

SQL Queries on Google Big Query. The link below is for the SQL queries, since it is not a paid one the link might not allow access to the entire Big Query platform, hence the screenshots.

<https://console.cloud.google.com/bigquery?sq=455788408236:53e11deaab86481fba10e24b290ccbb4>

The image displays three sequential screenshots of the Google Cloud BigQuery Studio interface, showing the execution of SQL queries for a Direct Marketing Campaign Analysis. The interface includes a sidebar with navigation options like Studio, Pipelines & Integration, and Governance, and a main editor area for writing and running queries.

Query 1: Direct Marketing Campaign Analysis SQL Queries

```
1 --Final Project: Direct Marketing Campaign Analysis SQL Queries--
2
3 SELECT *
4 FROM `regal-scholar-458128-j4.Bank_Marketing.Bank_Marketing`
5 LIMIT 1000;
6
7 -- 2. Total Records
8 SELECT COUNT(*) AS total_records
9 FROM `regal-scholar-458128-j4.Bank_Marketing.Bank_Marketing`;
10
11 -- 3. Unique Value Counts
12 SELECT
13   COUNT(DISTINCT job) AS job_types,
14   COUNT(DISTINCT education) AS education_levels,
15   COUNT(DISTINCT marital) AS marital_status_types
16 FROM `regal-scholar-458128-j4.Bank_Marketing.Bank_Marketing`;
17
```

Query 2: Count Unknown Values

```
18 -- 4. Count Unknown Values
19 SELECT
20   SUM(CASE WHEN job = 'unknown' THEN 1 ELSE 0 END) AS unknown_job,
21   SUM(CASE WHEN education = 'unknown' THEN 1 ELSE 0 END) AS unknown_education,
22   SUM(CASE WHEN poutcome = 'unknown' THEN 1 ELSE 0 END) AS unknown_poutcome
23 FROM `regal-scholar-458128-j4.Bank_Marketing.Bank_Marketing`;
24
25 -- 5. Conversion Rate
26 SELECT
27   y,
28   COUNT(*) AS count,
29   ROUND(COUNT(*) * 100.0 / SUM(COUNT(*) OVER ()) , 2) AS percentage
30 FROM `regal-scholar-458128-j4.Bank_Marketing.Bank_Marketing`
31 GROUP BY y;
32
```

Query 3: Subscription Rate by Age Group

```
33 -- 6. Subscription Rate by Age Group
34 SELECT
35   CASE
36     WHEN age < 30 THEN '<30'
37     WHEN age BETWEEN 30 AND 39 THEN '30-39'
38     WHEN age BETWEEN 40 AND 49 THEN '40-49'
39     WHEN age BETWEEN 50 AND 59 THEN '50-59'
40     ELSE '60+'
41   END AS age_group,
42   y,
43   COUNT(*) AS count
44 FROM `regal-scholar-458128-j4.Bank_Marketing.Bank_Marketing`
45 GROUP BY age_group, y
46 ORDER BY age_group, y;
47
48 -- 7. Subscription by Marital Status
49 SELECT
50   marital,
51   y,
52   COUNT(*) AS count
53 FROM `regal-scholar-458128-j4.Bank_Marketing.Bank_Marketing`
54 GROUP BY marital, y
55 ORDER BY marital, y;
```

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48

-- 7. Subscription by Marital Status

49

SELECT

50

marital,

51

y,

52

COUNT(*) AS count

53

FROM `regal-scholar-458120-j4.Bank_Marketing.Bank_Marketing`

54

GROUP BY marital, y

55

ORDER BY marital, y;

56

-- 8. Call Duration vs Subscription

57

SELECT

58

ROUND(duration / 60.0, 2) AS call_duration_minutes,

59

y,

60

y,

61

COUNT(*) AS count

62

FROM `regal-scholar-458120-j4.Bank_Marketing.Bank_Marketing`

63

WHERE duration < 3600

64

GROUP BY call_duration_minutes, y

65

ORDER BY call_duration_minutes;

66

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-- 9. Subscription by Account Balance Range

68

SELECT

69

CASE

70

WHEN balance < 0 THEN 'Negative'

71

WHEN balance BETWEEN 0 AND 500 THEN '0-500'

72

WHEN balance BETWEEN 501 AND 1500 THEN '501-1500'

73

WHEN balance > 1500 THEN '1500+'

74

END AS balance_range,

75

y,

76

COUNT(*) AS count

77

FROM `regal-scholar-458120-j4.Bank_Marketing.Bank_Marketing`

78

GROUP BY balance_range, y

79

ORDER BY balance_range, y;

80

-- 10. Contact Method Effectiveness

81

SELECT

82

contact,

83

y,

84

COUNT(*) AS count

85

FROM `regal-scholar-458120-j4.Bank_Marketing.Bank_Marketing`

86

GROUP BY contact, y

87

ORDER BY contact, y;

88

-- 11. Previous Outcome Analysis

89

SELECT

90

poutcome,

91

y,

92

COUNT(*) AS count

93

FROM `regal-scholar-458120-j4.Bank_Marketing.Bank_Marketing`

94

GROUP BY poutcome, y

95

ORDER BY poutcome, y;

96

97

98

99

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-- 10. Contact Method Effectiveness

82

SELECT

83

contact,

84

y,

85

COUNT(*) AS count

86

FROM `regal-scholar-458120-j4.Bank_Marketing.Bank_Marketing`

87

GROUP BY contact, y

88

ORDER BY contact, y;

89

-- 11. Previous Outcome Analysis

90

SELECT

91

poutcome,

92

y,

93

COUNT(*) AS count

94

FROM `regal-scholar-458120-j4.Bank_Marketing.Bank_Marketing`

95

GROUP BY poutcome, y

96

ORDER BY poutcome, y;

97

98

99

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```
99
100 -- 12. Monthly Trend Analysis
101 SELECT
102     month,
103     y,
104     COUNT(*) AS count
105 FROM `regal-scholar-458120-j4.Bank_Marketing.Bank_Marketing`
106 GROUP BY month, y
107 ORDER BY month, y;
108
109 -- 13. Loan & Housing Status
110 SELECT
111     housing,
112     loan,
113     y,
114     COUNT(*) AS count
115 FROM `regal-scholar-458120-j4.Bank_Marketing.Bank_Marketing`
116 GROUP BY housing, loan, y
117 ORDER BY housing, loan, y;
118
```

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```
119 -- 14. Campaign Performance
120 SELECT
121     campaign,
122     COUNT(*) AS total_clients,
123     COUNTIF(y = TRUE) AS total_subscribed,
124     COUNTIF(y = FALSE) AS total_not_subscribed,
125     ROUND(COUNTIF(y = TRUE) * 100.0 / COUNT(*), 2) AS conversion_rate_percentage
126 FROM `regal-scholar-458120-j4.Bank_Marketing.Bank_Marketing`
127 GROUP BY campaign
128 ORDER BY campaign;
129
130 --15. Top 10 Jobs by Cellular Contact
131 SELECT
132     job,
133     COUNT(*) AS cellular_contacts
134 FROM `regal-scholar-458120-j4.Bank_Marketing.Bank_Marketing`
135 WHERE contact = 'cellular'
136 GROUP BY job
137 ORDER BY cellular_contacts DESC
138 LIMIT 10;
139
```

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