PRO APP DATABASE MANAGEMENT

Table of Contents

BUSINESS STORY

Pro App is a newly established sharing economy platform serving both in Australia and Indonesia, and it is currently pursuing Series A funding in Southeast Asia and Australia. The platform offers high-quality, customized online and offline services, allowing local communities to efficiently outsource their daily tasks.

Customer can request tasks with specific requirements, descriptions, and budget indications. These tasks can be on-demand, short-term trusted help from Tradesperson or customized personal projects from Suppliers.

Customer can request short-term trusted help task, which can include variety of tasks like cleaning, plumbing and more. Customer pays task quote fee of Rp25,000 per task request. Tradesperson are grassroot skilled individuals such as electricians, gardeners, plumbers, tutors, cleaners. Tradesperson can access the platform to connect with customers for task requests. They pay a membership fee of Rp10,000, which likely grants them access to potential customers, upskilling, and certification opportunities. Both Customer and Tradesperson pay transaction fee after completing tasks. Tradesperson can bid on task requested by Customer. Both Customer and Tradesperson can rate each other upon task completion or cancellation. Positive ratings and reviews help Tradesperson secure more tasks in the future, incentivizing high-quality work. Customers also need to maintain a positive star rating by avoiding unnecessary task cancellations, which helps them attract top-quality Tradesperson for future projects.

Customer can request Customized personal projects from Suppliers. Customer also pays project quote fee of Rp25,000 per task request. Suppliers including builders, door manufacturers, landscapers and more can also join the platform to reach customers by paying membership fee of Rp100,000. Both Customer and Supplier pay transaction fee after completing project. Supplier also can supply goods necessary for Tradesperson to complete their task.

To ensure high service standards, Pro App collaborates with skills assessment and training providers to grade and upskill Tradesperson. Training providers issue certificates upon successful completion of training or skill assessment. This process provides Customer with transparency and choice when ordering tasks. Tradesperson, who have undergone skills assessments and training and got certificate are more likely to win bids and secure higher-paying tasks.

FINDING ENTITIES:

	Entity	Definition	Justification.
1	Customer	Represents individuals who request tasks and projects on the platform.	Customers are essential to the platform's business model as they create the demand for tasks and projects. They drive the workflow by initiating task requests, allowing Tradesperson and Suppliers to offer their services.
2	Tradesperson	Represents grassroot skilled individuals such as electricians, gardeners, plumbers, tutors, cleaners and more.	Tradesperson form the supply side of the platform, offering their services to fulfill customer task requests. They benefit from accessing a large pool of potential customers and upskilling opportunities provided by the platform.
3	Task	Refers to on-demand, short-term trusted help task requested by Customer to Tradesperson.	Tasks are central to the platform, as they are the units of work that are outsourced to Tradesperson. Without tasks, there would be no interaction between customers, tradespeople, or the platform.
4	Bid	Represents the offers made by Tradesperson in response to customer task requests.	Bids facilitate the selection process, allowing Tradesperson to compete for task requests based on price, experience, and ratings. This enables customers to choose the best tradesperson for the job while encouraging competition among service providers.
5	Project	Refers to customized personal projects requested by Customer to Suppliers.	Projects extend the platform's functionality to more complex tasks, allowing customers to request services that involve customized or larger-scale projects, such as renovations or landscaping, provided by Suppliers.
6	Supplier	Companies who offer customized projects or supply goods for tradespeople to complete tasks	Suppliers expand the platform's offering by providing specialized services or goods that support the completion of complex tasks or projects. They play a key role in fulfilling customer demands for large-scale or tailored services.
7	Supply	Represents the goods or materials provided by suppliers to Tradesperson to help complete a task.	Supplies are necessary for Tradesperson to complete certain tasks (e.g., construction materials for a home renovation). The relationship between suppliers and tradespeople is crucial for ensuring that tasks are completed efficiently and to a high standard.
8	Provider	Organizations that provide skill assessments and	Providers ensure the quality of tradespeople by offering training, certifications, and skill assessments. This helps maintain high standards

		certifications for Tradesperson.	of service, builds Customer trust, and increases the chances of Tradesperson winning bids and securing higher-paying tasks.
9	Membership	The subscription system that allows Tradesperson and suppliers to access the platform's customers and features.	Membership fees generate revenue for the platform and grant Tradesperson and Suppliers access to Customer requests, upskilling opportunities, and other platform features, which help them grow their business and improve service quality.
11	Certificate	Represents the certifications awarded to Tradesperson upon completing skill assessments or training.	Certificates provide Tradesperson with credentials that enhance their credibility on the platform. They increase customer trust and give certified tradespeople a competitive edge in securing tasks and higher-paying projects.

RELATIONSHIPS, CARDINALITIES, AND PARTICIPATION

1. **A Customer requests Task:**
   a. **Customer to Task:**
   One Customer can request multiple Tasks.
   Cardinality: Many
   A Customer may not have a requested Task.
   Participation: Partial
   b. **Task to Customer:**
   A Task can be requested by one Customer (Platform's feature to meet individuals' specific needs).
   Cardinality: One
   Every Task must be associated with a Customer.
   Participation: Total
2. **A Tradesperson makes Bid:**
   a. **Tradesperson to Bid:**
   A Tradesperson can make multiple Bids on different Tasks.
   Cardinality: Many
   A Tradesperson may not make a Bid.
   Participation: Partial
   b. **Bid to Tradesperson:**
   A Bid must be made by one Tradesperson.
   Cardinality: One
   Every Bid must be associated with a Tradesperson.
   Participation: Total
3. **Tradesperson completes Task:**
   a. **Tradesperson to Task:**
   One Tradesperson can complete many tasks.
   Cardinality: Many
   A Tradesperson may not complete any tasks.

Participation: Partial

b. Task to Tradesperson:

A task can be completed by many Tradesperson.

Cardinality: Many

A task may not be completed by a Tradesperson.

Participation: Partial

4. A Task receives Bids:

a. Task to Bid:

One Task can receive multiple Bids from different Tradespeople.

Cardinality: Many

A Task may not receive any Bids.

Participation: Partial

b. Bid to Task:

A Bid must be made for a specific Task.

Cardinality: One

Every Bid must be associated with a Task.

Participation: Total

5. A Customer requests Project:

a. Customer to Project:

A Customer can request multiple Projects.

Cardinality: Many

A Customer may not have a requested Project.

Participation: Partial

b. Project to Customer:

A Project is requested by one Customer. (Platform's feature to meet individuals' specific needs).

Cardinality: One

Every Project must be associated with a Customer.

Participation: Total

6. Supplier completes Project:

a. Supplier to Project:

A supplier can complete multiple Projects.

Cardinality: Many

A supplier may not complete any Projects.

Participation: Partial

b. Project to Supplier:

A project can be completed by many Suppliers.

Cardinality: Many

A project may not be completed by Supplier.

Participation: Total

7. A Supplier provides Supplies:

a. Supplier to Supply:

One Supplier can provide multiple Supplies.

Cardinality: Many

A Supplier may not provide any Supplies.

Participation: Partial

b. **Supply to Supplier:**
One Supply can be provided by multiple Suppliers.
Cardinality: Many
Every Supply must be associated with a Supplier.
Participation: Total

8. **A Tradesperson uses Supplies (for Task):**
   a. **Tradesperson to Supply:**
   One Tradesperson can use multiple Supplies.
   Cardinality: Many
   A Tradesperson may not use any Supplies.
   Participation: Partial
   b. **Supply to Tradesperson:**
   One Supply can be used one Tradesperson.
   Cardinality: One
   A Supply may not be used by any Tradesperson.
   Participation: Partial
9. **A Tradesperson have Membership:**
   c. **Tradesperson to Membership:**
   One Tradesperson can have multiple Membership (Including subscriptions over time like annual subscriptions, different membership levels).
   Cardinality: Many
   A Tradesperson may or may not have a Membership at any given point.
   Participation: Partial
   d. **Membership to Tradesperson:**
   One membership can be held by multiple Tradesperson.
   Cardinality: Many
   Membership may not be held by any Tradesperson.
   Participation: Partial
10. **A Supplier have Membership:**
   e. **Supplier to Membership:**
   A Supplier can have multiple Membership
   Cardinality: Many
   A Supplier may or may not have a Membership at any given point.
   Participation: Partial
   f. **Membership to Supplier:**
   Each membership is associated with only one Supplier.
   Cardinality: One
   A membership may not be held by any Supplier.
   Participation: Partial
11. **A Provider issues Certificates:**
   a. **Provider to Certificate:**
   A Provider can issue multiple Certificates.
   Cardinality: Many
   A Provider may not issue a Certificate.
   Participation: Partial
   b. **Certificate to Provider:**

Each Certificate is issued by one Provider
Cardinality: One
Every Certificate must be associated with a Provider.
Participation: Total

12. A Tradesperson obtains Certificates:

a. Tradesperson to Certificate:

A Tradesperson can obtain multiple Certificates.
Cardinality: Many
A Tradesperson may not obtain any Certificates.
Participation: Partial

b. Certificate to Tradesperson:

One Certificate can be obtained by multiple Tradespeople.
Cardinality: Many
A Certificate may not be obtained by any Tradesperson.
Participation: Partial

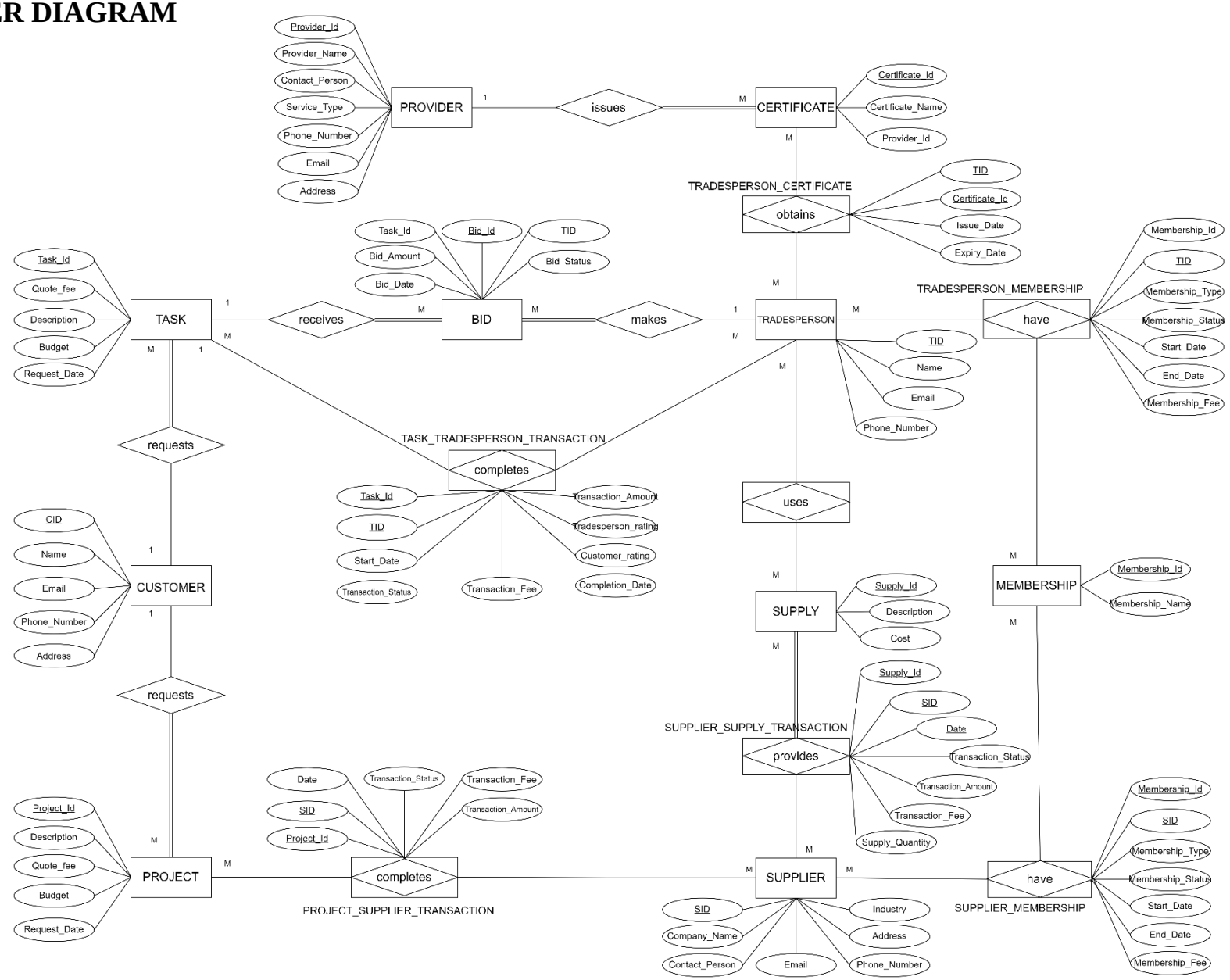
DEFINING ATTRIBUTES:

Entity	Attributes	Key
CUSTOMER	Customer_Id (CID)	Primary key
	Name	
	Email	
	Phone_Number	
	Address	
TRADESPERSON	Tradesperson_Id (TID)	Primary key
	Name	
	Email	
	Phone_Number	
	Address	
SUPPLIER	Supplier_Id (SID)	Primary key
	Company_Name	
	Contact_Person	
	Email	
	Phone_Number	
	Address	
	Industry	
TASK	Task_Id	Primary key
	Description	
	Budget	
	Quote_fee (Payment to platform)	
	Request_Date	
BID (Associative entity between Tradesperson and Task)	Bid_Id	Primary key
	Task_Id	Foreign key from Task
	TID	Foreign key from Tradesperson
	Bid_Amount	
	Bid_Date	
	Bid_Status	
PROJECT	Project_Id	Primary key
	Description	
	Quote_fee (Payment to platform)	
	Budget	
	Request_Date	
SUPPLY	Supply_Id	Primary key
	Description	
	Cost	
MEMBERSHIP	Membership_Id	Primary key
	Membership_Name	
PROVIDER	Provider_Id	Primary key
	Provider_Name	
	Contact_Person	

	Email	
	Phone_Number	
	Address	
	Service_type (Training, Skill assessment)	
CERTIFICATE	Certificate_Id	Primary key
	Certificate_Name	
	Provider_Id	Foreign key from Provider
ASSOCIATIVE ENTITIES		
TASK_TRADESPERSON TRANSACTION	Task_Id	Composite key of (Task_Id, TID)
	TID	
	Start_Date	
	Completion_Date	
	Transaction_Status	
	Transaction_Amount	
	Transaction_Fee	
	Tradesperson_rating	
	Customer_rating	
PROJECT_SUPPLIER TRANSACTION	Project_Id	Composite key of (Project_Id, SID)
	SID	
	Date	
	Transaction_Status	
	Transaction_Amount	
	Transaction_Fee	
SUPPLIER_SUPPLY TRANSACTION	Supply_Id	Composite key of (SID, Supply_Id)
	SID	
	Date	
	Transaction_Status	
	Transaction_Amount	
	Transaction_Fee	
	Supply_Quantity	
TRADESPERSON_MEMBERSHIP	Membership_Id	Composite key of (TID, Membership_Id)
	TID	
	Membership_Fee	
	Start_Date	
	End_Date	
	Membership_Status	
	Membership_Type	
SUPPLIER_MEMBERSHIP	Membership_Id	Composite key of (SID, Membership_Id)
	SID	
	Membership_Fee	
	Start_Date	
	End_Date	
	Membership_Status	
	Membership_Type	

TRADESPERSON_CERTIFICATE	TID	Composite key of (TID, Certificate_Id)
	Certificate_Id	
	Issue_Date	
	Expiry_Date	

ER DIAGRAM


Provider_Id
Provider_Name
Contact_Person
Service_Type
Phone_Number
Email
Address
PROVIDER
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issues
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CERTIFICATE
Certificate_Id
Certificate_Name
Provider_Id
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TRADESPERSON_CERTIFICATE
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TASK_TRADESPERSON_TRANSACTION
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Transaction_Amount
Tradesperson_rating
Customer_rating
Completion_Date
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Supply_Id
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Membership_Name
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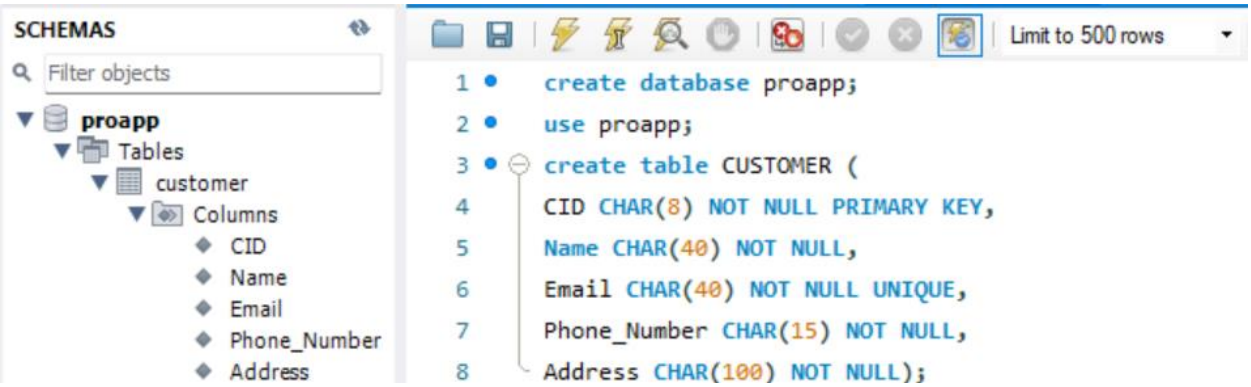
Membership_Id
SID
Membership_Type
Membership_Status
Start_Date
End_Date
Membership_Fee
SID
Company_Name
Contact_Person
Email
Phone_Number
Address
Industry

CREATING DATABASE

1. CUSTOMER

Creating table:



Inserting dummy data:

```
INSERT INTO CUSTOMER (CID, Name, Email, Phone_Number, Address) VALUES
(10000001, 'Linda Herman', 'ryansmith@hotmail.com', '3566409043', '04535 Roberto Trail Apt. 877\nSouth Scott, GA 26934'),
(10000002, 'Brandon Allison', 'walkerkatrina@ramirez.com', '3400974744', '162 Michelle Cliffs Apt. 862\nHeatherstad, WV 54429'),
(10000003, 'Robert Craig', 'jacksonsandra@yahoo.com', '1059367255', '0929 Ryan Pine\nSoliston, KY 31837'),
(10000004, 'Robert Patterson', 'lcontreras@giles.com', '17735465253', '47526 Williams Hollow\nSouth Jimmyfurt, IL 29543'),
(10000005, 'Karen Church', 'bwhite@hotmail.com', '0659476927', '901 Moore Trace\nEdwardsville, KS 68523'),
(10000006, 'Nicole Trujillo', 'fvaughn@vasquez.org', '9336075569', '245 Winters Course\nGillburgh, LA 54037'),
(10000007, 'Dustin Rogers', 'unorman@hotmail.com', '13593685700', '9137 White Pike Apt. 274\nNorrisfort, RI 27474'),
(10000008, 'Roger Black', 'craigshawn@barajas-browning.net', '4392453886', '61223 Garcia Glen Suite 992\nWest Peterton, RI 99799'),
(10000009, 'Carol Day', 'michaelsanford@curry-bowers.info', '4235849688', 'PSC 3492, Box 2652\nAPO AP 06174'),
(10000010, 'Zachary Rich', 'agrimes@harper.info', '2404993028', '0367 Hurley Haven Suite 824\nNorth Charlesside, MI 87684'),
(10000011, 'Erin Phillips', 'ewaters@hotmail.com', '3744827255', '07479 Cooper Hollow Suite 195\nAveryland, PA 56819'),
(10000012, 'Kimberly Fleming', 'wturner@bryant.org', '3990400204', '0788 Michael Stream\nEast Thomasmouth, TX 54510'),
(10000013, 'Kristen Dickerson', 'bjones@jenkins.com', '7291196309', '5784 Santiago Fall Apt. 922\nPort Amyport, AL 09353'),
(10000014, 'Deborah Sullivan', 'vbaker@wells.com', '1378381950', '90537 Joshua Plain Suite 057\nPort Shawnton, FL 44860'),
(10000015, 'Keith Mitchell', 'kimberly30@oliver.com', '6746783547', '6906 Mccarthy Estates\nJuliebury, AR 57220');
```

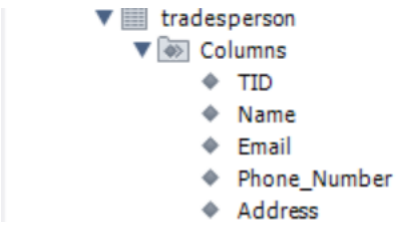
Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

CID	Name	Email	Phone_Number	Address
10000001	Linda Herman	ryansmith@hotmail.com	3566409043	04535 Roberto Trail Apt. 87...
10000002	Brandon Allison	walkerkatrina@ramirez.com	3400974744	162 Michelle Cliffs Apt. 862 ...
10000003	Robert Craig	jacksonsandra@yahoo.com	1059367255	0929 Ryan Pine Soliston, KY ...
10000004	Robert Patterson	lcontreras@giles.com	17735465253	47526 Williams Hollow South...
10000005	Karen Church	bwhite@hotmail.com	0659476927	901 Moore Trace Edwardsvill...
10000006	Nicole Trujillo	fvaughn@vasquez.org	9336075569	245 Winters Course Gillburg...
10000007	Dustin Rogers	unorman@hotmail.com	13593685700	9137 White Pike Apt. 274 N...
10000008	Roger Black	craigshawn@barajas-browning.net	4392453886	61223 Garcia Glen Suite 992...
10000009	Carol Day	michaelsanford@curry-bowers.info	4235849688	PSC 3492, Box 2652 APO A...
10000010	Zachary Rich	agrimes@harper.info	2404993028	0367 Hurley Haven Suite 82...
10000011	Erin Phillips	ewaters@hotmail.com	3744827255	07479 Cooper Hollow Suite ...
10000012	Kimberly Fleming	wturner@bryant.org	3990400204	0788 Michael Stream East T...
10000013	Kristen Dickerson	bjones@jenkins.com	7291196309	5784 Santiago Fall Apt. 922 ...
10000014	Deborah Sullivan	vbaker@wells.com	1378381950	90537 Joshua Plain Suite 05...
10000015	Keith Mitchell	kimberly30@oliver.com	6746783547	6906 Mccarthy Estates Julie...
NULL	NULL	NULL	NULL	NULL

2. TRADESPERSON

Creating table:

```
9  create table TRADESPERSON (
10 TID CHAR(8) NOT NULL PRIMARY KEY,
11 Name CHAR(40) NOT NULL,
12 Email CHAR(40) NOT NULL UNIQUE,
13 Phone_Number CHAR(15) NOT NULL,
14 Address CHAR(100) NOT NULL);
```



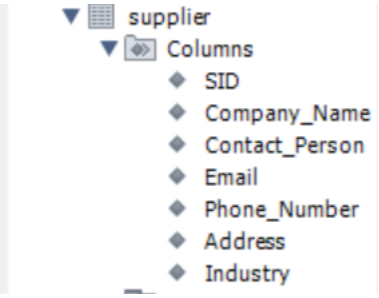
Inserting dummy data:

TID	Name	Email	Phone_Number	Address
20000001	John Smith	johnsmith@example.com	1234567890	123 Main St, Springfield, IL
20000002	Alice Johnson	alicejohnson@example.com	0987654321	456 Elm St, Austin, TX
20000003	Bob Williams	bobwilliams@example.com	9876543210	789 Oak St, Miami, FL
20000004	Emily Davis	emilydavis@example.com	6543210987	321 Pine St, Denver, CO
20000005	Michael Brown	michaelbrown@example.com	3216549870	654 Cedar St, Boston, MA
20000006	Jessica Wilson	jessicawilson@example.com	8527419630	852 Maple St, Seattle, WA
20000007	Daniel Moore	danielmoore@example.com	9638527410	951 Birch St, Phoenix, AZ
20000008	Sophia Taylor	sophiataylor@example.com	7539518520	357 Walnut St, Chicago, IL
20000009	David Anderson	davidanderson@example.com	1593572840	159 Chestnut St, Dallas, TX
20000010	Grace Thomas	gracethomas@example.com	7531598426	258 Spruce St, Atlanta, GA
20000011	Jacob Harris	jacobharris@example.com	8529637410	951 Redwood St, San Fran...
20000012	Isabella Clark	isabellaclark@example.com	9518527416	357 Cypress St, New York,...
20000013	James Lewis	jameslewis@example.com	1597534860	159 Fir St, Los Angeles, CA
20000014	Olivia Martin	oliviamartin@example.com	7531598642	258 Poplar St, Houston, TX
20000015	William Lee	williamlee@example.com	8527419635	951 Palm St, Philadelphia, PA
NULL	NULL	NULL	NULL	NULL

3. SUPPLIER

Creating table:

```
15 • create table SUPPLIER (
16     SID CHAR(8) NOT NULL PRIMARY KEY,
17     Company_Name CHAR(40) NOT NULL,
18     Contact_Person CHAR(40) NOT NULL,
19     Email CHAR(100) NOT NULL UNIQUE,
20     Phone_Number CHAR(15) NOT NULL,
21     Address CHAR(100) NOT NULL,
22     Industry VARCHAR(40) NOT NULL);
```



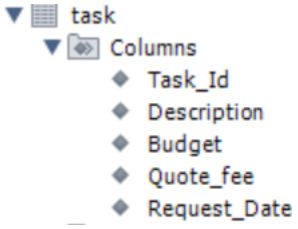
Inserting dummy data:

SID	Company_Name	Contact_Person	Email	Phone_Number	Address	Industry
30000001	Global Supplies	John Doe	johndoe@globalsupplies.com	1234567890	123 Market St, Springfield, IL	Retail
30000002	Tech Innovators	Alice Smith	alicesmith@techinnovators.com	0987654321	456 Innovation Blvd, Austin, TX	Technology
30000003	Green Energy Solutions	Bob Johnson	bobjohnson@greenenergy.com	9876543210	789 Solar Way, Miami, FL	Energy
30000004	Blue Ocean Trading	Emily White	emilywhite@blueoceantrading.com	6543210987	321 Harbor St, Denver, CO	Trading
30000005	Peak Performance Equipment	Michael Brown	michaelbrown@peakperformance.com	3216549870	654 Mountain Rd, Boston, MA	Manufacturing
30000006	Urban Builders	Jessica Green	jessicagreen@urbanbuilders.com	8527419630	852 City Ave, Seattle, WA	Construction
30000007	EcoFriendly Packaging	Daniel Black	danielblack@ecofriendlypackaging.com	9638527410	951 Recycle Ln, Phoenix, AZ	Packaging
30000008	Smart Home Tech	Sophia Blue	sophiablue@smarthometech.com	7539518520	357 Automation St, Chicago, IL	Technology
30000009	Clear Water Corp	David Green	davidgreen@clearwater.com	1593572840	159 River Rd, Dallas, TX	Water Treatment
30000010	Global Foods	Grace King	graceking@globalfoods.com	7531598426	258 Gourmet Ave, Atlanta, GA	Food
30000011	Prime Electronics	Jacob White	jacobwhite@primeelectronics.com	8529637410	951 Circuit St, San Francisco, CA	Electronics
30000012	Urban Fashion	Isabella Brown	isabellabrown@urbanfashion.com	9518527416	357 Style St, New York, NY	Fashion
30000013	Fast Logistics	James Stone	jamesstone@fastlogistics.com	1597534860	159 Cargo Ln, Los Angeles, CA	Logistics
30000014	Pro Builders	Olivia Green	oliviagreen@probuilders.com	7531598642	258 Contractor Blvd, Houston,...	Construction
30000015	NextGen Materials	William Red	williamred@nextgenmaterials.com	8527419635	951 Industrial St, Philadelphia, ...	Materials
NULL	NULL	NULL	NULL	NULL	NULL	NULL

4. TASK

Creating table:

```
23 • create table TASK (
24     Task_Id CHAR(8) NOT NULL PRIMARY KEY,
25     Description CHAR(255) NOT NULL,
26     Budget DECIMAL(10, 2) NOT NULL,
27     Quote_fee DECIMAL(10, 2) NOT NULL,
28     Request_Date DATE NOT NULL);
```



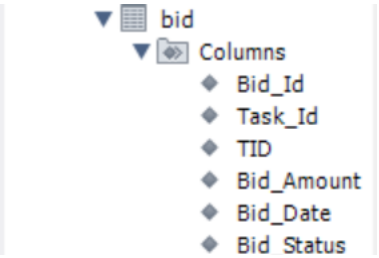
Inserting dummy data:

Task_Id	Description	Budget	Quote_fee	Request_Date
40000001	Fix plumbing in the bathroom	3750000.00	25000.00	2024-01-15
40000002	Install new lighting in the kitchen	7500000.00	25000.00	2024-01-20
40000003	Paint the living room	4500000.00	25000.00	2024-01-25
40000004	Build a new deck in the backyard	18000000.00	25000.00	2024-02-01
40000005	Install security cameras	12000000.00	25000.00	2024-02-10
40000006	Repair roof leaks	14250000.00	25000.00	2024-02-15
40000007	Replace kitchen cabinets	22500000.00	25000.00	2024-02-20
40000008	Tile the bathroom floor	9000000.00	25000.00	2024-02-25
40000009	Install hardwood flooring in the living room	27000000.00	25000.00	2024-03-01
40000010	Assemble furniture	3000000.00	25000.00	2024-03-05
40000011	Fix electrical outlets	2250000.00	25000.00	2024-03-10
40000012	Install a new fence	15000000.00	25000.00	2024-03-15
40000013	Repair broken windows	6750000.00	25000.00	2024-03-20
40000014	Install sprinkler system	13500000.00	25000.00	2024-03-25
40000015	Landscape the front yard	30000000.00	25000.00	2024-03-30
NULL	NULL	NULL	NULL	NULL

5. BID

Creating table:

```
105  create table BID (
106      Bid_Id CHAR(8) NOT NULL PRIMARY KEY,
107      Task_Id CHAR(8),
108      TID CHAR(8),
109      Bid_Amount DECIMAL(10, 2) NOT NULL,
110      Bid_Date DATE NOT NULL,
111      Bid_Status CHAR(20) NOT NULL,
112      FOREIGN KEY (Task_Id) REFERENCES TASK(Task_Id),
113      FOREIGN KEY (TID) REFERENCES TRADESPERSON(TID));
```



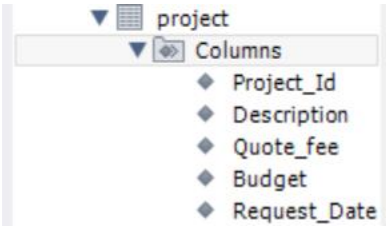
Inserting dummy data:

Bid_Id	Task_Id	TID	Bid_Amount	Bid_Date	Bid_Status
50000001	40000001	20000001	3000000.00	2024-01-16	Pending
50000002	40000002	20000002	6000000.00	2024-01-21	Accepted
50000003	40000003	20000003	4000000.00	2024-01-26	Rejected
50000004	40000004	20000004	14000000.00	2024-02-02	Pending
50000005	40000005	20000005	9000000.00	2024-02-11	Accepted
50000006	40000006	20000006	10500000.00	2024-02-16	Pending
50000007	40000007	20000007	17500000.00	2024-02-21	Rejected
50000008	40000008	20000008	8000000.00	2024-02-26	Pending
50000009	40000009	20000009	22000000.00	2024-03-02	Accepted
50000010	40000010	20000010	2500000.00	2024-03-06	Pending
50000011	40000011	20000011	1800000.00	2024-03-11	Pending
50000012	40000012	20000012	12500000.00	2024-03-16	Rejected
50000013	40000013	20000013	5500000.00	2024-03-21	Accepted
50000014	40000014	20000014	11500000.00	2024-03-26	Pending
50000015	40000015	20000015	26000000.00	2024-03-31	Accepted
NULL	NULL	NULL	NULL	NULL	NULL

6. PROJECT

Creating table:

```
133 • create table PROJECT (
134     Project_Id CHAR(8) NOT NULL PRIMARY KEY,
135     Description CHAR(255) NOT NULL,
136     Quote_fee DECIMAL(10, 2) NOT NULL,
137     Budget DECIMAL(10, 2) NOT NULL,
138     Request_Date DATE NOT NULL);
```



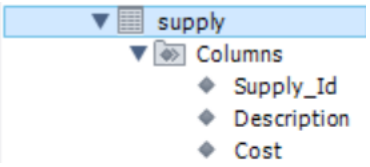
Inserting dummy data:

Project_Id	Description	Quote_fee	Budget	Request_Date
60000001	Renovate kitchen	25000.00	15000000.00	2024-01-10
60000002	Build a new garage	25000.00	20000000.00	2024-01-15
60000003	Install solar panels	25000.00	12000000.00	2024-01-20
60000004	Remodel bathroom	25000.00	8000000.00	2024-01-25
60000005	Construct a swimming pool	25000.00	30000000.00	2024-02-01
60000006	Add a guest house	25000.00	18000000.00	2024-02-05
60000007	Replace windows throughout the house	25000.00	10000000.00	2024-02-10
60000008	Build a fence around the property	25000.00	7000000.00	2024-02-15
60000009	Install smart home system	25000.00	5000000.00	2024-02-20
60000010	Repaint the exterior of the house	25000.00	4000000.00	2024-02-25
60000011	Design and landscape the garden	25000.00	15000000.00	2024-03-01
60000012	Add a second floor to the house	25000.00	25000000.00	2024-03-05
60000013	Expand the living room	25000.00	12000000.00	2024-03-10
60000014	Upgrade the plumbing system	25000.00	9000000.00	2024-03-15
60000015	Install an outdoor kitchen	25000.00	8500000.00	2024-03-20
NULL	NULL	NULL	NULL	NULL

7. SUPPLY

Creating table:

```
158 • create table SUPPLY (
159     Supply_Id CHAR(8) NOT NULL PRIMARY KEY,
160     Description CHAR(255) NOT NULL,
161     Cost DECIMAL(10, 2) NOT NULL);
```



Inserting dummy data:

Supply_Id	Description	Cost
70000001	Cement Bags (50kg)	50000.00
70000002	Wood Planks (per piece)	75000.00
70000003	Electrical Wiring (per meter)	20000.00
70000004	Roofing Sheets (per piece)	150000.00
70000005	Bricks (per 100 units)	100000.00
70000006	PVC Pipes (per meter)	50000.00
70000007	Tiles (per square meter)	90000.00
70000008	Glass Windows (per square meter)	300000.00
70000009	Paint (20L can)	250000.00
70000010	Nails (per kg)	20000.00
70000011	Steel Bars (per meter)	120000.00
70000012	Sand (per cubic meter)	150000.00
70000013	Gravel (per cubic meter)	180000.00
70000014	Concrete Mix (per cubic meter)	250000.00
70000015	Doors (per unit)	350000.00
NULL	NULL	NULL

8. MEMBERSHIP

Creating table:

```
181  create table MEMBERSHIP (
182      Membership_Id CHAR(8) NOT NULL PRIMARY KEY,
183      Membership_Name CHAR(100) NOT NULL);
```

Inserting dummy data:

Membership_Id	Membership_Name
80000001	Basic Membership
80000002	Standard Membership
80000003	Premium Membership
80000004	Gold Membership
80000005	Platinum Membership
80000006	Enterprise Membership
80000007	Freelancer Membership
80000008	Small Business Membership
80000009	Corporate Membership
80000010	Non-Profit Membership
80000011	Educational Membership
80000012	Healthcare Membership
80000013	VIP Membership
80000014	Exclusive Membership
80000015	Partner Membership
NULL	NULL

9. PROVIDER

Creating table:

```
203 • create table PROVIDER (
204     Provider_Id CHAR(8) NOT NULL PRIMARY KEY,
205     Provider_Name CHAR(40) NOT NULL,
206     Contact_Person CHAR(40) NOT NULL,
207     Email CHAR(40) NOT NULL UNIQUE,
208     Phone_Number CHAR(15) NOT NULL,
209     Address CHAR(100) NOT NULL,
210     Service_type CHAR(50) NOT NULL);
```

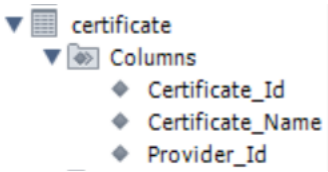
Inserting dummy data:

Provider_Id	Provider_Name	Contact_Person	Email	Phone_Number	Address	Service_type
90000001	SkillUp Training	John Doe	johndoe@skillup.com	1234567890	123 Main St, Springfield, IL	Training
90000002	Certify Now	Alice Johnson	alicej@certifynow.com	0987654321	456 Elm St, Austin, TX	Skill Assessment
90000003	Pro Skills Academy	Bob Smith	bobsmith@proskills.com	9876543210	789 Oak St, Miami, FL	Training
90000004	Elite Certifications	Emily White	emilywhite@elitecert.com	6543210987	321 Pine St, Denver, CO	Skill Assessment
90000005	Next Level Learning	Michael Brown	michaelbrown@nll.com	3216549870	654 Cedar St, Boston, MA	Training
90000006	CertPro Services	Jessica Green	jgreen@certpro.com	8527419630	852 Maple St, Seattle, WA	Skill Assessment
90000007	TechCert Academy	Daniel Moore	danielmoore@techcert.com	9638527410	951 Birch St, Phoenix, AZ	Training
90000008	Professional Growth	Sophia Taylor	sophiataylor@progrowth.com	7539518520	357 Walnut St, Chicago, IL	Training
90000009	Assessment Hub	David Anderson	davidanderson@assessmenthub.com	1593572840	159 Chestnut St, Dallas, TX	Skill Assessment
90000010	SkillCerts	Grace Thomas	gracethomas@skillcerts.com	7531598426	258 Spruce St, Atlanta, GA	Training
90000011	ProCert	Jacob Harris	jacobharris@procert.com	8529637410	951 Redwood St, San Fran...	Skill Assessment
90000012	Certified Solutions	Isabella Clark	isabellaclark@certsolutions.com	9518527416	357 Cypress St, New York,...	Training
90000013	Academy of Skills	James Lewis	jameslewis@academyofskills.com	1597534860	159 Fir St, Los Angeles, CA	Skill Assessment
90000014	GrowthCert	Olivia Martin	oliviamartin@growthcert.com	7531598642	258 Poplar St, Houston, TX	Training
90000015	CertMasters	William Lee	williamlee@certmasters.com	8527419635	951 Palm St, Philadelphia, PA	Skill Assessment
NULL	NULL	NULL	NULL	NULL	NULL	NULL

10. CERTIFICATE

Creating table:

```
230 • create table CERTIFICATE (
231     Certificate_Id CHAR(9) NOT NULL PRIMARY KEY,
232     Certificate_Name CHAR(100) NOT NULL,
233     Provider_Id CHAR(8),
234     FOREIGN KEY (Provider_Id) REFERENCES PROVIDER(Provider_Id));
```



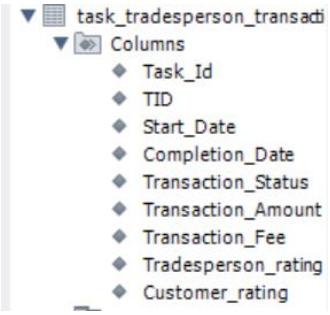
Inserting dummy data:

Certificate_Id	Certificate_Name	Provider_Id
110000001	Advanced Plumbing Certification	90000001
110000002	Electrician Level 1 Certification	90000002
110000003	HVAC Specialist Certification	90000003
110000004	Carpentry Master Certification	90000004
110000005	Certified Home Renovator	90000005
110000006	Painting & Decorating Certification	90000006
110000007	Roofing Specialist Certification	90000007
110000008	Landscaping Professional Certification	90000008
110000009	Certified Solar Panel Installer	90000009
110000010	Smart Home Installation Certification	90000010
110000011	Certified Construction Manager	90000011
110000012	Interior Design Certification	90000012
110000013	Certified Masonry Specialist	90000013
110000014	Waterproofing Specialist Certification	90000014
110000015	Certified Green Builder	90000015
NULL	NULL	NULL

11. TASK_TRADESPERSON TRANSACTION

Creating table:

```
254 • create table TASK_TRADESPERSON_TRANSACTION (
255   Task_Id CHAR(8),
256   TID CHAR(8),
257   Start_Date DATE NOT NULL,
258   Completion_Date DATE,
259   Transaction_Status CHAR(20) NOT NULL,
260   Transaction_Amount DECIMAL(10, 2) NOT NULL,
261   Transaction_Fee DECIMAL(10, 2) NOT NULL,
262   Tradesperson_rating INT CHECK (Tradesperson_rating BETWEEN 1 AND 5),
263   Customer_rating INT CHECK (Customer_rating BETWEEN 1 AND 5),
264   FOREIGN KEY (Task_Id) REFERENCES TASK(Task_Id),
265   FOREIGN KEY (TID) REFERENCES TRADESPERSON(TID),
266   PRIMARY KEY (Task_Id, TID));
```



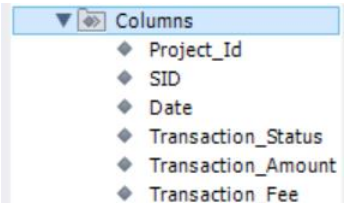
Inserting dummy data:

Task_Id	TID	Start_Date	Completion_Date	Transaction_Status	Transaction_Amount	Transaction_Fee	Tradesperson_rating	Customer_rating
40000001	20000001	2024-01-16	2024-01-20	Completed	3500000.00	1750.00	5	4
40000002	20000002	2024-01-21	2024-01-25	Completed	8000000.00	4000.00	4	5
40000003	20000003	2024-01-26	2024-01-30	Completed	5000000.00	2500.00	5	5
40000004	20000004	2024-02-02	2024-02-06	Completed	15000000.00	7500.00	4	4
40000005	20000005	2024-02-11	2024-02-15	Completed	10000000.00	5000.00	3	4
40000006	20000006	2024-02-16	2024-02-20	Pending	12000000.00	6000.00	NULL	NULL
40000007	20000007	2024-02-21	2024-02-25	Pending	18000000.00	9000.00	NULL	NULL
40000008	20000008	2024-02-26	2024-03-01	Completed	9000000.00	4500.00	5	5
40000009	20000009	2024-03-02	2024-03-06	Completed	23000000.00	11500.00	4	4
40000010	20000010	2024-03-06	2024-03-10	Completed	3500000.00	1750.00	4	5
40000011	20000011	2024-03-11	2024-03-15	Pending	2000000.00	1000.00	NULL	NULL
40000012	20000012	2024-03-16	2024-03-20	Completed	13000000.00	6500.00	5	4
40000013	20000013	2024-03-21	2024-03-25	Completed	6000000.00	3000.00	4	5
40000014	20000014	2024-03-26	2024-03-30	Completed	12500000.00	6250.00	5	5
40000015	20000015	2024-03-31	2024-04-04	Pending	27000000.00	13500.00	NULL	NULL
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

12. PROJECT_SUPPLIER TRANSACTION

Creating table:

```
create table PROJECT_SUPPLIER_TRANSACTION (
Project_Id CHAR(8),
SID CHAR(8),
Date DATE NOT NULL,
Transaction_Status CHAR(20) NOT NULL,
Transaction_Amount DECIMAL(10, 2) NOT NULL,
Transaction_Fee DECIMAL(10, 2) NOT NULL,
FOREIGN KEY (Project_Id) REFERENCES PROJECT(Project_Id),
FOREIGN KEY (SID) REFERENCES SUPPLIER(SID),
PRIMARY KEY (Project_Id, SID));
```



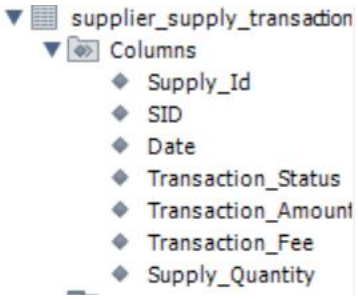
Inserting dummy data:

Project_Id	SID	Date	Transaction_Status	Transaction_Amount	Transaction_Fee
60000001	30000001	2024-01-10	Completed	15000000.00	7500.00
60000002	30000002	2024-01-15	Completed	20000000.00	10000.00
60000003	30000003	2024-01-20	Pending	12000000.00	6000.00
60000004	30000004	2024-01-25	Completed	8000000.00	4000.00
60000005	30000005	2024-02-01	Completed	30000000.00	15000.00
60000006	30000006	2024-02-05	Pending	18000000.00	9000.00
60000007	30000007	2024-02-10	Completed	10000000.00	5000.00
60000008	30000008	2024-02-15	Pending	7000000.00	3500.00
60000009	30000009	2024-02-20	Completed	5000000.00	2500.00
60000010	30000010	2024-02-25	Completed	4000000.00	2000.00
60000011	30000011	2024-03-01	Completed	15000000.00	7500.00
60000012	30000012	2024-03-05	Completed	25000000.00	12500.00
60000013	30000013	2024-03-10	Pending	12000000.00	6000.00
60000014	30000014	2024-03-15	Completed	9000000.00	4500.00
60000015	30000015	2024-03-20	Pending	8500000.00	4250.00
NULL	NULL	NULL	NULL	NULL	NULL

13. SUPPLIER_SUPPLY TRANSACTION

Creating table:

```
create table SUPPLIER_SUPPLY_TRANSACTION (
Supply_Id CHAR(8),
SID CHAR(8),
Date DATE NOT NULL,
Transaction_Status CHAR(20) NOT NULL,
Transaction_Amount DECIMAL(10, 2) NOT NULL,
Transaction_Fee DECIMAL(10, 2) NOT NULL,
Supply_Quantity INT NOT NULL,
FOREIGN KEY (Supply_Id) REFERENCES SUPPLY(Supply_Id),
FOREIGN KEY (SID) REFERENCES SUPPLIER(SID),
PRIMARY KEY (SID, Supply_Id));
```



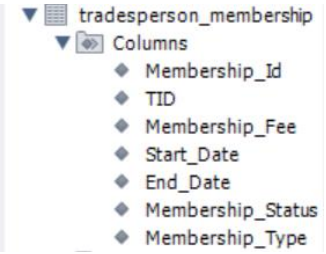
Inserting dummy data:

Supply_Id	SID	Date	Transaction_Status	Transaction_Amount	Transaction_Fee	Supply_Quantity
70000001	30000001	2024-01-05	Completed	500000.00	250.00	10
70000002	30000002	2024-01-10	Completed	750000.00	375.00	10
70000003	30000003	2024-01-15	Pending	400000.00	200.00	20
70000004	30000004	2024-01-20	Completed	1500000.00	750.00	10
70000005	30000005	2024-01-25	Completed	1000000.00	500.00	10
70000006	30000006	2024-02-01	Pending	500000.00	250.00	5
70000007	30000007	2024-02-05	Completed	900000.00	450.00	10
70000008	30000008	2024-02-10	Pending	3000000.00	1500.00	20
70000009	30000009	2024-02-15	Completed	2500000.00	1250.00	10
70000010	30000010	2024-02-20	Completed	200000.00	100.00	2
70000011	30000011	2024-02-25	Completed	1200000.00	600.00	10
70000012	30000012	2024-03-01	Completed	1500000.00	750.00	12
70000013	30000013	2024-03-05	Pending	1800000.00	900.00	15
70000014	30000014	2024-03-10	Completed	2500000.00	1250.00	10
70000015	30000015	2024-03-15	Pending	3500000.00	1750.00	20
NULL	NULL	NULL	NULL	NULL	NULL	NULL

14. TRADESPERSON_MEMBERSHIP

Creating table:

```
345 • create table TRADESPERSON_MEMBERSHIP (
346   Membership_Id CHAR(8),
347   TID CHAR(8),
348   Membership_Fee DECIMAL(10, 2) NOT NULL,
349   Start_Date DATE NOT NULL,
350   End_Date DATE,
351   Membership_Status CHAR(20) NOT NULL,
352   Membership_Type CHAR(50) NOT NULL,
353   FOREIGN KEY (TID) REFERENCES TRADESPERSON(TID),
354   FOREIGN KEY (Membership_Id) REFERENCES MEMBERSHIP(Membership_Id),
355   PRIMARY KEY (TID, Membership_Id));
```



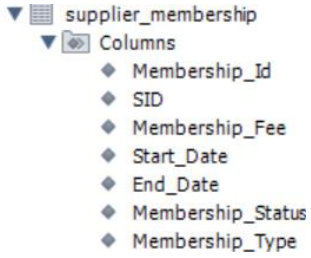
Inserting dummy data:

Membership_Id	TID	Membership_Fee	Start_Date	End_Date	Membership_Status	Membership_Type
80000001	20000001	100000.00	2024-01-01	2024-12-31	Active	Basic Membership
80000002	20000002	150000.00	2024-02-01	2025-01-31	Active	Standard Membership
80000003	20000003	200000.00	2024-03-01	2025-02-28	Active	Premium Membership
80000004	20000004	250000.00	2024-04-01	2025-03-31	Active	Gold Membership
80000005	20000005	300000.00	2024-05-01	2025-04-30	Active	Platinum Membership
80000006	20000006	350000.00	2024-06-01	2025-05-31	Pending	Enterprise Membership
80000007	20000007	120000.00	2024-07-01	2025-06-30	Active	Freelancer Membership
80000008	20000008	180000.00	2024-08-01	2025-07-31	Pending	Small Business Membership
80000009	20000009	220000.00	2024-09-01	2025-08-31	Active	Corporate Membership
80000010	20000010	270000.00	2024-10-01	2025-09-30	Pending	Non-Profit Membership
80000011	20000011	100000.00	2024-01-15	2025-01-14	Active	Educational Membership
80000012	20000012	150000.00	2024-02-15	2025-02-14	Active	Healthcare Membership
80000013	20000013	200000.00	2024-03-15	2025-03-14	Pending	VIP Membership
80000014	20000014	250000.00	2024-04-15	2025-04-14	Active	Exclusive Membership
80000015	20000015	300000.00	2024-05-15	2025-05-14	Active	Partner Membership
NULL	NULL	NULL	NULL	NULL	NULL	NULL

15. SUPPLIER_MEMBERSHIP

Creating table:

```
375 • create table SUPPLIER_MEMBERSHIP (
376   Membership_Id CHAR(8),
377   SID CHAR(8),
378   Membership_Fee DECIMAL(10, 2) NOT NULL,
379   Start_Date DATE NOT NULL,
380   End_Date DATE,
381   Membership_Status CHAR(20) NOT NULL,
382   Membership_Type CHAR(50) NOT NULL,
383   FOREIGN KEY (SID) REFERENCES SUPPLIER(SID),
384   FOREIGN KEY (Membership_Id) REFERENCES MEMBERSHIP(Membership_Id),
385   PRIMARY KEY (SID, Membership_Id));
```



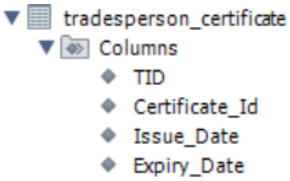
Inserting dummy data:

Membership_Id	SID	Membership_Fee	Start_Date	End_Date	Membership_Status	Membership_Type
80000001	30000001	200000.00	2024-01-01	2024-12-31	Active	Basic Membership
80000002	30000002	300000.00	2024-02-01	2025-01-31	Active	Standard Membership
80000003	30000003	400000.00	2024-03-01	2025-02-28	Active	Premium Membership
80000004	30000004	500000.00	2024-04-01	2025-03-31	Active	Gold Membership
80000005	30000005	600000.00	2024-05-01	2025-04-30	Active	Platinum Membership
80000006	30000006	250000.00	2024-06-01	2025-05-31	Pending	Enterprise Membership
80000007	30000007	220000.00	2024-07-01	2025-06-30	Active	Freelancer Membership
80000008	30000008	350000.00	2024-08-01	2025-07-31	Pending	Small Business Membership
80000009	30000009	450000.00	2024-09-01	2025-08-31	Active	Corporate Membership
80000010	30000010	300000.00	2024-10-01	2025-09-30	Pending	Non-Profit Membership
80000011	30000011	280000.00	2024-01-15	2025-01-14	Active	Educational Membership
80000012	30000012	340000.00	2024-02-15	2025-02-14	Active	Healthcare Membership
80000013	30000013	360000.00	2024-03-15	2025-03-14	Pending	VIP Membership
80000014	30000014	500000.00	2024-04-15	2025-04-14	Active	Exclusive Membership
80000015	30000015	550000.00	2024-05-15	2025-05-14	Active	Partner Membership
NULL	NULL	NULL	NULL	NULL	NULL	NULL

16. TRADESPERSON_CERTIFICATE

Creating table:

```
405 • create table TRADESPERSON_CERTIFICATE (
406   TID CHAR(8),
407   Certificate_Id CHAR(9),
408   Issue_Date DATE NOT NULL,
409   Expiry_Date DATE,
410   FOREIGN KEY (TID) REFERENCES TRADESPERSON(TID),
411   FOREIGN KEY (Certificate_Id) REFERENCES CERTIFICATE(Certificate_Id),
412   PRIMARY KEY (TID, Certificate_Id));
413
```



Inserting dummy data:

TID	Certificate_Id	Issue_Date	Expiry_Date
20000001	110000001	2024-01-01	2026-01-01
20000002	110000002	2024-02-01	2026-02-01
20000003	110000003	2024-03-01	2026-03-01
20000004	110000004	2024-04-01	2026-04-01
20000005	110000005	2024-05-01	2026-05-01
20000006	110000006	2024-06-01	2026-06-01
20000007	110000007	2024-07-01	2026-07-01
20000008	110000008	2024-08-01	2026-08-01
20000009	110000009	2024-09-01	2026-09-01
20000010	110000010	2024-10-01	2026-10-01
20000011	110000011	2024-11-01	2026-11-01
20000012	110000012	2024-12-01	2026-12-01
20000013	110000013	2024-01-15	2026-01-15
20000014	110000014	2024-02-15	2026-02-15
20000015	110000015	2024-03-15	2026-03-15
NULL	NULL	NULL	NULL

BUSINESS QUESTION QUERY

1. **What is the average transaction fee per completed task?**

```
432 •   SELECT AVG(Transaction_Fee) AS Avg_Transaction_Fee
433     FROM TASK_TRADESPERSON_TRANSACTION
434     WHERE Transaction_Status = 'Completed';
435
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Avg_Transaction_Fee
4931.818182

This query shows the average transaction fee for completed tasks, which helps understand the cost customers incur per transaction. The COO can review transaction fee structures and consider offering discounts or reducing the percentage fee for high-frequency customers to encourage more engagement.

2. **Which membership type is most popular among tradespeople, and what is the average membership fee paid?**

```
436 •   SELECT Membership_Type, COUNT(*) AS Num_Tradespeople, AVG(Membership_Fee) AS Avg_Membership_Fee
437     FROM TRADESPERSON_MEMBERSHIP
438     GROUP BY Membership_Type
439     ORDER BY Num_Tradespeople DESC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Membership_Type	Num_Tradespeople	Avg_Membership_Fee
Basic Membership	1	100000.000000
Standard Membership	1	150000.000000
Premium Membership	1	200000.000000
Gold Membership	1	250000.000000
Platinum Membership	1	300000.000000
Enterprise Membership	1	350000.000000
Freelancer Membership	1	120000.000000
Small Business Membership	1	180000.000000
Corporate Membership	1	220000.000000
Non-Profit Membership	1	270000.000000
Educational Membership	1	100000.000000
Healthcare Membership	1	150000.000000
VIP Membership	1	200000.000000
Exclusive Membership	1	250000.000000
Partner Membership	1	300000.000000

This query identifies the most popular membership types and the average fee paid by tradespeople. The COO can consider bundling discounts or additional benefits for the most popular membership types, or encourage tradespeople to upgrade to higher-tier memberships by highlighting benefits.

3. **How many suppliers are enrolled in each membership type?**

```
441 •   SELECT Membership_Type, COUNT(*) AS Num_Suppliers
442     FROM SUPPLIER_MEMBERSHIP
443     GROUP BY Membership_Type;
444
```

Result Grid | Filter Rows: | Export: | Wrap Cell C

Membership_Type	Num_Suppliers
Basic Membership	1
Standard Membership	1
Premium Membership	1
Gold Membership	1
Platinum Membership	1
Enterprise Membership	1
Freelancer Membership	1
Small Business Membership	1
Corporate Membership	1
Non-Profit Membership	1
Educational Membership	1

This shows how many suppliers are using each membership type, which can indicate where most of the revenue is being generated from supplier memberships. The COO could consider adjusting membership pricing for less popular membership tiers or offer promotional rates to increase enrollment.

4. **What is the total amount spent by customers on completed projects?**

```
445 •   SELECT SUM(Transaction_Amount) AS Total_Amount_Spent
446     FROM PROJECT_SUPPLIER_TRANSACTION
447     WHERE Transaction_Status = 'Completed';
448
449
450
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Total_Amount_Spent
141000000.00

This shows the total expenditure of customers on completed projects, providing an understanding of customer spending behavior. The COO could explore ways to streamline supplier costs to reduce the total project cost for customers, thus making the platform more attractive.

5. **How many tradespeople have obtained certifications, and which certification is the most common?**

```
449 •   SELECT c.Certificate_Name, COUNT(*) AS Num_Tradespeople
450     FROM TRADESPERSON_CERTIFICATE tc
451     JOIN CERTIFICATE c ON tc.Certificate_Id = c.Certificate_Id
452     GROUP BY c.Certificate_Name
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Certificate_Name	Num_Tradespeople
Advanced Plumbing Certification	1
Electrician Level 1 Certification	1
HVAC Specialist Certification	1
Carpentry Master Certification	1
Certified Home Renovator	1
Painting & Decorating Certification	1
Roofing Specialist Certification	1
Landscaping Professional Certification	1
Certified Solar Panel Installer	1
Smart Home Installation Certification	1
Certified Construction Manager	1
Interior Design Certification	1
Certified Masonry Specialist	1
Waterproofing Specialist Certification	1
Certified Green Builder	1

This shows how many tradespeople have obtained certifications and identifies the most common certifications. The COO could promote certification programs for tradespeople by offering reduced certification costs or bundling certification with memberships, enhancing their qualifications and improving service quality.

6. **Which tasks have the highest budget and corresponding quote fees?**

```
455 •   SELECT Task_Id, Description, Budget, Quote_fee
456     FROM TASK
457     ORDER BY Budget DESC
458     LIMIT 10;
```

Result Grid | Filter Rows: | Edit: | Export/Import:

Task_Id	Description	Budget	Quote_fee
40000015	Landscape the front yard	30000000.00	25000.00
40000009	Install hardwood flooring in the living room	27000000.00	25000.00
40000007	Replace kitchen cabinets	22500000.00	25000.00
40000004	Build a new deck in the backyard	18000000.00	25000.00
40000012	Install a new fence	15000000.00	25000.00
40000006	Repair roof leaks	14250000.00	25000.00
40000014	Install sprinkler system	13500000.00	25000.00
40000005	Install security cameras	12000000.00	25000.00
40000008	Tile the bathroom floor	9000000.00	25000.00
40000002	Install new lighting in the kitchen	7500000.00	25000.00
NULL	NULL	NULL	NULL

This query returns the top 10 tasks with the highest budgets and corresponding quote fees, helping understand customer spending on high-budget tasks. The COO could consider offering promotions or package deals for customers frequently requesting high-budget tasks to incentivize further engagement.

7. **What is the customer satisfaction rating based on completed tasks?**

```
460 •   SELECT AVG(Customer_rating) AS Avg_Customer_Rating
461     FROM TASK_TRADESPERSON_TRANSACTION
462     WHERE Transaction_Status = 'Completed';
463
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Avg_Customer_Rating
4.5455

This gives the average customer satisfaction rating based on completed tasks, helping assess the quality of services provided. The COO should monitor this rating closely. If customer satisfaction is lower than desired, consider implementing quality improvement programs or offering training for tradespeople.

8. **What are the total costs incurred by suppliers for all supplies provided?**

```
464 •   SELECT SUM(Cost * Supply_Quantity) AS Total_Supply_Cost
465     FROM SUPPLIER_SUPPLY_TRANSACTION sst
466     JOIN SUPPLY s ON sst.Supply_Id = s.Supply_Id;
467
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Total_Supply_Cost
29040000.00

This provides the total cost incurred by suppliers for all supplies used in tasks and projects. The COO can work with suppliers to negotiate bulk pricing or reduce supply chain costs, which can then be passed on to customers as cost savings.

9. **Which tradespeople have completed the most tasks, and what is their average transaction fee?**

```
468 •   SELECT t.TID, t.Name, COUNT(ttt.Task_Id) AS Num_Tasks_Completed, AVG(ttt.Transaction_Fee) AS Avg_Transaction_Fee
469     FROM TRADESPERSON t
470     JOIN TASK_TRADESPERSON_TRANSACTION ttt ON t.TID = ttt.TID
471     WHERE ttt.Transaction_Status = 'Completed'
472     GROUP BY t.TID, t.Name
473     ORDER BY Num_Tasks_Completed DESC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

TID	Name	Num_Tasks_Completed	Avg_Transaction_Fee
20000001	John Smith	1	1750.000000
20000002	Alice Johnson	1	4000.000000
20000003	Bob Williams	1	2500.000000
20000004	Emily Davis	1	7500.000000
20000005	Michael Brown	1	5000.000000
20000008	Sophia Taylor	1	4500.000000
20000009	David Anderson	1	11500.000000
20000010	Grace Thomas	1	1750.000000
20000012	Isabella Clark	1	6500.000000
20000013	James Lewis	1	3000.000000
20000014	Olivia Martin	1	6250.000000

This shows which tradespeople are completing the most tasks and what their average transaction fee is. The COO can create an incentive program for top-performing tradespeople or offer discounts on membership renewals to encourage continued platform engagement.

10. **How many tasks and projects are requested but still pending completion?**

```
475 •   SELECT (SELECT COUNT(*) FROM TASK_TRADESPERSON_TRANSACTION WHERE Transaction_Status = 'Pending') AS Pending_Tasks,
476     (SELECT COUNT(*) FROM PROJECT_SUPPLIER_TRANSACTION WHERE Transaction_Status = 'Pending') AS Pending_Projects;
477
478
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Pending_Tasks	Pending_Projects
4	5

This provides the number of pending tasks and projects, showing the volume of work still in progress. The COO can investigate bottlenecks in task or project completion and explore ways to improve turnaround time, possibly by incentivizing quicker task completion or improving communication between customers and tradespeople/suppliers.

Conclusion

These queries offer a range of insights related to membership popularity, transaction fees, customer satisfaction, certification programs, and supply costs. Each insight can help the COO identify areas for cost reduction, improve efficiency, and enhance customer satisfaction as part of the new customer cost reduction strategy.