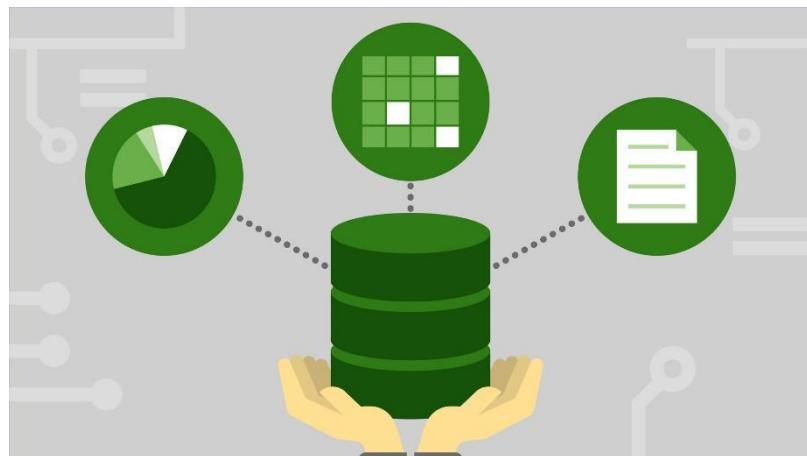




University of Tehran
University College of Engineering
School of Electrical and Computer
Engineering



Database Lab

Report 4

Student ID

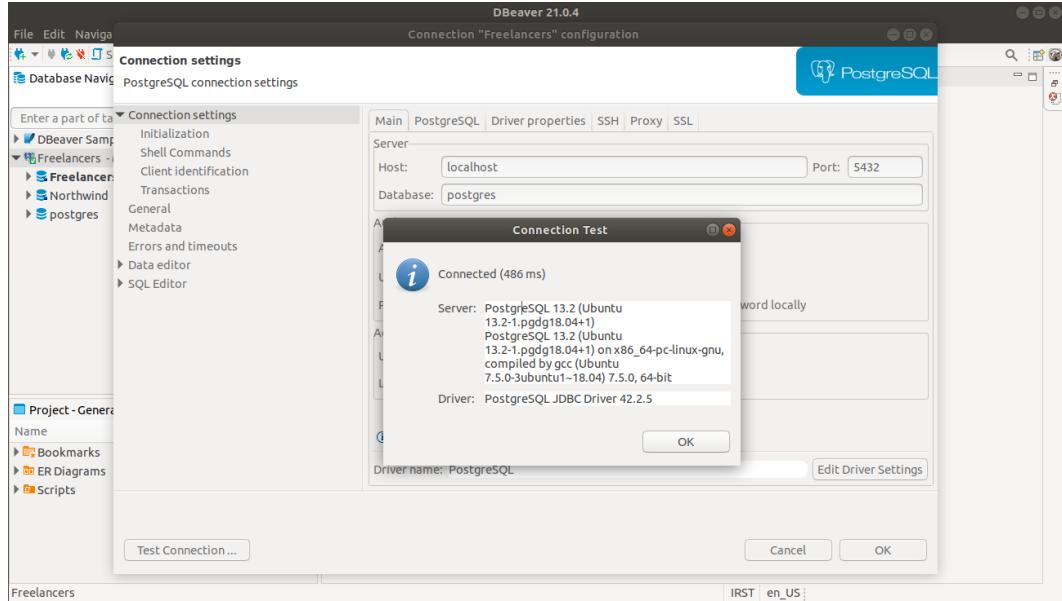
810196675

Spring 2021

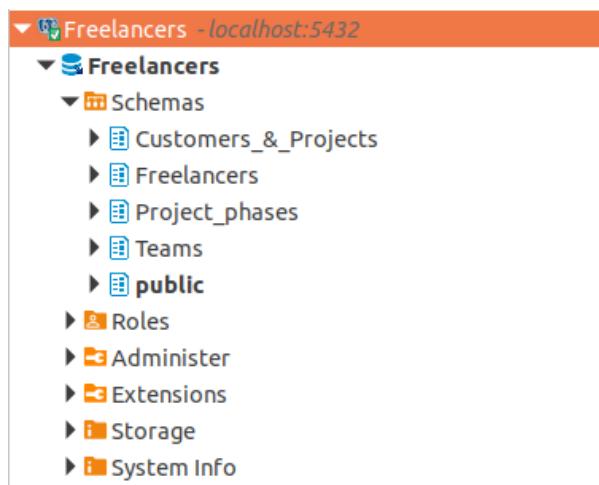
Ghazal Kalhor

Work with Postgres - Creating Database

Creating Database



Creating Tables



Tables of Freelancers Schema

Freelancer Table

Screenshot of DBeaver Database Navigator showing the properties of the 'freelancer' table.

Table Properties:

- Table Name: freelancer
- Object ID: 16471
- Tablespace: pg_default
- Owner: postgres
- Partition by: (empty)
- Comment: (empty)

Columns:

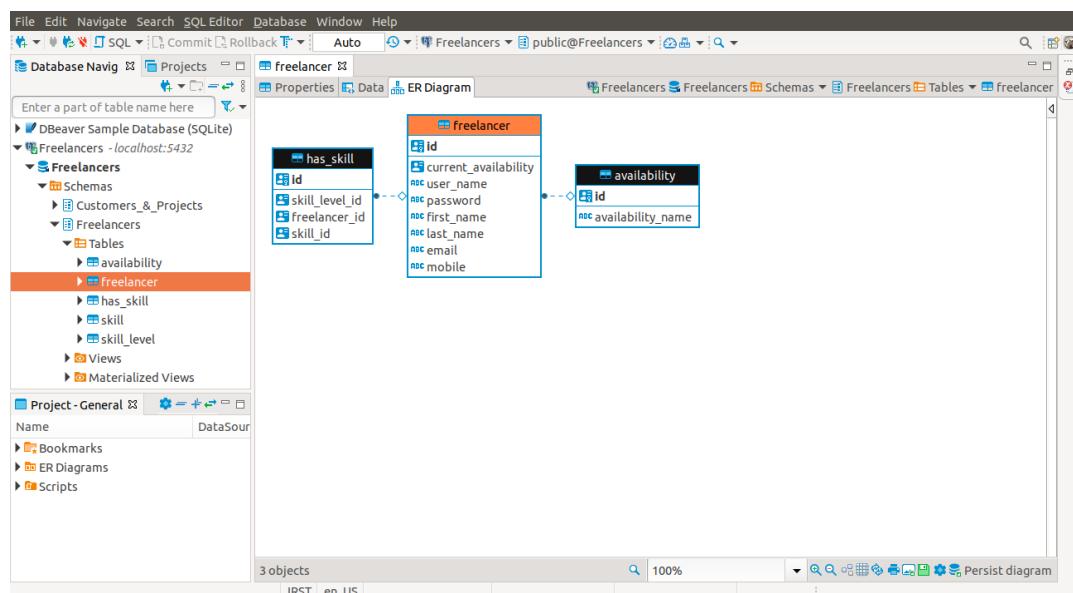
#	Column Name	Data type	Length	Precision	Scale	Identity	Collation
1	id	uuid					default
2	current_availability	uuid					default
3	user_name	varchar	64	64			default
5	first_name	varchar	64	64			default
6	last_name	varchar	64	64			default
4	password	varchar	255	255			default
8	email	varchar	255	255			default
7	mobile	varchar	255	255			default

Table Structure:

```

    +-----+-----+
    |   Freelancer   |
    +-----+-----+
    | id             |
    | current_availability |
    | user_name      |
    | password       |
    | first_name     |
    | last_name      |
    | email          |
    | mobile         |
    +-----+-----+
  
```

ER Diagram



Insertion

The screenshot shows the DBeaver SQL Editor interface. The main window displays the 'freelancer' table with the following data:

	<code>id</code>	<code>current_availability</code>	<code>user_name</code>	<code>password</code>	<code>first_name</code>	<code>last_name</code>	<code>email</code>	<code>mobile</code>
1	1310ce56-5cbb-44ae-9f8d	870d9c6f02c9-41d2-96	eliza	123	Eliza	Scarlet	eliza@gmail.com	4444
2	aa4511b7-8b20-442e-a41	07531851-47ed-43f1-ac	lee	1	Minho	Lee	minho@gmail.com	222
3	af566ea9-16af-4308-969b	74c234f8-d939-473f-86	IU	2	Ji-eun	Lee	iu@gmail.com	1111

Below the table, the status bar indicates "3 row(s) fetched - 7ms (+8ms)".

Availability Table

The screenshot shows the DBeaver Database Navigator interface. The main window displays the properties for the 'availability' table:

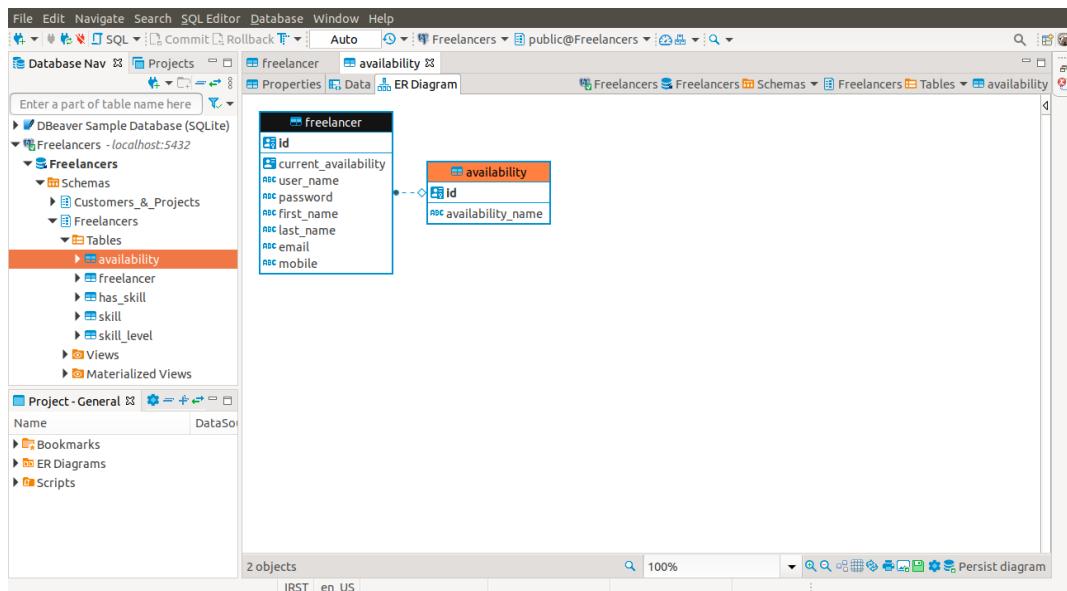
- Table Name:** availability
- Object ID:** 16391
- Tablespace:** pg_default
- Owner:** postgres
- Partition by:** (empty)
- Comment:** (empty)
- Extra Options:** (empty)

The table structure is shown in the 'Columns' section:

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
<code>availability_name</code>	2	varchar	64	64			default
<code>id</code>	3	uuid					

Below the table structure, the status bar indicates "2 items".

ER Diagram



Insertion

The screenshot shows the DBeaver Data Editor interface. The 'availability' table is selected in the 'Tables' section of the Database Navigator. The Data tab is active, showing a grid view of the table's data. The table has three rows:

	availability_name	id
1	unavailable	870d9c6f-02c9-41d2-960faae269e276d9
2	free	74c234f8-d939-473f-86c4-55aca64dd4d9
3	busy	07531851-47ed-43f1-aa18-ca86cf299f1b

At the bottom, there are buttons for Save, Cancel, Script, and various navigation controls. The status bar indicates '3 row(s) fetched - 2ms'.

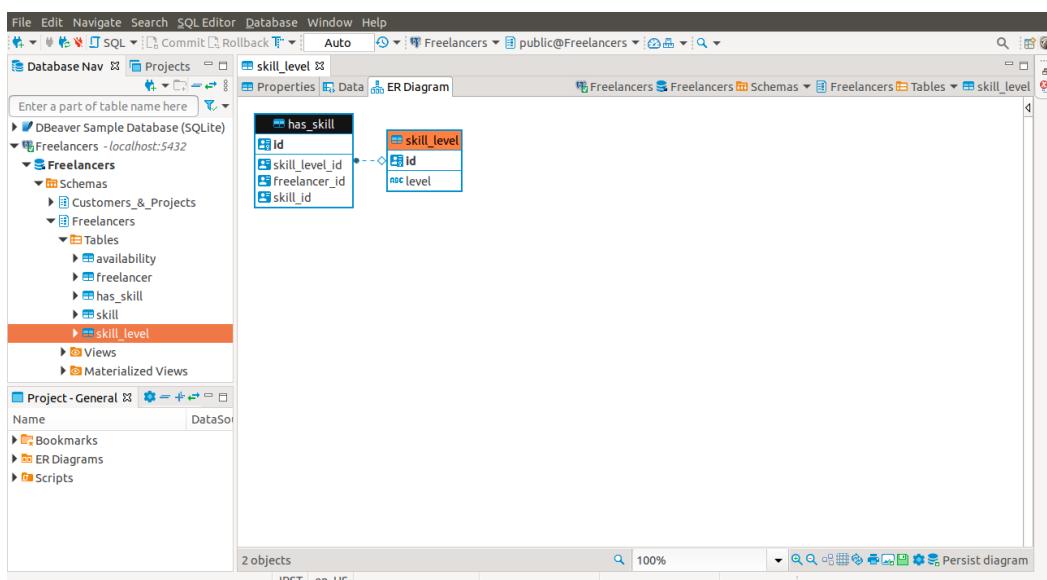
Skill_level Table

DBeaver Database Properties for skill_level table:

- Table Name:** skill_level
- Object ID:** 16435
- Owner:** postgres
- Tablespace:** pg_default
- Partition by:** [empty]
- Comment:** [empty]
- Columns:**

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
id	1	uuid					default
nec_level	2	varchar	32	32			

ER Diagram



Insertion

The screenshot shows the DBVisualizer interface with the 'skill_level' table selected in the 'Tables' section of the 'Freelancers' schema. The table has three columns: id, acc_level, and ncc_level. The data grid shows three rows:

	id	acc_level	ncc_level
1	5fb4b4ca-59b3-40be-90e9-7d109119d5a6	professional	
2	37c1925f-a894-4f76-b484-2cec495a1e9a	basic	
3	094c6562-b86b-412d-99be-04ef01bbf07c	mid	

Skill Table

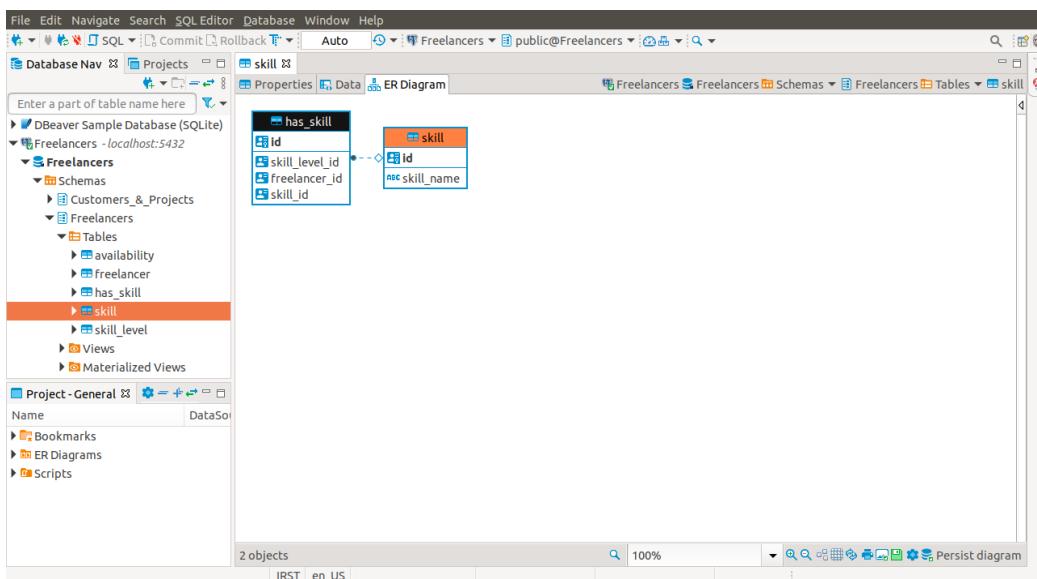
The screenshot shows the DBVisualizer interface with the 'skill' table selected in the 'Tables' section of the 'Freelancers' schema. The 'Properties' tab is active, displaying the following details:

- Table Name:** skill
- Object ID:** 16424
- Tablespace:** pg_default
- Owner:** postgres
- Partition by:** (empty)
- Comment:** (empty)
- Extra Options:** (empty)

The 'Columns' section shows the table structure:

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
id	1	uuid					default
acc_skill_name	2	varchar	64	64			

ER Diagram



Insertion

The screenshot shows the DBVisualizer interface with the 'skill' table open in Grid mode. The table has two columns: 'id' and 'skill_name'. The data grid shows three rows:

	id	skill_name
1	2910dcbb5-a70a-400f-b476-b711f6f7be90	front
2	9a12cb4f-b283-4245-ab2f-1eaeaa9e07fd	back
3	dae4bbff-a81b-4622-9681-0e40e369c19c	db

has_skill Table

Screenshot of the DBeaver Database Navigator showing the properties of the 'has_skill' table.

Table Properties:

- Table Name: has_skill
- Object ID: 16420
- Owner: postgres
- Tablespace: pg_default
- Partition by: (empty)
- Comment: (empty)
- Extra Options: (empty)

Columns:

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
id	1	uuid					
skill_level_id	5	uuid					
freelancer_id	7	uuid					
skill_id	8	uuid					

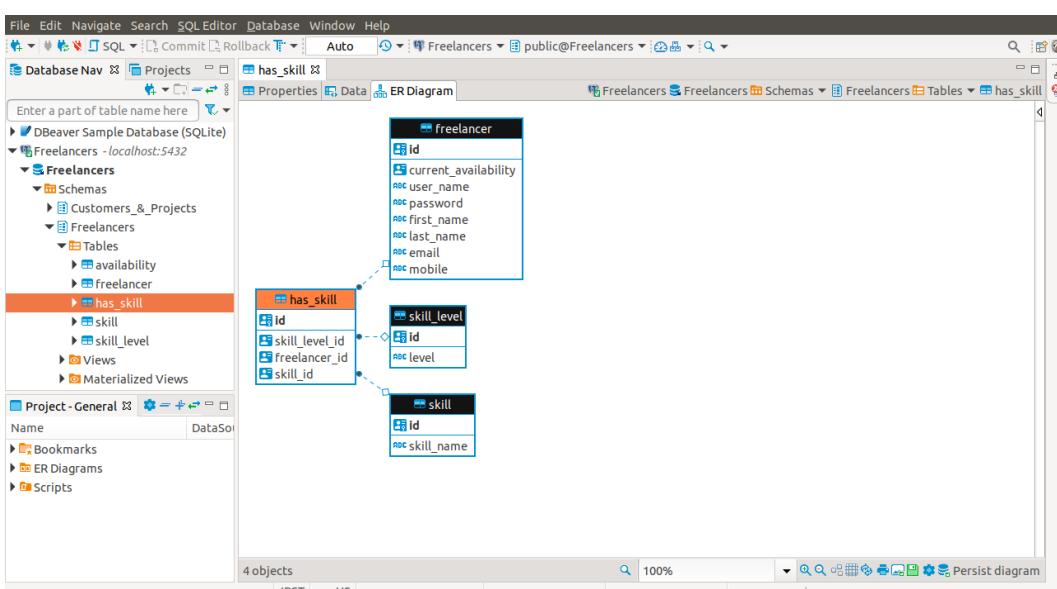
Table Structure:

```

    graph TD
        Freelancer[Freelancer] --- has_skill[has_skill]
        has_skill --- skill_level[skill_level]
        has_skill --- skill[skill]
    
```

The 'has_skill' table is connected to the 'Freelancer' table via a many-to-many relationship. It is also connected to the 'skill_level' and 'skill' tables.

ER Diagram



Insertion

The screenshot shows the DBeaver SQL Editor interface. The title bar says "File Edit Navigate Search SQL Editor Database Window Help". The main area displays the "has_skill" table with the following data:

	<code>id</code>	<code>skill_level_id</code>	<code>freelancer_id</code>	<code>skill_id</code>
1	680fb32-91e0-4d26-bf83-4ca233a353cb	5fb4b4ca-59b3-40be-90e9-7d109119d5	1310ce56-5ccb-44ae-9f85-85b0547ab0	2910dcbb-a70a-400f-b476-b7
2	ee146e0e-39d9-4742-a710-1c45f3ab0d89	5fb4b4ca-59b3-40be-90e9-7d109119d5	aa4511b7-b20-442e-a411-bb450916cc	9a12cb4f-b283-4245-ab2f-1e
3	99ad243e-0157-4564-bc29-eed6b5ef8072	094c6562-b86b-412d-99b-e04ef01bbf0	af566ea9-16af-4306-969b-7accfa5bf2c2	dae4bbff-a81b-4622-9681-0e

Below the table, it says "3 row(s) fetched - 16ms". The bottom status bar shows "IRST en_US".

Tables of Customers_&_Projects Schema

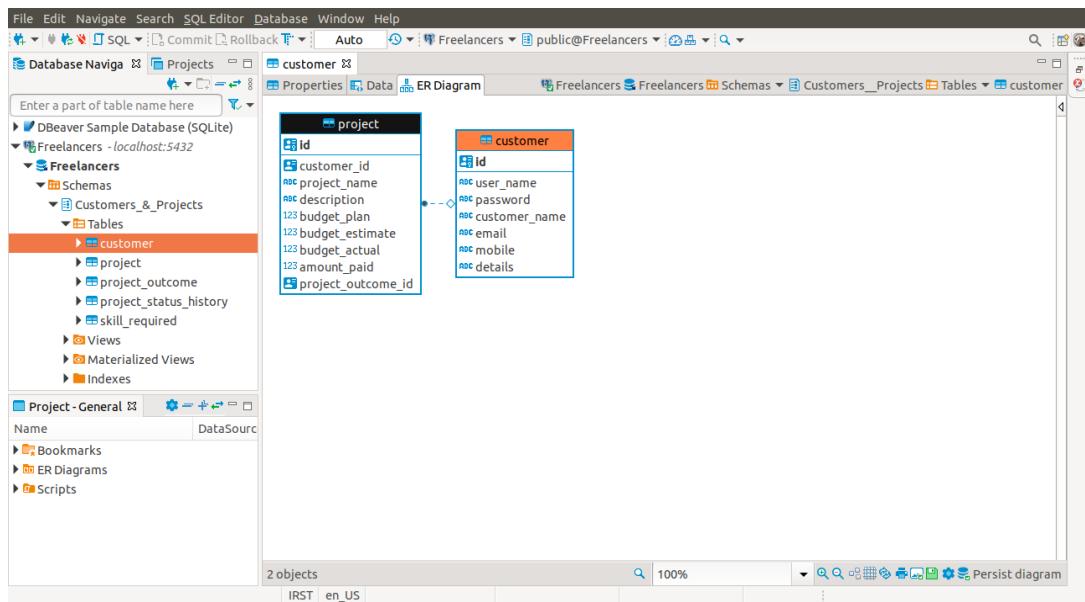
Customer Table

The screenshot shows the DBeaver Properties view for the "customer" table. The table name is "customer" and the object ID is 16525. The columns are:

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
<code>id</code>	1	<code>uuid</code>					<code>default</code>
<code>user_name</code>	2	<code>varchar</code>	64	64			<code>default</code>
<code>password</code>	3	<code>varchar</code>	64	64			<code>default</code>
<code>customer_name</code>	4	<code>varchar</code>	255	255			<code>default</code>
<code>email</code>	5	<code>varchar</code>	255	255			<code>default</code>
<code>mobile</code>	6	<code>varchar</code>	255	255			<code>default</code>
<code>details</code>	7	<code>text</code>					<code>default</code>

The bottom status bar shows "IRST en_US".

ER Diagram



Insertion

The screenshot shows the DBeaver interface with the Data tab selected for the customer table. The data grid displays three records:

	id	user_name	password	customer_name	email	mobile	details
1	21428428-94a4-4dce-aa58-gh1378	789		Ghazal	Kalhor@gmail.com	456789	scientist
2	d559ff0d-e57f-4b47-9792-e david	77		David	eliza@gmail.com	4477	smart
3	40f66fe2-9f92-486c-a8e1-ai s1999	22		Sara	Poley	0888	engineer

project_outcome Table

Screenshot of DBeaver SQL Editor showing the properties of the `project_outcome` table.

Table Properties:

- Table Name: `project_outcome`
- Object ID: 16567
- Owner: `postgres`
- Tablespace: `pg_default`
- Partition by: [empty]
- Comment: [empty]
- Extra Options: [empty]

Columns:

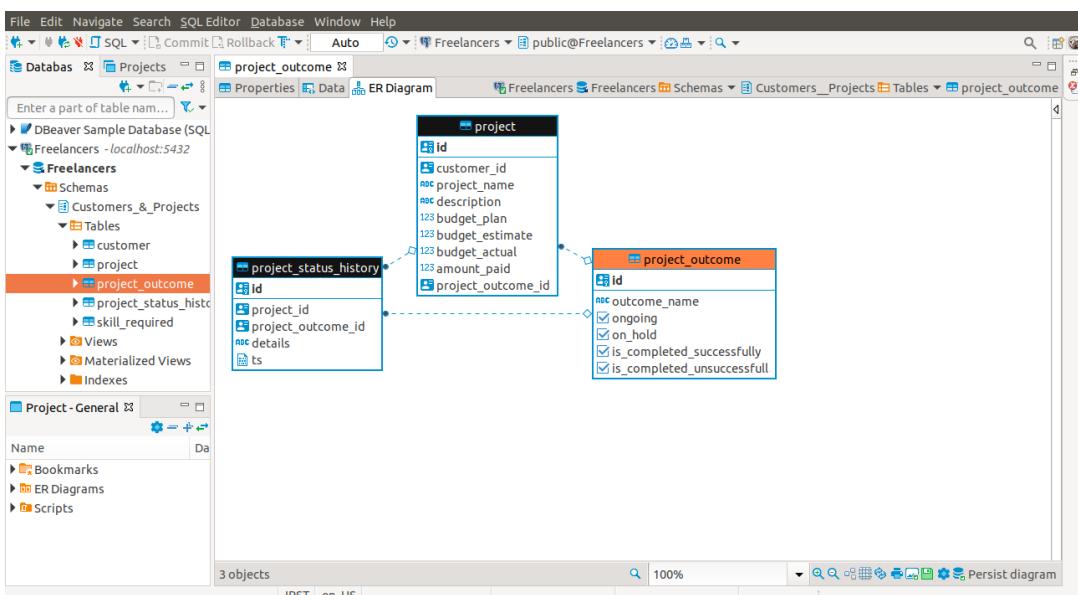
Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
<code>id</code>	1	<code>uuid</code>					<code>default</code>
<code>outcome_name</code>	2	<code>varchar</code>	255	255			
<code>ongoing</code>	3	<code>bool</code>	1	1			
<code>on_hold</code>	4	<code>bool</code>	1	1			
<code>is_completed_successfully</code>	5	<code>bool</code>	1	1			
<code>is_completed_unsuccessfully</code>	6	<code>bool</code>	1	1			

Project - General:

- Name: Project-General
- Da
- Bookmarks
- ER Diagrams
- Scripts

6 items

ER Diagram



Insertion

The screenshot shows the DBeaver SQL Editor interface with the 'Data' tab selected. The current table is 'project_outcome'. The grid displays three rows of data:

	<code>id</code>	<code>outcome_name</code>	<code>ongoing</code>	<code>on_hold</code>	<code>is_completed_successfully</code>	<code>is_completed_unsuccessfully</code>
1	<code>5ef11773-c8b5-4328-8c99-ad18f83f25fb</code>	weekly	[v]	[v]	[]	[]
2	<code>ba967408-b791-4c14-a997-5560f0cae85f</code>	daily	[]	[v]	[]	[]
3	<code>c56ae75e-1d5a-4f30-929b-6081ca296dc6</code>	part-time	[]	[]	[]	[v]

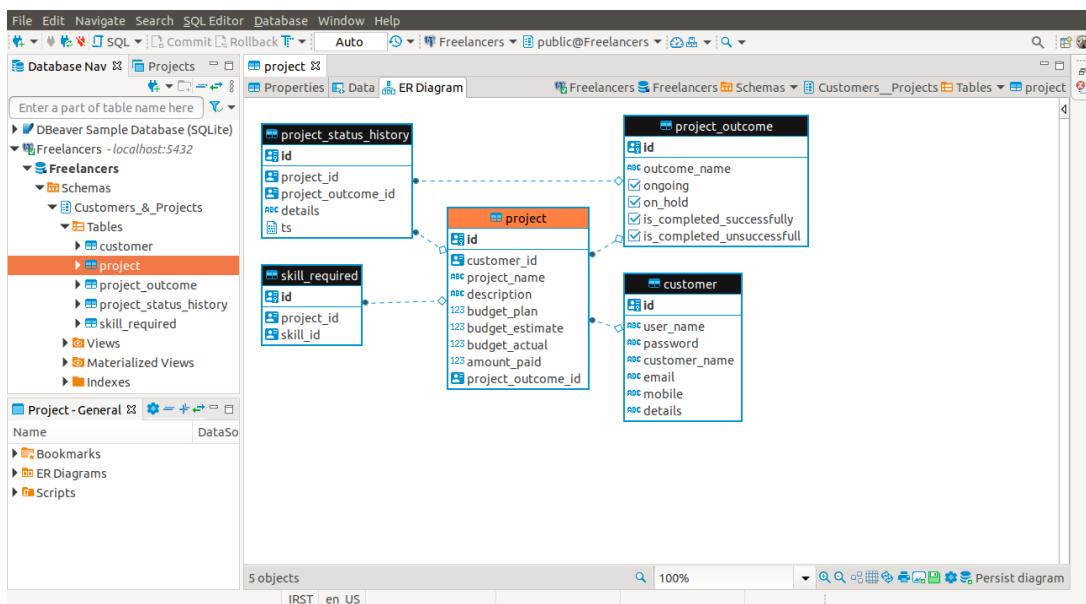
Below the grid, the status bar shows '3 row(s) fetched - 9ms'.

Project Table

The screenshot shows the DBeaver Database Navigator interface with the 'Properties' tab selected for the 'project' table. The table name is 'project' and its object ID is 16534. The owner is 'postgres'. The table has 9 columns:

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
<code>id</code>	1	<code>uuid</code>					<code>default</code>
<code>customer_id</code>	2	<code>uuid</code>					<code>default</code>
<code>project_name</code>	3	<code>varchar</code>	255	255			
<code>description</code>	4	<code>text</code>					
<code>budget_plan</code>	5	<code>numeric</code>		12	2		
<code>budget_estimate</code>	6	<code>numeric</code>		12	2		
<code>budget_actual</code>	7	<code>numeric</code>		12	2		
<code>amount_paid</code>	8	<code>numeric</code>		12	2		
<code>project_outcome_id</code>	9	<code>uuid</code>					

ER Diagram



Insertion

The screenshot shows the DBeaver interface with the Data tab selected for the **project** table. The grid view displays the following data:

	<code>id</code>	<code>customer_id</code>	<code>project_name</code>	<code>description</code>	<code>budget_plan</code>	<code>budget_actual</code>
1	0d290da3-0b22-4ea2-9cb8-89152175fdca	21428428-94a4-4dce-aa58-a21c4c9eb4	ethernet-switch	computer networks	1,500	
2	fb918322-6767-4699-9d7d-fdd0d42fc260	40f66fe2-9f92-486c-a8e1-affa4d14aa2	ftp-server	os	1,200	
3	686092fc-f24c-417a-917f-ed1958cac3b8	d559ff0d-e57f-4b47-9792-efb30d88bf2	bobolestan	ie	1,000	

project_status_history Table

Screenshot of DBeaver Database Properties window for the `project_status_history` table.

Table Information:

- Table Name: `project_status_history`
- Object ID: 16557
- Owner: `postgres`
- Tablespace: `pg_default`
- Comment: (empty)
- Extra Options: (empty)

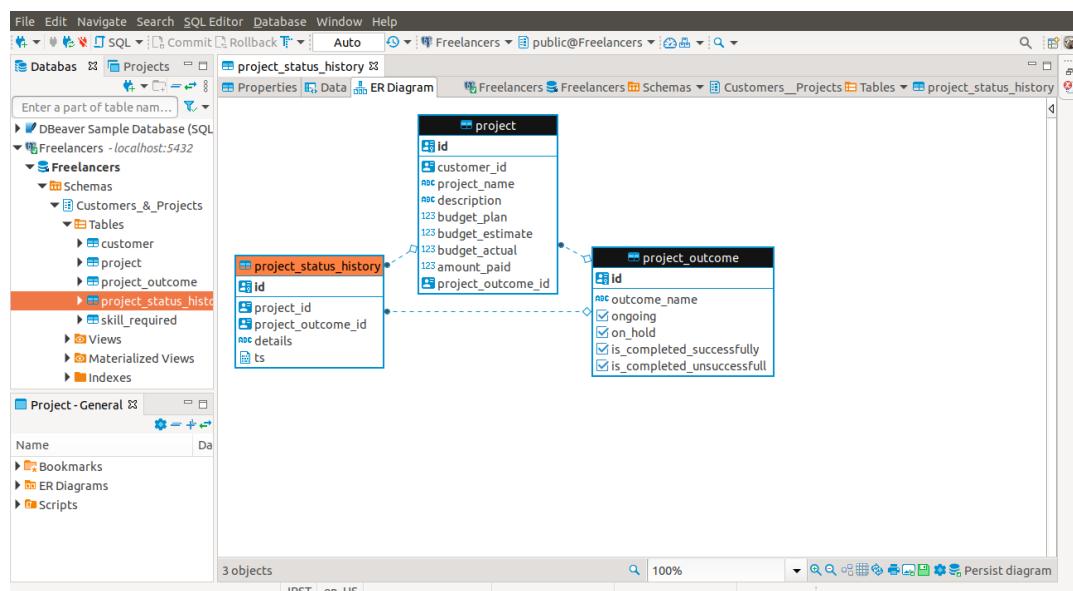
Columns:

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
<code>id</code>	1	<code>uuid</code>					<code>default</code>
<code>project_id</code>	2	<code>uuid</code>					
<code>project_outcome_id</code>	3	<code>uuid</code>					
<code>details</code>	4	<code>text</code>					
<code>ts</code>	5	<code>bytea</code>					

Project-General:

- Name
- Bookmarks
- ER Diagrams
- Scripts

ER Diagram

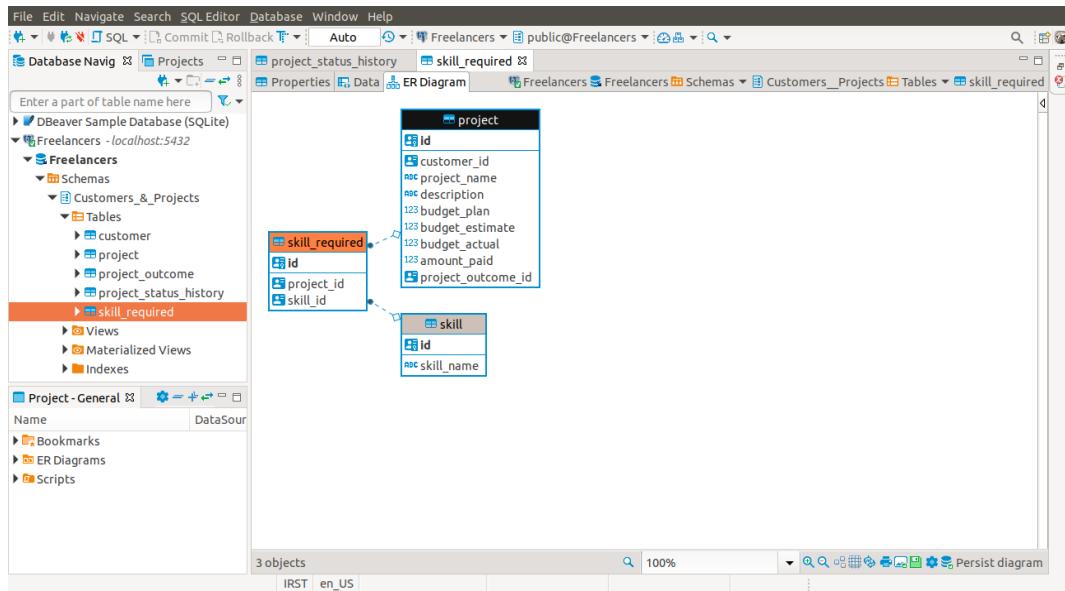


Insertion

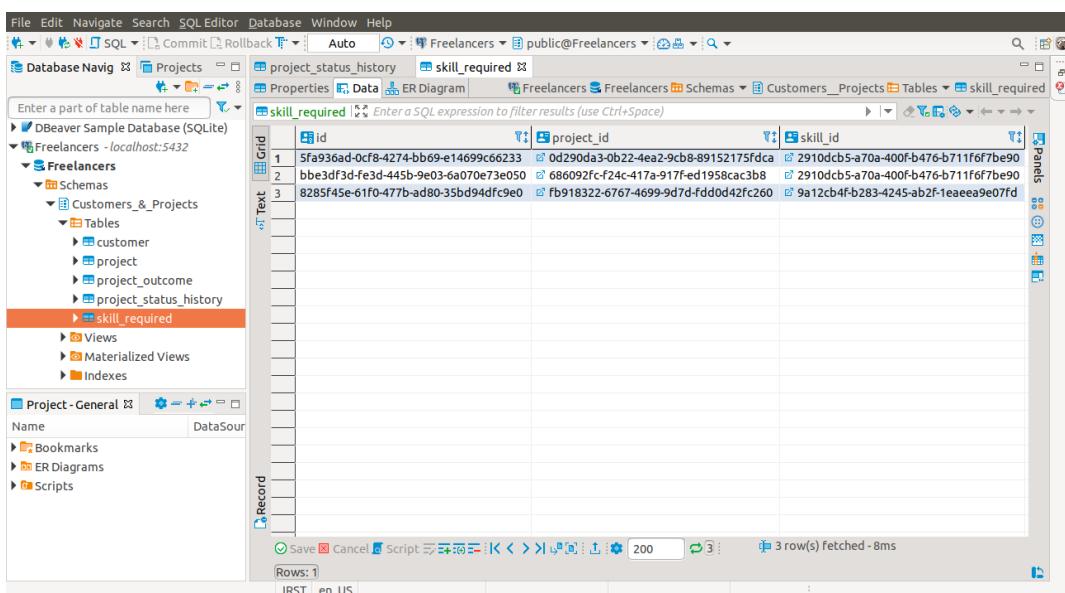
skill_required Table

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
id	1	uuid					
project_id	2	uuid					
skill_id	3	uuid					

ER Diagram



Insertion



Tables of Project_phases Schema

phase_plan Table

Screenshot of the DBeaver Database Navigator showing the properties of the 'phase_plan' table.

Properties Tab:

- Table Name: phase_plan
- Object ID: 16708
- Tablespace: pg_default
- Owner: postres
- Partition by: (empty)
- Comment: (empty)
- Extra Options: (empty)

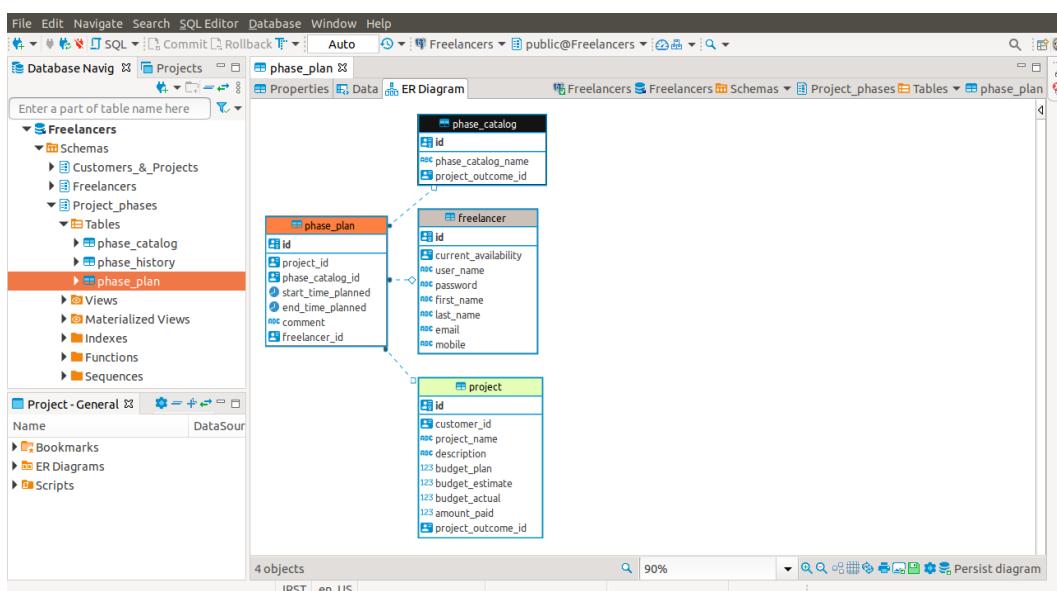
Columns Tab:

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
id	1	uuid					default
project_id	2	uuid					
phase_catalog_id	3	uuid					
start_time_planned	4	timestamp		22	22		
end_time_planned	5	timestamp		22	22		
comment	6	text					
freelancer_id	7	uuid					

Object Tree:

- Freelancers
 - Schemas
 - Customers_&_Projects
 - Freelancers
 - Project_phases
 - Tables
 - phase_catalog
 - phase_history
 - phase_plan
 - Views
 - Materialized Views
 - Indexes
 - Functions
 - Sequences
- Project - General
 - Bookmarks
 - ER Diagrams
 - Scripts

ER Diagram



Insertion

The screenshot shows the DBeaver SQL Editor interface with the following details:

- Toolbar:** File, Edit, Navigate, Search, SQL Editor, Database, Window, Help.
- Connections:** DS1, Freelancers, public@Freelancers.
- Tool Buttons:** Commit, Rollback, Auto, Freelancers, Schemas, ER Diagram.
- Table View:** Shows the `phase_plan` table with the following data:

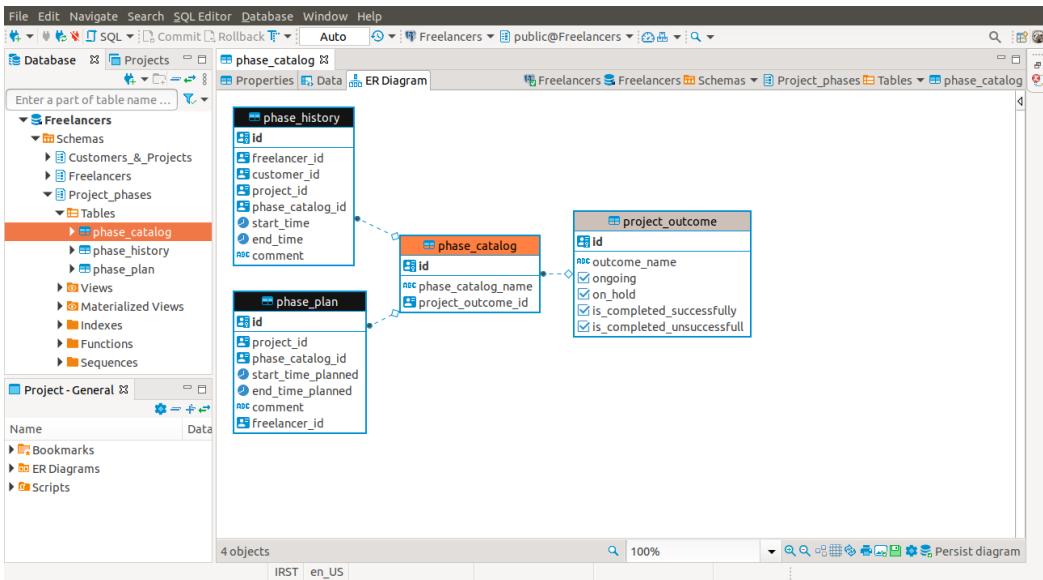
	id	project_id	phase_catalog_id	start_time_planned	end_time_planned	rec cor
1	80c97e39-50fe-4ba6-a4c2-b75a	0d290da3-0b22-4ea2-9cb8-8f	4f5cb6ae-a464-416d-9852-00	2021-05-03 15:15:38	2022-05-03 15:15:38	NULL
2	706f9c7b-dc25-4944-a908-2c26	686092fc-f24c-417a-917f-ed1	40e64acd-1b4-4c8a-a7e5-54	2022-05-03 15:15:38	2021-07-03 15:15:38	NULL
3	020fcdd4-91ec-43e3-8fcc-60edf	fb918322-6767-4699-9d7d-fd	9b3cc4d4-26f3-458a-a578-bf	2020-05-03 15:15:38	2020-08-03 15:15:38	NULL

- Sidebar:** Shows the project structure under `Freelancer`, including Schemas, Custom, Freelancer, Project, and various tables like `ph` and `ph`.
- Bottom Bar:** Save, Cancel, Script, navigation icons, rows: 1, columns: 200, 3 row(s) fetched - 1ms.

phase_catalog Table

The screenshot shows the pgAdmin interface for managing a PostgreSQL database. The left sidebar displays the database structure under the 'Freelancers' schema, including tables like 'phase_catalog', 'phase_history', 'phase_plan', etc. The main panel shows the properties for the 'phase_catalog' table. The 'Properties' tab is selected, displaying details such as Table Name: 'phase_catalog', Object ID: 16696, Tablespace: 'pg_default', Owner: 'postgres', and Extra Options. The 'Columns' tab is also visible, listing the table's columns: id (uuid), phase_catalog_name (varchar), and project_outcome_id (uuid). The 'Data' tab is currently inactive.

ER Diagram



Insertion

The screenshot shows the MySQL Workbench Data Grid interface for the **phase_catalog** table. The table structure is as follows:

	id	phase_catalog_name	project_outcome_id
1	4f5cb6ae-a464-416d-9852-004c13f1e599	myCatalog	Sef11773-c8b5-4328-8c99-ad18f83f25f8
2	40e64acd-11b4-4c8a-a7e5-542abf2336e0	newCatalog	ba967408-b791-4c14-a997-5560f0cae85f
3	9b3cc4d4-26f3-458a-a578-bf2552a26b79	catalog2019	c56ae75e-1d5a-4f30-929b-6081ca296dc6

Below the grid, the status bar indicates "3 row(s) fetched - 2ms".

phase_history Table

Screenshot of the SQL Editor showing the properties of the `phase_history` table.

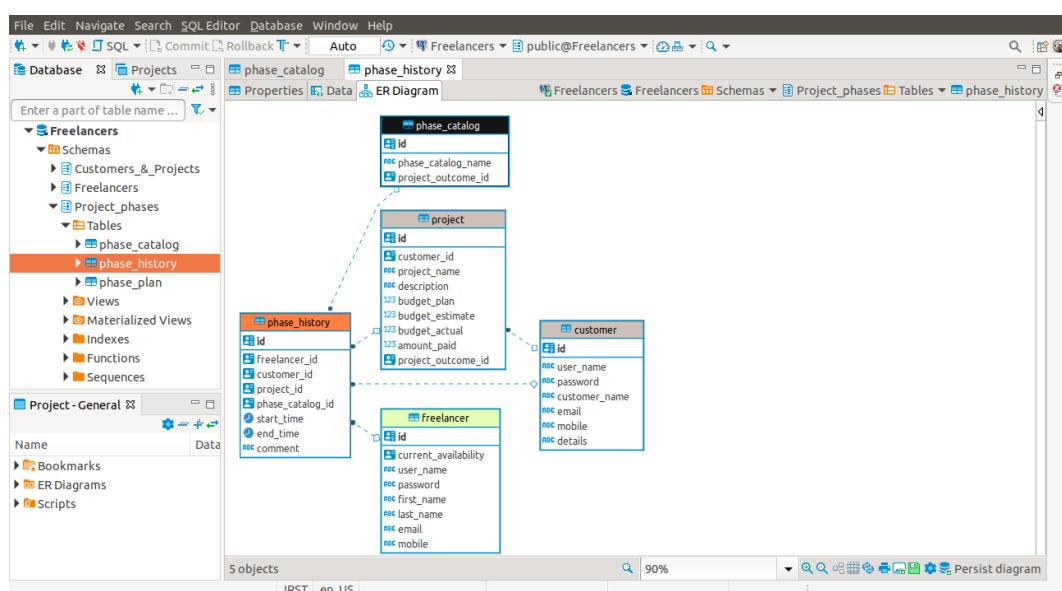
Table Properties:

- Table Name: `phase_history`
- Object ID: 16595
- Owner: `postgres`
- Tablespace: `pg_default`
- Partition by: [empty]
- Comment: [empty]
- Extra Options: [empty]

Columns:

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
<code>id</code>	1	<code>uuid</code>					<code>default</code>
<code>freelancer_id</code>	2	<code>uuid</code>					
<code>customer_id</code>	3	<code>uuid</code>					
<code>project_id</code>	4	<code>uuid</code>					
<code>phase_catalog_id</code>	5	<code>uuid</code>					
<code>start_time</code>	6	<code>timestamp</code>		22			
<code>end_time</code>	7	<code>timestamp</code>		22			
<code>comment</code>	8	<code>text</code>					

ER Diagram



Insertion

Freelancer

phase_history

	id	freelancer_id	customer_id	project_id
1	38b5f0c5-ed11-4fa5-b43c-d967355508c	1310ce56-5ccb-44ae-9f85-85b0547ab01	21428428-94a4-4dce-aa58-a21c4c9eb46	0d290da3-0b22-4ea2-9cb8-000000000000
2	460ab6b6-4259-4d31-8aa2-227fb814daaf	aa4511b7-8b20-442e-a411-bb450916c0c	21428428-94a4-4dce-aa58-a21c4c9eb46	686092fc-f24c-417a-917f-ea0000000000
3	8c848ddf-0e39-4470-a1fb-1931eb91561c	af566ea9-16af-4306-969b-7accfa5bfc25	d559ff0d-e57f-4b47-9792-efb30d88bf21	fb918322-6767-4699-9d7d-f00000000000

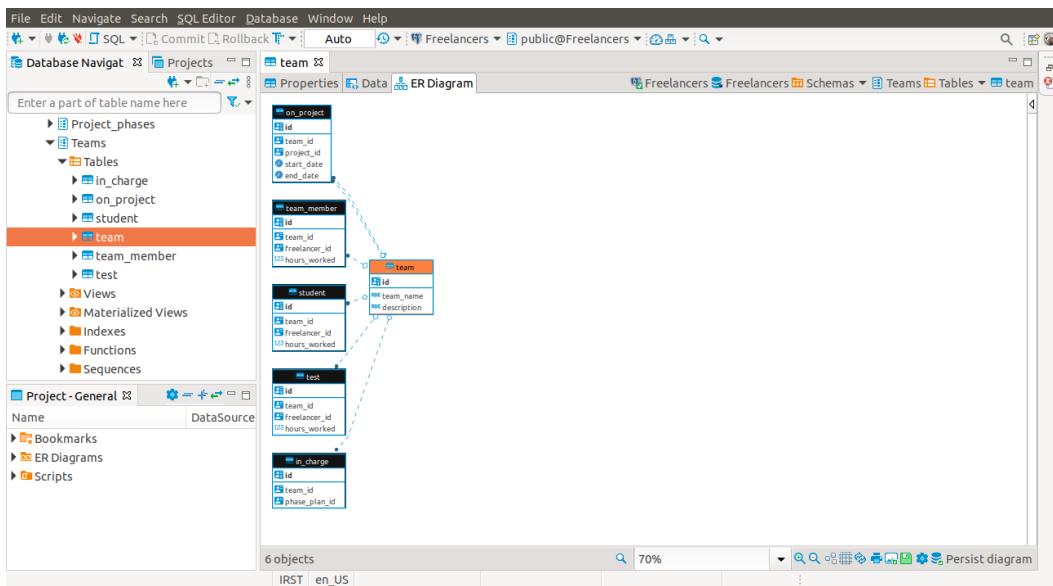
Tables of Teams Schema

Team Table

team

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
id	1	uuid				default	default
team_name	2	varchar	128	128			
description	3	text					

ER Diagram



Insertion

The screenshot shows the MySQL Workbench Data Navigator interface. The left sidebar lists projects and databases. The main area displays the 'team' table in Grid mode. The table has columns: id, team_name, and description. Three rows are present:

	team_name	description
1	flat	great
2	ap	good
3	dm	nice

At the bottom, it says "3 row(s) fetched - 11ms".

team_member Table

Screenshot of the SQL Workbench/J interface showing the properties of the 'team_member' table.

Table Properties:

- Table Name: team_member
- Object ID: 16607
- Tablespace: pg_default
- Owner: postgres
- Partition by: (empty)
- Comment: (empty)
- Extra Options: (empty)

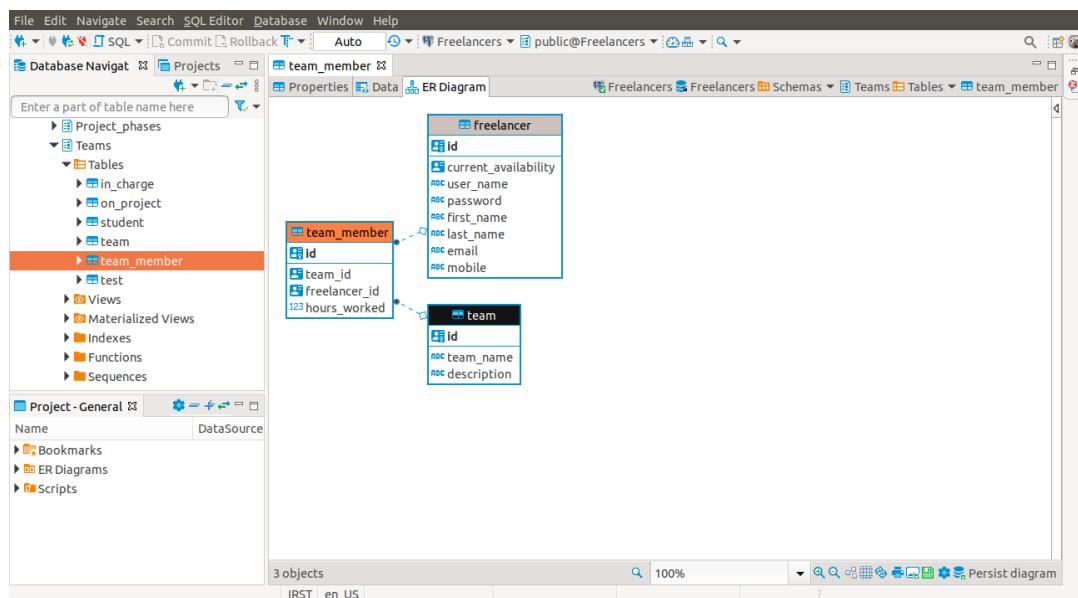
Columns:

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation
id	1	uuid					
team_id	2	uuid					
freelancer_id	3	uuid					
hours_worked	4	int4		10			

Project - General:

- Name: Project-General
- DataSource: (empty)
- Bookmarks
- ER Diagrams
- Scripts

ER Diagram



Insertion

The screenshot shows the DBeaver interface with the 'team_member' table selected. The table has four columns: id, team_id, freelancer_id, and hours_worked. The data grid contains three rows of data:

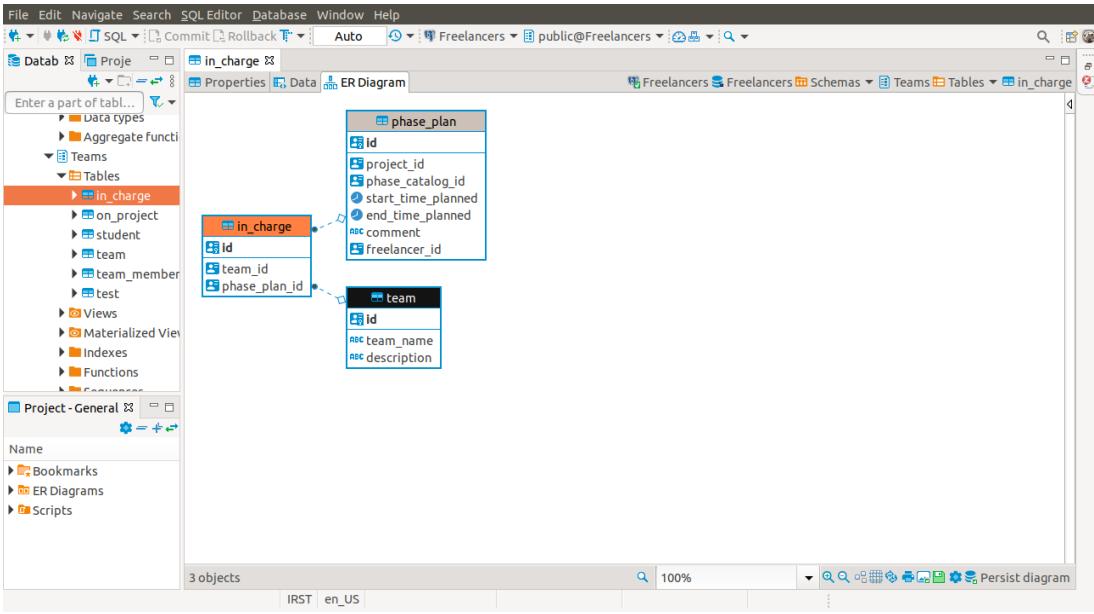
	id	team_id	freelancer_id	hours_worked
1	e0e9e766-9941-457c-a59a-87759a8565d	7ed69e89-cd26-4611-b261-eb796a052	1310ce56-5ccb-44ae-9f85-85b0547ab	24
2	5996218a-88ef-4932-83b9-02ec31cb9cd	c6487113-49b1-496a-936c-8200816bd	a4511b7-b820-442e-a411-bb450916c	36
3	28dc8bb6-194e-4ea2-9b9b-9be7739b02	4b83bfd6-2857-4b2b-bfb9-c885766c1	af566ea9-16af-4306-969b-7accafsfbfc	48

in_charge Table

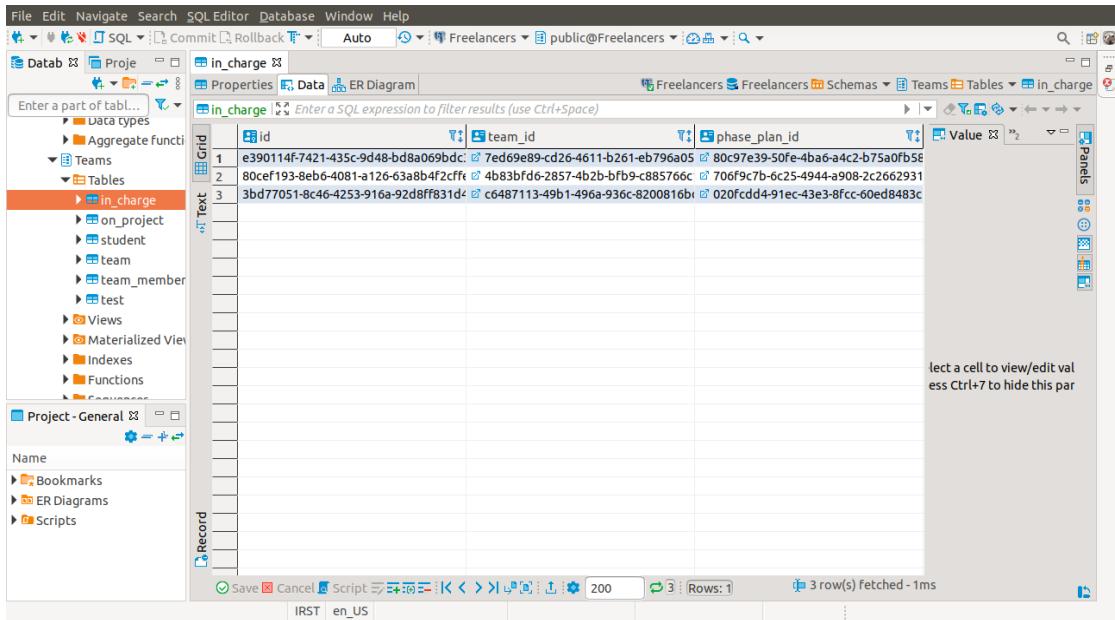
The screenshot shows the DBeaver interface with the 'in_charge' table selected. The properties panel shows the following details:

- Table Name:** in_charge
- Object ID:** 16625
- Tablespace:** pg_default
- Owner:** postgres
- Comment:** (empty)
- Columns:**
 - # 1 id: uuid
 - # 2 team_id: uuid
 - # 3 phase_plan_id: uuid

ER Diagram



Insertion



on_project Table

Screenshot of the pgAdmin III interface showing the properties of the 'on_project' table.

Table Properties:

- Table Name: `on_project`
- Object ID: 16638
- Owner: `postgres`
- Tablespace: `pg_default`
- Partition by: [empty]
- Comment: [empty]
- Extra Options: [empty]

Columns:

Column Name	#	Data type	Length	Precision	Scale	Identity	Collation	Not Null
<code>id</code>	1	<code>uuid</code>						[v]
<code>team_id</code>	2	<code>uuid</code>						[v]
<code>project_id</code>	3	<code>uuid</code>						[v]
<code>start_date</code>	4	<code>date</code>		13				[v]
<code>end_date</code>	5	<code>date</code>		13				[]

Table Structure:

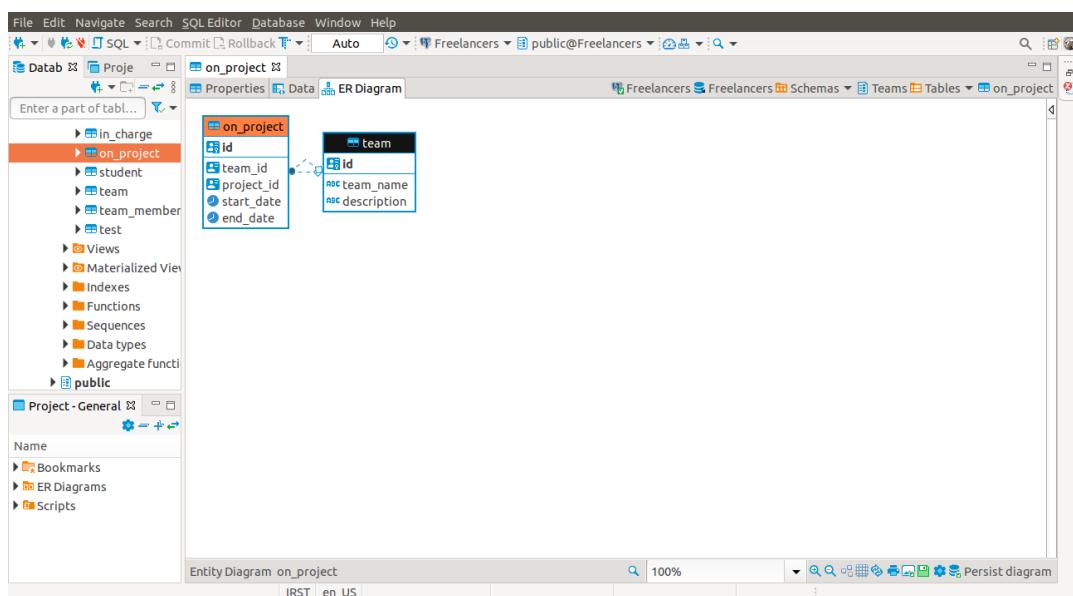
```

    on_project
    |
    +-- id
    +-- team_id
    +-- project_id
    +-- start_date
    +-- end_date
  
```

Project - General:

- Name
- Bookmarks
- ER Diagrams
- Scripts

ER Diagram



Insertion

The screenshot shows a database management interface with a sidebar containing navigation links like 'Data', 'Properties', 'Data', 'ER Diagram', 'Freelancers', 'Schemas', 'Teams', 'Tables', and 'on_project'. The main area displays a table named 'on_project' with the following schema and data:

	id	team_id	project_id	start_date	end_date
1	04fcfe95-c4f0-4e2a-8db8-2f33d4b69	7ed69e89-cd26-4611-b261-eb796a	7ed69e89-cd26-4611-b261-eb796a	2021-05-03	2022-05-03

Below the table, there are buttons for 'Save', 'Cancel', 'Script', and other database operations. The status bar at the bottom indicates '1 row(s) fetched - 1ms'.

Creating New Table

```
create table "Teams".student (
    id uuid not null default uuid_generate_v4(),
    team_id uuid not null default uuid_generate_v4(),
    freelancer_id uuid not null default uuid_generate_v4(),
    hours_worked int not null,
    primary key(id),
    foreign key(team_id) references "Teams".team(id),
    foreign key(freelancer_id) references "Freelancers".freelancer(id)
);
```

Inserting Record

```
insert into "Freelancers".availability
(availability_name, id)
values ("Free", uuid_generate_v4())
```

Adding and Deleting Column

```
alter table student  
add new_col varchar(20);
```

Name	Value
Updated Rows	0
Query	alter table student add new_col varchar(20)
Finish time	Fri Jun 04 23:04:39 IRDT 2021

```
alter table student  
drop hours_worked;
```

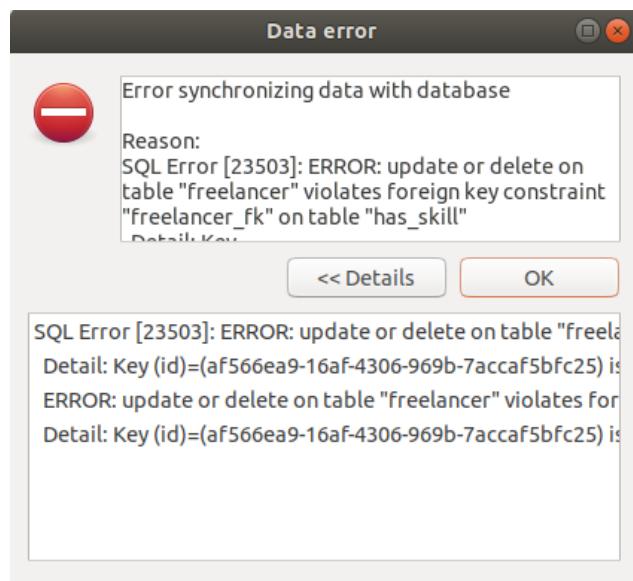
Name	Value
Updated Rows	0
Query	alter table student drop hours_worked
Finish time	Fri Jun 04 23:10:29 IRDT 2021

Dropping Table

```
drop table student;
```

Name	Value
Updated Rows	0
Query	drop table student
Finish time	Fri Jun 04 23:14:20 IRDT 2021

Removing Records



Unique Indexes

	Name	Owner	Type
Columns	email_un	freelancer	UNIQUE KEY
Constraints	freelancer_pk	freelancer	PRIMARY KEY
Foreign Keys	mobile_un	freelancer	UNIQUE KEY
Indexes	username_un	freelancer	UNIQUE KEY
Dependencies			

Column Name: email

Data type: varchar

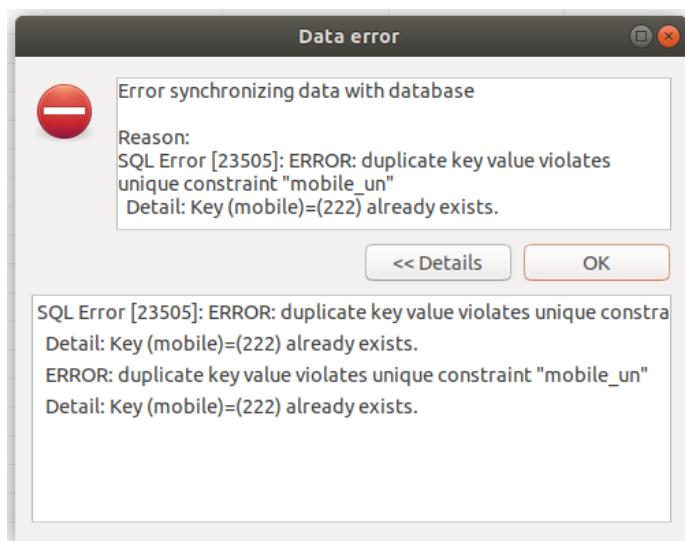
Length: 255

Precision: 255

Scale:

Not Null Local

Column Name:	mobile
Data type:	varchar
Length:	255
Precision:	255
Scale:	
<input type="checkbox"/> Not Null <input checked="" type="checkbox"/> Local	



Answering to Questions

Part a

For a specific freelancer (for example, we have a username), display a list of skills and the level of each skill.

Query

```
select s.skill_name, sl.level
from freelancer f inner join has_skill hs on f.id = hs.freelancer_id
inner join skill s on hs.skill_id = s.id
inner join skill_level sl on sl.id = hs.skill_level_id
where f.user_name = 'eliza'
```

Result

	skill_name	level
1	front	professional
2	db	mid
3	back	professional

Part b

What projects have not yet found any applicants for it?

Query

```
select p.id, p.project_name
from "Customers_&_Projects".project p
where p.id not in (select o.project_id
                    from "Teams".on_project o)
```

Result

	id	project_name
1	686092fc-f24c-417a-917f-ed1958cac3b8	bobolestan

Part c

How many successful projects have been done by this platform?

Query

```
select count(*) as success_count
from project p inner join project_outcome po on p.project_outcome_id = po.id
where po.is_completed_successfully = TRUE
```

Result

	success_count
1	1

Part d

How do we get a list of skills in the members of a team?

Query

```

select distinct s.skill_name
from "Teams".team t inner join "Teams".team_member tm on t.id = tm.team_id
inner join "Freelancers".freelancer f on tm.freelancer_id = f.id
inner join "Freelancers".has_skill hs on hs.freelancer_id = f.id
inner join "Freelancers".skill s on hs.skill_id = s.id
where t.id = '7ed69e89-cd26-4611-b261-eb796a052015'

```

Result

	skill_name
1	db
2	front
3	back

Part e

Is there a freelancer who is a member of more than one team?

Query

```

select count(distinct f.user_name)
from "Freelancers".freelancer f, "Teams".team t1, "Teams".team t2,
"Teams".team_member tm1, "Teams".team_member tm2
where f.id = tm1.freelancer_id and f.id = tm2.freelancer_id
and tm1.team_id = t1.id and tm2.team_id = t2.id and t1.id <> t2.id

```

Result

	count
1	1

Part f

Which freelancer has the most successful projects?

Query

```

select f.user_name, count(*) as success_count
from "Freelancers".freelancer f inner join "Teams".team_member tm on f.id = tm.freelancer_id
inner join "Teams".team t on t.id = tm.team_id
inner join "Teams".on_project o on o.team_id = t.id
inner join "Customers_&_Projects".project p on p.id = o.project_id
inner join "Customers_&_Projects".project_outcome po on po.id = p.project_outcome_id
where po.is_completed_successfully = TRUE
group by f.user_name
order by count(*) desc
limit 1

```

Result

	user_name	success_count
1	IU	1

Part g

If we want to create a view containing the name of the freelancer and her score by adding two points to her for each successful project and deducting 3 points from her for each unsuccessful project, what command should we write?

```

CREATE OR REPLACE FUNCTION status_count (status varchar(20), username varchar(20))
RETURNS integer AS $total$
declare
    total integer;
begin
    select count(*) into total
    from "Freelancers".freelancer f inner join "Teams".team_member tm on f.id = tm.freelancer_id
    inner join "Teams".team t on t.id = tm.team_id
    inner join "Teams".on_project o on o.team_id = t.id
    inner join "Customers_&_Projects".project p on p.id = o.project_id
    inner join "Customers_&_Projects".project_outcome po on po.id = p.project_outcome_id
    where f.user_name = username and
        ((status = 'success' and po.is_completed_successfully = TRUE)
        or (status = 'failure' and po.is_completed_unsuccessfull = TRUE));
    RETURN total;
END;
$total$ LANGUAGE plpgsql;

```

Query

```

create or replace view Freelancer_Score as
select f.user_name ,
    status_count('success', f.user_name) * 2 - status_count('failure', f.user_name) * 3 as score
from "Freelancers".freelancer f;

select * from Freelancer_Score;

```

Result

	user_name	score
1	eliza	0
2	lee	-3
3	IU	2

Part h

Display the names of clients along with the names of the projects they have ordered (if any).

Query

```
select c.customer_name , p.project_name  
from customer c  left outer join project p on c.id = p.customer_id
```

Result

	customer_name	project_name
1	Ghazal	ethernet-switch
2	Sara	ftp-server
3	Sara	bobolestan
4	David	[NULL]

Query 2: Display a list of required skills for a specific project.

Query

```
select s.skill_name  
from project p inner join skill_required sr on p.id = sr.project_id  
inner join "Freelancers".skill s on s.id = sr.skill_id  
where p.project_name = 'bobolestan'
```

Result

	skill_name
1	front
2	back