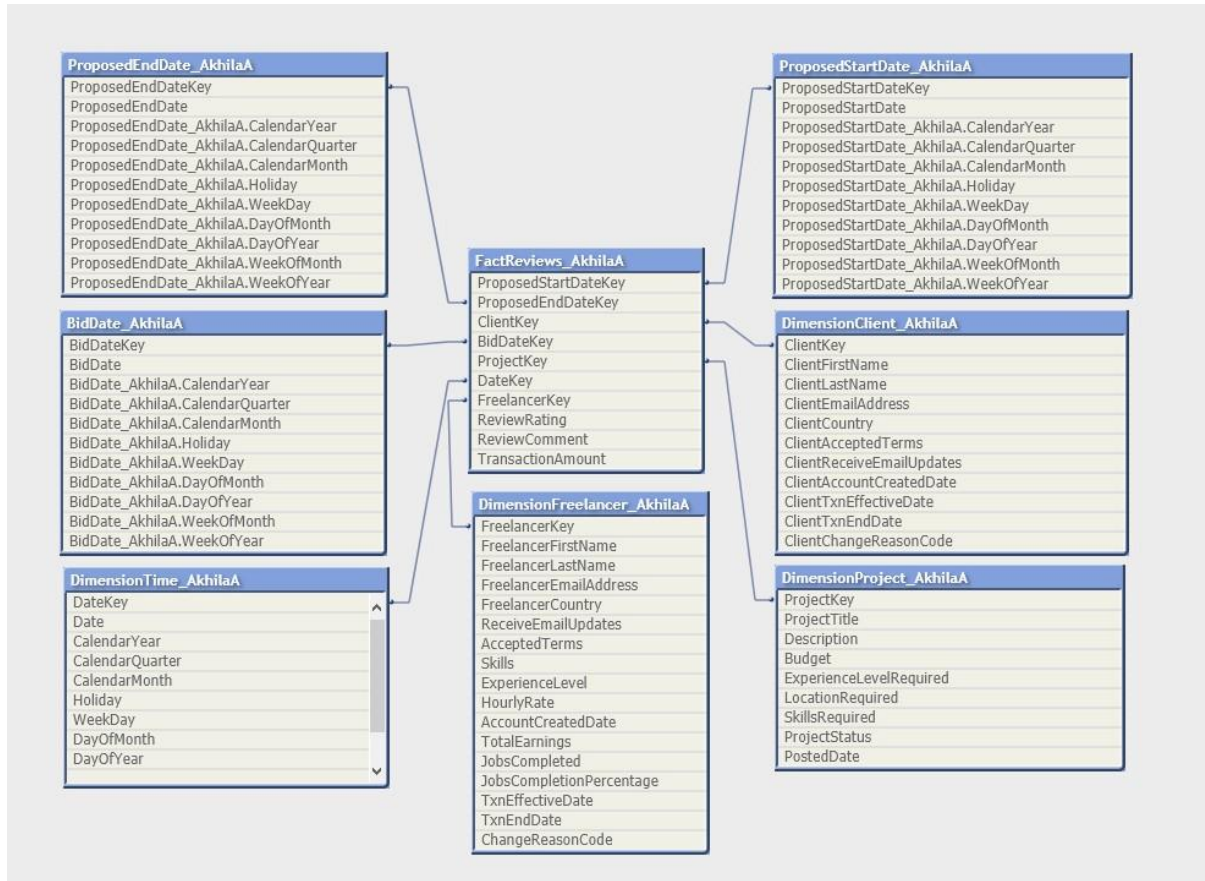# BCIS 5610.001 ENTERPRISE DATA WAREHOUSING

QLIK VIEW ASSIGNMENT
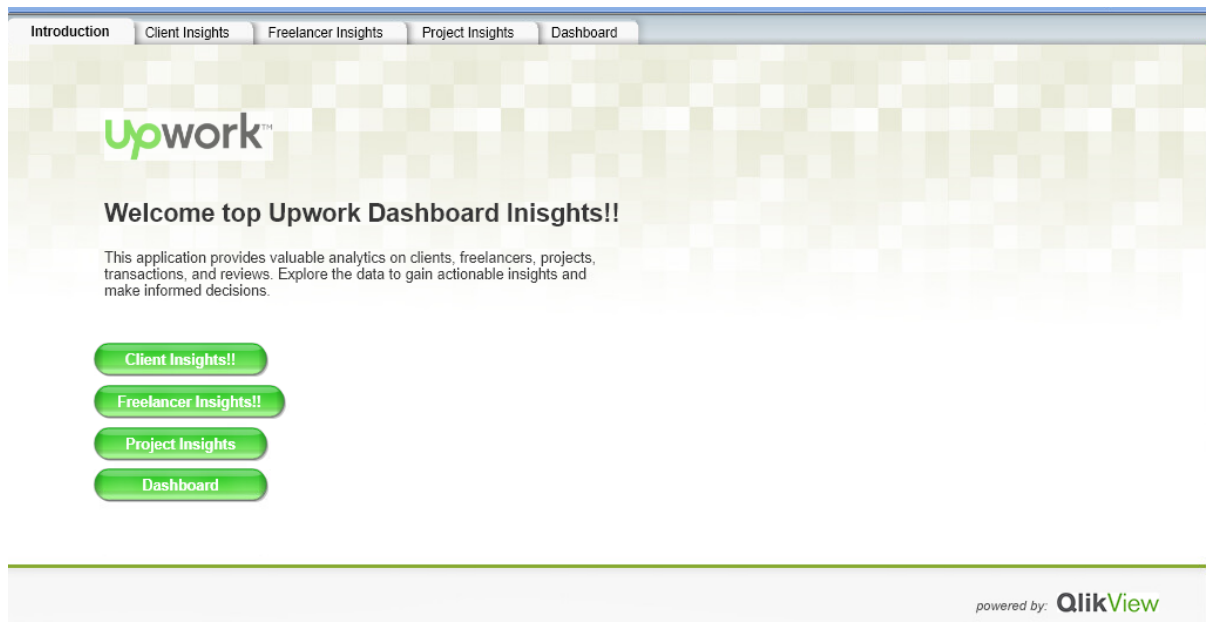
Submitted By
Akhila Akula
11697123

Data Model Diagram:

1) Removed circular references by concatenating two fact tables
2) Removed synthetic keys in the Time Dimension Fields by qualifying the columns with same name in Bid Date, Proposed Start Date and Proposed End Date.
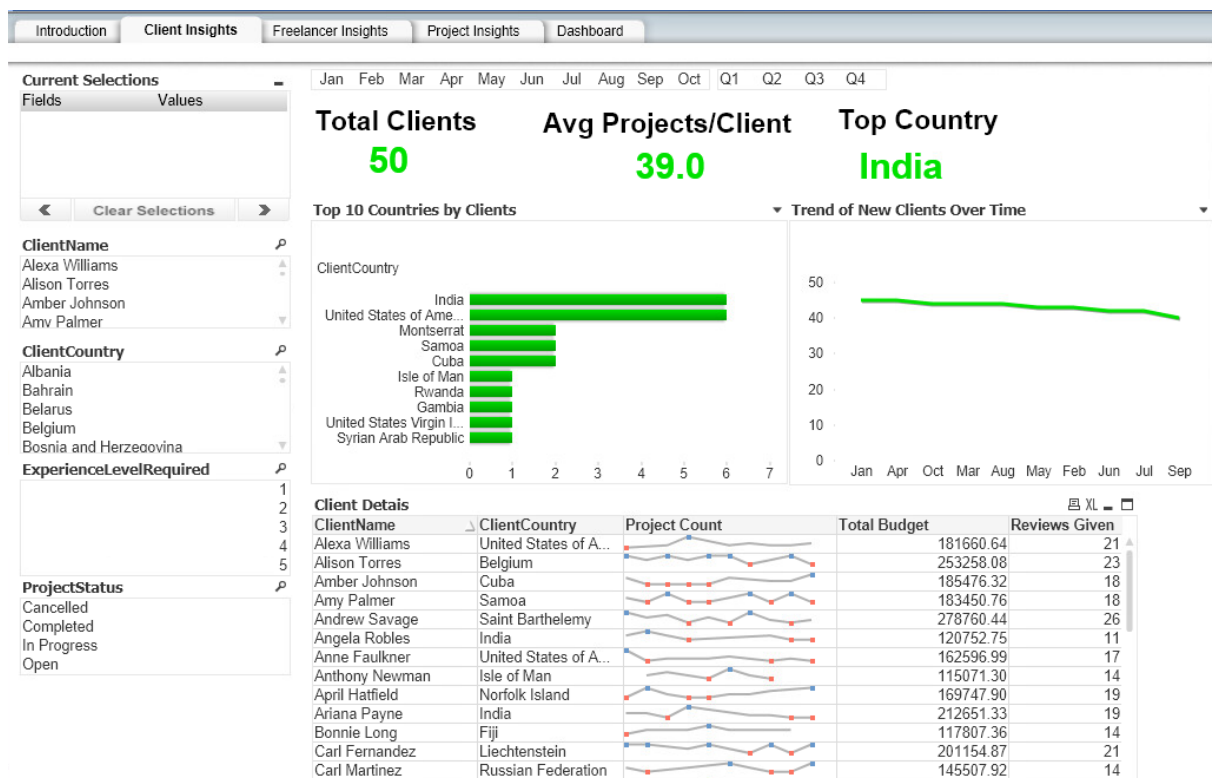3) Removed synthetic keys in Client and Freelancer dimensions by adding aliasing the columns sharing the same name.

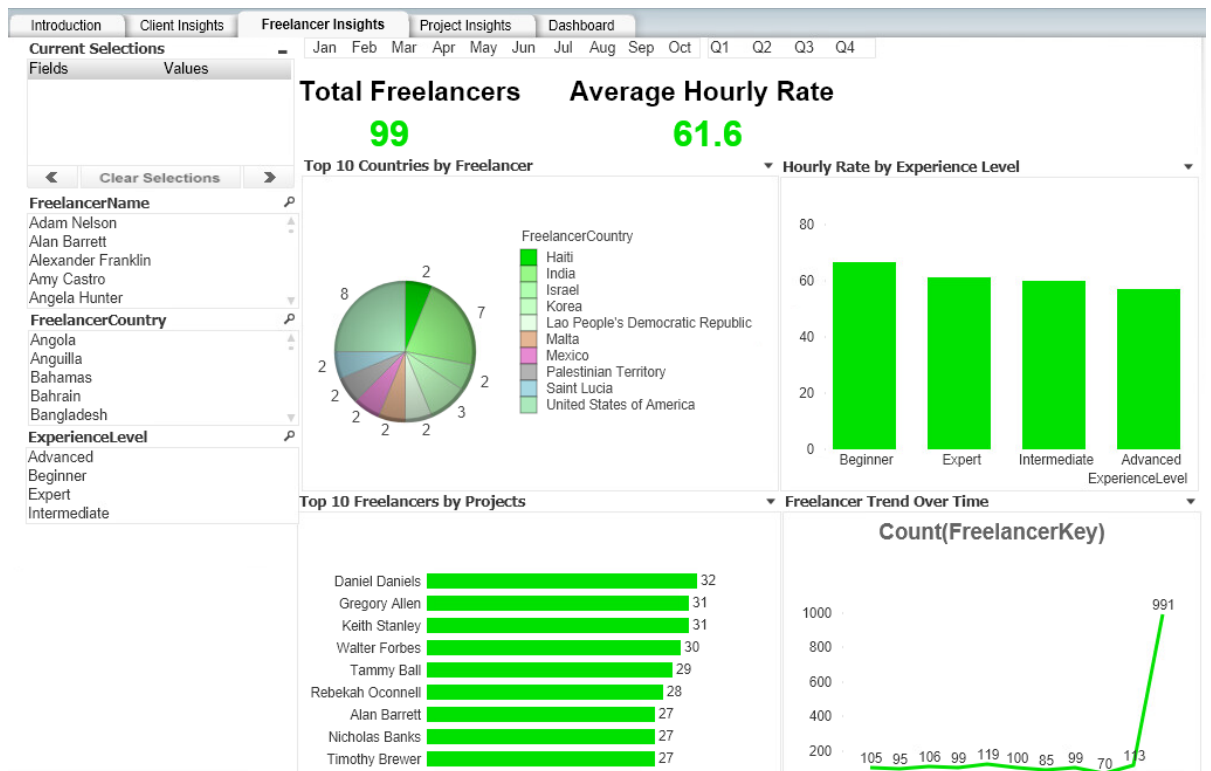| BidDateKey	ClientKey	DateKey	FreelancerKey	ProjectKey	ProposedEndDateKey	ProposedStartDateKey	ReviewComment	ReviewRating	TransactionAmount
299 -	-	97	283	303	300 -	-	-	11558.07
300 -	-	27	75	304	303 -	-	-	3705.18
300 -	-	55	256	303	300 -	-	-	10269.45
300 -	-	62	177	304	303 -	-	-	2999.91
300 -	-	88	1	304	303 -	-	-	16956.71
301 -	-	13	189	303	302 -	-	-	6813.65
302 -	-	13	288	304	303 -	-	-	7313.81
302 -	-	18	460	302	302 -	-	-	7687.63
302 -	-	47	348	304	304 -	-	-	12640.73
303 -	-	4	123	304	303 -	-	-	17332.55
303 -	-	17	441	304	303 -	-	-	2538.11
303 -	-	56	108	304	303 -	-	-	2291.17
303 -	-	58	165	303	303 -	-	-	17347.28
304 -	-	57	446	304	304 -	-	-	8528.39
304 -	-	97	74	304	304 -	-	-	4820.33
304 -	-	98	300	304	304 -	-	-	18192.16
305 -	-	-	-	-	-	-	-	
-	1	1	18	500 -	-	-	Good job, but there is room for improvement.	3.80 -	
-	1	39	94	399 -	-	-	Met the requirements but could improve on communication.	4.50 -	
-	1	79	30	236 -	-	-	The project was completed with utmost professionalism.	3.80 -	
-	1	86	68	82 -	-	-	Great communication and delivered exactly what was required.	3.40 -	
-	1	129	61	36 -	-	-	Some delays, but overall a good experience.	1.40 -	
-	1	139	82	316 -	-	-	Outstanding performance, highly recommended!	2.90 -	
-	1	146	39	7 -	-	-	The project was completed with utmost professionalism.	3.40 -	
-	1	164	38	281 -	-	-	Good job, but there is room for improvement.	4.40 -	
-	1	186	87	310 -	-	-	Delivered ahead of schedule and with top-notch quality.	2.70 -	
-	1	213	100	362 -	-	-	Outstanding performance, highly recommended!	2.00 -	
-	1	237	50	436 -	-	-	Some delays, but overall a good experience.	1.60 -	
-	1	250	92	302 -	-	-	Great communication and delivered exactly what was required.	3.80 -	
-	1	262	28	107 -	-	-	Delivered ahead of schedule and with top-notch quality.	1.40 -	
-	1	275	18	310 -	-	-	Delivered ahead of schedule and with top-notch quality.	2.80 -	
-	1	278	48	284 -	-	-	Exceptional skills, went above and beyond expectations.	4.00 -	

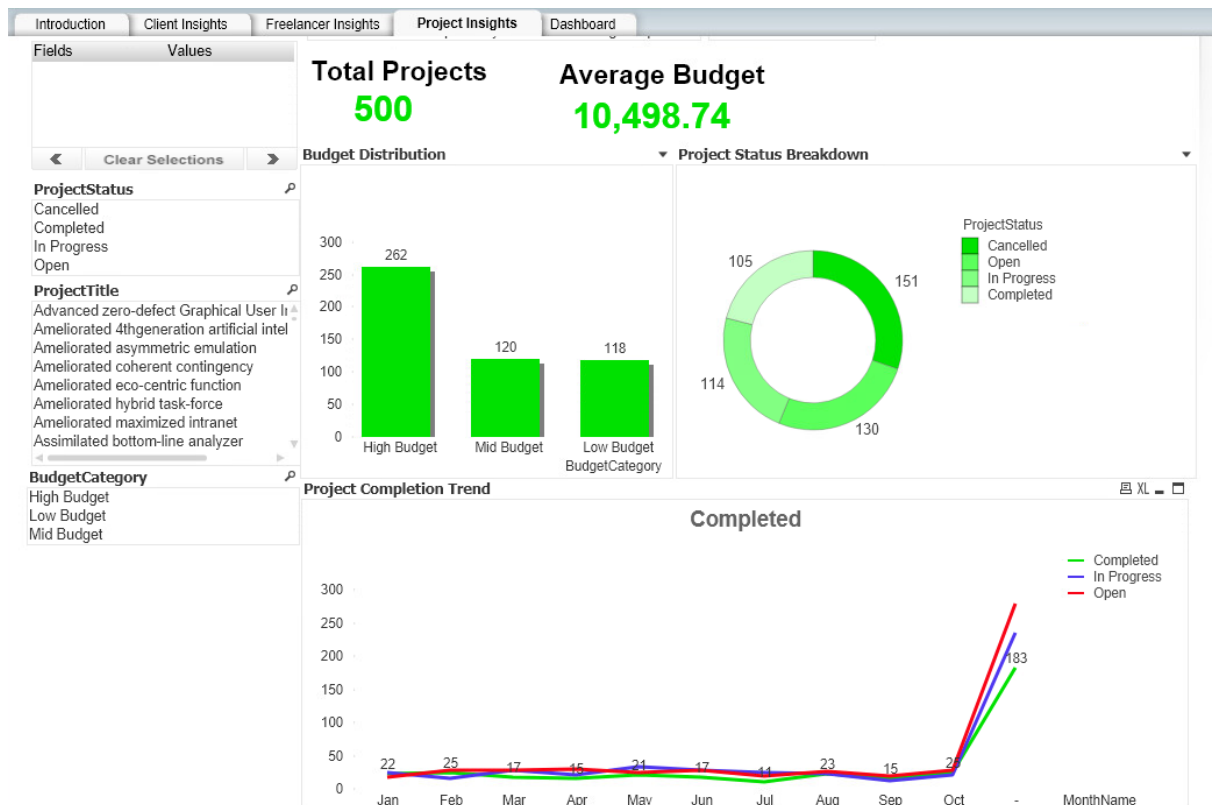Front End Screenshots:

1) Introduction Sheet:
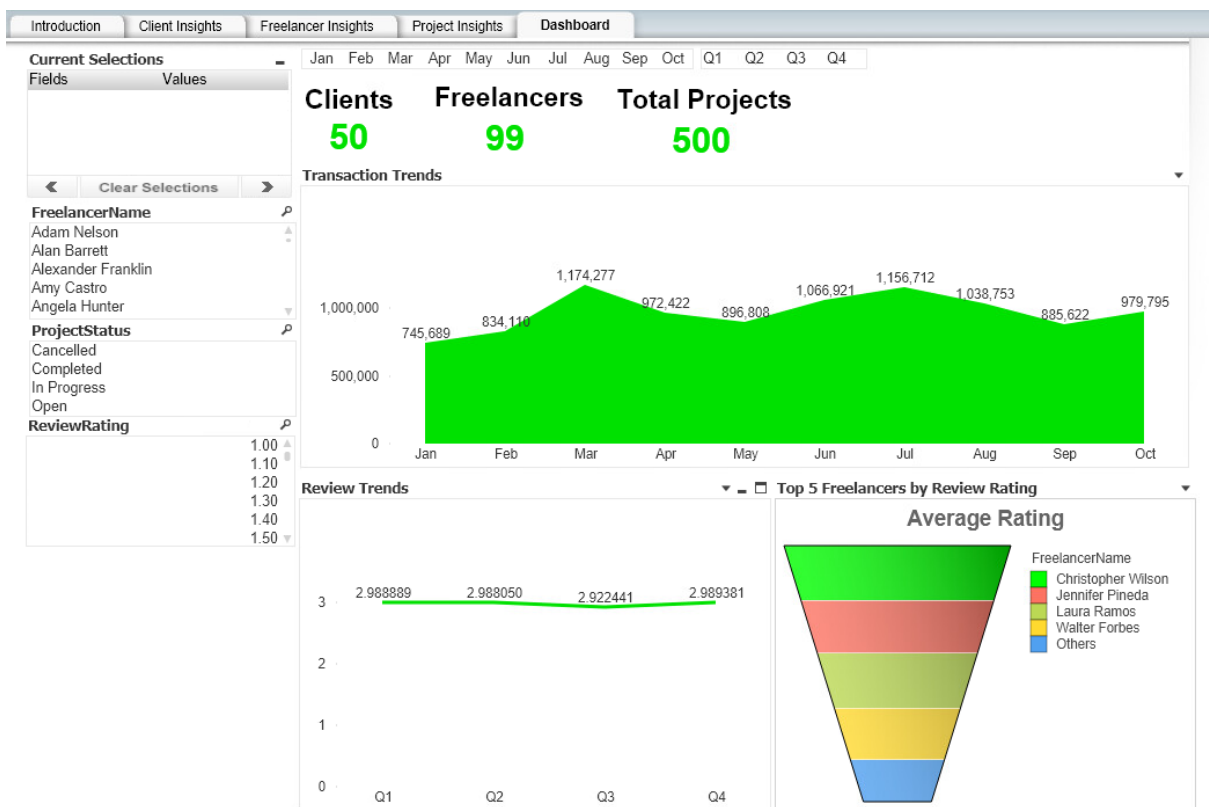

2) Client Insights Sheet:

3) Freelancer Insights Sheet:

4) Project Insights Sheet:

5) Dashboard Sheet:

Backend Script Screenshots:

1) Information Tab:

2) Main Tab:

```
Information  Main  Tables
 1  SET ThousandSep=',';
 2  SET DecimalSep='.';
 3  SET MoneyThousandSep=',';
 4  SET MoneyDecimalSep='.';
 5  SET MoneyFormat='$#,##0.00;-$#,##0.00';
 6  SET TimeFormat='h:mm:ss TT';
 7  SET DateFormat='M/D/YYYY';
 8  SET TimestampFormat='M/D/YYYY h:mm:ss[.fff] TT';
 9  SET FirstWeekDay=6;
10  SET BrokenWeeks=1;
11  SET ReferenceDay=0;
12  SET FirstMonthOfYear=1;
13  SET CollationLocale='en-US';
14  SET MonthNames='Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec';
15  SET LongMonthNames='January;February;March;April;May;June;July;August;September;October;November;December';
16  SET DayNames='Mon;Tue;Wed;Thu;Fri;Sat;Sun';
17  SET LongDayNames='Monday;Tuesday;Wednesday;Thursday;Friday;Saturday;Sunday';
18
19  // Database connection
20  ODBC CONNECT32 TO test (XUserId is AAMKAZdNPDdSP, XPassword is UfZGdQRMNLacWUNOUTcCGadNSbLB);
21
```

3) Tables Tab:

```
Information  Main  Tables
 1  // FactReviews Table
 2  FactReviews_AkhilaA:
 3  LOAD ReviewRating,
 4      ReviewComment,
 5      `DimensionClient_AkhilaA_ClientKey` AS ClientKey,
 6      `DimensionProject_AkhilaA_ProjectKey` AS ProjectKey,
 7      `DimensionFreelancer_AkhilaA_FreelancerKey` AS FreelancerKey,
 8      `DimensionTime_AkhilaA_DateKey` AS DateKey;
 9  SQL SELECT *
10  FROM `upwork_dm_db`.`factreviews_akhilaa`;
11
12  Concatenate
13
14  // FactTransactions Table
15  FactTransactions_AkhilaA:
16  LOAD TransactionAmount,
17      `DimensionBidDate_AkhilaA_DateKey` AS BidDateKey,
18      `DimensionProposedEndDate_AkhilaA_DateKey` AS ProposedEndDateKey,
19      `DimensionProposedStartDate_AkhilaA_DateKey` AS ProposedStartDateKey,
20      `DimensionProject_AkhilaA_ProjectKey` AS ProjectKey,
21      `DimensionFreelancer_AkhilaA_FreelancerKey` AS FreelancerKey;
22  SQL SELECT *
23  FROM `upwork_dm_db`.`facttransactions_akhilaa`;
24
25
```

```
Information  Main  Tables
25
26  // DimensionClient Table
27  DimensionClient_AkhilaA:
28  LOAD ClientKey,
29      ClientFirstName & ' ' & ClientLastName AS ClientName,
30      ClientEmailAddress,
31      ClientCountry,
32      AcceptedTerms AS ClientAcceptedTerms,
33      ReceiveEmailUpdates AS ClientReceiveEmailUpdates,
34      AccountCreatedDate AS ClientAccountCreatedDate,
35      TxnEffectiveDate AS ClientTxnEffectiveDate,
36      TxnEndDate AS ClientTxnEndDate,
37      ChangeReasonCode AS ClientChangeReasonCode;
38  SQL SELECT *
39  FROM `upwork_dm_db`.`dimensionclient_akhilaa`;
40
```

```
40
41  // DimensionFreelancer Table
42  DimensionFreelancer_AkhilaA:
43  LOAD FreelancerKey,
44      FreelancerFirstName & ' ' & FreelancerLastName AS FreelancerName,
45      FreelancerEmailAddress,
46      FreelancerCountry,
47      ReceiveEmailUpdates,
48      AcceptedTerms,
49      Skills,
50      ExperienceLevel,
51      HourlyRate,
52      AccountCreatedDate,
53      TotalEarnings,
54      JobsCompleted,
55      JobsCompletionPercentage,
56      TxnEffectiveDate,
57      TxnEndDate,
58      ChangeReasonCode;
59  SQL SELECT *
60  FROM `upwork_dm_db`.`dimensionfreelancer_akhilaa`;
61
62
```

```
62
63  // DimensionProject Table
64  DimensionProject_AkhilaA:
65  LOAD ProjectKey,
66      ProjectTitle,
67      Description,
68      Budget,
69      IF(Budget <= 5000, 'Low Budget',
70          IF(Budget > 5000 AND Budget <= 10000, 'Mid Budget',
71              IF(Budget > 10000, 'High Budget', 'Unknown')
72          )
73      ) AS BudgetCategory,
74      ExperienceLevelRequired,
75      LocationRequired,
76      SkillsRequired,
77      ProjectStatus,
78      PostedDate;
79  SQL SELECT *
80  FROM `upwork_dm_db`.`dimensionproject_akhilaa`;
81
82
```

```
82
83  // DimensionTime Table
84  DimensionTime_AkhilaA:
85  LOAD DateKey,
86      Date,
87      CalendarYear,
88      CalendarQuarter,  // keeping the numeric quarter for reference
89      'Q' & CalendarQuarter AS QuarterName,  // Converting quarters to Q1, Q2, Q3, Q4
90      CalendarMonth,  // Keeping the numeric month for reference
91      Month(Date) AS MonthName,  // Converting the numeric month to names like "Jan", "Feb"
92      Holiday,
93      WeekDay,
94      DayOfMonth,
95      DayOfYear,
96      WeekOfMonth,
97      WeekOfYear;
98  SQL SELECT *
99  FROM `upwork_dm_db`.`dimensiontime_akhilaa`;
```

```
100
101  // BidDate
102  QUALIFY CalendarYear, CalendarQuarter, CalendarMonth, Holiday, WeekDay, DayOfMonth, DayOfYear, WeekOfMonth, WeekOfYear, QuarterName, MonthName;
103  BidDate_AkhilaA:
104  LOAD DateKey AS BidDateKey,
105      Date AS BidDate,
106      CalendarYear,
107      CalendarQuarter,  // Keeping the numeric quarter for reference
108      'Q' & CalendarQuarter AS QuarterName,  // Converting quarters to Q1, Q2, Q3, Q4
109      CalendarMonth,  // Keeping the numeric month for reference
110      Month(Date) AS MonthName,  // Converting the numeric month to names like "Jan", "Feb"
111      Holiday,
112      WeekDay,
113      DayOfMonth,
114      DayOfYear,
115      WeekOfMonth,
116      WeekOfYear
117  RESIDENT DimensionTime_AkhilaA;
```

```
118
119 // ProposedStartDate
120 QUALIFY CalendarYear, CalendarQuarter, CalendarMonth, Holiday, WeekDay, DayOfMonth, DayOfYear, WeekOfMonth, WeekOfYear, QuarterName, MonthName;
121 ProposedStartDate_AkhilaA:
122 LOAD
123     DateKey AS ProposedStartDateKey,
124     Date AS ProposedStartDate,
125     CalendarYear,
126     CalendarQuarter,  // Keeping the numeric quarter for reference
127     'Q' & CalendarQuarter AS QuarterName,  // Converting quarters to Q1, Q2, Q3, Q4
128     CalendarMonth,  // Keeping the numeric month for reference
129     Month(Date) AS MonthName,  // Converting the numeric month to names like "Jan", "Feb"
130     Holiday,
131     WeekDay,
132     DayOfMonth,
133     DayOfYear,
134     WeekOfMonth,
135     WeekOfYear
136 RESIDENT DimensionTime_AkhilaA;
137
```

```
133     DayOfYear,
134     WeekOfMonth,
135     WeekOfYear
136 RESIDENT DimensionTime_AkhilaA;
137
138 // ProposedEndDate
139 QUALIFY CalendarYear, CalendarQuarter, CalendarMonth, Holiday, WeekDay, DayOfMonth, DayOfYear, WeekOfMonth, WeekOfYear, QuarterName, MonthName;
140 ProposedEndDate_AkhilaA:
141 LOAD
142     DateKey AS ProposedEndDateKey,
143     Date AS ProposedEndDate,
144     CalendarYear,
145     CalendarQuarter,  // Keeping the numeric quarter for reference
146     'Q' & CalendarQuarter AS QuarterName,  // Converting quarters to Q1, Q2, Q3, Q4
147     CalendarMonth,  // Keeping the numeric month for reference
148     Month(Date) AS MonthName,  // Converting the numeric month to names like "Jan", "Feb"
149     Holiday,
150     WeekDay,
151     DayOfMonth,
152     DayOfYear,
153     WeekOfMonth,
154     WeekOfYear
155 RESIDENT DimensionTime_AkhilaA;
```

Data Creation:

For this project, I generated synthetic data using the Faker library to simulate a realistic business environment. The dataset includes 50 client records, 99 freelancer records, and a time dimension at a daily granularity covering the period from January 1, 2024, to October 31, 2024. Additionally, I created 500 project records, 1,000 transaction fact records, and 1,000 review fact records. The data was structured to mimic real-world business relationships, linking clients, freelancers, projects, and transactional information with relevant keys.