

GA4 BIGQUERY WORKSHOP

KAMPAŇOVÁ ANALYTIKA

21 | 6 | 2023



VAŠEK JELEN



VAŠEK RÁŠ



VAŠEK JELEN

WWW.MEASUREDESIGN.CZ



VAŠEK RÁŠ

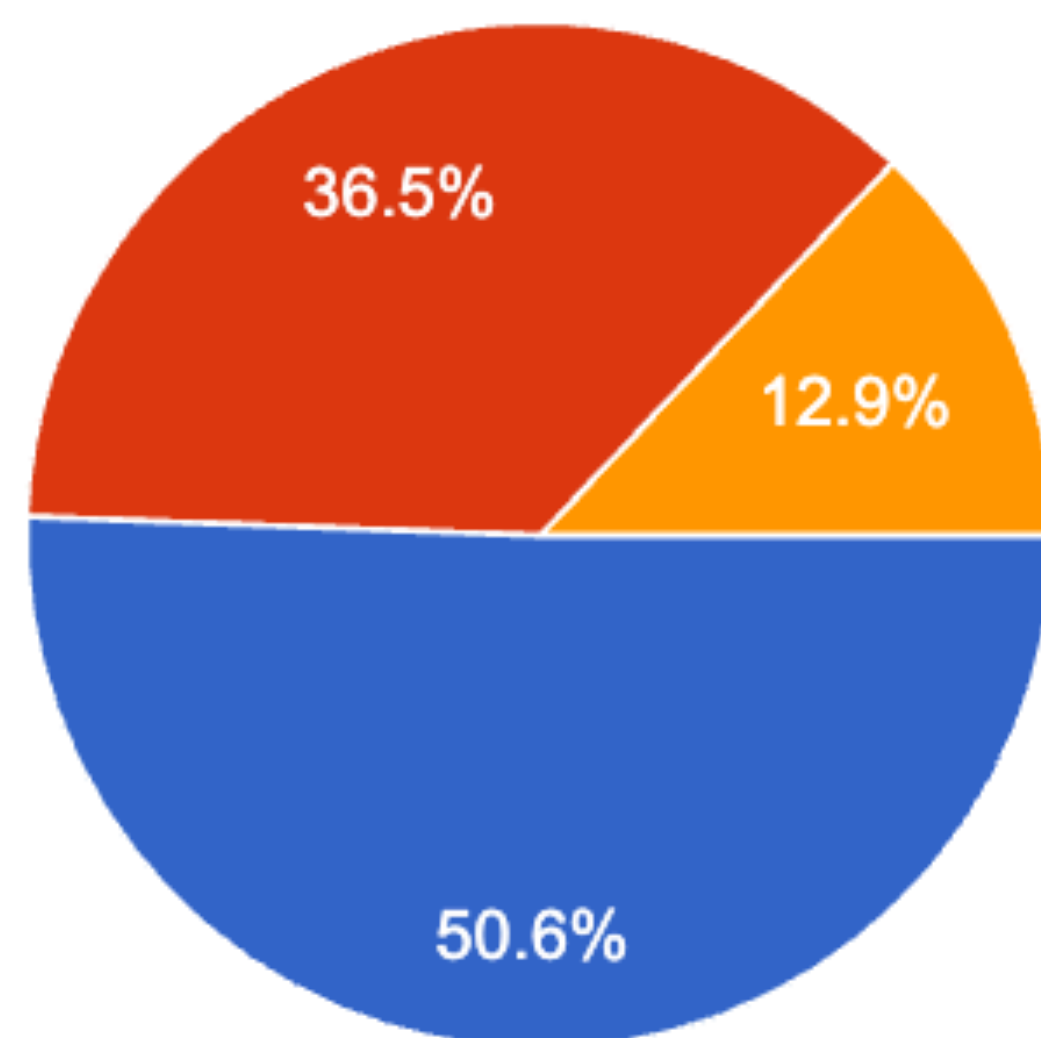
WWW.DATARAS.CZ



ANNA - SUPPORT

TEL: 723 332 430

87 HLASOVÁNÍ



- Vím co je BigQuery, ale s GA4 daty jsem tam ještě nepracoval.
- GA4 dataset v BigQuery mám osaháný, chci se ho naučit využívat v praxi.
- S GA4 daty v BigQuery aktivně pracuji a od workshopu očekávám tuning know-how.



(C) JAWS 2

AGENDA

10:00

GA4 BIGQUERY INTRO + ZÁKLADNÍ PRINCIPY

DOTAZY

SELEKTY - SESSIONS, ZDROJE, EVENTY

CHCI TOMU ROUZUMĚT ABYCH VĚDĚL
CO Z TOHO MŮŽU ZÍSKAT A JAK TO FUNGUJE

DOTAZY

11:00

VAŠEK RÁŠ - FLATTENNIG GA4 DATASETU

DOTAZY

CHCI TOMU ROUZUMĚT ABYCH TO MOHL SÁM
DĚLAT

11:20

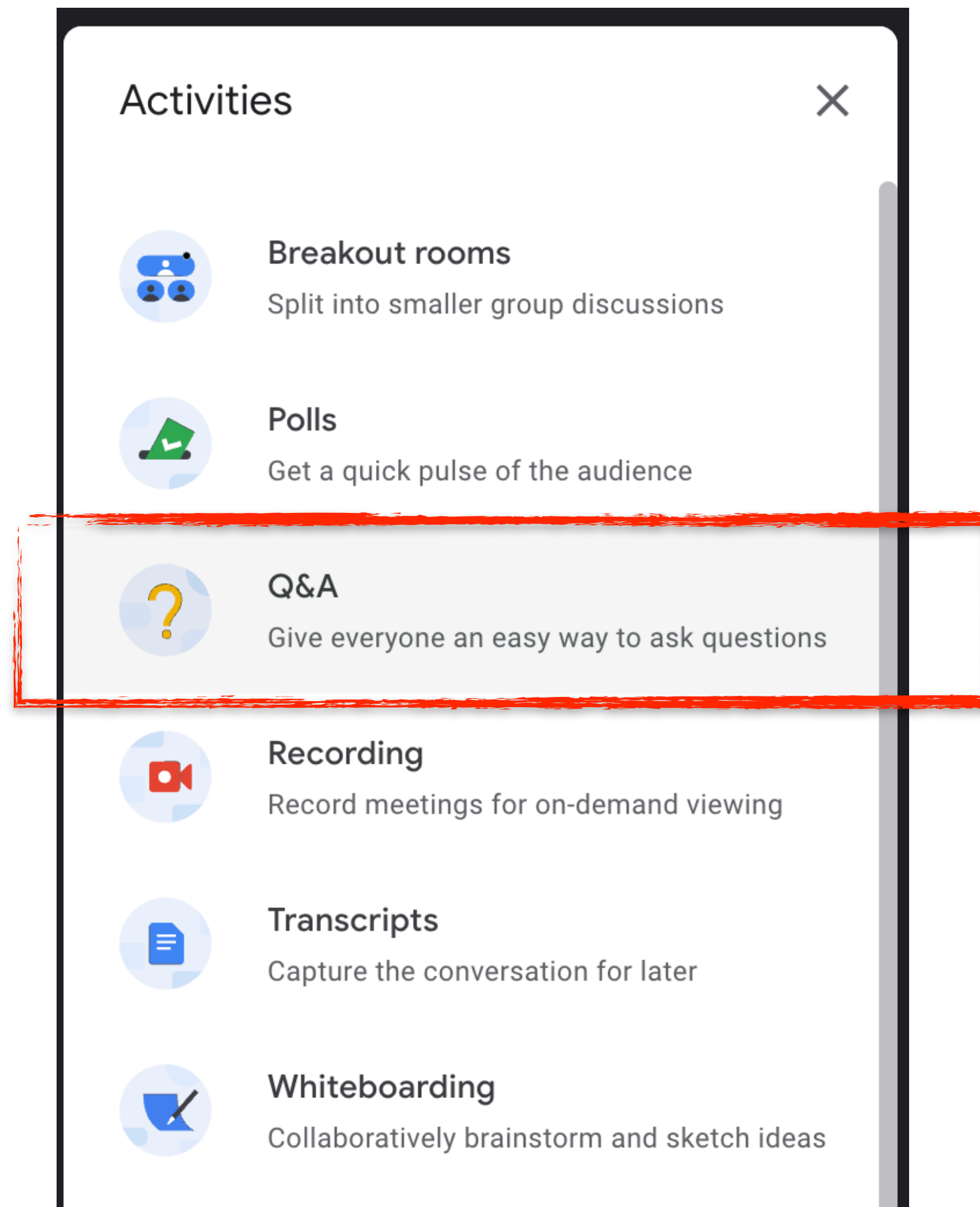
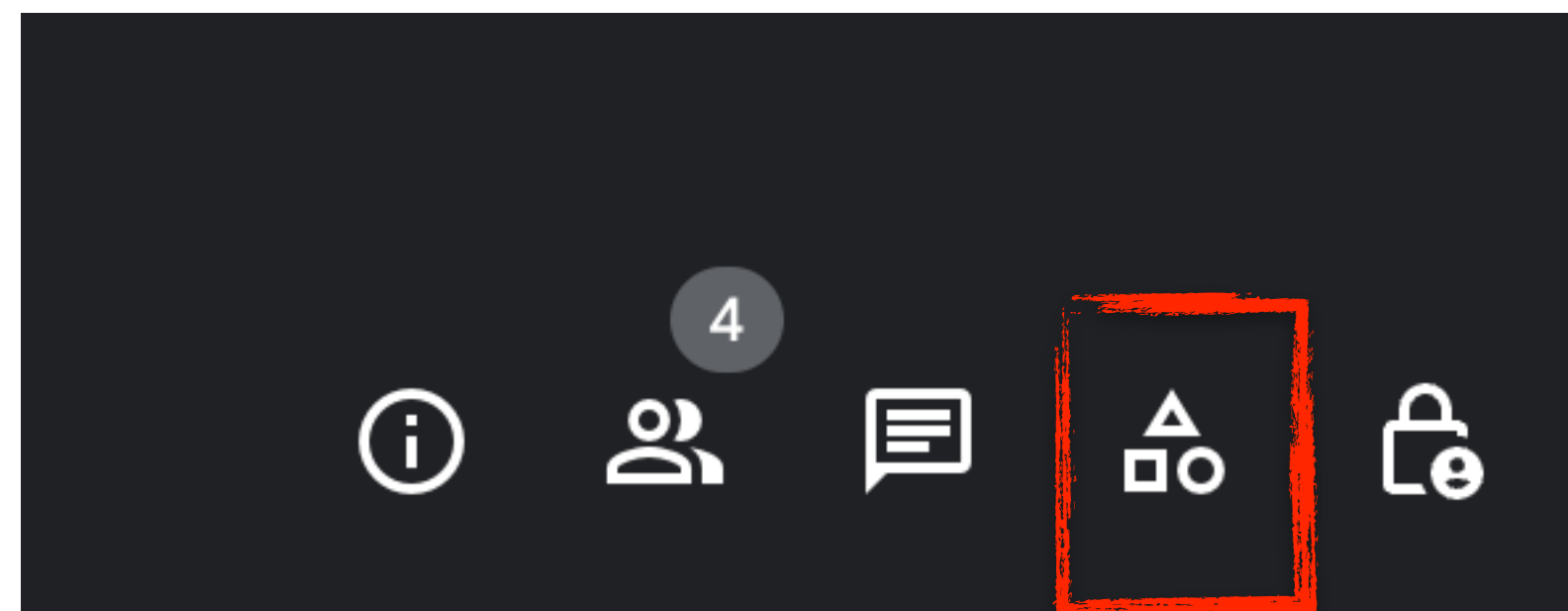
PRAKTICKÉ TIPY

ADS/FACEBOOK TRAFFIC
STATICKÉ VS DYNAMICKÉ LOADY
NA CO SI DÁT POZOR

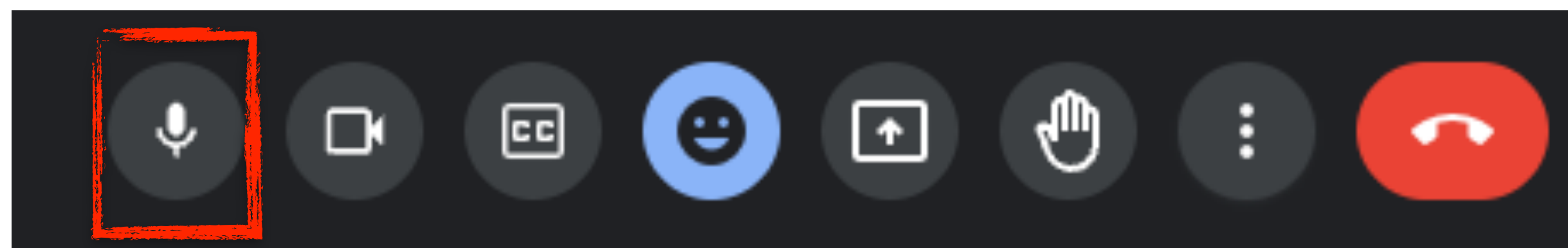
12:00

DOTAZY

DESKTOP - VPRAVO DOLE



MUTE / UNMUTE



DISCLAIMER #1



The Most Expensive Queries with Details

	Date	ProjectId	UserId	Query	TotalBilledG...	TotalCost
41.	Jun 19, 20...	[REDACTED]	[REDACTED].cz	select [REDACTED] _DATE('%Y...	425.59	\$2.128
42.	Jun 8, 2023	[REDACTED]	[REDACTED].cz	select [REDACTED] _DATE('%Y...	425.59	\$2.128
43.	Jun 14, 20...	[REDACTED]	[REDACTED].cz	select [REDACTED] _DATE('%Y...	425.59	\$2.128
44.	Jun 8, 2023	[REDACTED]	[REDACTED]sas.cz	SELE([REDACTED], page_pat...	135.69	\$0.678
45.	Jun 8, 2023	[REDACTED]	[REDACTED]sas.cz	SELE([REDACTED], page_pat...	135.69	\$0.678
46.	Jun 14, 20...	[REDACTED]	[REDACTED]@measuredesign.cz	/* PO[REDACTED] haviorální)...	120.19	\$0.601
47.	Jun 20, 20...	[REDACTED]	[REDACTED].cz	select [REDACTED] ser_pseud...	81.7	\$0.409
48.	Jun 5, 2023	[REDACTED]	[REDACTED].cz	select [REDACTED] at(user_ps...	79.01	\$0.395
49.	Jun 5, 2023	[REDACTED]	[REDACTED].cz	select [REDACTED] SELECT c...	79.01	\$0.395
50.	Jun 5, 2023	[REDACTED]	[REDACTED].cz	select [REDACTED] SELECT c...	79.01	\$0.395
Grand total					31,812.68	\$159.063
					41 - 50 / 2491	< >

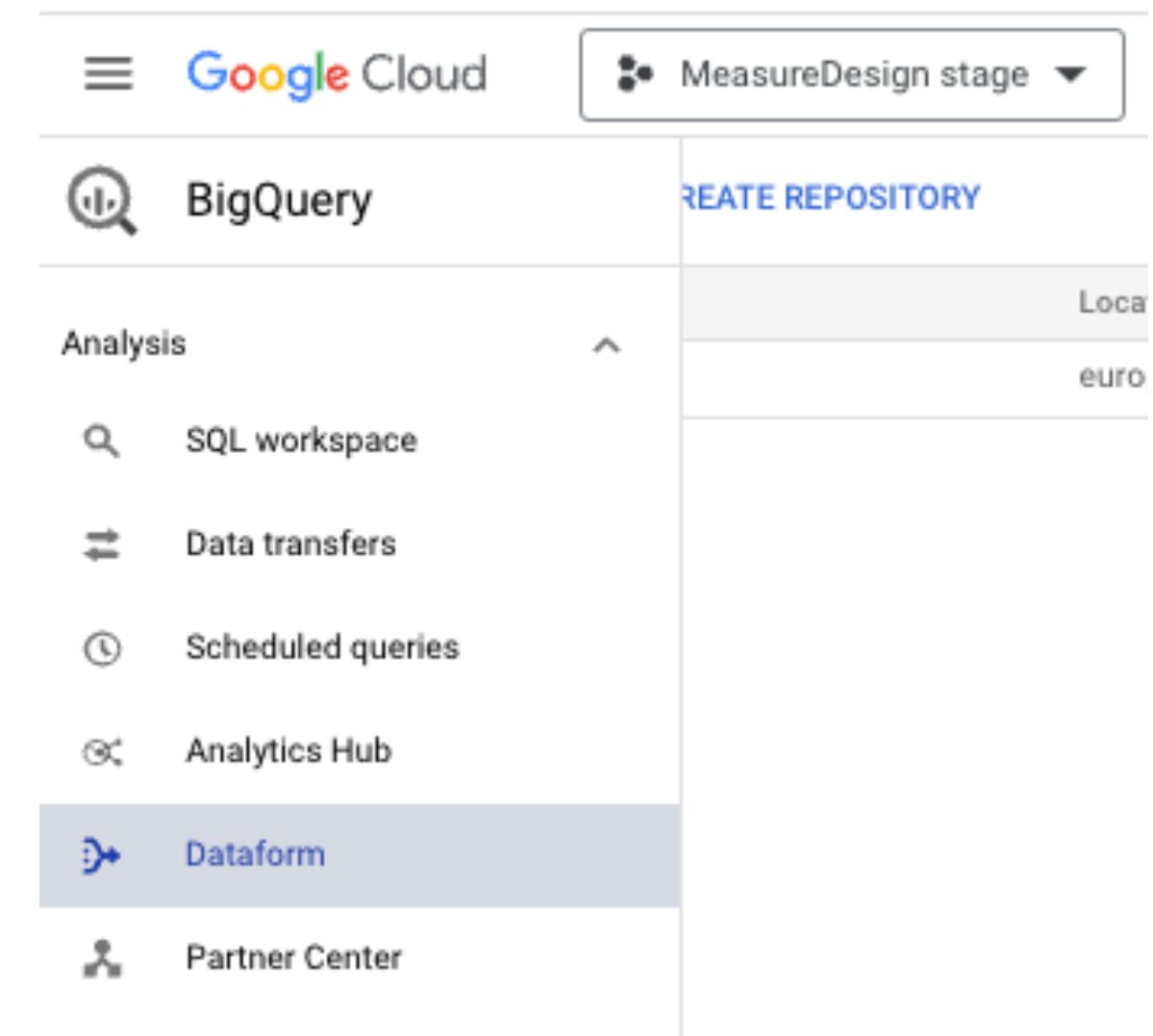
DISCLAIMER #2

O ČEM TO DNES SPÍŠE NEBUDE

DBT



DATAFORM



CSAS - 61 SCHEDULED QUERIES (06/2023)

Google Cloud Ceska sporitelna Jednicka Search (/) for resources, docs, products, and more

Scheduled queries + CREATE SCHEDULED QUERY IN EDITOR DELETE

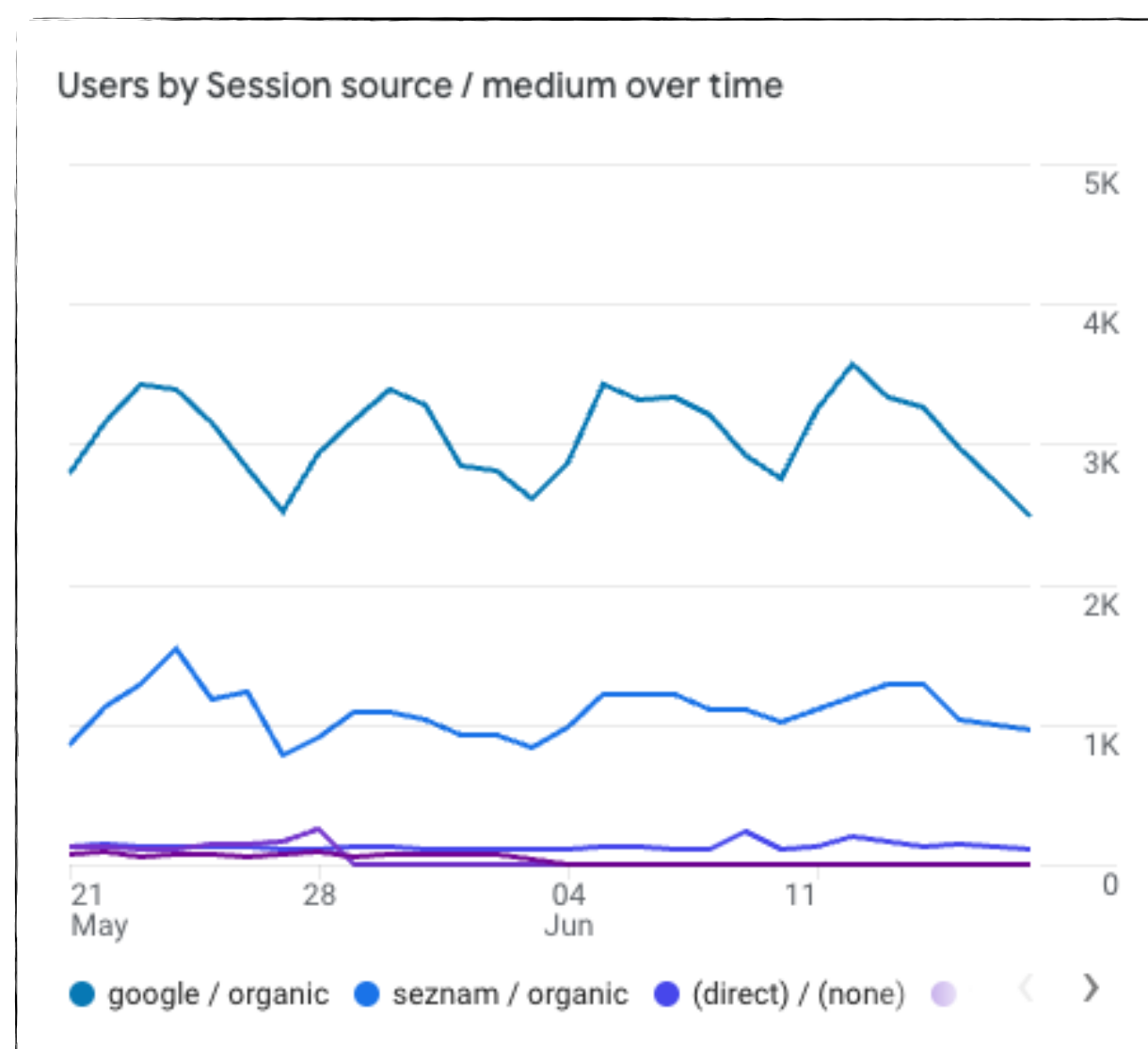
<input type="checkbox"/>	<input checked="" type="checkbox"/>	[REDACTED]							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	[REDACTED]							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	[REDACTED]							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	[REDACTED]							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	[REDACTED]							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	[REDACTED]							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	[REDACTED]							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	[REDACTED]							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	[REDACTED]							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_pageviews	Scheduled Query	every 15 minutes	europa		June 20, 2023 at 9:00:00 AM UTC		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_pageviews	Scheduled Query	every day 01:00	europa	analytics_GA4_exporty	June 21, 2023 at 1:00:00 AM UTC		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_pageviews_static	Scheduled Query	None	europa	analytics_GA4_exporty_static	None		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_events	Scheduled Query	every 15 minutes	europa		June 20, 2023 at 9:00:00 AM UTC		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_events	Scheduled Query	every day 01:00	europa	analytics_GA4_exporty	June 21, 2023 at 1:00:00 AM UTC		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_events_calculators	Scheduled Query	every 15 minutes	europa		June 20, 2023 at 9:00:00 AM UTC		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_events_calculators	Scheduled Query	every day 01:00	europa	analytics_GA4_exporty	June 21, 2023 at 1:00:00 AM UTC		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_events_calculators_static	Scheduled Query	None	europa	analytics_GA4_exporty_static	None		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_events_static	Scheduled Query	None	europa	analytics_GA4_exporty_static	None		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_geodata	Scheduled Query	every day 01:00	europa	analytics_GA4_exporty	June 21, 2023 at 1:00:00 AM UTC		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_geodata_static	Scheduled Query	None	europa	analytics_GA4_exporty_static	None		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_leads	Scheduled Query	every 15 minutes	europa		June 20, 2023 at 9:00:00 AM UTC		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_leads	Scheduled Query	every day 01:00	europa	analytics_GA4_exporty	June 21, 2023 at 1:00:00 AM UTC		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_leads_static	Scheduled Query	None	europa	analytics_GA4_exporty_static	None		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_techdata	Scheduled Query	every day 01:00	europa	analytics_GA4_exporty	June 21, 2023 at 1:00:00 AM UTC		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_techdata_static	Scheduled Query	None	europa	analytics_GA4_exporty_static	None		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_traffic_sources	Scheduled Query	every day 02:00	europa	analytics_GA4_exporty	June 21, 2023 at 2:00:00 AM UTC		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA4_table_session_traffic_sources_static	Scheduled Query	None	europa	analytics_GA4_exporty_static	None		
<input type="checkbox"/>	<input type="checkbox"/>	[REDACTED]							
<input type="checkbox"/>	<input type="checkbox"/>	[REDACTED]							
<input type="checkbox"/>	<input type="checkbox"/>	[REDACTED]							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	[REDACTED]							

CSAS - 61 SCHEDULED QUERIES (06/2023)

▶ Store_stage_stavebni_spor...	☆	⋮	<input type="checkbox"/>	▶ app_info	RECORD	NULLABLE
▶ analytics_301956938	☆	⋮	<input type="checkbox"/>	▶ traffic_source	RECORD	NULLABLE
▼ analytics_311283770	☆	⋮	<input type="checkbox"/>	stream_id	STRING	NULLABLE
events_ (130)	☆	⋮	<input type="checkbox"/>	platform	STRING	NULLABLE
▶ events_intraday_ (1)	☆	⋮	<input type="checkbox"/>	▶ event_dimensions	RECORD	NULLABLE
▶ analytics_313307764	☆	⋮	<input type="checkbox"/>	▶ ecommerce	RECORD	NULLABLE
▶ analytics_333956437	☆	⋮	<input type="checkbox"/>	▶ items	RECORD	REPEATED
			<input type="checkbox"/>	▼ collected_traffic_source	RECORD	NULLABLE
			<input type="checkbox"/>	manual_campaign_id	STRING	NULLABLE
			<input type="checkbox"/>	manual_campaign_name	STRING	NULLABLE
			<input type="checkbox"/>	manual_source	STRING	NULLABLE
			<input type="checkbox"/>	manual_medium	STRING	NULLABLE
			<input type="checkbox"/>	manual_term	STRING	NULLABLE
			<input type="checkbox"/>	manual_content	STRING	NULLABLE
			<input type="checkbox"/>	gclid	STRING	NULLABLE
			<input type="checkbox"/>	dclid	STRING	NULLABLE
			<input type="checkbox"/>	srsitid	STRING	NULLABLE

GA4 BIGQUERY INTRO + VYUŽITÍ GA4 DAT V BQ PRO KAMPAŇOVOU ANALYTIKU

GA4 ROZHŘANÍ



GA4 API



```
{
  "dimensions": [
    {
      "name": "sessionSourceMedium"
    }
  ],
  "metrics": [
    {
      "name": "sessions"
    }
  ],
  "dateRanges": [
    {
      "startDate": "2023-03-22"
      "endDate": "yesterday"
    }
  ]
}
```



Google
BigQuery



event_name	event_params.key
page_view	gclid
	gclsrc
	debug_mode
	ga_session_number
	all_data
	page_location
	entrances
	session_engaged
	ga_session_id
	clean_event
	engaged_session_event
	page_title

**GA4
ROZHŘANÍ**



**DOMODELOVÁNA
AGREGOVANÁ
DATA**

**GA4
API**



**DOMODELOVANÁ
AGREGOVANÁ
DATA**



**Google
BigQuery**



**NEDOMODELOVANÁ
NEAGREGOVANÁ
DATA**

ADMIN - REPORTING IDENTITY

The screenshot shows the Google Analytics Admin interface. At the top, the 'Analytics' logo is on the left, followed by the account path 'All accounts > MeasureDesign testova...' and the property name 'GA4 MeasureDesign stage'. A search bar on the right contains the text 'Try searching "users today"'. Below the header, there are two tabs: 'ADMIN' (selected) and 'USER'. A left-hand navigation menu includes icons for home, reports, reports and events, reports and conversions, and reports and funnels. The main content area is titled 'Reporting Identity' and contains the following text: 'Determines which methods Analytics uses to associate events with users. [Learn more](#)'. Below this, it asks 'How would you like to identify your users?'. There are two radio button options: 'Blended' (selected) with the description 'This identity evaluates: user ID, Google signals, device ID, modeled data.', and 'Observed' with the description 'This identity evaluates: user ID, Google signals, device ID.'. At the bottom of the settings area are 'Save' and 'Cancel' buttons. The 'Reporting Identity' menu item in the left sidebar and the 'Blended' option are highlighted with red dashed boxes.

GA4 MODELING VS RAW DATA

GA4 Interface (data driven model)

Sessions
10,266,011

Total users
3,428,489

session source/medium	Sessions ▾
(direct)/(none)	3,770,151
google/organic	2,411,737
seznam/organic	1,297,208
google/cpc	624,927
bing/organic	333,875

BigQuery (raw data)

Sessions (unique_sessionID)
7,364,054

Total users (user_pseudo_id)
2,685,532

BQ session source/medium	unique_sessionID ▾
(direct)/(none)	4,323,986
google/organic	1,207,667
seznam/organic	746,274
google/cpc	333,635
bing/organic	139,206

DATADRIVEN MODEL EXPLIKACE:
[HTTPS://BIT.LY/30ZNP5U](https://bit.ly/30znp5u)

GA4 + BIGQUERY

OBECNÉ USE CASES

CHCI DĚLAT ANALÝZY, KTERÉ MI ROZHRANÍ NEUMOŽŇUJE (FUNNELY APOD.)

CHCI KOMPLEXNĚJŠÍ REPORTY V LOOKER STUDIU

CHCI NASTAVIT AUTOMATICKÉ PROCESY NA GA4 DATY (AUTOMATICKÉ KONTROLY APOD.)

CHCI.....

GA4 + BIGQUERY

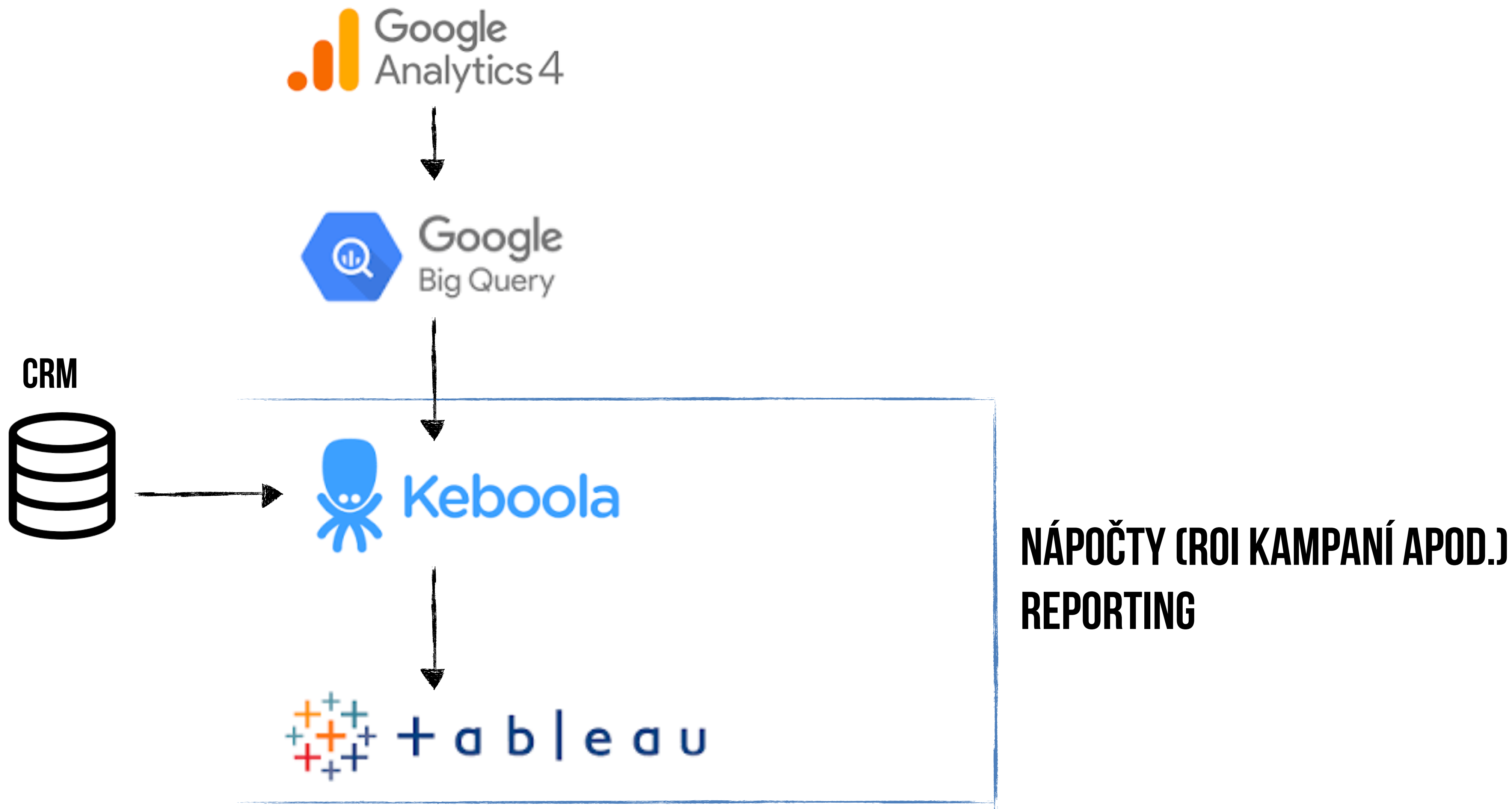
USE CASE - KAMPAŇOVÁ ANALYTIKA

GA4 + BIGQUERY

CSAS / IKEA USE CASE

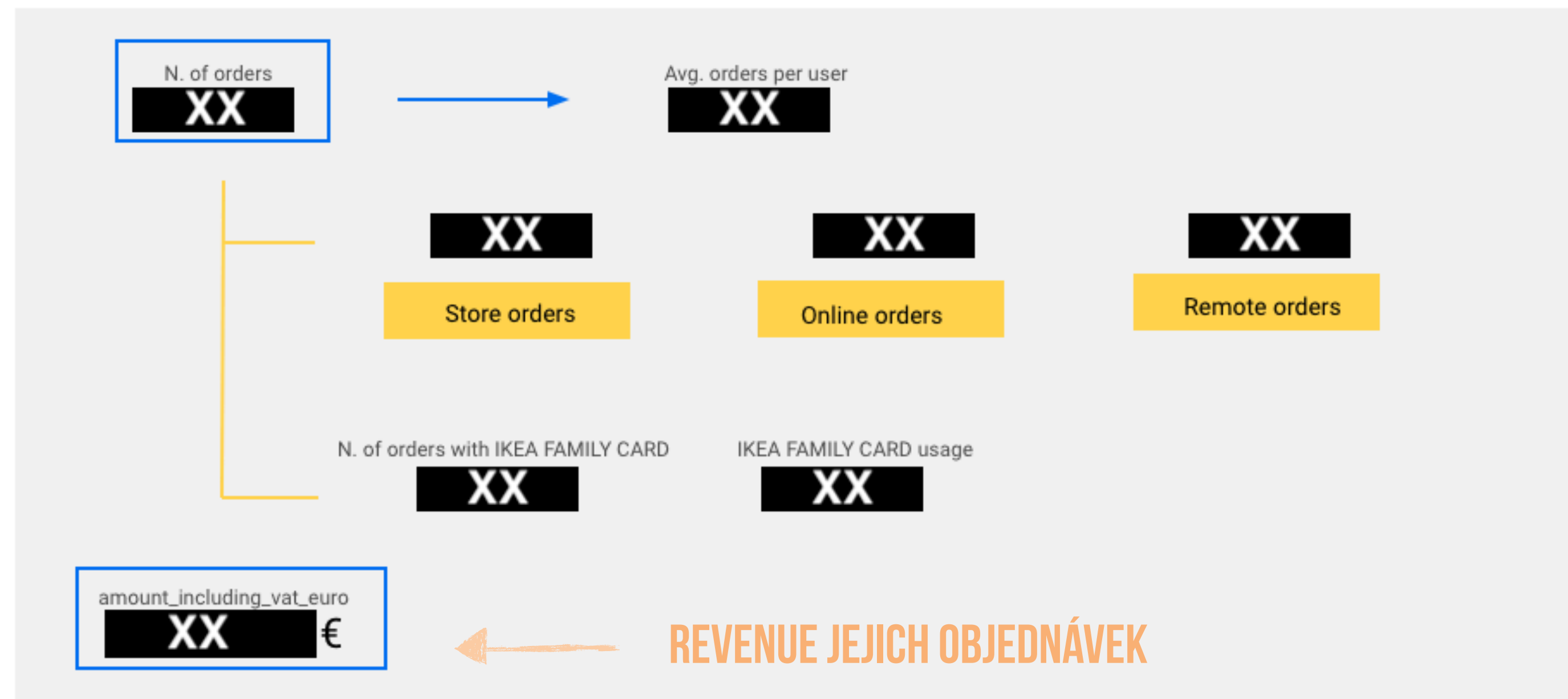
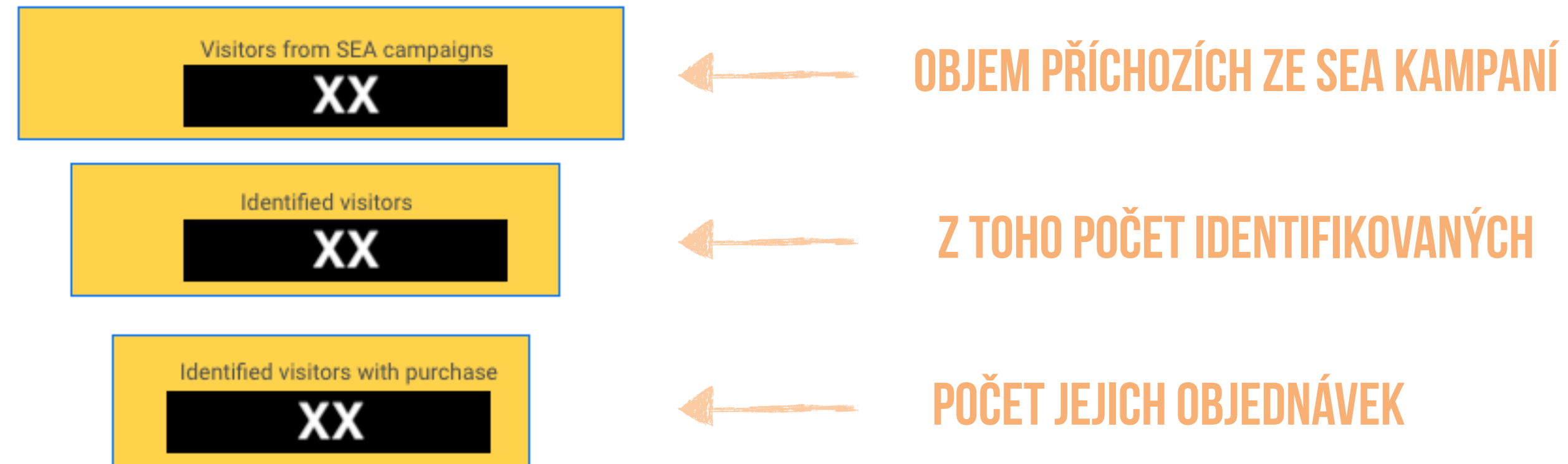
VYHODNOCOVÁNÍ KAMPAŇÍ NA ÚROVNI UŽIVATELE

ANALYTICKÝ STACK





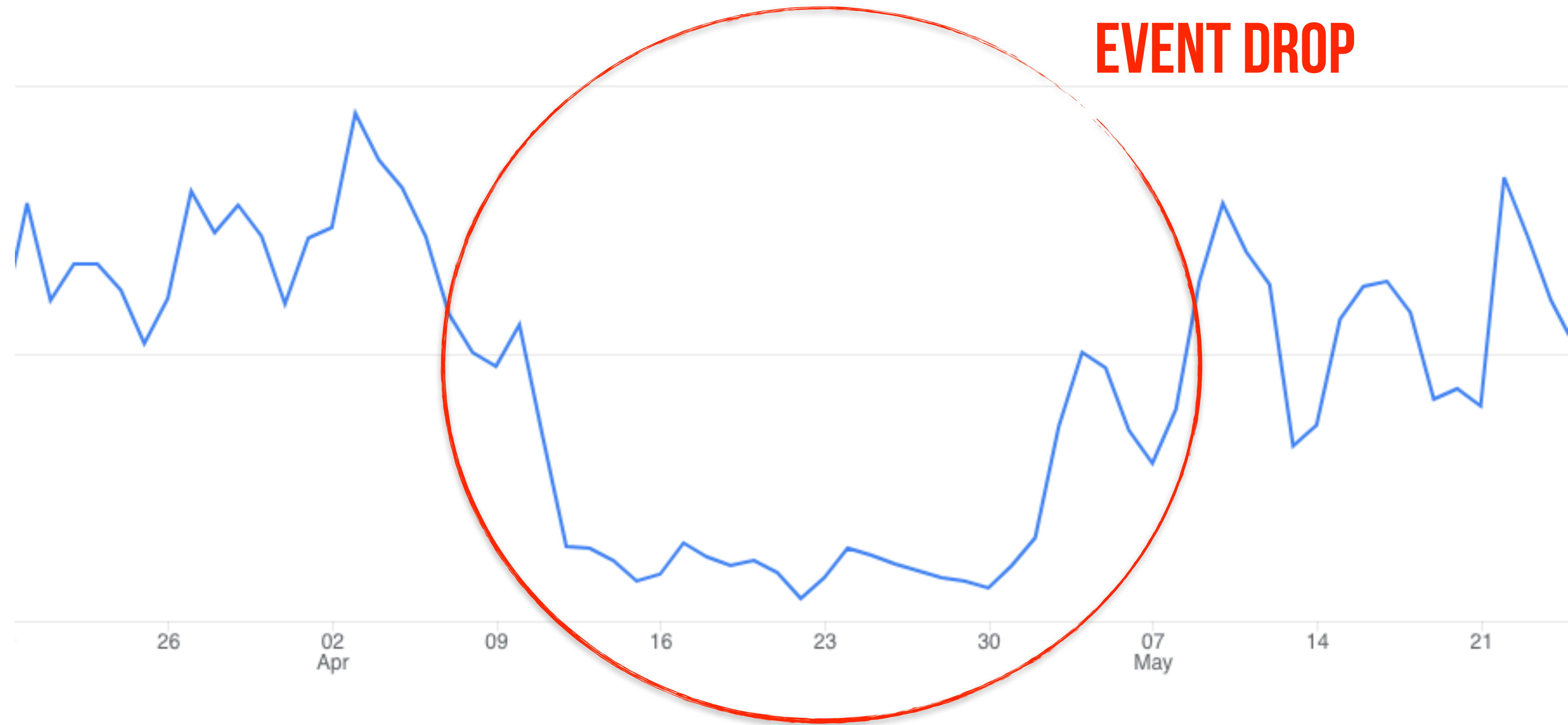
IKEA SEA Campaigns & Sales data dashboard



GA4 + BIGQUERY

USE CASE - VÝPADEK UI

PROČ SI BQ ZALOŽIT I KDYBY TO VYPADALO ŽE S TÍM NEBUDETE PRACOVAT



PROČ SI BQ PRO GA4 DATA ZALOŽIT I KDYBY TO VYPADALO ŽE S TÍM NEBUDETE PRACOVAT

- **BUDOUCÍ USE CASES (NIKDY NEVÍŠ..)**
- **PROPOJENÍ DALŠÍCH PRODUKTŮ (ADS, SEARCH CONSOLE, DV360)**
- **VLASTNICTVÍ GA4 DAT**
- **KONTROLY VÝPADKŮ V UI**

BIGQUERY+GA4

ORIENTACE V DATASETU A POSTUPY

Google Cloud MeasureDesign stage

Explorer + ADD <

Type to search

Viewing workspace resources.
SHOW STARRED ONLY

- measuredesign-stage
 - External connections
 - Saved queries (10)
 - Cost_monitoring_test**
 - Eurowag_stage_regproces
 - MD_test_dataset
 - Role_GCP_test
 - Store_stage_stavebni_sporeni
 - analytics_301956938
 - analytics_311283770
 - events_(129)
 - events_intraday_(2)
 - analytics_313307764
 - analytics_333956437

Dataset

Tabulka s denním partitioningem

Explorer

+ ADD

K

Untitled10

events_20230618

*Untitled11

Type to search

Viewing workspace resources.

SHOW STARRED ONLY

measuredesign-stage

External connections

Saved queries (11)

Project queries

202205_VJ_Eurowag_eventy

20230621 BQ workshop ses...

Cost_monitoring_test

Eurowag_stage_regproces

MD_test_dataset

Role_GCP_test

Store_stage_stavebni_spor...

analytics_301956938

analytics_311283770

events_ (130)

events_intraday_ (1)

analytics_313307764

analytics_333956437

events_20230618

2023-06-18

QUERY

SHARE

SCHEMA

DETAILS

PREVIEW

LINEAGE

Filter Enter property name or value

<input type="checkbox"/>	Field name	Type	Mode	Key
<input type="checkbox"/>	event_date	STRING	NULLABLE	
<input type="checkbox"/>	event_timestamp	INTEGER	NULLABLE	
<input type="checkbox"/>	event_name	STRING	NULLABLE	
<input type="checkbox"/>	event_params	RECORD	REPEATED	
<input type="checkbox"/>	event_previous_timestamp	INTEGER	NULLABLE	
<input type="checkbox"/>	event_value_in_usd	FLOAT	NULLABLE	
<input type="checkbox"/>	event_bundle_sequence_id	INTEGER	NULLABLE	
<input type="checkbox"/>	event_server_timestamp_offset	INTEGER	NULLABLE	
<input type="checkbox"/>	user_id	STRING	NULLABLE	
<input type="checkbox"/>	user_pseudo_id	STRING	NULLABLE	
<input type="checkbox"/>	privacy_info	RECORD	NULLABLE	
<input type="checkbox"/>	user_properties	RECORD	REPEATED	
<input type="checkbox"/>	user_first_touch_timestamp	INTEGER	NULLABLE	
<input type="checkbox"/>	user_itv	RECORD	NULLABLE	
<input type="checkbox"/>	device	RECORD	NULLABLE	
<input type="checkbox"/>	geo	RECORD	NULLABLE	
<input type="checkbox"/>	app_info	RECORD	NULLABLE	
<input type="checkbox"/>	traffic_source	RECORD	NULLABLE	
<input type="checkbox"/>	name	STRING	NULLABLE	
<input type="checkbox"/>	medium	STRING	NULLABLE	
<input type="checkbox"/>	source	STRING	NULLABLE	
<input type="checkbox"/>	stream_id	STRING	NULLABLE	
<input type="checkbox"/>	platform	STRING	NULLABLE	

Row	event_date	event_timestamp	event_name	event_params.key	event_params.value.string_value
3	20230531	168551337...	page_view	page_referrer	https://www.sreality.cz/
				term	display!all!cpm!fix!...!...!con!bro!...!...!v10
				source	sreality.cz
				medium	cpm
				campaign	23!4!mortgage!hypo!hypo-longterm!cz!csas!cz000005!...!...!v10

utm_term

utm_content
utm_source

utm_medium

utm_campaign





Explorer

+ ADD



Type to search

🔍 HU



Found 14 results.

[SEARCH ALL PROJECTS](#)



▼ shoptet-analytics



▶ 🔍 Saved queries

▼ 📄 GA4_export_shoptet_all



📄 GA4_export_shoptet_HU_events_anonym



📄 GA4_export_shoptet_HU_events_consent



📄 GA4_export_shoptet_HU_sessions_consent



[SHOW MORE](#)

☰ Google Cloud Ceska sporitelna Jednicka ▼

🔍 Explorer + ADD ⏪

• ?

🔍 Viewing workspace resources.
[SHOW STARRED ONLY](#)

- ▼ analytics_GA4_exporty ☆ ⋮
 - GA4_table_IDs ☆ ⋮
 - GA4_table_consents ☆ ⋮
 - GA4_table_marketing_events ☆ ⋮
 - GA4_table_pageviews ☆ ⋮
 - GA4_table_session_events ☆ ⋮
 - GA4_table_session_events_calculators ☆ ⋮
 - GA4_table_session_geodata ☆ ⋮
 - GA4_table_session_leads ☆ ⋮
 - GA4_table_session_techdata ☆ ⋮
 - GA4_table_session_traffic_sources ☆ ⋮

TABULKA SESSIONS

<i>SessionID</i>	<i>Session_source</i>	<i>Session_medium</i>	<i>Session_campaign</i>
AB123	google	organic	N/A
CD456	sklik	cpc	jarni_kampan

Z této tabulky získám počet sessions a zdroje session

TABULKA EVENTŮ

<i>SessionID</i>	<i>Event_name</i>	<i>Event_params</i>
AB123	page_view	xx
AB123	lead_submit	xx

Z této tabulky získám počty eventů a v jakých sessions se eventy staly

TABULKA SESSIONS JOIN TABULKA EVENTŮ

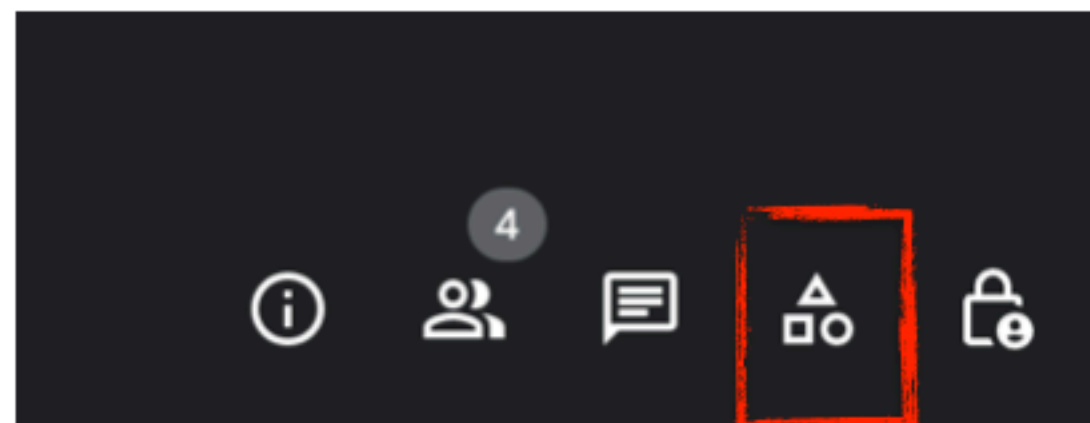



např. TABULKA ZDROJŮ LEADŮ

<i>Event_name</i>	<i>SessionID</i>	<i>Session_source</i>	<i>Session_medium</i>	<i>Session_campaign</i>
<i>lead_submit</i>	<i>AB123</i>	<i>google</i>	<i>organic</i>	<i>N/A</i>


DOTAZY


DESKTOP - VPRAVO DOLE



 **Breakout rooms**
Split into smaller group discussions

 **Polls**
Get a quick pulse of the audience

 **Q&A**
Give everyone an easy way to ask questions

 **Recording**
Record meetings for on-demand viewing

BIGQUERY SQL

**VŠECHNY QUERIES Z ČÁSTI VAŠKA JELENA
JSOU DOSTUPNÁ KE STAŽENÍ TOMTO ODKAZU**

[HTTPS://BIT.LY/MEASUREDESIGN_GA4BIGQUERY_WORKSHOP_QUERIES](https://bit.ly/measuredesign_ga4bigquery_workshop_queries)

BIGQUERY SQL EVENT QUERY

Explorer

+ ADD

<



20230621 VJ BQ worksh... nts



Type to search

Viewing workspace resources.

SHOW STARRED ONLY

- measuredesign-stage
 - External connections
 - Saved queries (12)
 - Project queries
 - 202205_VJ_Eurowag_eventy
 - 20230621 BQ workshop ses...
 - 20230621 VJ BQ workshop ...
 - Cost_monitoring_test
 - Eurowag_stage_regproces
 - MD_test_dataset
 - Role_GCP_test
 - Store_stage_stavebni_spor...
 - analytics_301956938
 - analytics_311283770
 - events_ (130)
 - events_intraday_ (1)
 - analytics_313307764
 - analytics_333956437

20230621 VJ BQ workshop events

RUN

SAVE

SHARE

SCHEDULE

MORE

```
1 /* popis logiky */
2
3 select
4
5 concat(user_pseudo_id, "-", (select value.int_value from unnest(event_params) where key = 'ga_session_id')) as unique_sessionID,
6
7 event_name,
8
9 FORMAT_TIMESTAMP('%Y-%m-%d %H:%M:%S', TIMESTAMP_MICROS(event_timestamp), 'Europe/Prague') as event_timestamp,
10
11 user_pseudo_id,
12
13 /*defaultní GA4 parametry*/
14
15 ifnull ((select value.string_value from unnest(event_params) where key = 'page_location'), 'N/A') as page_location,
16 ifnull ((select value.string_value from unnest(event_params) where key = 'page_referrer'), 'N/A') as page_referrer,
17 ifnull ((select value.string_value from unnest(event_params) where key = 'page_title'), 'N/A') as page_title,
18
19 /*vlastní GA4 parametry*/
20
21 ifnull ((select value.string_value from unnest(event_params) where key = 'form_id'), 'N/A') as form_id,
22 ifnull ((select value.string_value from unnest(event_params) where key = 'form_type'), 'N/A') as form_type,
23
24 FROM `measuredesign-stage.analytics_311283770.events_*`
25 where event_date between "20230101" and "20230619"
26
27 and [user_pseudo_id is not null
28
29 and event_name in (
30 "page_view",
31 "form_submit"
32 )
```

QUERY ČÍSLO 1 V [QUERIES K PREZENTACI KE STAŽENÍ](#)

BIGQUERY SQL SESSION QUERY

Google Cloud MeasureDesign stage

Search (/) for resources, docs, products

Explorer + ADD <

20230621 BQ workshop sessions

20230621 BQ workshop sessions RUN SAVE SHARE SCHEDULE MORE

Type to search

Viewing workspace resources. SHOW STARRED ONLY

- measuredesign-stage
 - External connections
 - Saved queries (12)
 - Project queries
 - 202205_VJ_Eurowag_eventy
 - 20230621 BQ workshop ses...
 - 20230621 VJ BQ workshop ...
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 - Eurowag_stage_regproces
 - MD_test_dataset
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 - Store_stage_stavebni_spor...
 - analytics_301956938
 - analytics_311283770
 - events_(130)
 - events_intraday_(1)
 - analytics_313307764
 - analytics_333956437

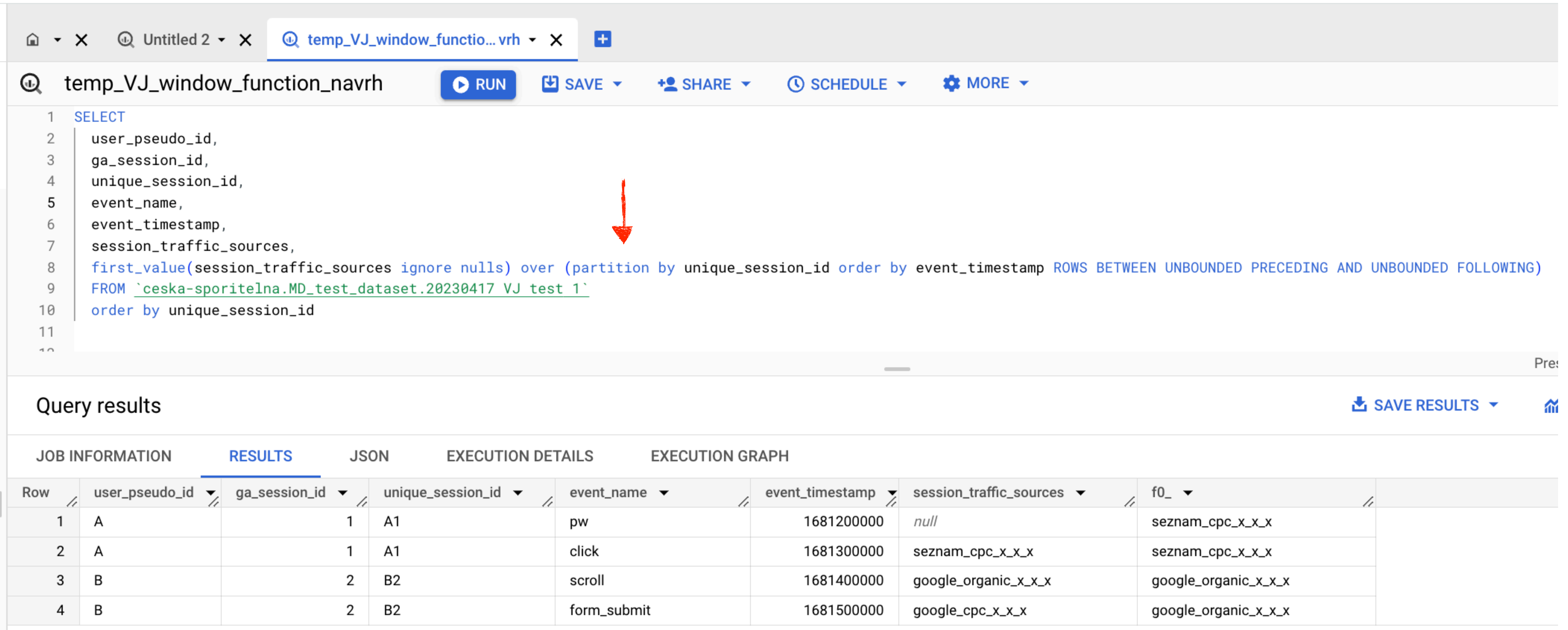
```

16
17 with sources_string as (
18 select
19   user_pseudo_id,
20   (select value.int_value from unnest(event_params) where key = 'ga_session_id') as ga_session_id,
21   event_timestamp,
22   concat(
23     ifnull((select value.string_value from unnest(event_params) where key = 'source'), ''), '*',
24     ifnull((select value.string_value from unnest(event_params) where key = 'medium'), ''), '*',
25     ifnull((select value.string_value from unnest(event_params) where key = 'campaign'), ''), '*',
26     ifnull((select value.string_value from unnest(event_params) where key = 'content'), ''), '*',
27     ifnull((select value.string_value from unnest(event_params) where key = 'term'), '')
28   ) as session_traffic_sources
29 from `measuredesign-stage.analytics_311283770.events_*`
30 WHERE _TABLE_SUFFIX BETWEEN '20230101' AND '20230603'
31 and user_pseudo_id is not null
32 ),
33
34 /* "convert_to_null" převede hodnoty pro session_traffic_sources kde je "****" na null - aby se to pak dalo pře
35
36 convert_to_null as (
37 select
38   user_pseudo_id,
39   ga_session_id,
40   event_timestamp,
41   case when session_traffic_sources = '****' then null else session_traffic_sources end as session_traffic_sourc
42 from
43   sources_string
44 ),
45
46 /* "first_source" vezme první kombinaci parametrů v session_traffic_sources dle timestamp a pokud je null - nahr
47
48 first_source as (
49 select

```

QUERY ČÍSLO 2 V [QUERIES K PREZENTACI KE STAŽENÍ](#)

WINDOW FUNKCE PRO SELEKT KAMPAŇOVÝCH PARAMETRŮ



The screenshot shows a BigQuery interface with a SQL query editor and a results table. The query uses a window function to select the first value of session traffic sources for each session, ordered by event timestamp. A red arrow points to the window function definition in the query.

```
1 SELECT
2   user_pseudo_id,
3   ga_session_id,
4   unique_session_id,
5   event_name,
6   event_timestamp,
7   session_traffic_sources,
8   first_value(session_traffic_sources ignore nulls) over (partition by unique_session_id order by event_timestamp ROWS BETWEEN UNBOUNDED PRECEDING AND UNBOUNDED FOLLOWING)
9 FROM `ceska-sporitelna.MD_test_dataset.20230417 VJ test 1`
10 order by unique_session_id
```

Query results

Row	user_pseudo_id	ga_session_id	unique_session_id	event_name	event_timestamp	session_traffic_sources	f0_
1	A	1	A1	pw	1681200000	null	seznam_cpc_x_x_x
2	A	1	A1	click	1681300000	seznam_cpc_x_x_x	seznam_cpc_x_x_x
3	B	2	B2	scroll	1681400000	google_organic_x_x_x	google_organic_x_x_x
4	B	2	B2	form_submit	1681500000	google_cpc_x_x_x	google_organic_x_x_x

QUERY ČÍSLO 3 V [QUERIES K PREZENTACI KE STAŽENÍ](#)

Query the Session Traffic Source

The first SQL query will go through the events and return the **first and last traffic source per each unique session id**. The values will be null if the traffic source data doesn't exist.

You can save the query's results in a new table and reference that in the next query instead of rerunning the whole thing with all event data.

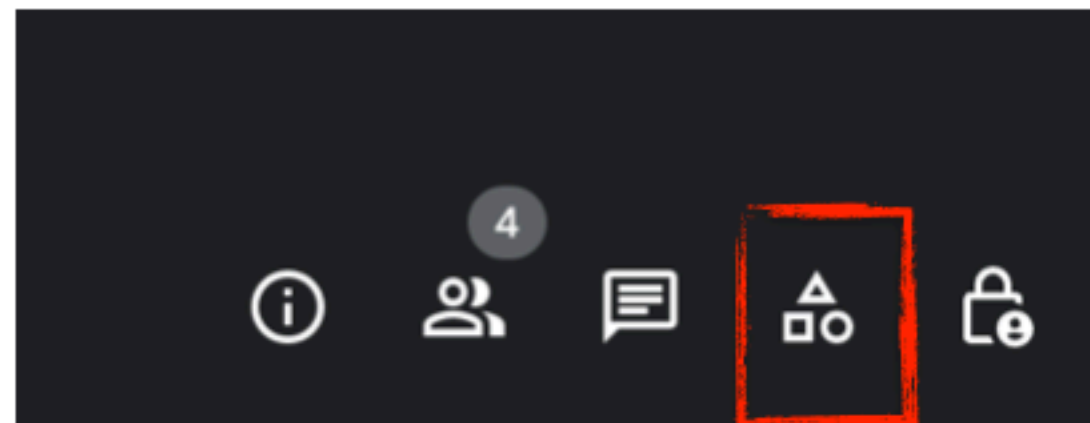
Session traffic source query





```
-- extract the event data needed for the session traffic source data
with events as (
  select
    cast(event_date as date format 'YYYYMMDD') as date,
    -- unique session id
    concat(user_pseudo_id, (select value.int_value from unnest(event
    user_pseudo_id,
    (select value.int_value from unnest(event_params) where key = 'g
    -- wrap all traffic source dimensions into a struct for the next
    (
      select
        as struct (select value.string_value from unnest(event_param
        (select value.string_value from unnest(event_params) where k
        (select value.string_value from unnest(event_params) where k
    ) as traffic source,
```

[HTTPS://TANELYTICS.COM/GA4-BIGQUERY-SESSION-TRAFFIC_SOURCE/](https://tanelytics.com/ga4-bigquery-session-traffic_source/)

DOTAZY

DESKTOP - VPRAVO DOLE



-  **Breakout rooms**
Split into smaller group discussions
-  **Polls**
Get a quick pulse of the audience
-  **Q&A**
Give everyone an easy way to ask questions
-  **Recording**
Record meetings for on-demand viewing

FLATTENING DATASETU

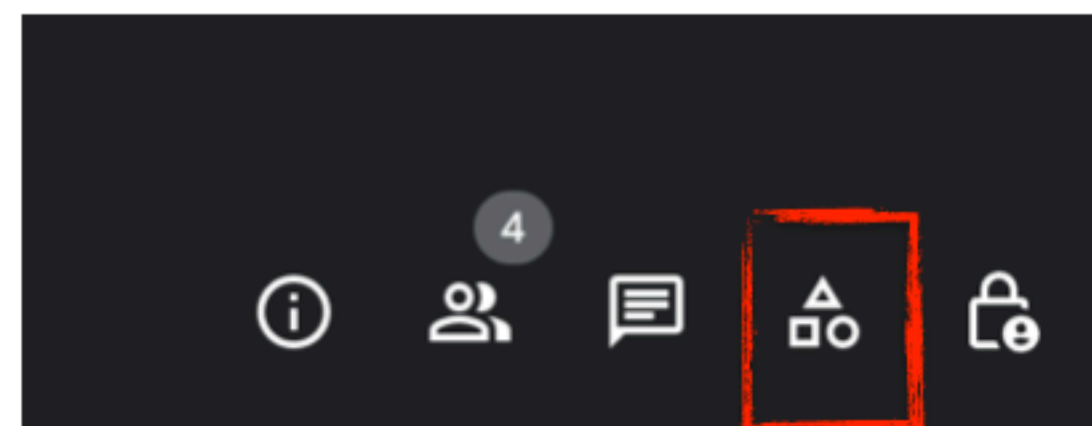
VAŠEK RÁŠ




FLATTENING DATASETU VAŠEK RÁŠ


DOTAZY


DESKTOP - VPRAVO DOLE



 **Breakout rooms**
Split into smaller group discussions

 **Polls**
Get a quick pulse of the audience

 **Q&A**
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 **Recording**
Record meetings for on-demand viewing

DALŠÍ TIPY

TRAFFIC ZE ZDROJŮ, KTERÉ POSÍLAJÍ ID KLIKU

ADS | FACEBOOK | ADFORM

GOOGLE/CPC ISSUE - ŘEŠENÍ ČÍSLO 1

https://www.shoptet.cz/?utm_id=HUN_SHO_ADS_4_ACQ_SEE_HU|GDN|CIA&gclid=Cj0KCQjwnMWkBhDLARIsAHBOftq2Qsh3_cYvDNhlyNQC

event_timestamp	event_name	event_params.key	event_params.value.string_value
168712206...	page_view	environment	live
		source	google
		gclid	EAlalQobChMI0qrKqdvN_wlVYqB7Ch1YsAXDEAEYASAA...
		page_referrer	https://propeller.hu/
		entrances	<i>null</i>
		page_category_1	not_available_DL
		ga_session_number	<i>null</i>
		shoptet_account_id	not_available_DL
		session_engaged	0
		campaign_id	HUN_SHO_ADS_4_ACQ_SEE_HU GDN CIA
		page_category_3	not_available_DL
		page_language	hu
		page_location	https://www.shoptet.hu/? utm_id=HUN_SHO_ADS_4_ACQ_SEE_HU GDN CIA&gclid= =EAlalQobChMI0qrKqdvN_wlVYqB7Ch1YsAXDEAEYASA AEgL4-fD_BwE

GOOGLE/CPC ISSUE - ŘEŠENÍ ČÍSLO 1

POUŽÍJ UTM ID A V GTM SI NASTAVÍM PŘEPIS TRAFFICU CO MÁ GCLID NA GOOGLE/CPC

https://www.shoptet.cz/?utm_id=HUN_SHO_ADS_4_ACQ_SEE_HUIGDNICIA&gclid=Cj0KCQjwnMWkBhDLARIsAHBOftq2Qsh3_cYvDNhlyNQc



```
case when session_source = 'google' and session_medium = 'cpc' then session_campaign_id else session_campaign end as session_campaign,
```

QUERY ČÍSLO 4 V [QUERIES K PREZENTACI KE STAŽENÍ](#)

GOOGLE/CPC ISSUE - ŘEŠENÍ ČÍSLO 2

DO BIGQUERY SI PŘES DATA TRANSFER NAPOJÍM ADS DATASETY

Google Cloud shoptet-analytics Search (/) for resources, docs, products, and more

Data transfers [+ CREATE TRANSFER](#)

Filter Filter transfer configs

●	Display name	Source	Schedule (UTC)	Region	Destination dataset	Ne
✓	SK-Shoptet Video_GAds-BQ_transfer	Google Ads	every day 03:00	europa	GAds_export_SK_Shoptet_Video	Ju
✓	SK-Shoptet_GAds-BQ_transfer	Google Ads	every day 03:00	europa	GAds_export_SK_Shoptet	Ju
✓	CZ-Shoptet Addons_GAds-BQ_transfer	Google Ads	every day 03:00	europa	GAds_export_CZ_Shoptet_Addons	Ju
✓	CZ-Shoptet_GAds-BQ_transfer	Google Ads	every day 03:00	europa	GAds_export_CZ_Shoptet	Ju
✓	HU-Shoptet Video_GAds-BQ_transfer	Google Ads	every day 03:00	europa	GAds_export_HU_Shoptet_Video	Ju
✓	SK-Shoptet Premium_GAds-BQ_transfer	Google Ads	every day 03:00	europa	GAds_export_SK_Shoptet_Premium	Ju
✓	CZ-Shoptet Premium_GAds-BQ_transfer	Google Ads	every day 03:00	europa	GAds_export_CZ_Shoptet_Premium	Ju
✓	SK-Shoptet Addons_GAds-BQ_transfer	Google Ads	every day 03:00	europa	GAds_export_SK_Shoptet_Addons	Ju
✓	CZ-Shoptet Video_GAds-BQ_transfer	Google Ads	every day 03:00	europa	GAds_export_CZ_Shoptet_Video	Ju
✓	HU-Shoptet_GAds-BQ_transfer	Google Ads	every day 03:00	europa	GAds_export_HU_Shoptet	Ju

GOOGLE/CPC ISSUE - ŘEŠENÍ ČÍSLO 2

Z ADS RAW DATASETU UDĚLÁM SUBSET, SPÁRUJI GCLID V GA4 DATASETU S GCLIDEM V ADS A DOTÁHNU POŽADOVANÉ DIMENZE (POZOR NA PŘEJMENOVÁVÁNÍ KAMPAŇÍ:)

ads_data_export QUERY SHARE COPY SNAPSHOT

SCHEMA DETAILS PREVIEW LINEAGE

Filter Enter property name or value

<input type="checkbox"/>	Field name	Type	Mode	Key	Collation	Default Value	Policy
<input type="checkbox"/>	CampaignId	INTEGER	NULLABLE				
<input type="checkbox"/>	AdGroupId	INTEGER	NULLABLE				
<input type="checkbox"/>	CreativeId	INTEGER	NULLABLE				
<input type="checkbox"/>	Gclid	STRING	NULLABLE				
<input type="checkbox"/>	Campaign	STRING	NULLABLE				
<input type="checkbox"/>	AdGroup	STRING	NULLABLE				
<input type="checkbox"/>	Date	DATE	NULLABLE				

EDIT SCHEMA VIEW ROW ACCESS POLICIES



ClickStats.Gclid

ClickStats.CampaignId

ClickStats.AdGroupId

FACEBOOK ISSUE - ŘEŠENÍ KTERÉ DOPLNÍ SOURCE / MEDIUM

```
case when REGEXP_CONTAINS(fbclid, ".....*") and session_source= "(direct)" then "facebook" else session_source end as session_source,  
case when REGEXP_CONTAINS(fbclid, ".....*") and session_medium= "(none)" then "link" else session_medium end as session_medium,
```



V EXPORTU PŘIŘADÍ SESSION KTERÁ MÁ FBCLID SOURCE “FACEBOOK” A MEDIUM “LINK”

QUERY ČÍSLO 5 V [QUERIES K PREZENTACI KE STAŽENÍ](#)

DENNÍ LOADY

SCHEDULED QUERY PRO DENNÍ EXPORT

SELECT

něco

FROM `measuredesign-stage.analytics_311283770.events_*`

WHERE regexp_extract(_table_suffix, r'[0-9]+') = format_date('%Y%m%d', date_sub(current_date(), interval 1 day))

PŘÍPADNĚ PŘES CLOUD LOGGING, PUB/SUB A GCP FUNKCE

<https://www.teamsimmer.com/2022/12/07/how-do-i-trigger-a-scheduled-query-when-the-ga4-daily-export-happens/>

QUERY ČÍSLO 6 V [QUERIES K PREZENTACI KE STAŽENÍ](#)

POMOCNÉ PARAMETRY PRO DENNÍ LOADY

UNIKÁTNÍ ID ŘÁDKU: CREATED UNIQUE EVENT ID

```
concat(user_pseudo_id,"_",event_timestamp,"_",event_name,"_",row_number() over(partition  
by user_pseudo_id, event_timestamp, event_name)) as created_unique_event_id
```

Query results				
JOB INFORMATION	RESULTS	JSON	EXECUTION DETAILS	EXECUTION GRAPH
Row	created_unique_event_id	event_date	unique_sessionID	
1	750110278.1662292607_1668797418414023_page_view_1	2022-11-18	750110278.1662292607-166	
2	603506452.1604402662_1666250301894497_page_view_1	2022-10-20	603506452.1604402662-166	
3	727987528.1625727409_1652082236008358_page_view_1	2022-05-09	727987528.1625727409-166	
4	655049142.1645379550_1647680958812114_page_view_1	2022-03-19	655049142.1645379550-166	
5	613665858.1682103068_1682103194339301_page_view_1	2023-04-21	613665858.1682103068-166	

[QUERY ČÍSLO 7 V QUERIES K PREZENTACI KE STAŽENÍ](#)

POMOCNÉ PARAMETRY PRO DENNÍ LOADY

EXPORT TIMESTAMP

```
CURRENT_TIMESTAMP() as export_timestamp
```

Query results					
JOB INFORMATION		RESULTS	JSON	EXECUTION DETAILS	EXECUTION GRAPH
Row	export_timestamp	session_date	unique_sessionID		
1	2023-06-20 15:45:21.917002 UTC	2023-06-19	548699924.1687185899-		
2	2023-06-20 15:45:21.917002 UTC	2023-06-19	909043482.1687149355-		
3	2023-06-20 15:45:21.917002 UTC	2023-06-19	2026568600.1687206502		
4	2023-06-20 15:45:21.917002 UTC	2023-06-19	415015205.1687161411-		
5	2023-06-20 15:45:21.917002 UTC	2023-06-19	843267524.1687208517-		
6	2023-06-20 15:45:21.917002 UTC	2023-06-19	1363790190.1687191988		

EVENT TIMESTAMP VS ACTUAL TIMESTAMP

events_20230618 2023-06-18 ▼ QUERY ▼ SHARE COPY SNAPSHOT DELETE EXP

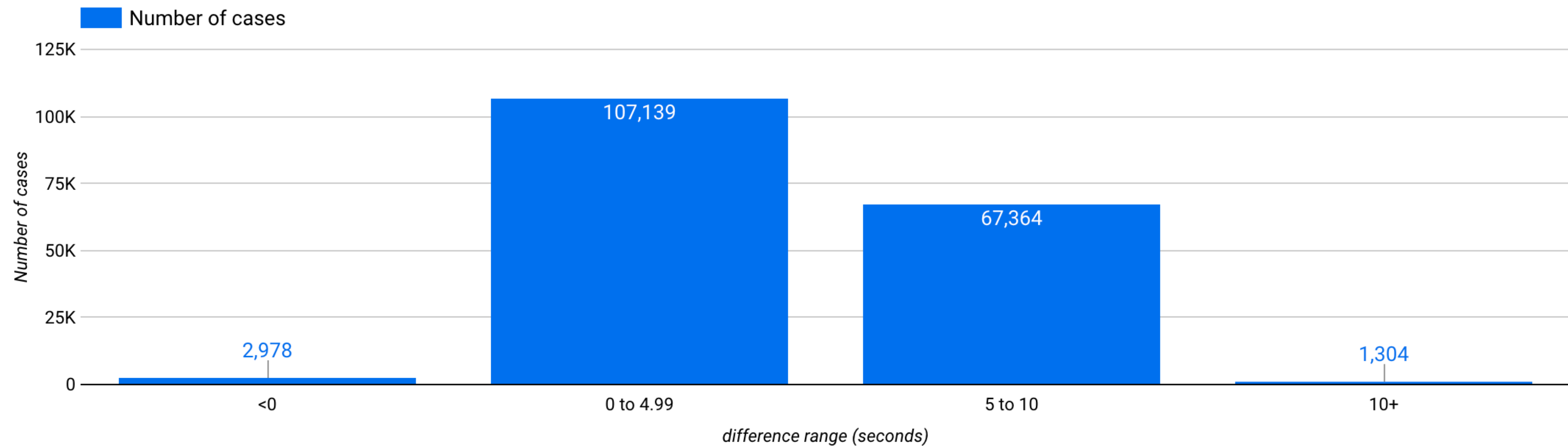
SCHEMA DETAILS **PREVIEW** LINEAGE

Row	event_date	event_timestamp	event_name	event_params.key	event_value
3	20230618	1687121425691743	page_view	page_location	https://www.google.com/utm_campaign=ignition_DO
				engaged_session_event	null
				session_engaged	0

EVENT TIMESTAMP VS ACTUAL TIMESTAMP

Avg. difference (event - actual) secs (≥ 0)

6.77



SETOVÁNÍ KAMPAŇOVÝCH PARAMETRŮ V GTM NATVRDO NA GOOGLE/CPC POKUD MÁ SESSION GCLID

AUTOR: LUKÁŠ BĚHOUNEK, OPTIMICS

Variable Configuration

Variable Type



URL

Component Type

Query

Query Key ⓘ

gclid

POSÍLÁ A DO BQ SE UKLÁDÁ I AUTOMATICKY

Variable Configuration

Variable Type



RegEx Table

Input Variable ?

{{Query param | gclid}} i

RegEx Table ?

Pattern

undefined

.+

Output

campaign_source

✓ Set Default Value ?

Variable Configuration

Variable Type



RegEx Table

Input Variable ?

{{Query param | gclid}} i

RegEx Table ?

Pattern

undefined

.+

Output

google

✓ Set Default Value ?

BONUS - JAK FUNGUJE UNNEST

```
query = """
SELECT Name AS Pet_Name,
       t.Name AS Toy_Name,
       t.Type AS Toy_Type
FROM `bigquery-public-data.pet_records.more_pets_and_toys`,
     UNNEST(Toys) AS t
      """
```

Pet_Name	Toy_Name	Toy_Type
Moon	McFly	Frisbee
Moon	Scully	Bone
Moon	Pusheen	Rope
Ripley	Fluffy	Feather
Ripley	Robert	Ball
Napoleon	Eddy	Castle

[HTTPS://WWW.KAGGLE.COM/CODE/ALEXISBCOOK/NESTED-AND-REPEATED-DATA/TUTORIAL](https://www.kaggle.com/code/AlexisBCook/nested-and-repeated-data/tutorial)

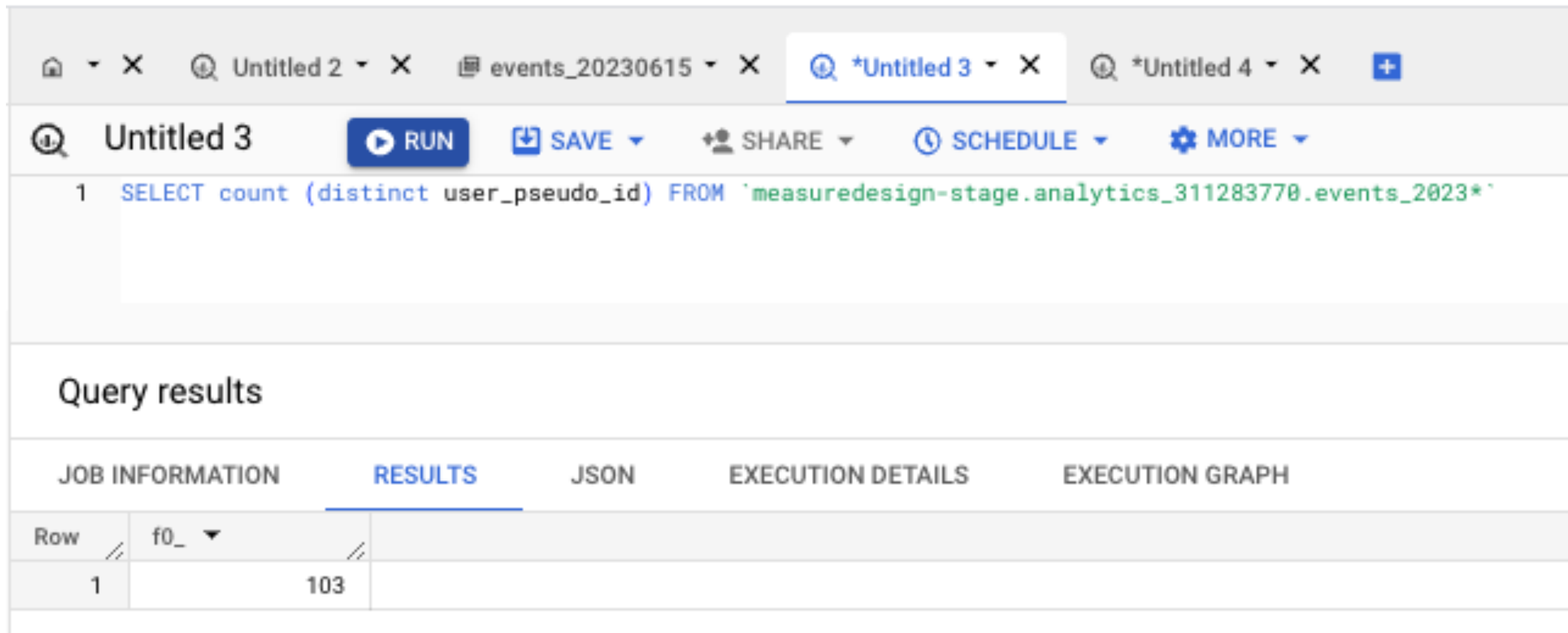
**BONUS - ZÁKLADNÍ SELECTY
PRO HRANÍ SI S GA4 DATASETEM**

ZÁKLADNÍ SELEKTY

ZÁKLADNÍ QUERY - POČET UŽIVATELŮ

SELECT

```
count (distinct user_pseudo_id) FROM `measuredesign-stage.analytics_311283770.events_2023*`
```



The screenshot shows the Google Cloud BigQuery interface. At the top, there are several tabs: 'Untitled 2', 'events_20230615', '*Untitled 3', and '*Untitled 4'. The active tab is '*Untitled 3'. Below the tabs, there is a toolbar with buttons for 'RUN', 'SAVE', 'SHARE', 'SCHEDULE', and 'MORE'. The query editor contains the following SQL query:

```
1 SELECT count (distinct user_pseudo_id) FROM `measuredesign-stage.analytics_311283770.events_2023*`
```

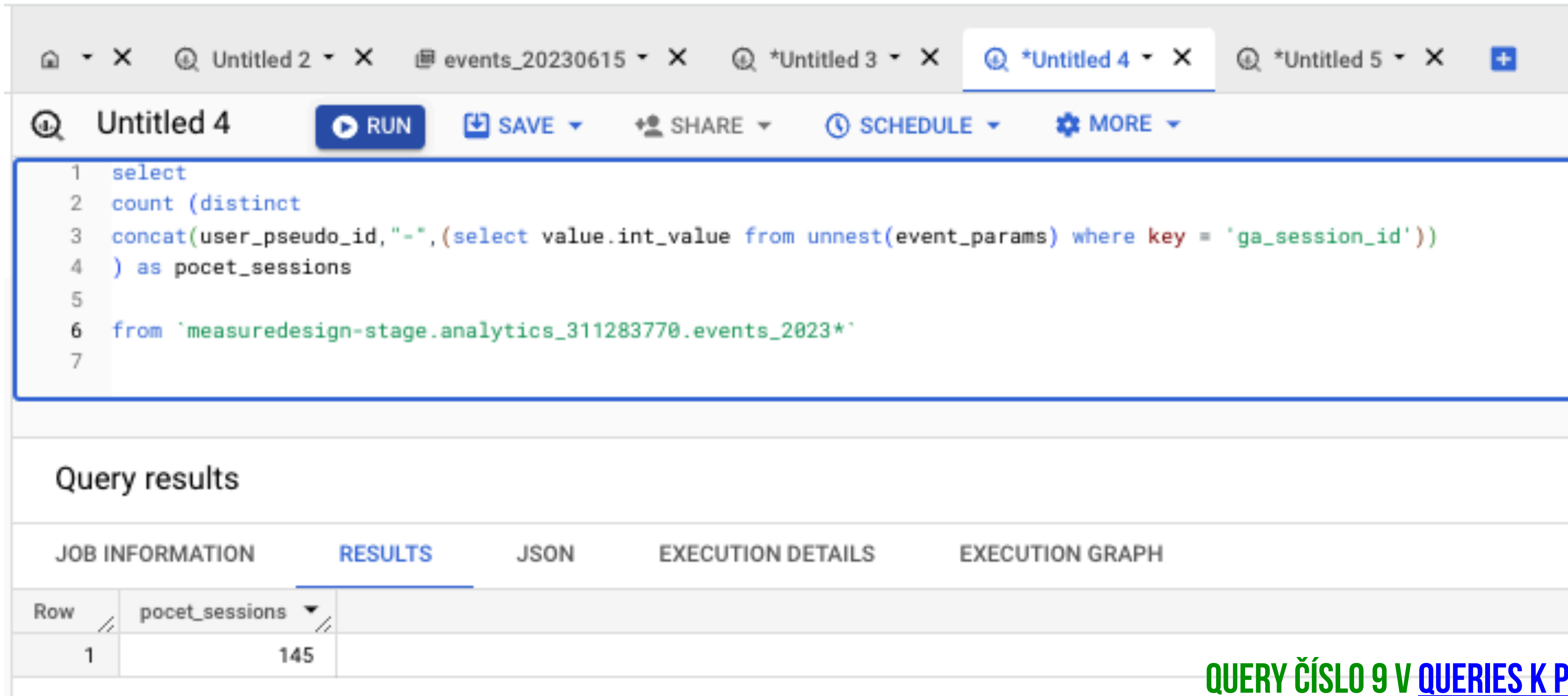
Below the query editor, the 'Query results' section is visible. It has tabs for 'JOB INFORMATION', 'RESULTS', 'JSON', 'EXECUTION DETAILS', and 'EXECUTION GRAPH'. The 'RESULTS' tab is selected, showing a table with one row and one column:

Row	f0_
1	103

QUERY ČÍSLO 8 V [QUERIES K PREZENTACI KE STAŽENÍ](#)

ZÁKLADNÍ QUERY - POČET SESSIONS

```
select
count (distinct
concat(user_pseudo_id,"-",(select value.int_value from unnest(event_params) where key = 'ga_session_id'))
) as pocet_sessions
from `measuredesign-stage.analytics_311283770.events_2023*`
```



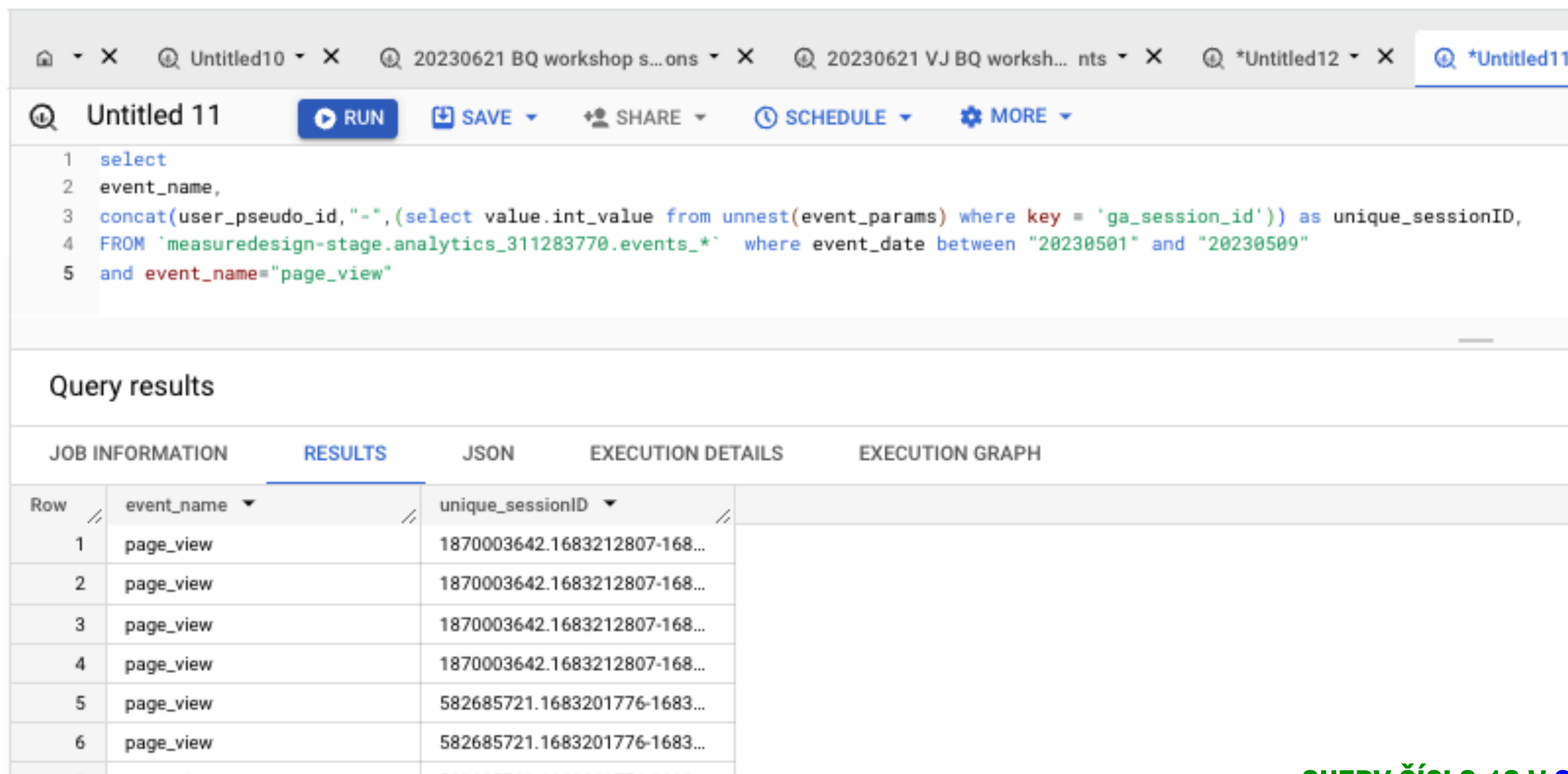
The screenshot shows the Google Cloud BigQuery interface. At the top, there are several tabs: 'Untitled 2', 'events_20230615', '*Untitled 3', '*Untitled 4' (selected), and '*Untitled 5'. Below the tabs, there is a toolbar with buttons for 'RUN', 'SAVE', 'SHARE', 'SCHEDULE', and 'MORE'. The main area contains the SQL query from the previous block. Below the query, there is a section titled 'Query results' with tabs for 'JOB INFORMATION', 'RESULTS' (selected), 'JSON', 'EXECUTION DETAILS', and 'EXECUTION GRAPH'. The 'RESULTS' tab shows a table with one row and one column.

Row	pocet_sessions
1	145

QUERY ČÍSLO 9 V [QUERIES K PREZENTACI KE STAŽENÍ](#)

ZÁKLADNÍ QUERY - TABULKA S PAGE_VIEW EVENTY

```
select
event_name,
concat(user_pseudo_id,"-",(select value.int_value from unnest(event_params) where key = 'ga_session_id')) as unique_sessionID,
FROM `measuredesign-stage.analytics_311283770.events_*` where event_date between "20230501" and "20230509"
and event_name="page_view"
```



The screenshot shows the Google Cloud BigQuery interface. At the top, there are several browser tabs, including 'Untitled11'. Below the tabs, there is a toolbar with buttons for 'RUN', 'SAVE', 'SHARE', 'SCHEDULE', and 'MORE'. The main area displays the SQL query from the previous block. Below the query, there is a section titled 'Query results' with tabs for 'JOB INFORMATION', 'RESULTS', 'JSON', 'EXECUTION DETAILS', and 'EXECUTION GRAPH'. The 'RESULTS' tab is active, showing a table with two columns: 'event_name' and 'unique_sessionID'. The table contains six rows of data, all with 'page_view' as the event name and unique session IDs.











Row	event_name	unique_sessionID
1	page_view	1870003642.1683212807-168...
2	page_view	1870003642.1683212807-168...
3	page_view	1870003642.1683212807-168...
4	page_view	1870003642.1683212807-168...
5	page_view	582685721.1683201776-1683...
6	page_view	582685721.1683201776-1683...

QUERY ČÍSLO 10 V [QUERIES K PREZENTACI KE STAŽENÍ](#)

BONUS - SAMPLE DATASET









GA SAMPLE DATASETY - UNIVERSAL ANALYTICS

<https://console.cloud.google.com/marketplace/product/obfuscated-ga360-data/obfuscated-ga360-data>

- ▶  google_ads 
- ▼  google_analytics_sample 
 -  ga_sessions_ (366) 
- ▶  google_cloud_release_notes 
- ▶  google_dei 

GA SAMPLE DATASET - GA4

<https://developers.google.com/analytics/bigquery/web-ecommerce-demo-dataset>

- ▶  fhir_synthea 
- ▼  ga4_obfuscated_sample_e... 
 -  events_ (92) 
- ▶  genomics_cannabis 

**DOPORUČENÍ NA KONZULTANTY
KTERÍ ROZUMÍ DNES PREZENTOVANÉ
PROBLEMATICE**

ROMAN APPELTAUER - SIGNALS.CZ

JAN TICHÝ - JANTICHY.CZ

VÁCLAV RÁŽ - DATARAS.CZ

VAŠEK JELEN - MEASUREDESIGN.CZ

MAREK LECIÁN - MAREKLECIAN.CZ



MEASUREDESIGN

digital analytics & technical marketing



Anna Horáková



Klára Belzová



Petra Súkeníková

MEASUREDESIGN - NEZÁVISLÉ ANALYTICKÉ STUDIO



Zuzana Mikyšková



You

MEASUREDESIGN - AKTUÁLNÍ ŠKOLENÍ PRO FIRMY A AGENTURY

- **KONFIGURAČNÍ ŠKOLENÍ GA4 (JAK VŠE SPRÁVNĚ NASTAVIT A NA CO SI DÁT POZOR)**
- **INTERPRETAČNÍ ŠKOLENÍ - VYHODNOCOVÁNÍ KAMPANÍ V GA4 (JAK SPRÁVNĚ VYUŽÍT GA4 PRO VYHODNOCOVÁNÍ KAMPANÍ A ZDROJŮ)**
- **ŠKOLENÍ NASAZENÍ GA4 MĚŘENÍ BEZ COOKIES A VYUŽITÍ ANONYMNÍCH DAT PŘI REPORTINGU**
- **ŠKOLENÍ GA4 + BIGQUERY - INTRO ŠKOLENÍ (POCHOPENÍ DATASETU, FLATTENING DATASETU, ZÁKLADNÍ SELEKTY, REPORTY NAD GA4 BQ DATY)**
- **ŠKOLENÍ GA4 + BIGQUERY - POKROČILÉ ŠKOLENÍ (INTEGRACE GA4 DAT DO DATALAKES, POKROČILÉ ANALÝZY, AUTOMATICKÉ PROCESY NAD GA4 DATY).**

GA4 INTERFACE - ČÁST REPORTS+EXPLORE - VÝZNAMNÉ PARAMETRY

ODKUD PŘIŠLI NÁVŠTĚVNÍCI

FIRST USER SOURCE/FIRST USER MEDIUM/FIRST USER CAMPAIGN

✓ SESSION SOURCE/SESSION MEDIUM/SESSION CAMPAIGN
SOURCE/MEDIUM/CAMPAIGN

NA JAKE STRÁNCE SE NĚCO STALO

PAGE PATH AND SCREEN CLASS

CO SE TAM STALO (JAKÝ EVENT)

EVENT_NAME

ŠKOLENÍ VYHODNOCOVÁNÍ GA4 DAT V ČESKÉ SPOŘITELNĚ



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