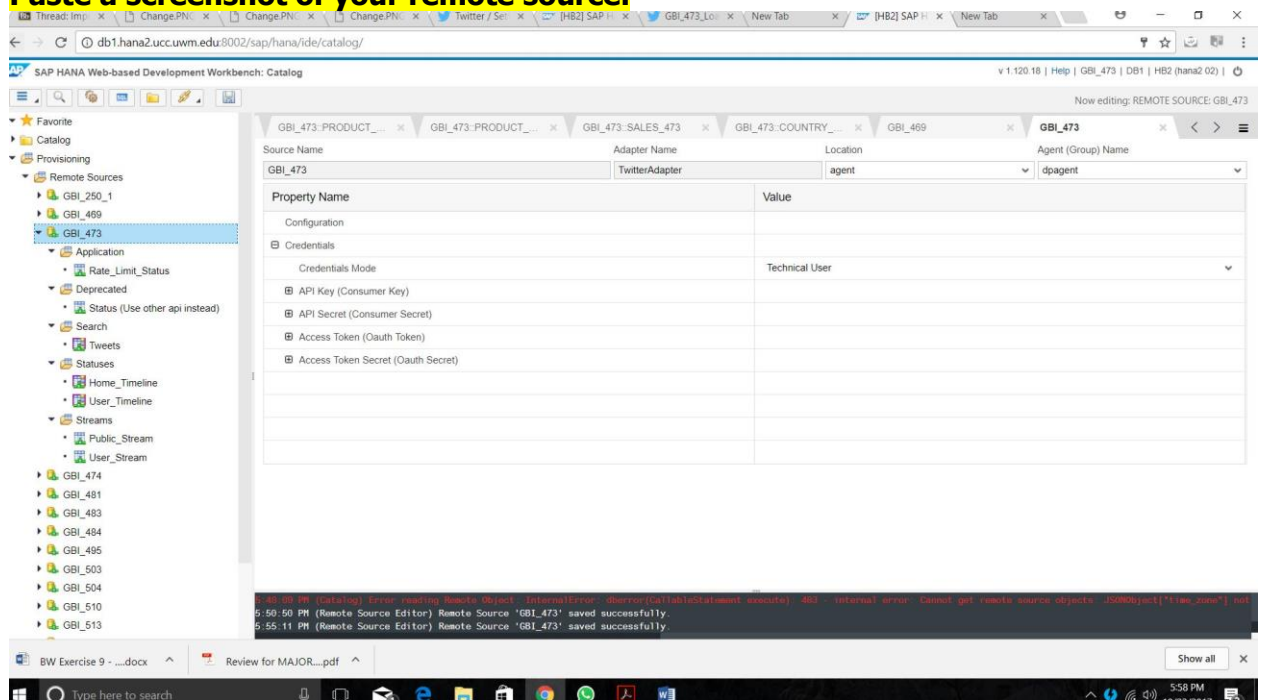
2) Configure the Twitter adapter for your SAP HANA system

A. Create New Remote Source

Paste a screenshot here.



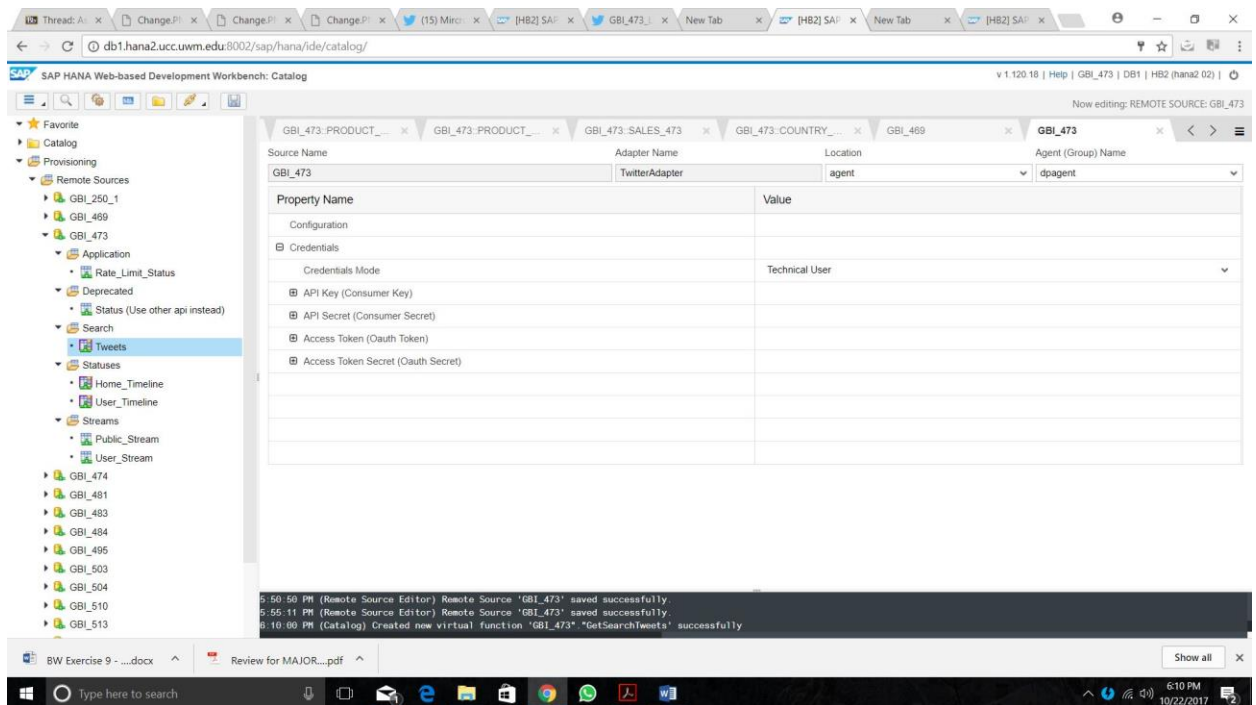
B. Paste a screenshot of your remote source.



3) Loading the twitter data using Virtual Function

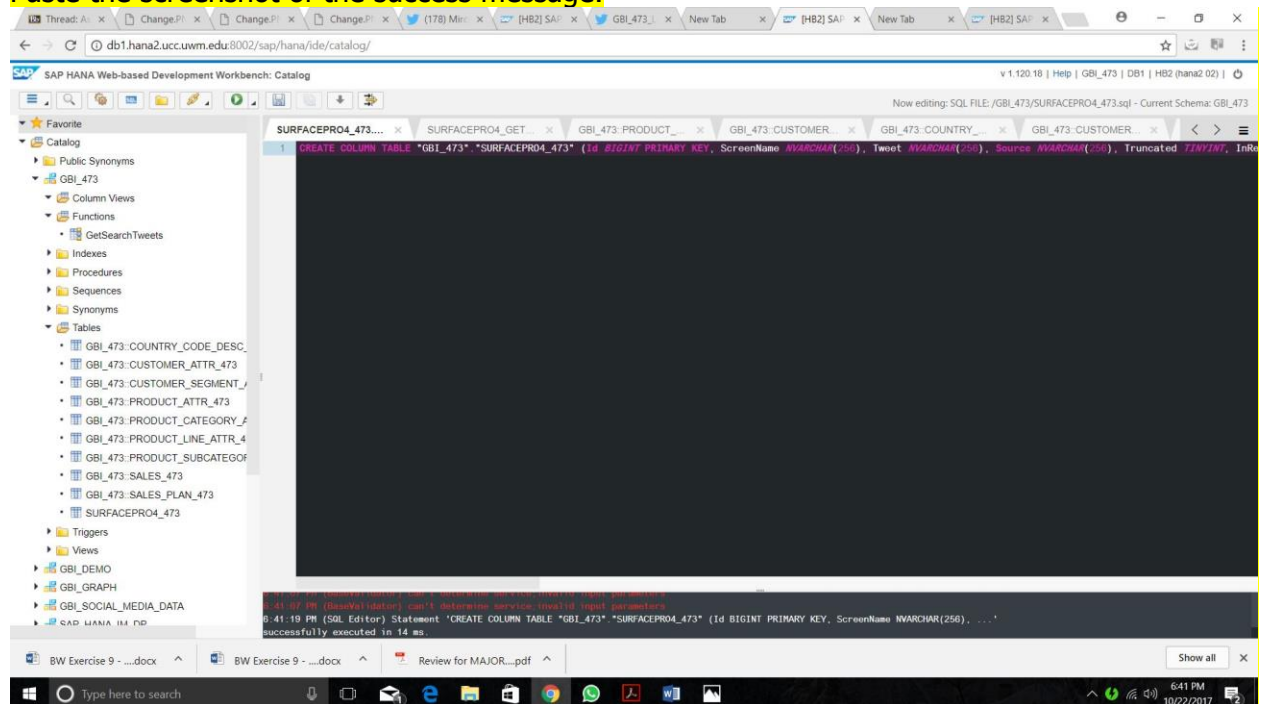
A. Create New Virtual Function "GetSearchTweets"

Please attach your success message below.



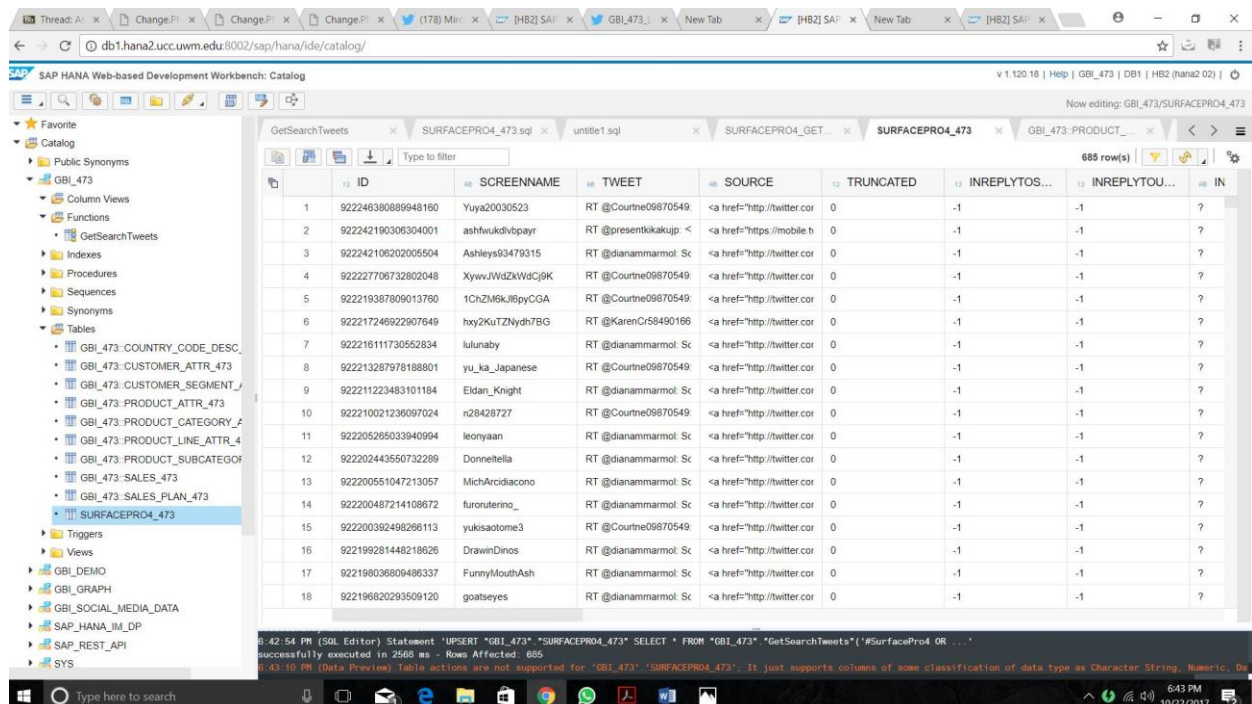
B. Name the query as SURFACEPRO4_473.sql and Execute.

Paste the screenshot of the success message.

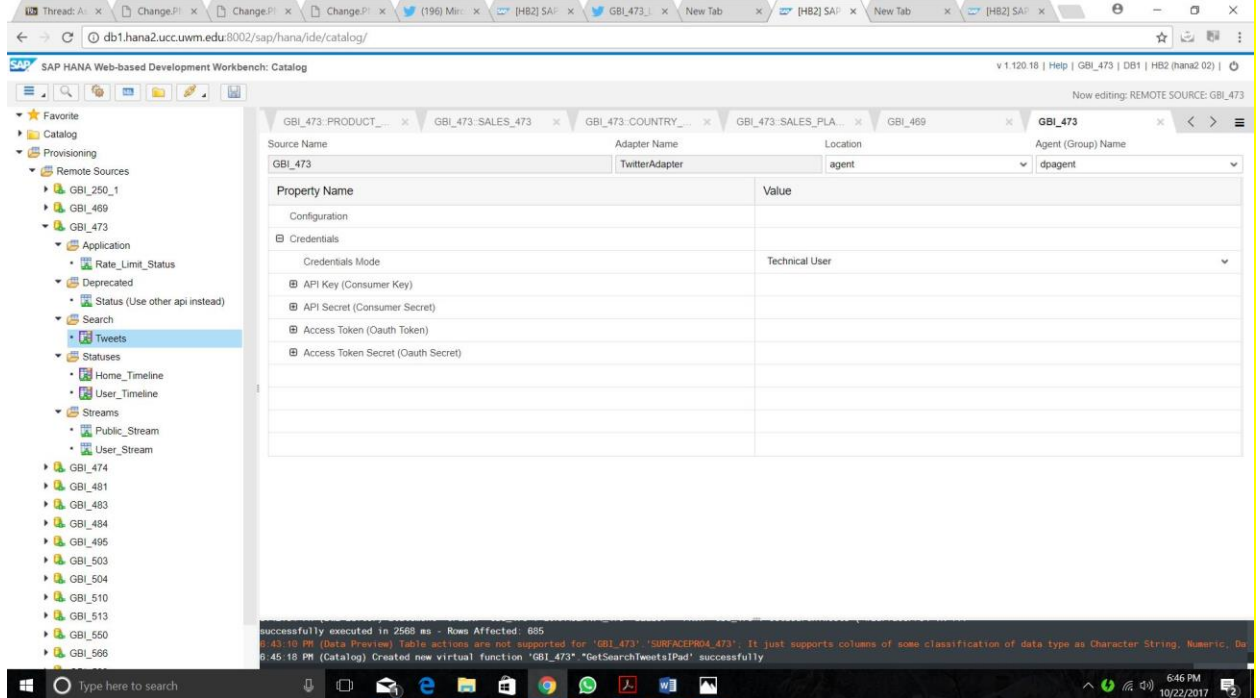


C. To get the search tweet into the SURFACEPRO4_473 table from GetSearchTweets table. and Open the table content.

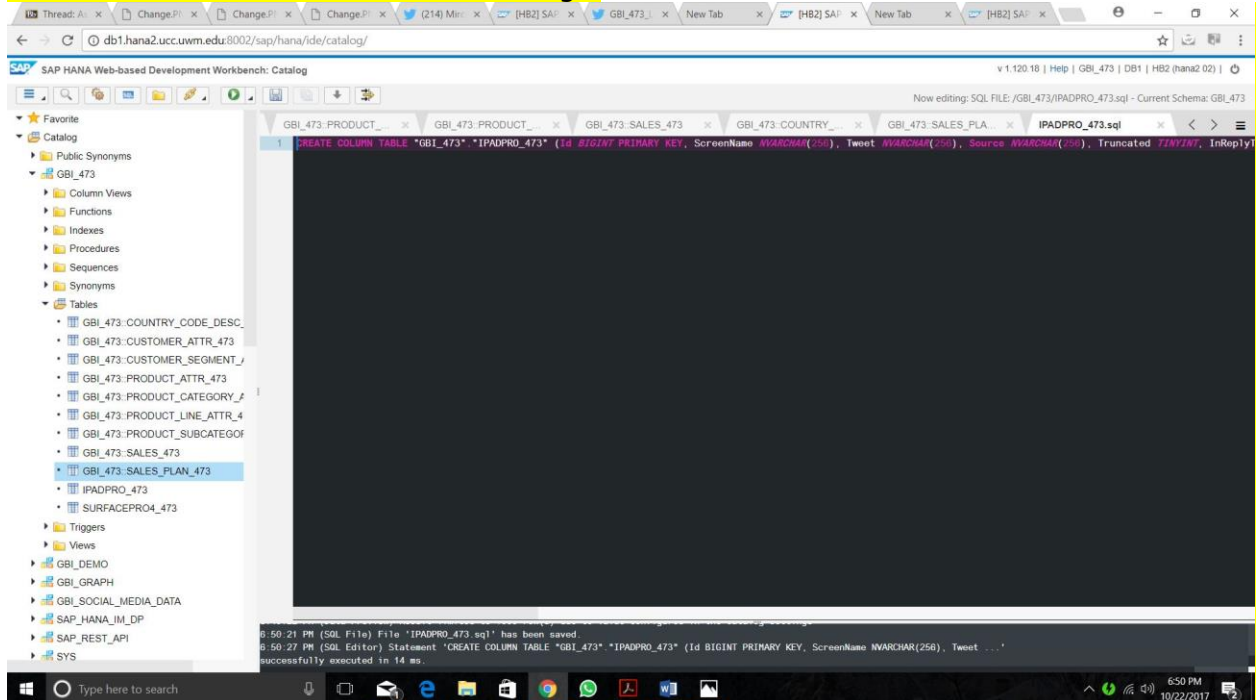
Paste the screenshot below:



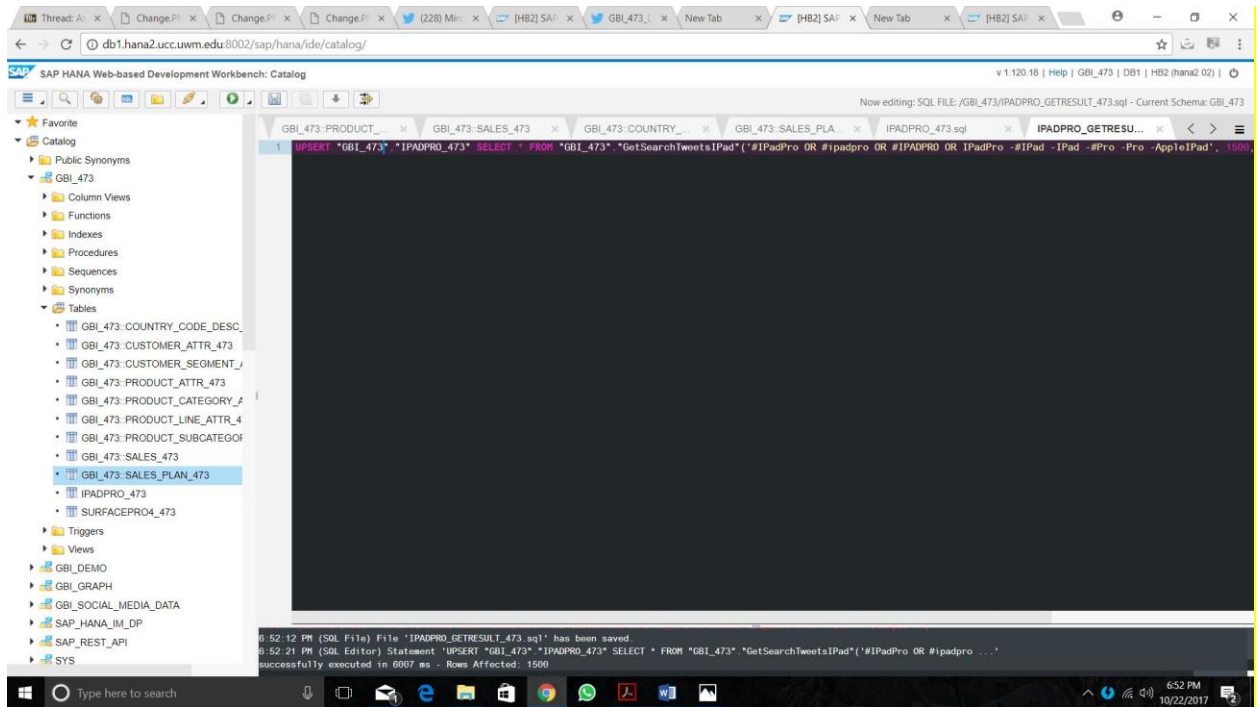
- D. Create virtual function as GetSearchTweetsIPad
Please attach your success message below.



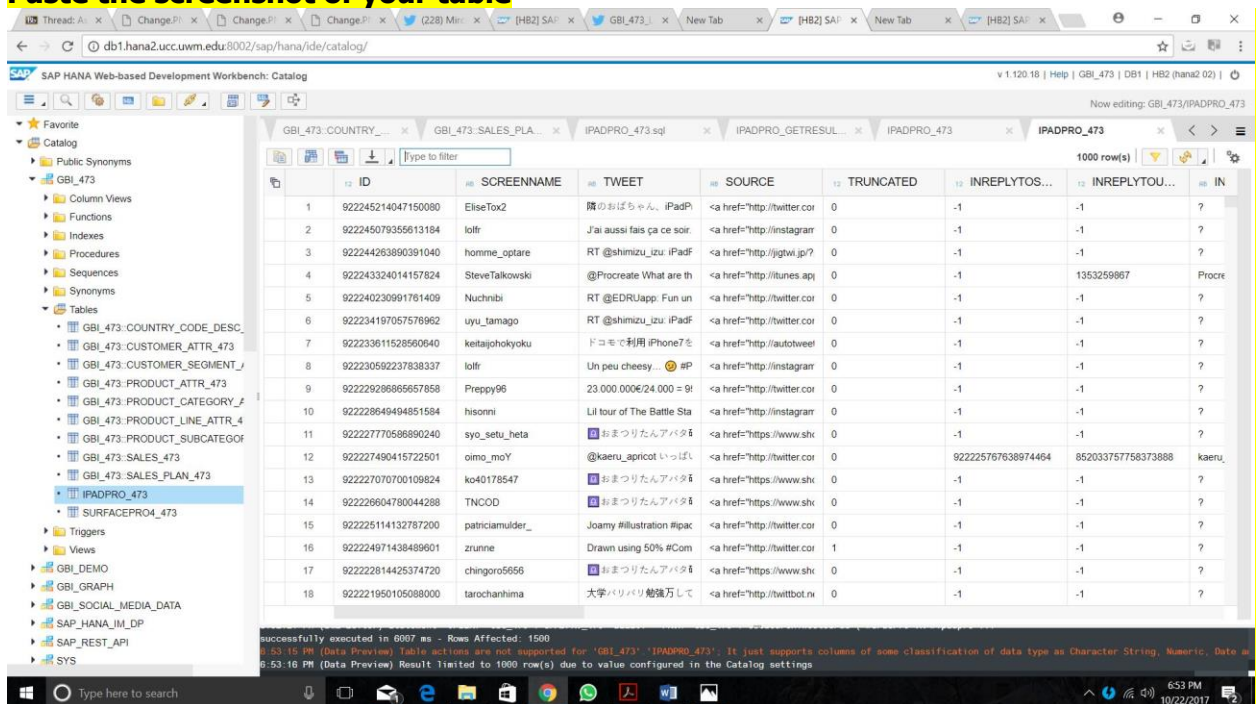
- E. Create the table for iPad Pro
Paste the screenshot of the success message.



- F.** To get the search tweet into the IPADPRO_xxx table from GetSearchTweetsIPad table.
Paste the screenshot of success message.



- G.** Right click on the table and select Open Content
Paste the screenshot of your table



4) Rate Limit Status table

- A. Click on New Virtual Table, the pop up will come.
Choose the table name as Rate_Limit_Status_XXX.

Right click on the table and click Open Content.

Paste your screenshot below:

The screenshot displays the SAP HANA Web-based Development Workbench interface. The left sidebar shows the 'Catalog' tree with 'Tables' expanded, listing various tables including 'Rate_Limit_Status_473'. The main area shows the 'Rate_Limit_Status_473' table with 5 rows of data. The table has columns: endpoint, limit, remaining, resetTimeInSeconds, and secondsUntilReset. The data is as follows:

	endpoint	limit	remaining	resetTimeInSeconds	secondsUntilReset
1	/application/rate_limit_status	180	179	1508717452	898
2	/account/settings	15	15	1508717452	898
3	/search/tweets	180	165	1508717236	682
4	/statuses/home_timeline	15	15	1508717452	898
5	/statuses/user_timeline	900	900	1508717452	898

- B. Now right click on IPADPRO_XXX table and choose open content again.
Paste the screenshot of your table.

SAP HANA Web-based Development Workbench: Catalog

Now editing: GBL_473/IPADPRO_473

1000 row(s)

ID	SCREENNAME	TWEET	SOURCE	TRUNCATED	INREPLYTOS...	INREPLYT...
1	EliseTox2	隣のおぼちゃん、iPadP	<a href="http://twitter.cor	0	-1	-1
2	lolfr	J'ai aussi fais ça ce soir.	<a href="http://instagrarr	0	-1	-1
3	homme_optare	RT @shimizu_izu: iPadF	<a href="http://igtw.jp/?	0	-1	-1
4	SteveTalkowski	@Procreate What are th	<a href="http://itunes.apl	0	-1	1353259867
5	Nuchnibi	RT @EDRUapp: Fun un	<a href="http://twitter.cor	0	-1	-1
6	uyu_lamago	RT @shimizu_izu: iPadF	<a href="http://twitter.cor	0	-1	-1
7	keitajohokyoku	ドコモで利用 iPhone7を	<a href="http://autotweel	0	-1	-1
8	lolfr	Un peu cheesy... #P	<a href="http://instagrarr	0	-1	-1
9	Preppy96	23 000 000€/24 000 = 9!	<a href="http://twitter.cor	0	-1	-1
10	hisonni	Lil tour of The Battle Sta	<a href="http://instagrarr	0	-1	-1
11	syu_setu_hela	おまつりたんアバタ	<a href="https://www.shc	0	-1	-1
12	oimo_moY	@kaenu_apricot いっぱい	<a href="http://twitter.cor	0	92225767638974464	8520337577583
13	ko40178547	おまつりたんアバタ	<a href="https://www.shc	0	-1	-1
14	TNCOD	おまつりたんアバタ	<a href="https://www.shc	0	-1	-1
15	patriciamulder_	Joany #illustration #ipac	<a href="http://twitter.cor	0	-1	-1

6:55:38 PM (Data Preview) Result limited to 1000 row(s) due to value configured in the Catalog settings

6:57:05 PM (Data Preview) Table actions are not supported for 'GBL_473:IPADPRO_473'. It just supports columns of some classification of data type as Character String

6:57:06 PM (Data Preview) Result limited to 1000 row(s) due to value configured in the Catalog settings

C. What is the number of remaining calls in your case? Paste the screenshot below.

Answer: Number of remaining calls are 178.

SAP HANA Web-based Development Workbench: Catalog

Now editing: GBL_473/Rate_Limit_Status_473

5 row(s)

endpoint	limit	remaining	resetTimeInSeconds	secondsUntilReset
/application/rate_limit_status	180	178	1508717452	743
/account/settings	15	15	1508717607	898
/search/tweets	180	165	1508717236	527
/statuses/home_timeline	15	15	1508717607	898
/statuses/user_timeline	900	900	1508717607	898

6:55:38 PM (Data Preview) Result limited to 1000 row(s) due to value configured in the Catalog settings

6:57:05 PM (Data Preview) Table actions are not supported for 'GBL_473:IPADPRO_473'. It just supports columns of some classification of data type as Character String

6:57:06 PM (Data Preview) Result limited to 1000 row(s) due to value configured in the Catalog settings

- D. Check the **Rate_Limit_Status** table after **GetSearchTweets** used to search tweets for **Samsung Galaxy S 8 TABLE**. **Paste your screenshot below:**

The screenshot shows the SAP HANA Web-based Development Workbench interface. The left sidebar displays a catalog of objects, with 'Rate_Limit_Status_473' selected under the 'Tables' section. The main area shows a table with 5 rows and 6 columns. The columns are: endpoint, limit, remaining, resetTimeInSeconds, and secondsUntilReset. The data is as follows:

	endpoint	limit	remaining	resetTimeInSeconds	secondsUntilReset
1	/application/rate_limit_status	180	179	1508718901	898
2	/account/settings	15	15	1508718901	898
3	/search/tweets	180	165	1508718509	506
4	/statuses/home_timeline	15	15	1508718901	898
5	/statuses/user_timeline	900	900	1508718901	898

At the bottom of the screenshot, a status bar indicates that a SQL statement was successfully executed in 5495 ms, affecting 1509 rows.

- E. **How many calls are left for endpoint “/search/tweets”?**

Answer: 165 calls are left for endpoint “/search/tweets”

5) Fulltext Index

- A. Creates a fulltext index for column "Tweet" for the table GBI_XXX.IPADPRO_010 and open content.

Paste your screenshot here.

SAP HANA Web-based Development Workbench: Catalog

Now editing: GBI_473/\$TA_IPadPro_Sentiment_473

ID	TA_RULE	TA_COUNTER	TA_TOKEN	TA_LANGUAGE	TA_TYPE	TA_NORM
1	Entity Extraction	1	研究室☆☆☆☆☆	ja	NOUN_GROUP	?
2	Entity Extraction	2	データ課	ja	NOUN_GROUP	?
3	Entity Extraction	3	☆☆アマ枠	ja	NOUN_GROUP	?
4	Entity Extraction	4	☆☆採用実績ただ今ア	ja	NOUN_GROUP	?
5	Entity Extraction	5	☆☆☆☆☆☆☆☆	ja	NOUN_GROUP	?
6	Entity Extraction	6	https://t.co/SzI9yUeqF	ja	URI/URL	?
7	Entity Extraction	1	おまつりたんアバタ研究	ja	NOUN_GROUP	?
8	Entity Extraction	2	データ課	ja	NOUN_GROUP	?
9	Entity Extraction	3	☆☆アマ枠	ja	NOUN_GROUP	?
10	Entity Extraction	4	☆☆採用実績ただ今ア	ja	NOUN_GROUP	?
11	Entity Extraction	5	☆☆☆☆☆☆☆☆	ja	NOUN_GROUP	?
12	Entity Extraction	6	https://t.co/TeP3okTndD	ja	URI/URL	?
13	Entity Extraction	1	@shimiz_uizu	ja	SOCIAL_MEDIA/ID_TW	?
14	Entity Extraction	2	ロングはじめ	ja	NOUN_GROUP	?
15	Entity Extraction	3	https://t.co/bI4tauCd9a	ja	URI/URL	?

successfully executed in 29 ms.

7:35:20 PM (Data Preview) Table actions are not supported for 'GBI_473' '\$TA_IPadPro_Sentiment_473'. It just supports columns of some classification of data type as Ch...

7:35:20 PM (Data Preview) Result limited to 1000 row(s) due to value configured in the Catalog settings

- B. Create a Fulltext index for Surface Pro 4 and open content.

Paste your screenshot here

SAP HANA Web-based Development Workbench: Catalog

Now editing: GBI_473/\$TA_SurfacePro4_Sentiment_473

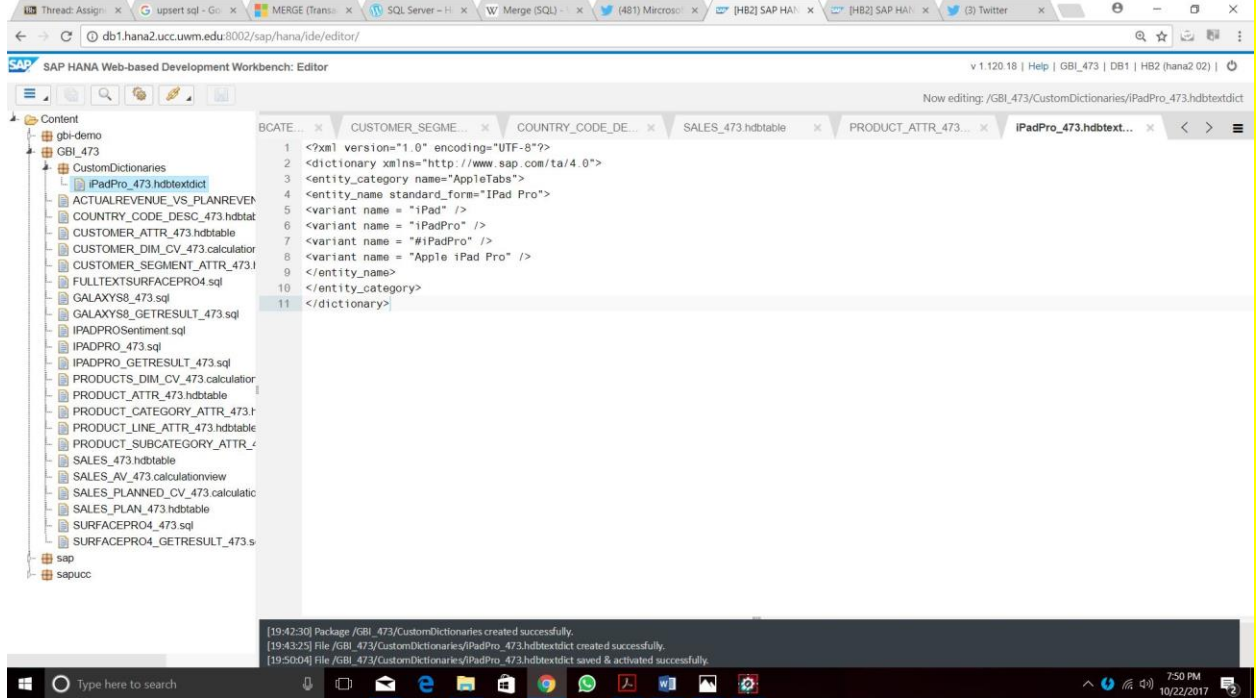
ID	TA_RULE	TA_COUNTER	TA_TOKEN	TA_LANGUAGE	TA_TYPE	TA_NORM
1	Entity Extraction	1	@Courtne09870549	ja	SOCIAL_MEDIA/ID_TW	?
2	Entity Extraction	2	プレゼント企画	ja	NOUN_GROUP	?
3	Entity Extraction	3	応募方法	ja	NOUN_GROUP	?
4	Entity Extraction	4	https://t.co/wNIQUOwHy	ja	URI/URL	?
5	Entity Extraction	1	@KarenCr58490166	ja	SOCIAL_MEDIA/ID_TW	?
6	Entity Extraction	2	プレゼント企画	ja	NOUN_GROUP	?
7	Entity Extraction	3	応募方法	ja	NOUN_GROUP	?
8	Entity Extraction	4	https://t.co/1c63zK5qAB	ja	URI/URL	?
9	Entity Extraction	1	@Courtne09870549	ja	SOCIAL_MEDIA/ID_TW	?
10	Entity Extraction	2	プレゼント企画	ja	NOUN_GROUP	?
11	Entity Extraction	3	応募方法	ja	NOUN_GROUP	?
12	Entity Extraction	4	https://t.co/wNIQUOwHy	ja	URI/URL	?
13	Entity Extraction	1	@KarenCr58490166	ja	SOCIAL_MEDIA/ID_TW	?
14	Entity Extraction	2	プレゼント企画	ja	NOUN_GROUP	?
15	Entity Extraction	3	応募方法	ja	NOUN_GROUP	?
16	Entity Extraction	4	https://t.co/1c63zK5qAB	ja	URI/URL	?

11:00:34 PM (Data Preview) Table actions are not supported for 'GBI_473' '\$TA_SurfacePro4_Sentiment_473'. It just supports columns of some classification of data type...

11:00:34 PM (Data Preview) Result limited to 1000 row(s) due to value configured in the Catalog settings

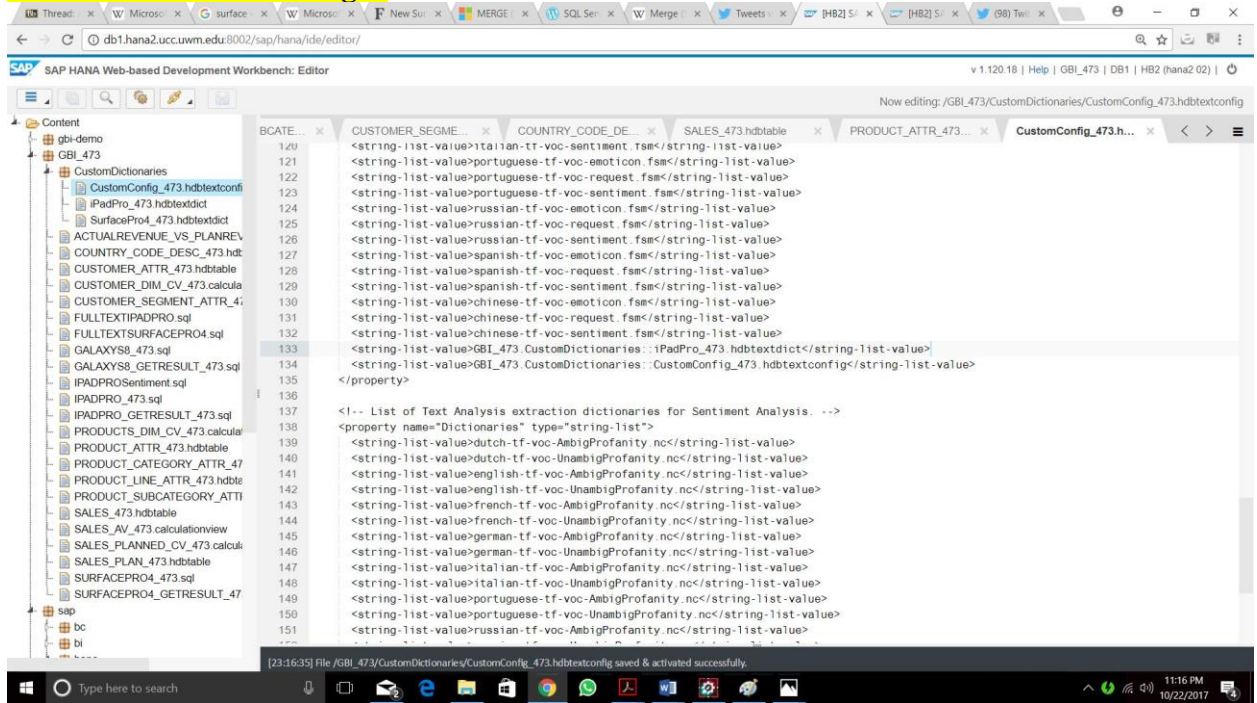
C. Custom Dictionary for iPadPro
Paste a screenshot of your dictionary along with the status message.

Paste a screenshot of your dictionary along with the status message.



D. Create CustomConfig_###.hdbtextconfig and Save the file.

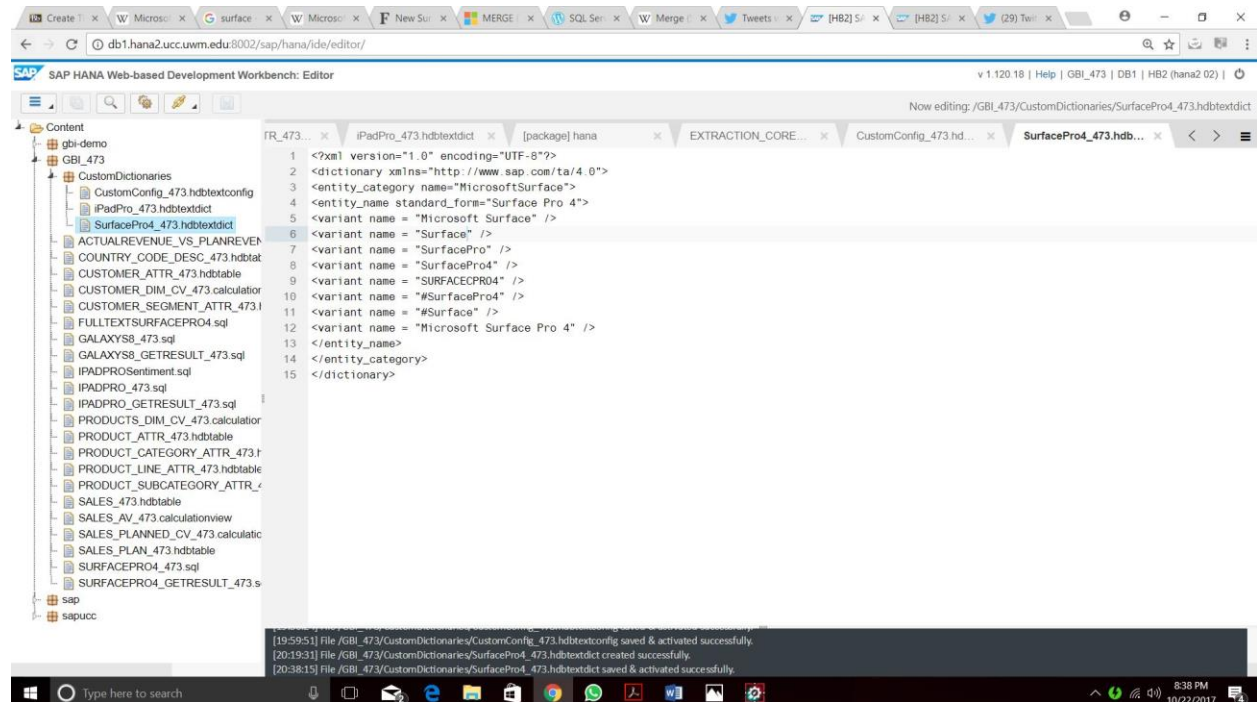
What is the status message?



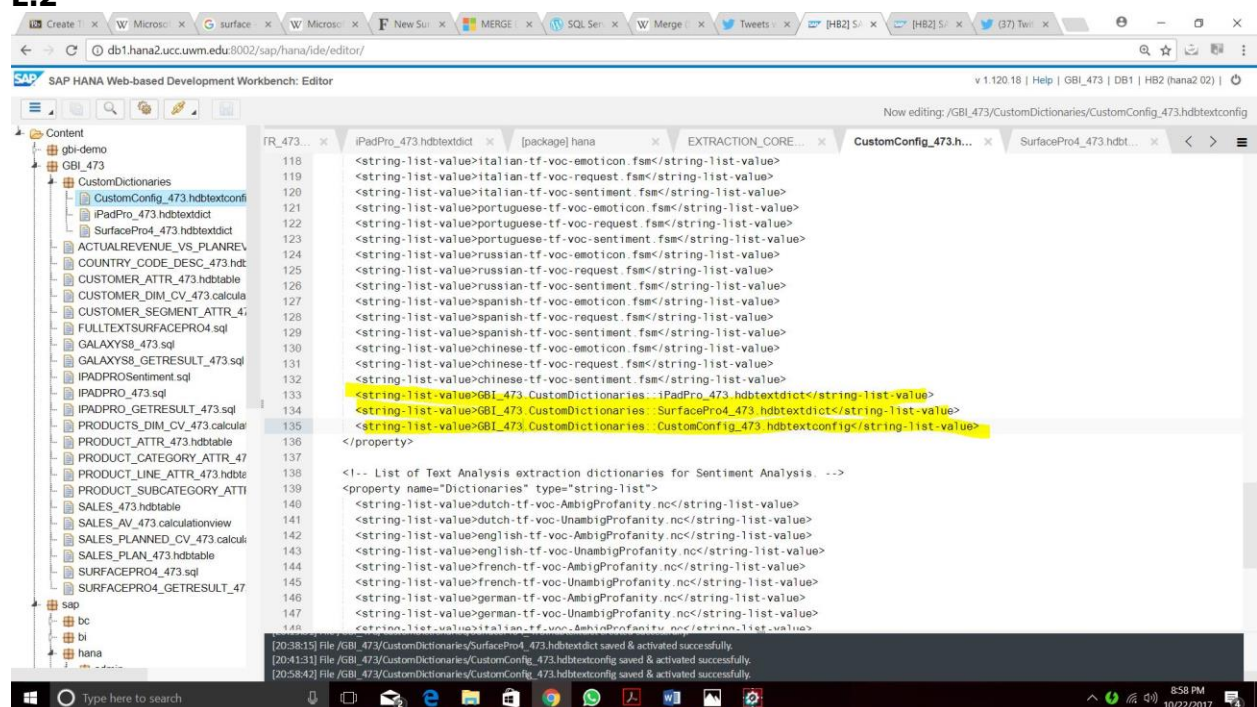
- E. Create a custom dictionary for Surface Pro 4 and add <string-list-value>GBI_473.CustomDictionaries::SurfacePro4_473.hdbtextdict</string-list-value> in CustomConfig_###.hdbtextconfig

Paste the screenshot of your configuration file along with the status message.

E.1



E.2



F. Recreate the fulltext indexes with the following statements

For IPADPRO : CREATE FULLTEXT INDEX "GBI_473"."IPadPro_Sentiment_473" ON "GBI_473"."IPADPRO_473" (TWEET)

TEXT ANALYSIS ON

LANGUAGE COLUMN "ISOLANGUAGECODE"

LANGUAGE DETECTION ('EN','FR','DE','ES','ZH')

CONFIGURATION 'GBI_473.CustomDictionaries::CustomConfig_473';

And

For SurfacePro 4:

CREATE FULLTEXT INDEX "GBI_473"."SurfacePro4_Sentiment_473" ON "GBI_473"."SURFACEPRO4_473" (TWEET)

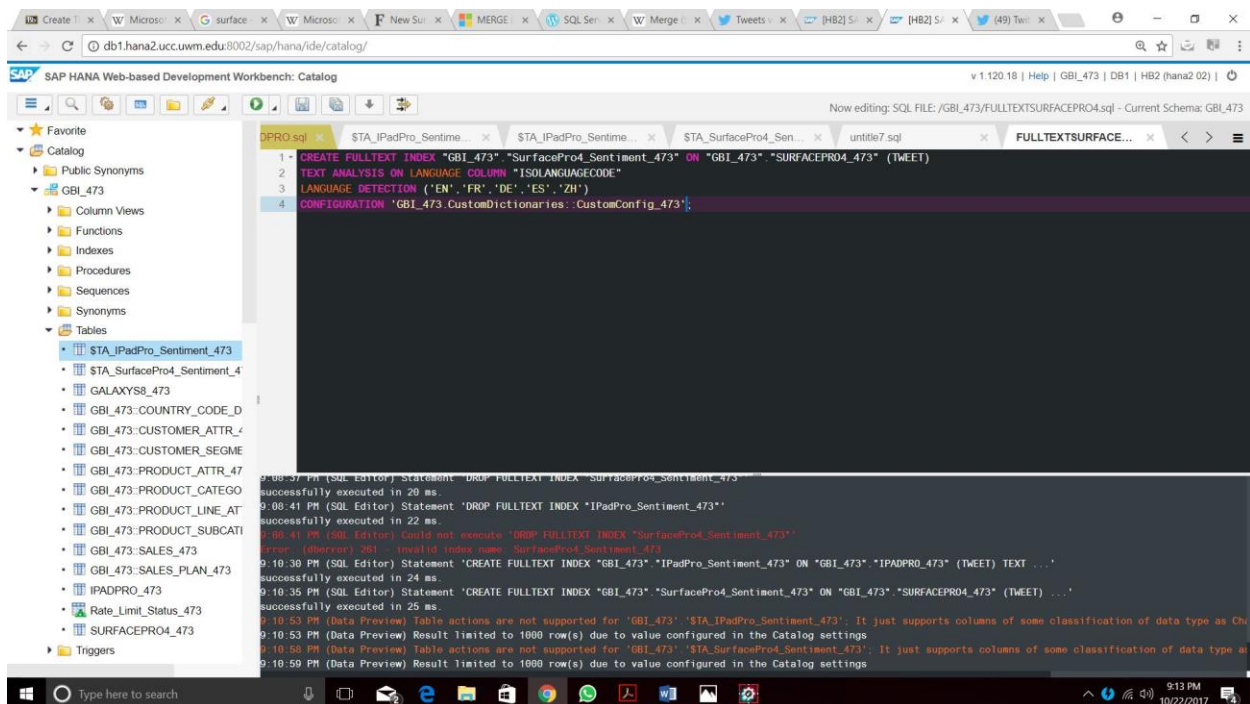
TEXT ANALYSIS ON

LANGUAGE COLUMN "ISOLANGUAGECODE"

LANGUAGE DETECTION ('EN','FR','DE','ES','ZH')

CONFIGURATION 'GBI_473.CustomDictionaries::CustomConfig_473';

Paste your screenshot of success message here.

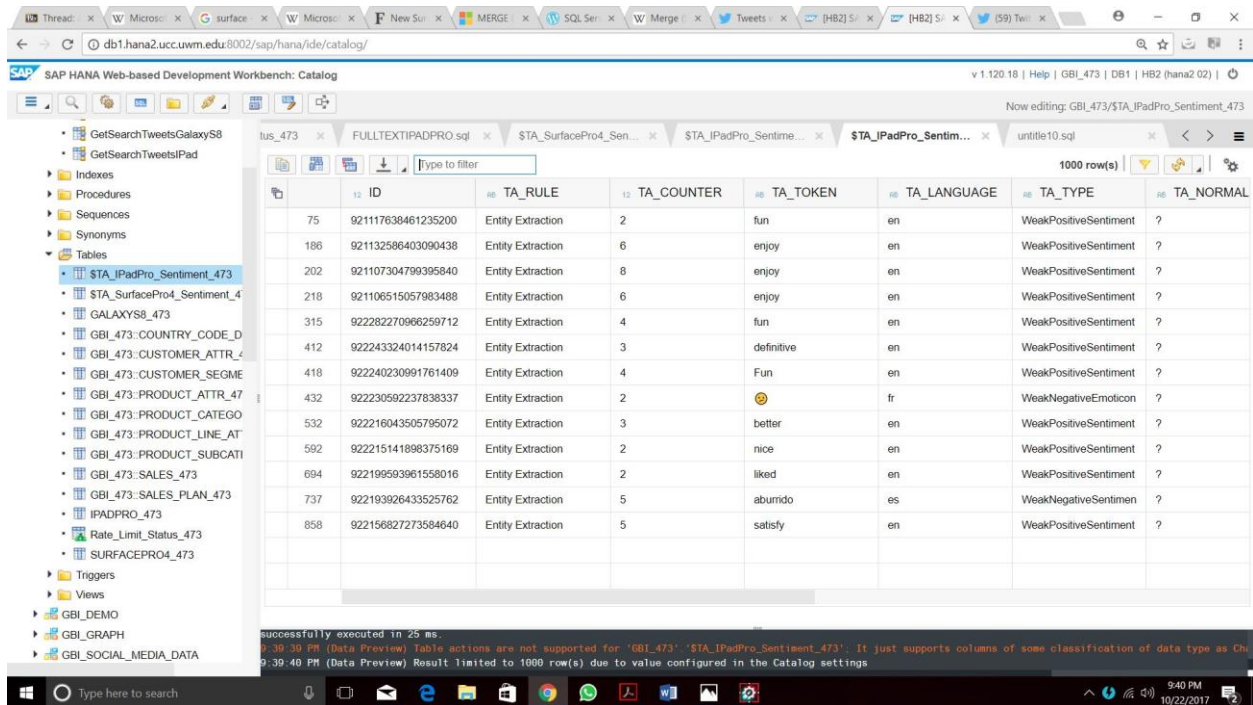


G. Data Cleaning

"\$TA_iPadPro_Sentiment_####". Choose **Open Content**

"TA_TYPE" and enter "Weak" into the filter field.

G.1) Paste your screenshot here.



The screenshot displays the SAP HANA Web-based Development Workbench interface. The left sidebar shows a catalog of objects, including tables like \$TA_iPadPro_Sentiment_473. The main area shows a table view of this table, with columns: ID, TA_RULE, TA_COUNTER, TA_TOKEN, TA_LANGUAGE, TA_TYPE, and TA_NORMAL. The table contains 1000 rows of data. The TA_TOKEN column shows various words like 'fun', 'enjoy', 'definitive', 'Fun', 'better', 'nice', 'liked', 'aburrido', and 'satisfy'. The TA_TYPE column shows sentiment classifications like 'WeakPositiveSentiment', 'WeakNegativeEmoticon', and 'WeakNegativeSentiment'. The TA_NORMAL column shows question marks. A status bar at the bottom indicates the query was successfully executed in 25 ms.

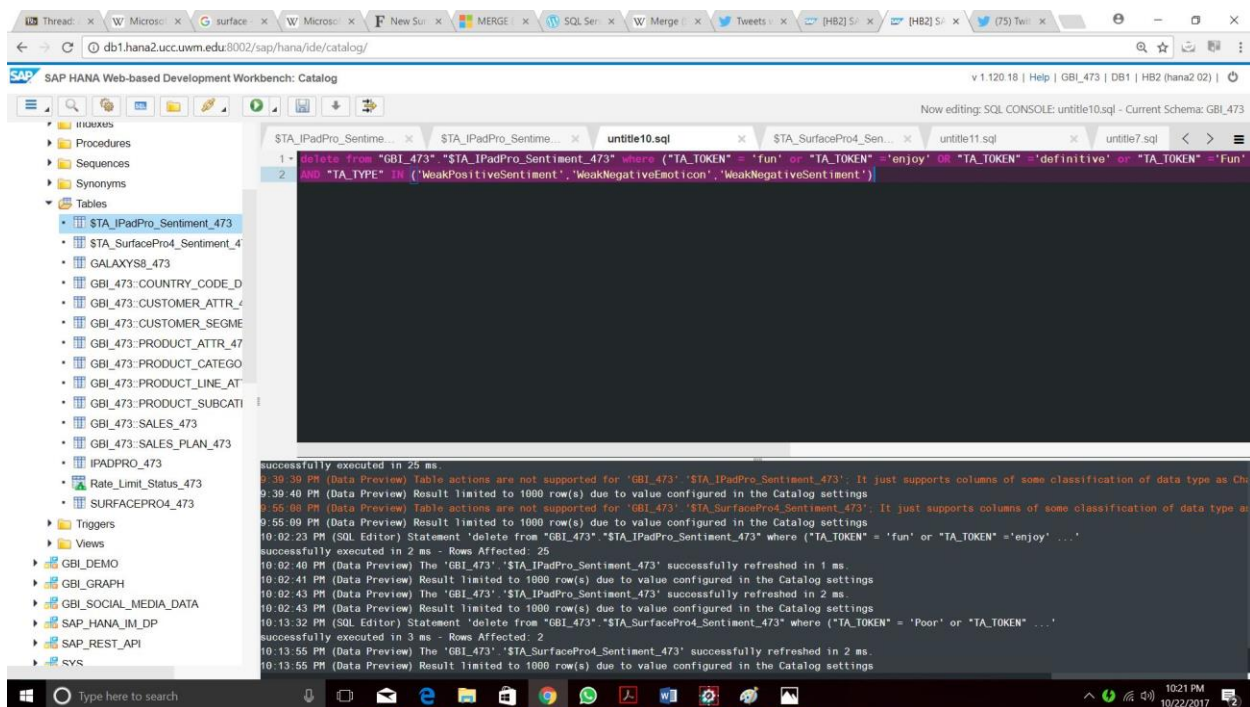
ID	TA_RULE	TA_COUNTER	TA_TOKEN	TA_LANGUAGE	TA_TYPE	TA_NORMAL
75	Entity Extraction	2	fun	en	WeakPositiveSentiment	?
186	Entity Extraction	6	enjoy	en	WeakPositiveSentiment	?
202	Entity Extraction	8	enjoy	en	WeakPositiveSentiment	?
218	Entity Extraction	6	enjoy	en	WeakPositiveSentiment	?
315	Entity Extraction	4	fun	en	WeakPositiveSentiment	?
412	Entity Extraction	3	definitive	en	WeakPositiveSentiment	?
418	Entity Extraction	4	Fun	en	WeakPositiveSentiment	?
432	Entity Extraction	2	😊	fr	WeakNegativeEmoticon	?
532	Entity Extraction	3	better	en	WeakPositiveSentiment	?
592	Entity Extraction	2	nice	en	WeakPositiveSentiment	?
694	Entity Extraction	2	liked	en	WeakPositiveSentiment	?
737	Entity Extraction	5	aburrido	es	WeakNegativeSentiment	?
858	Entity Extraction	5	satisfy	en	WeakPositiveSentiment	?

SQL console and copy and paste the following statement

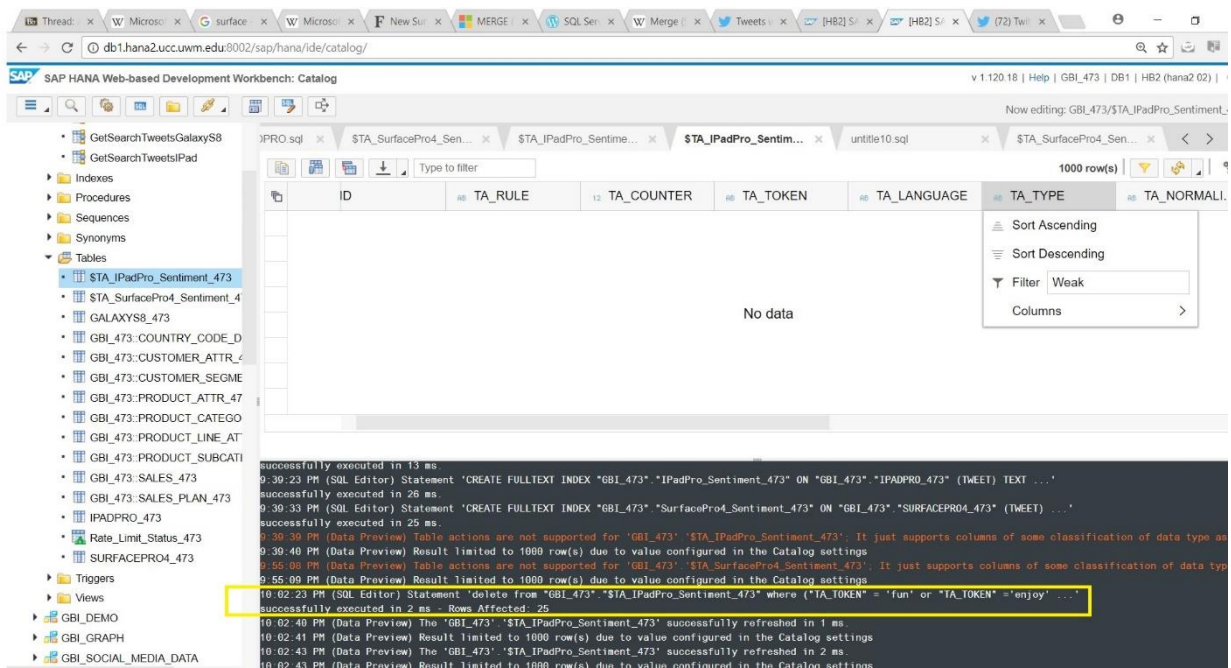
```
delete from "GBI_473"."$TA_iPadPro_Sentiment_473" where ("TA_TOKEN" = 'fun' or "TA_TOKEN" = 'enjoy' OR "TA_TOKEN" = 'definitive' or "TA_TOKEN" = 'Fun' OR "TA_TOKEN" = 'better' or "TA_TOKEN" = 'nice' or "TA_TOKEN" = 'liked' or "TA_TOKEN" = 'aburrido' or "TA_TOKEN" = 'satisfy' or "TA_TOKEN" = '😊')
```

```
AND "TA_TYPE" IN ('WeakPositiveSentiment','WeakNegativeEmoticon','WeakNegativeSentiment');
```

G.2) Execute SQL command . Paste your screenshot here.

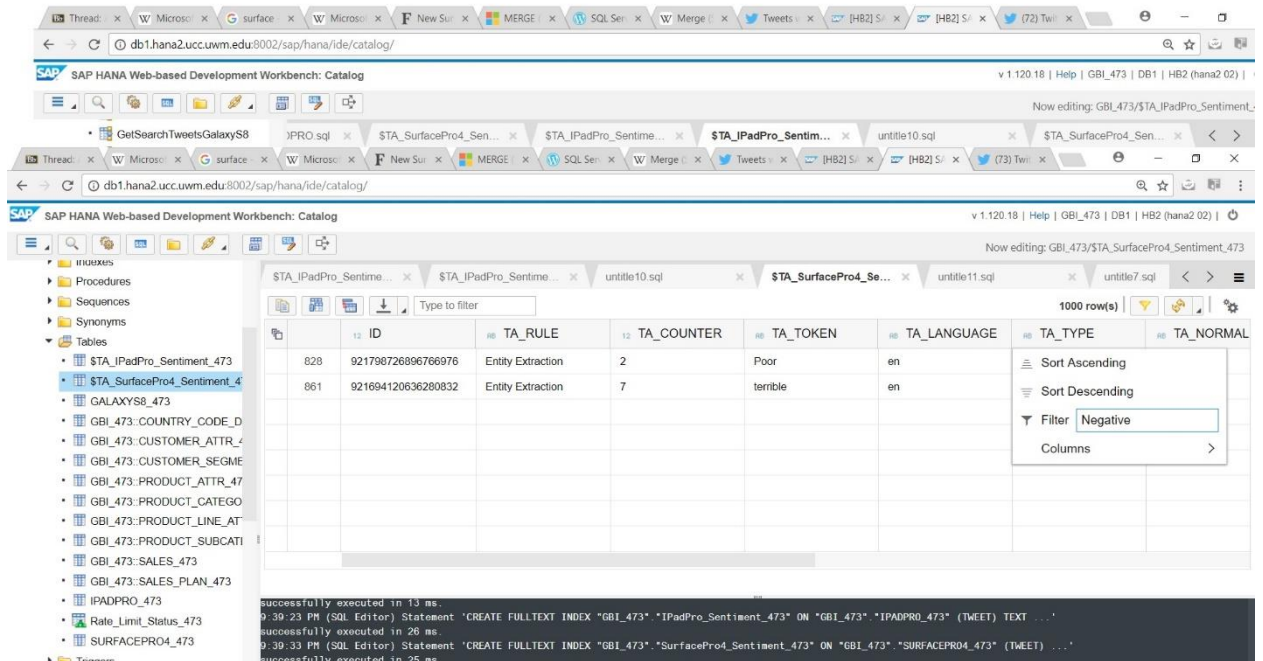


G.3) Open content IpadPro_sentiment after sql command executed. Paste your screenshot here.



- h. "\$TA_SurfacePro4_Sentiment_###". Choose Open Content.
"TA_TYPE" and enter "Negative" into the filter field

H.1) **Paste your screenshot here.**

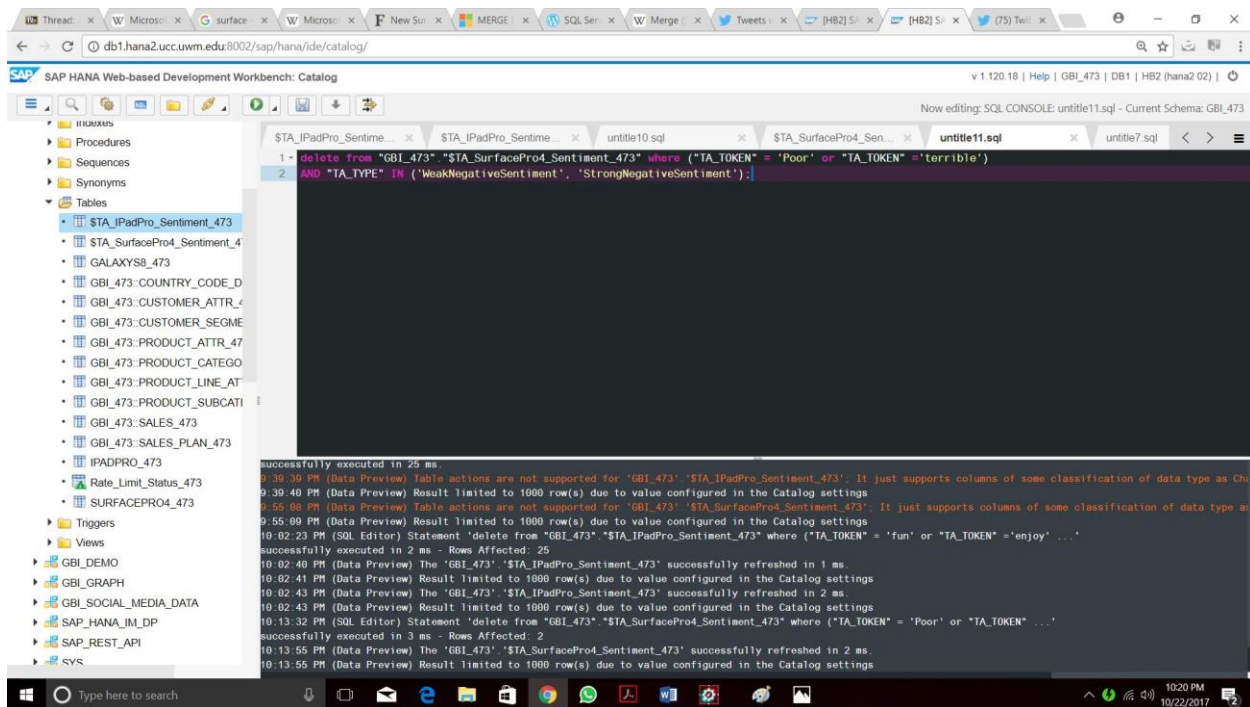


SQL console and copy and paste the following statement

**delete from "GBI_473"."\$TA_SurfacePro4_Sentiment_473" where ("TA_TOKEN" = 'Poor' or
"TA_TOKEN" = 'terrible')**

AND "TA_TYPE" IN ('WeakNegativeSentiment', 'StrongNegativeSentiment');

H.2) Execute SQL command .**Paste your screenshot here.**



H.3) Open content SurfacePro4 sentiment after sql command executed. Paste your screenshot here.

