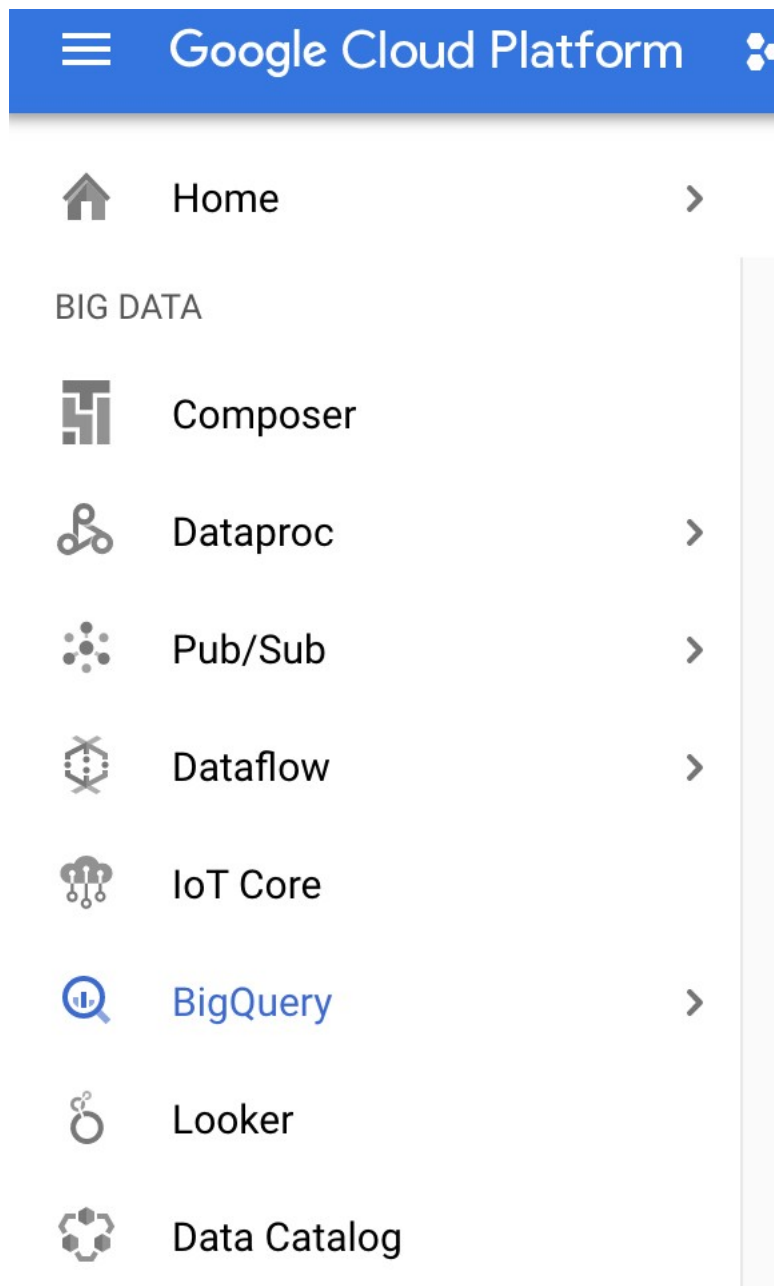


Open BigQuery Console

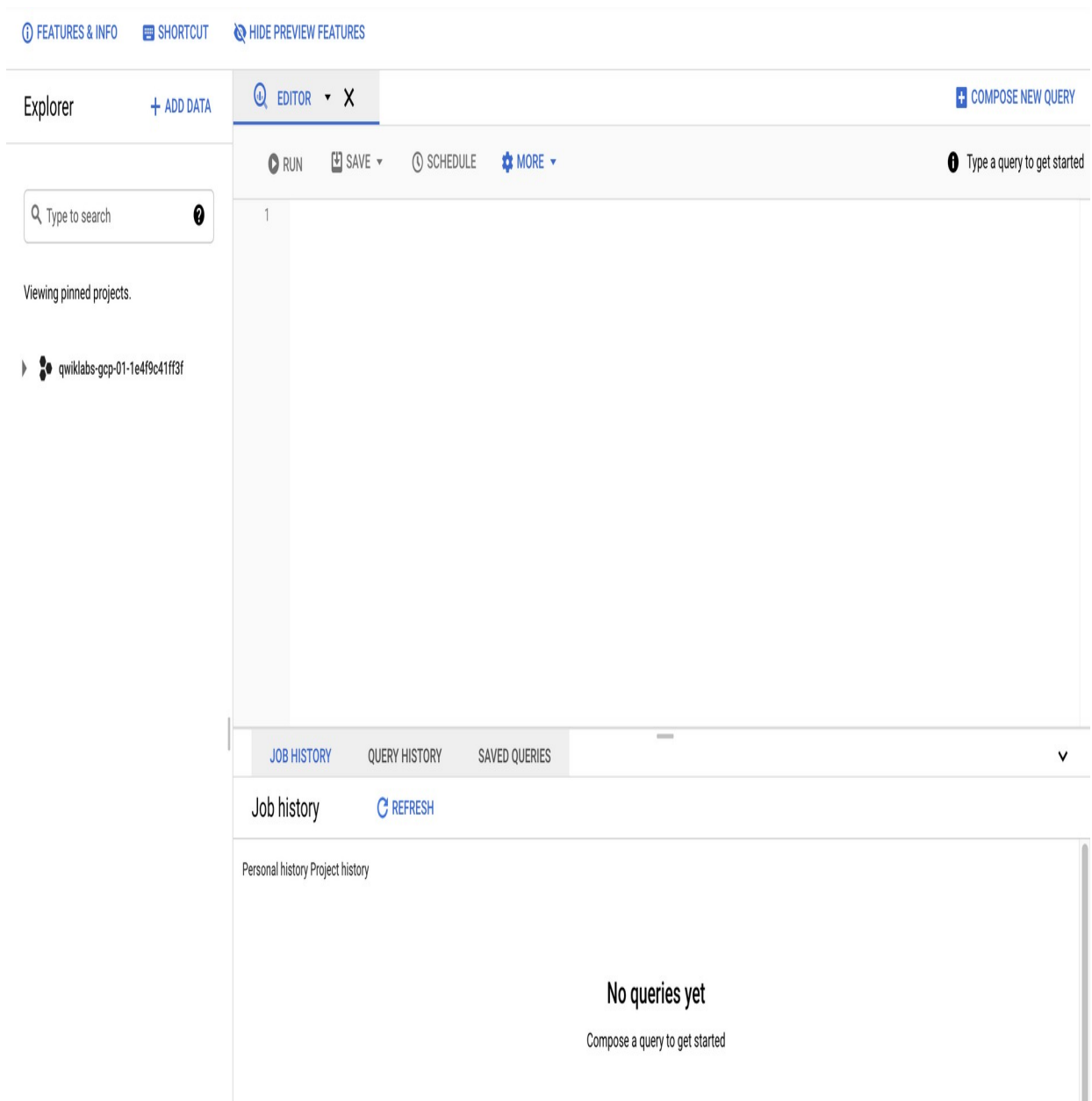
In the Google Cloud Console, select **Navigation menu** > **BigQuery**:



The **Welcome to BigQuery in the Cloud Console** message box opens. This message box provides a link to the quickstart guide and the release notes.

Click **Done**.

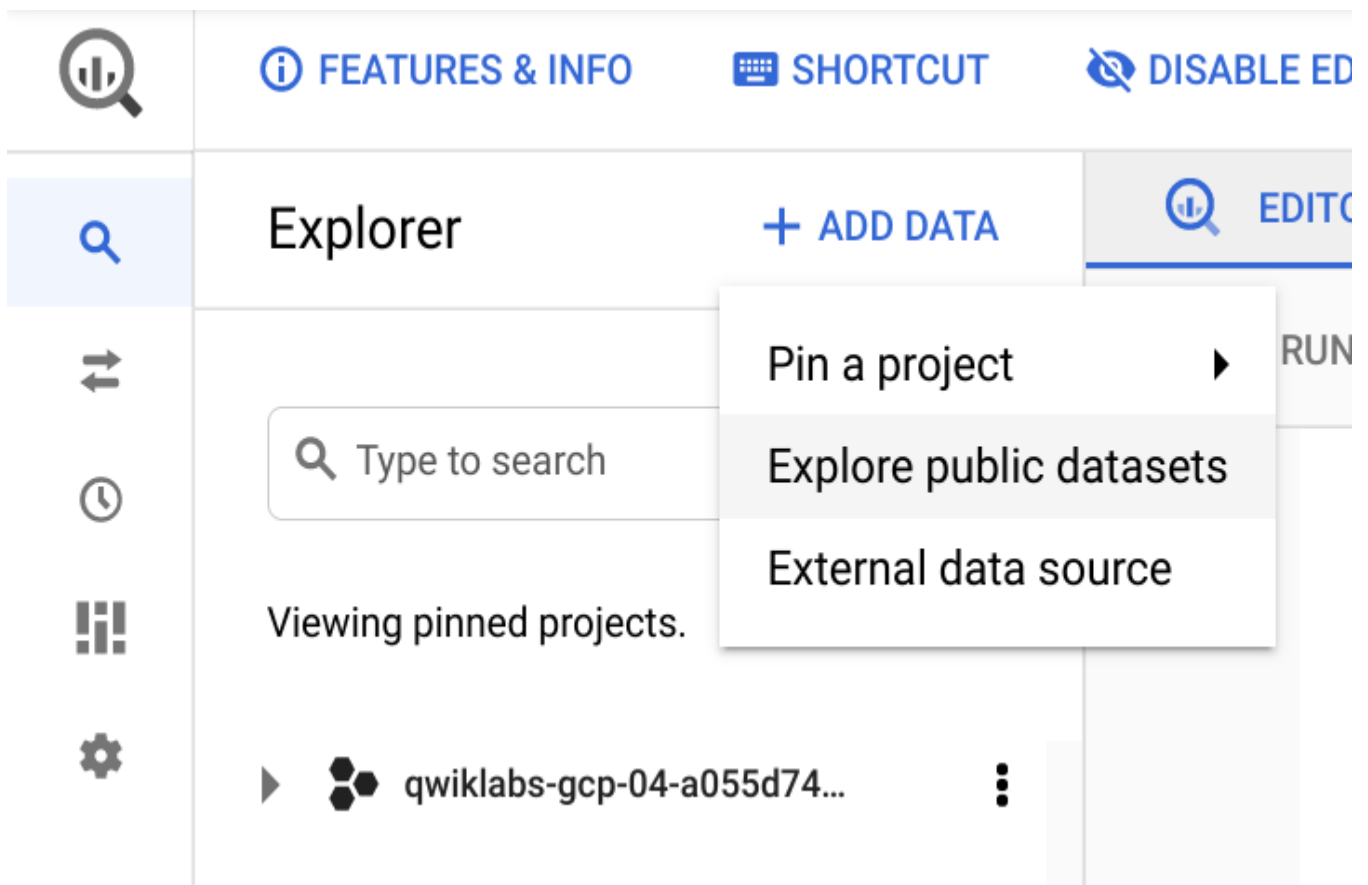
The BigQuery console opens.



BigQuery opens, but there's nothing in here! Luckily, there are tons of Open Datasets available in BigQuery for you to query, and of course you can upload your own data, which you'll do in the next section.

Find the NCAA public dataset in BigQuery

In this section, you pull in some public data so you can practice running SQL commands in BigQuery. Click on the **+ ADD DATA** link then select **Explore public datasets**:



Type "ncaa basketball" in the searchbar and press **Enter**.

Click on the NCAA Basketball tile, then **View Dataset**.

A new browser tab opens, you now have a new project called bigquery-public-data added to the Explorer panel, opened to ncaa_basketball:

EDITOR

NCAA_B...

[AUTHORIZE ROUTINES](#)

bigquery-public-data:ncaa_basketball

Description

This dataset contains data about NCAA Basketball games, teams, and players. Game data covers play-by-play and box scores back to 2009, as well as final scores back to 1996. Additional data about wins and losses goes back to the 1894-5 season in some teams' cases.

Sportradar: Copyright Sportradar LLC. Access to data is intended solely for internal research and testing purposes, and is not to be used for any business or commercial purpose. Data are not to be exploited in any manner without express approval from Sportradar.

NCAA®: Copyright National Collegiate Athletic Association. Access to data is provided solely for internal research and testing purposes, and may not be used for any business or commercial purpose. Data are not to be exploited in any manner without express approval from the National Collegiate Athletic Association.

Labels

None

Dataset info

Dataset ID	bigquery-public-data:ncaa_basketball
Created	Jan 24, 2018, 1:55:09 AM
Default table expiration	Never
Last modified	Mar 21, 2019, 2:40:55 AM
Data location	US

Click on the dataset name to view the tables you can explore.

Explorer

[+ ADD DATA](#)



 Type to search



Viewing pinned projects.



▶  moon_phases 

▶  nasa_wildfire 

▼  ncaa_basketball 



 mascots 

 mbb_games_sr 

 mbb_historical_teams_ga... 

 mbb_historical_teams_sea... 

 mbb_historical_tournamen... 

 mbb_pbp_sr 

 mbb_players_games_sr 

 mbb_teams 

 mbb_teams_games_sr 

 team_colors 

Click on `mbb_teams_games_sr` (men's NCAA game results table) and then click **Preview** tab to see sample rows of data. Click the **Details** tab to get metadata about the table.

The screenshot shows the Google Cloud BigQuery Explorer interface. On the left, the 'Explorer' sidebar lists various datasets under the 'ncaa_basketball' project, with 'mbb_teams_games_sr' selected. The main panel displays the 'mbb_teams_games_sr' table details. The 'DETAILS' tab is active, showing a 'Table info' section with the following metadata:

Property	Value
Table ID	bigquery-public-data:ncaa_basketball.mbb_teams_games_sr
Table size	99.99 MB
Long-term storage size	0 B
Number of rows	59,610
Created	Mar 18, 2018, 5:55:27 AM UTC+5:30
Last modified	Apr 26, 2021, 6:25:06 PM UTC+5:30
Table expiration	NEVER
Data location	US
Description	Team-level box scores from every men's basketball game from the 2013-14 season to the 2017-18 season. Each row shows a single team's stats in one game. This data is identical to mbb_games_sr, but is organized differently to make it easier to calculate a single team's statistics. Data provided by Sportradar LLC, see www.sportradar.com for more details.

How many games does the dataset contain? How big is the table?

Table info

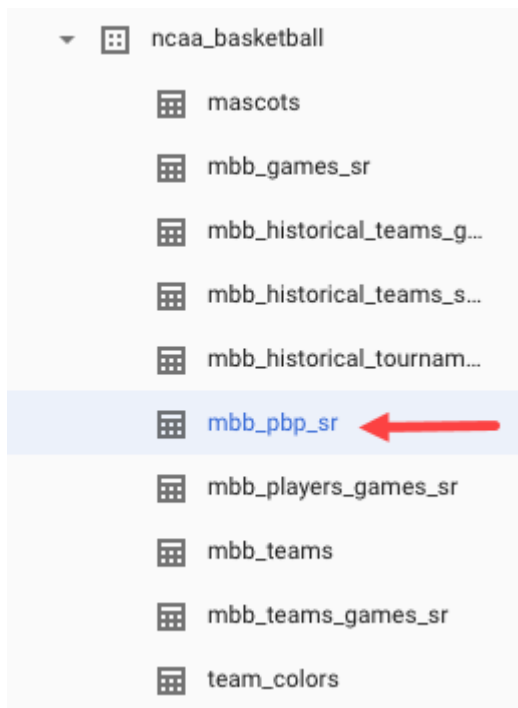
 [EDIT DETAILS](#)

Table ID	bigquery-public-data:ncaa_basketball.mbb_games_sr
Table size	50.41 MB
Long-term storage size	0 B
Number of rows	29,805
Created	Mar 18, 2018, 5:54:34 AM UTC+5:30
Last modified	Apr 26, 2021, 6:05:05 PM UTC+5:30
Table expiration	NEVER
Data location	US
Description	Team-level box scores from every men's basketball game from the 2013-14 season to the 2017-18 season. Each row shows both teams' stats for that one game. Data provided by Sportradar LLC, see www.sportradar.com for more details.

Answer: The table is about 50 MB and there are over 29k games for us to explore.

But how many individual plays can we analyze?

Hint: click on the mbb_pbp_sr (play-by-play) dataset:



Then click **Details**:

mbb_pbp_sr

QUERY

SHARE

COPY

DELETE

LOAD DATA

EXPORT

SCHEMA

DETAILS

PREVIEW

Table info

EDIT DETAILS

Table ID	bigquery-public-data:ncaa_basketball.mbb_pbp_sr
Table size	3.38 GB
Long-term storage size	3.38 GB
Number of rows	4,160,393
Created	Mar 19, 2018, 7:40:51 PM UTC+5:30
Last modified	May 31, 2018, 8:17:26 PM UTC+5:30
Table expiration	NEVER
Data location	US
Description	Play-by-play information from men's basketball games, starting with the 2013-14 season. Each row shows a single event in a game. Data provided by Sportradar LLC, see www.sportradar.com for more details.

Answer: Over 4 million individual basketball plays.

Let's write some SQL to see what types of plays are there for us to explore.

Writing queries

What types of basketball play events are there?

Click + **Compose New Query**.

Copy and paste the below query into the editor:

```
#standardSQL
SELECT
  event_type,
  COUNT(*) AS event_count
FROM `bigquery-public-data.ncaa_basketball.mbb_pbp_sr`
GROUP BY 1
ORDER BY event_count DESC;
```

Now click **Run**.

Looking at your results, how many historical shots were TWOPOINTMADE or FREETHROWMISS?

Row	event_type	event_count
1	rebound	790490
2	twopointmiss	425422
3	turnover	410166
4	twopointmade	400648
5	freethrowmade	316637
6	assist	293403
7	threepointmiss	291935
8	personal foul	243613
9	shootingfoul	183541
10	threepointmade	153967
11	freethrowmiss	134256
12	attemptblocked	81863
13	block	81863
14	tvtimeout	79960
15	teamtimeout	63613
16	deadball	55249
17	offensivefoul	48713
18	lineupchange	35926
19	endperiod	23128

Click **Check my progress** to verify the objective.

Fun queries to run

Which 5 games featured the most three point shots made? How accurate were all the attempts?

Click + **Compose New Query** and add in the below query:

```
#standardSQL
#most three points made
SELECT
  scheduled_date,
  name,
  market,
  alias,
  three_points_att,
  three_points_made,
  three_points_pct,
  opp_name,
  opp_market,
  opp_alias,
  opp_three_points_att,
  opp_three_points_made,
  opp_three_points_pct,
  (three_points_made + opp_three_points_made) AS total_threes
FROM `bigquery-public-data.ncaa_basketball.mbb_teams_games_sr`
WHERE season > 2010
ORDER BY total_threes DESC
LIMIT 5;
```

content_copy

Click **Run**.

scheduled_date	name	market	alias	three_points_att	three_points_made	three_points_pct	opp_name
2016-11-18	Knights	Middle Georgia	MGC	38	16	42.1	Tigers
2016-11-18	Tigers	Savannah State	SAV	52	24	46.2	Knights
2016-11-22	Tigers	Savannah State	SAV	45	23	51.1	Wildcats
2016-11-22	Wildcats	Fort Valley State	FVSU	39	14	35.9	Tigers
2017-12-10	Skyhawks	Tennessee-Martin	UTM	35	15	42.9	Cougars

Wow! The Tigers made over 50% of their three point shots on 11-22-2016.

Click **Check my progress** to verify the objective.

Which 5 basketball venues have the highest seating capacity?

Click + **Compose New Query** and add the below query:

```
#standardSQL
SELECT
  venue_name, venue_capacity, venue_city, venue_state
FROM `bigquery-public-data.ncaa_basketball.mbb_teams_games_sr`
GROUP BY 1,2,3,4
ORDER BY venue_capacity DESC
LIMIT 5;
content_copy
Click Run.
```

Row	venue_name	venue_capacity	venue_city	venue_state
1	AT&T Stadium	80000	Arlington	TX
2	University of Phoenix Stadium	72220	Glendale	AZ
3	NRG Stadium	71054	Houston	TX
4	Georgia Dome	71000	Atlanta	GA
5	Lucas Oil Stadium	70000	Indianapolis	IN

Imagine taking a shot with 80,000 people watching you!

Click **Check my progress** to verify the objective.

Which teams played in the highest scoring game since 2010?

Click + **Compose New Query** and add the below query:

```
#standardSQL
#highest scoring game of all time
SELECT
  scheduled_date,
  name,
  market,
  alias,
  points_game AS team_points,
  opp_name,
  opp_market,
  opp_alias,
  opp_points_game AS opposing_team_points,
  points_game + opp_points_game AS point_total
FROM `bigquery-public-data.ncaa_basketball.mbb_teams_games_sr`
```

```
WHERE season > 2010
ORDER BY point_total DESC
LIMIT 5;
content_copy
Click Run.
```

Row	scheduled_date	name	market	alias	team_points	opp_name	opp_market	opp_alias	opposing_team_points	point_total
1	2017-02-10	Bulldogs	Samford	SAM	127	Terriers	Wofford	WOF	131	258
2	2017-02-10	Terriers	Wofford	WOF	131	Bulldogs	Samford	SAM	127	258
3	2017-02-04	Vikings	Portland State	PRST	124	Eagles	Eastern Washington	EWU	130	254
4	2017-02-04	Eagles	Eastern Washington	EWU	130	Vikings	Portland State	PRST	124	254
5	2013-11-14	Pioneers	Sacred Heart	SHU	118	Crusaders	Holy Cross	HC	122	240

The Bulldogs and Terriers played in a game that scored 258 total points!

Click **Check my progress** to verify the objective.

Since 2015, what was the biggest difference in final score for a National Championship?

Click **+ Compose New Query** and add the below query:

```
#standardSQL
#biggest point difference in a championship game
SELECT
  scheduled_date,
  name,
  market,
  alias,
  points_game AS team_points,
```

```

    opp_name,
    opp_market,
    opp_alias,
    opp_points_game AS opposing_team_points,
    ABS(points_game - opp_points_game) AS point_difference
FROM `bigquery-public-data.ncaa_basketball.mbb_teams_games_sr`
WHERE season > 2015 AND tournament_type = 'National Championship'
ORDER BY point_difference DESC
LIMIT 5;
content_copy
Click Run.

```

Row	scheduled_date	name	market	alias	team_points	opp_name	opp_market	opp_alias	opposing_team_points	point_difference
1	2018-04-03	Wildcats	Villanova	VILL	79	Wolverines	Michigan	MICH	62	17
2	2018-04-03	Wolverines	Michigan	MICH	62	Wildcats	Villanova	VILL	79	17
3	2017-04-04	Tar Heels	North Carolina	UNC	71	Bulldogs	Gonzaga	GONZ	65	6
4	2014-04-08	Wildcats	Kentucky	UK	54	Huskies	Connecticut	CONN	60	6
5	2017-04-04	Bulldogs	Gonzaga	GONZ	65	Tar Heels	North Carolina	UNC	71	6

The finals games are surprisingly close! The biggest difference was recent in 2018 with a delta of 17 points.

Click **Check my progress** to verify the objective.

Congratulations!

You've learned how to query the NCAA basketball dataset inside of BigQuery. We encourage you to modify the above queries and write your own to further your understanding. Looking for more NCAA query practice? Checkout the GitHub repo [here](#).



Finish your Quest

Continue your Quest with [Google Cloud Solutions II: Data and Machine Learning](#) or [NCAA® March Madness®: Bracketology with Google Cloud](#). A Quest is a series of related labs that form a learning path. Completing this Quest earns you the badge above, to recognize your achievement. You can make your badge (or badges) public and link to them in your online resume or social media account. Enroll in a Quest and get immediate completion credit if you've taken this lab. [See other available Qwiklabs Quests](#).

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- [Creating an Object Detection Application Using TensorFlow](#)
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- Find [open datasets available in BigQuery](#) and other interesting topics like [Visualizing BigQuery Data Using Google Data Studio](#).

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Manual Last Updated May 21, 2021

Lab Last Tested May 21, 2021

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