CSE 4/560 Project Milestone 2

1. Project Detail

1.1 Project

EVENT MANAGEMENT SYSTEM

1.2 Team

ONE DIRECTION

1.3 Team Members

Name	UBIT name	UBID
Harshitha Bommakanti	hbommaka	50475216
Guru Kavya Sree G	gurukavy	50485454
JayaKalyani Kommanaboena	jayakaly	50455447

2. Problem Statement

2.1 Description

The proposed event management system database will provide a comprehensive solution for managing multiple events, venues, attendees, and expenses in a single platform. With the increasing trend of events and celebrations, there is a need for an efficient system to manage event-related information. It will allow event organizers to keep track of all the relevant information regarding events. This database contains the details of venue, manager, events, participants, registrations and their payment.

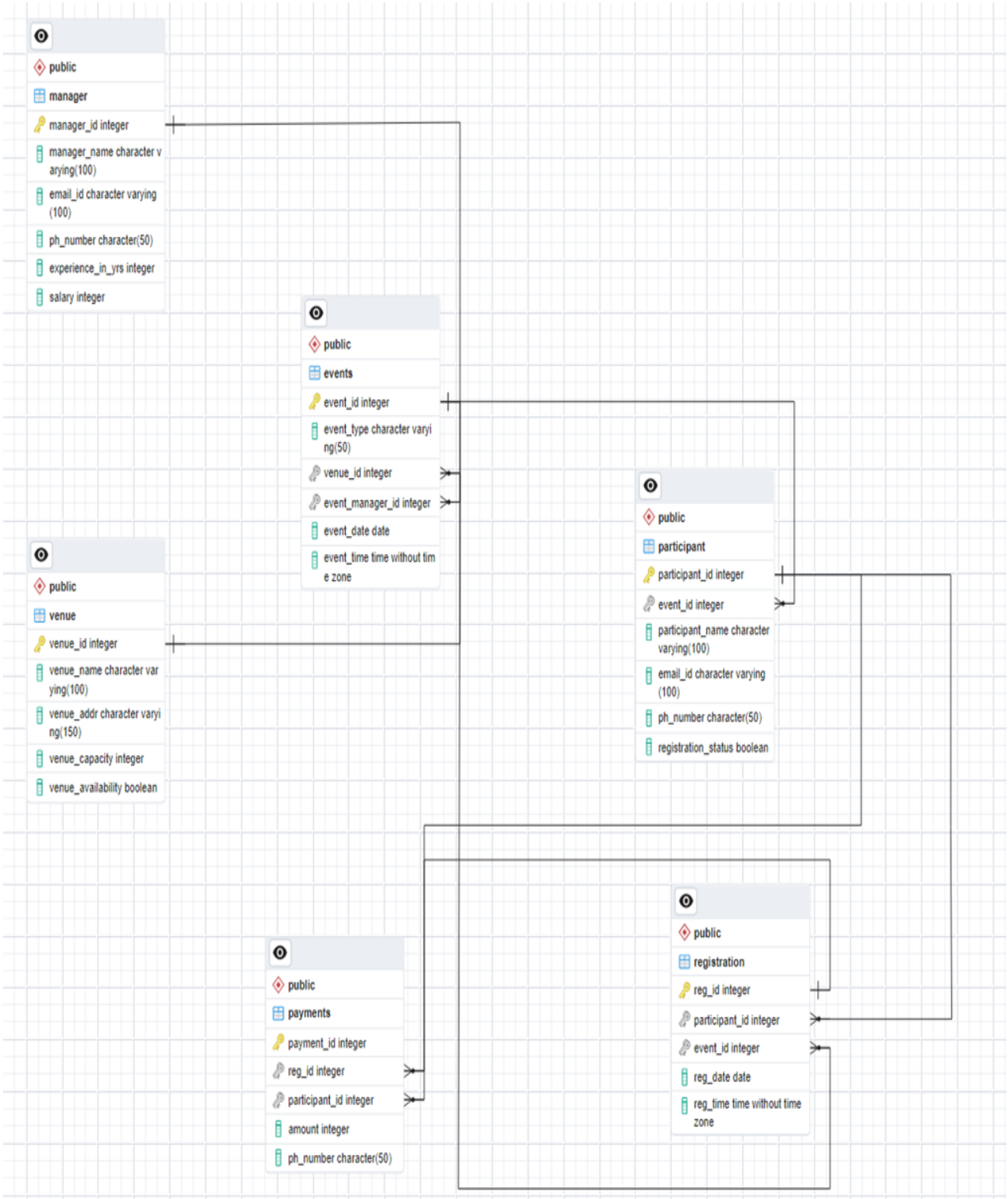
2.2 Comparison between DB systems and Excel files

An excel file can be a useful tool for organizing data, but it can quickly become cumbersome and difficult to manage as the amount of data and complexity of the project grows. A database provides a more efficient and scalable way to manage data, making it easier to retrieve, store, and analyze information. Additionally, a database provides greater data security and integrity than an excel file. This database will make the search for event-related information efficient and streamlined, as all the information will be stored in a structured manner in the database, making it easy to access and manage.

3. Target User

- The User
  - Event managers who are responsible to manage all aspects of an event, from initial planning and budgeting to attendee registration and post-event analysis.
- The administrator -
  - Owner of the event management system
- Real-life Scenario Description -
  - John is a manager looking to organize a corporate event. He registers as a user in the event management system by providing his details and creating a username and password. The login details are stored in the database. He can now create an event by specifying the venue, date, time, and other details. The event is stored in the database, along with the venue and manager details. Participants can register for the event by providing their details, and the registration details are stored in the database. Payments for the event can be made through the system, and the payment details are also stored in the database. This makes searching, organizing and managing the event much more efficient.

4. ER Diagram


public
manager
manager_id integer
manager_name character varying(100)
email_id character varying (100)
ph_number character(50)
experience_in_yrs integer
salary integer
public
events
event_id integer
event_type character varying(50)
venue_id integer
event_manager_id integer
event_date date
event_time time without time zone
public
venue
venue_id integer
venue_name character varying(100)
venue_addr character varying(150)
venue_capacity integer
venue_availability boolean
public
participant
participant_id integer
event_id integer
participant_name character varying(100)
email_id character varying (100)
ph_number character(50)
registration_status boolean
public
payments
payment_id integer
reg_id integer
participant_id integer
amount integer
ph_number character(50)
public
registration
reg_id integer
participant_id integer
event_id integer
reg_date date
reg_time time without time zone

5. Database Implementation

5.1 Data Schemas

- VENUE (venue_id, venue_name, venue_addr, venue_capacity, venue_availability);
- MANAGER (manager_id, manager_name, email_id, ph_number, experience_in_yrs,salary);
- EVENT (event_id, event_type, venue_id, event_manager_id, event_date, event_time
- PARTICIPANT (participant_id,event_id,participant_name,email_id, ph_number, registration_status);
- REGISTRATION (reg_id, participant_id, event_id, reg_date date, reg_time time)
- PAYMENT (payment_id, reg_id integer NOT NULL, participant_id, amount, ph_number);

a) Venue table

Query Query History

```
1  create table venue(
2      venue_id integer primary key NOT NULL,
3      venue_name varchar(100) NOT NULL,
4      venue_addr varchar(150) NOT NULL,
5      venue_capacity integer NOT NULL,
6      venue_availability boolean default 'TRUE',
7      );
8
9
```

b) Manager Table

Query Query History

```
9
10 create table manager (
11     manager_id integer primary key NOT NULL,
12     manager_name varchar(100) NOT NULL,
13     email_id varchar(100) NOT NULL,
14     ph_number char(50) NOT NULL,
15     experience_in_yrs integer NOT NULL,
16     salary integer NOT NULL
17     );
18
19
```

c) Event Table

Query Query History

```
create table events (
    event_id integer primary key NOT NULL,
    event_type varchar(50) NOT NULL,
    venue_id integer NOT NULL,
    event_manager_id integer NOT NULL,
    event_date date,
    event_time time,
    foreign key(venue_id) references venue(venue_id)
        on update cascade on delete cascade,
    foreign key(event_manager_id) references manager(manager_id)
        on update cascade on delete cascade
    );
```

d) Participant Table

Query Query History

```
create table participant (
    participant_id integer primary key NOT NULL,
    event_id integer NOT NULL,
    participant_name varchar(100) NOT NULL,
    email_id varchar(100) NOT NULL,
    ph_number char(50) NOT NULL,
    registration_status boolean default 'FALSE',
    foreign key(event_id) references events(event_id)
        on update cascade on delete cascade
    );
```

e) Registration Table

Query Query History

```
create table registration (
    reg_id integer primary key NOT NULL,
    participant_id integer NOT NULL,
    event_id integer NOT NULL,
    reg_date date,
    reg_time time,
    foreign key(participant_id) references participant(participant_id)
        on update cascade on delete cascade,
    foreign key(event_id) references events(event_id)
        on update cascade on delete cascade
    );
```

5.1.2 Relationship between the tables :

The '**venue**' table will have a one-to-many relationship with the 'events' table, as one venue can host multiple events. The **'manager'** table will also have a one-to-many relationship with the **'events'** table, as one manager can manage multiple events. The **'participant'** table will have a one-to-many relationship with the 'events' table, as one event can have multiple participants. The **'registration'** table will have a one-to-many relationship with both the 'participant' and 'events' tables, as one participant can register for multiple events, and one event can have multiple participants registered. Finally, the **'payments'** table will have a one-to-one relationship with both the 'registration' and 'participant' tables, as one payment can be associated with one registration and one participant. These relationships are enforced through the use of foreign keys.

6. Primary key and Foreign Key

1. VENUE TABLE

   Primary key - venue_id : Uniquely identifies each venue in the table

   Foreign key : None

2. MANAGER TABLE

   Primary key - manager_id : uniquely identifies each manager in the table

   Foreign key : None

3. EVENT TABLE

   Primary key - event_id : Uniquely identifies each event in the table

   Foreign key - venue_id : on deletion of venue_id in venue table automatically venue_id in event table will get deleted

   event_manager_id : on deletion event_manager_id in manager table automatically

   manager_id will get deleted

4. PARTICIPANT TABLE

   Primary key - participant-id : uniquely identifies each participant in the table

   Foreign key - event-id : on deletion of event_id in event table automatically event_id gets deleted in Participant table

5. REGISTRATION TABLE

Primary key - reg_id : uniquely identifies each id in the registration table

Foreign key - participant-id : on deletion of participant_id in participant table automatically gets deleted in registration table too

Foreign key - event_id : on deletion of event_id in participant table automatically gets deleted in Registration table too

6. PAYMENTS TABLE

Primary key - payment_id : uniquely identifies each id in the payments table (

Foreign key - reg_id : on deletion of reg_id in registration table automatically gets deleted in payments table too

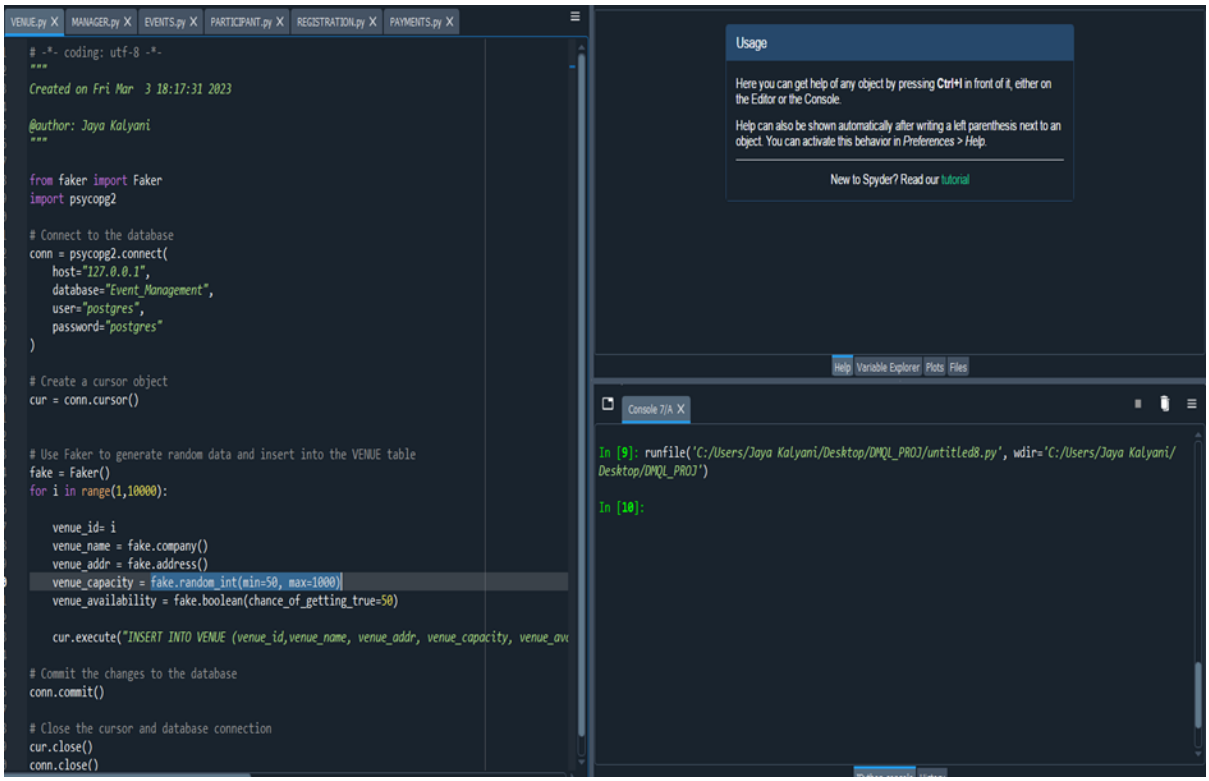
participant-id : on deletion of participant_id in participants table automatically gets deleted in payments table too

7. Records Insertion

A Python script was used to insert records into the respective tables of the database. The process began with creating a parent table, followed by randomly generating data for the required columns and inserting it into the table. The child tables were then populated by referencing the records from the parent table and generating other attributes randomly as per the requirements. This automation process allowed for quick and efficient insertion of large amounts of data into the database, reducing the need for manual input and saving time.

Using psycopg2, we connected to the event management database and thus generated fake datasets. We used various python modules i.e., psycopg2, datetime, random, and faker. Below are the screenshots of the records inserted in the table.

Venue



```
# -*- coding: utf-8 -*-
"""
Created on Fri Mar  3 18:17:31 2023

@author: Jaya Kalyani
"""

from faker import Faker
import psycopg2

# Connect to the database
conn = psycopg2.connect(
    host="127.0.0.1",
    database="Event_Management",
    user="postgres",
    password="postgres"
)

# Create a cursor object
cur = conn.cursor()


# Use Faker to generate random data and insert into the VENUE table
fake = Faker()
for i in range(1,10000):

    venue_id= i
    venue_name = fake.company()
    venue_addr = fake.address()
    venue_capacity = fake.random_int(min=50, max=1000)
    venue_availability = fake.boolean(chance_of_getting_true=50)

    cur.execute("INSERT INTO VENUE (venue_id,venue_name, venue_addr, venue_capacity, venue_ava

# Commit the changes to the database
conn.commit()

# Close the cursor and database connection
cur.close()
conn.close()
```

```
Usage

Here you can get help of any object by pressing Ctrl+I in front of it, either on the Editor or the Console.

Help can also be shown automatically after writing a left parenthesis next to an object. You can activate this behavior in Preferences > Help.

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Console 7/A

In [9]: runfile('C:/Users/Jaya Kalyani/Desktop/DMQL_PROJ/untitled8.py', wdir='C:/Users/Jaya Kalyani/Desktop/DMQL_PROJ')

In [10]:
```

Venue Details Table

9999 tuples

Query | Query History

```
SELECT* FROM VENUE;
```

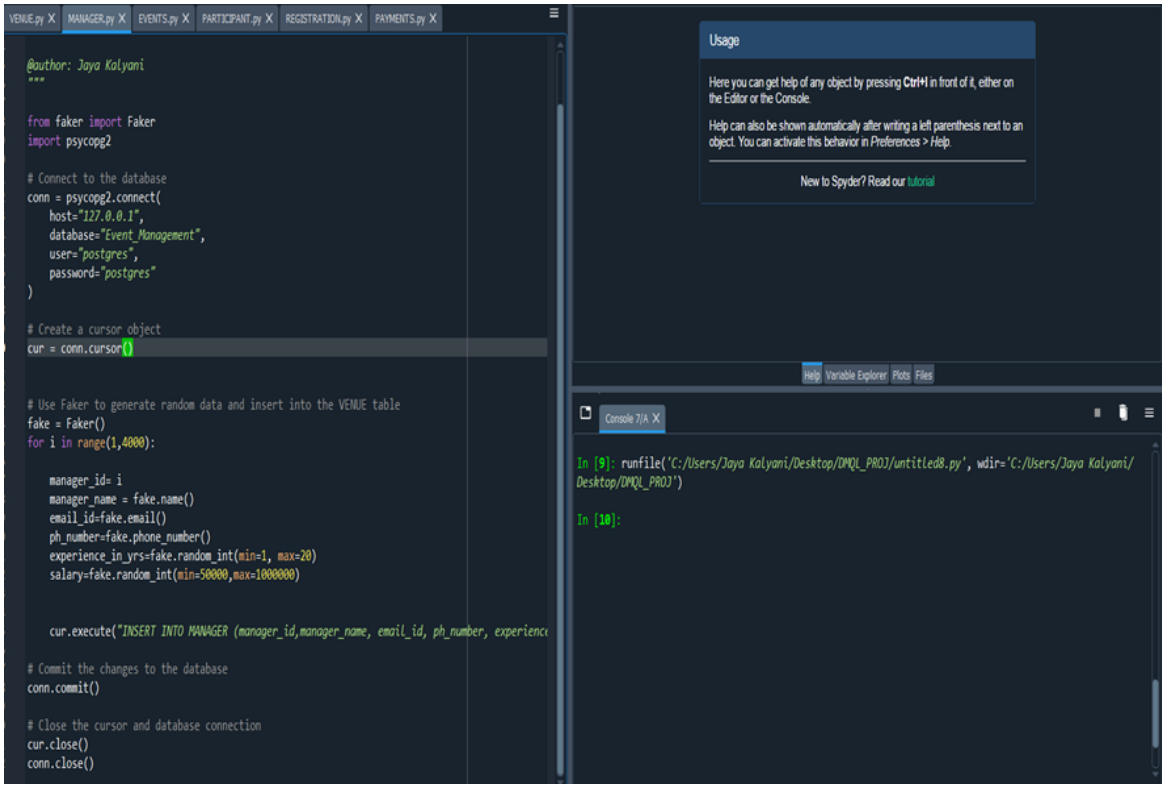
Scratch Pad

Data Output | Messages | Notifications

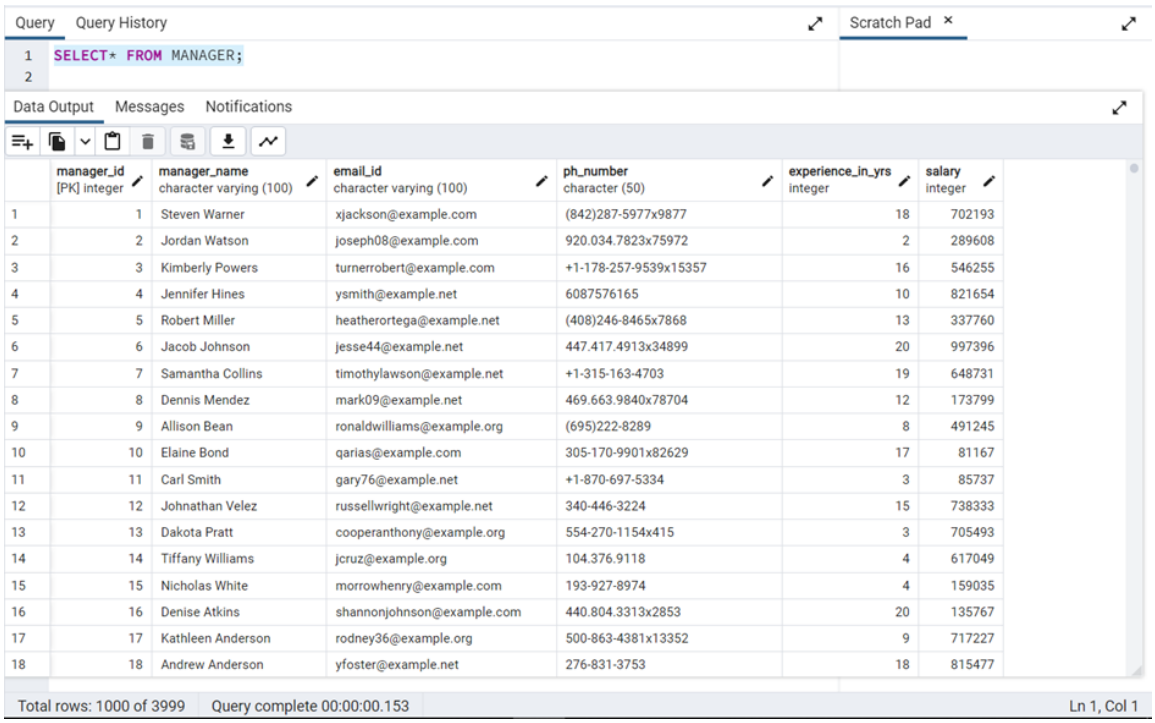
	venue_id [PK] integer	venue_name character varying (100)	venue_addr character varying (150)	venue_capacity integer	venue_availability boolean
1	1	Nielsen Ltd	30363 Rodriguez Summit Apt. 118 West Bradley, VI 65594	842	true
2	2	Davis LLC	62758 Bates Spur Josestad, RI 95760	356	false
3	3	Anderson, Davidson and White	USS Day FPO AE 07865	297	true
4	4	Diaz-Neal	3835 Washington Fields Apt. 353 New Robertburgh, NY 70004	119	false
5	5	Thompson, Martinez and Price	044 Carol Light Apt. 688 West Douglasborough, CA 49295	371	true
6	6	Hines-Bailey	USS Flores FPO AP 49252	124	true
7	7	Griffin, Ortiz and Lloyd	3116 Rodriguez Spring Potterfort, VA 78199	622	true
8	8	Cooper, Jordan and Johnson	21982 Combs Lake Suite 981 South Derek, MD 53759	884	false
9	9	Greer LLC	13603 Montgomery Manor West Karichester, DE 02211	697	true
10	10	Cunningham-Johnson	268 Gordon Expressway West Meganside, FM 65529	548	true
11	11	Malone-Conner	6196 Christopher Fall Suite 381 Lake Rebeccamouth, TN 42178	771	true
12	12	Knapp, Kirk and Taylor	6759 Johnson Gateway Lake Kennethburgh, IL 93547	227	true
13	13	Reeves-Smith	625 Brown Circle South Amanda, RI 58419	683	false
14	14	Reyes, Bowman and Rodriguez	USS Solis FPO AP 61668	417	true
15	15	Howe PLC	9795 Cortez Loaf West Bobbyberg, DC 57650	749	true
16	16	Evans, Hebert and Lee	230 Shelley Tunnel Apt. 999 Brianmouth, VA 35010	896	true
17	17	Solis-Davis	007 Moreno Track Suite 174 Port Jesusview, CO 40654	277	true
18	18	Allen-Flynn	5001 Sanders Greens Suite 624 Taylormouth, MI 11928	613	false

Total rows: 1000 of 9999 | Query complete 00:00:00.323 | Ln 1, Col 1

Manager Table

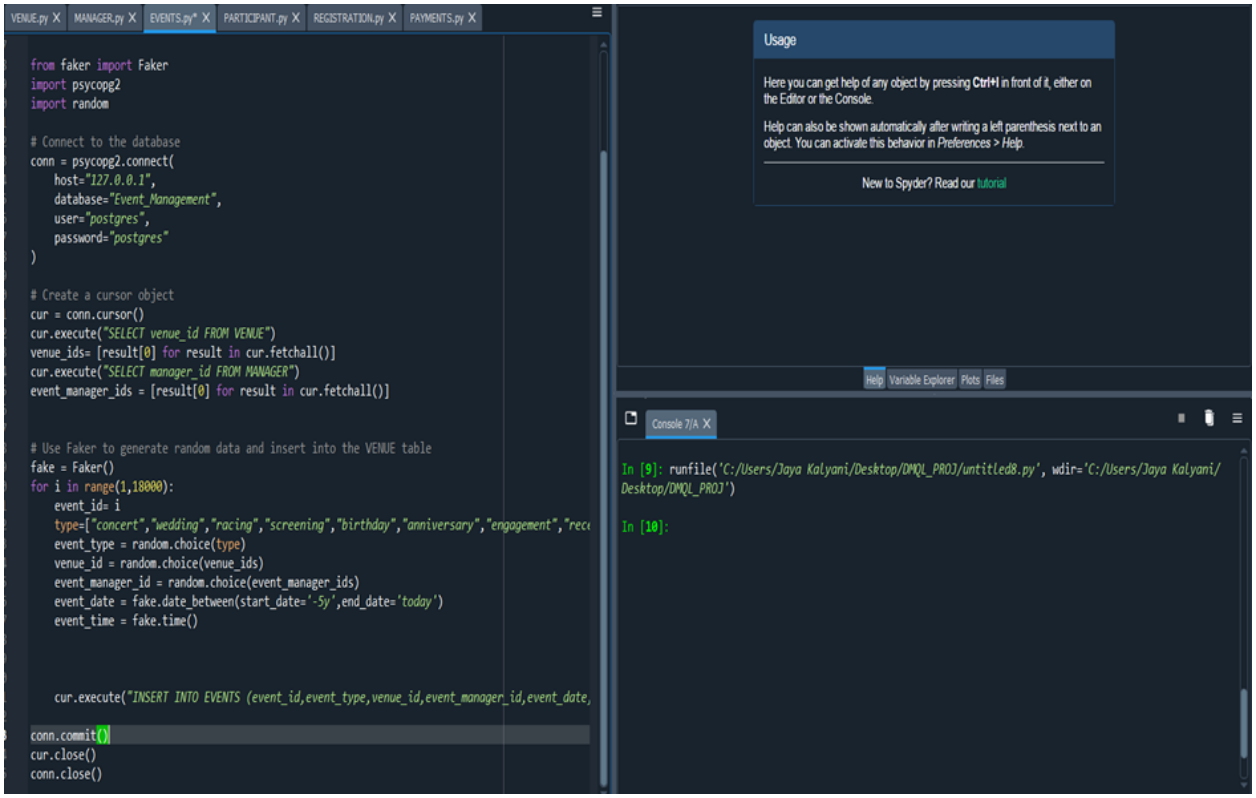


3999 tuples

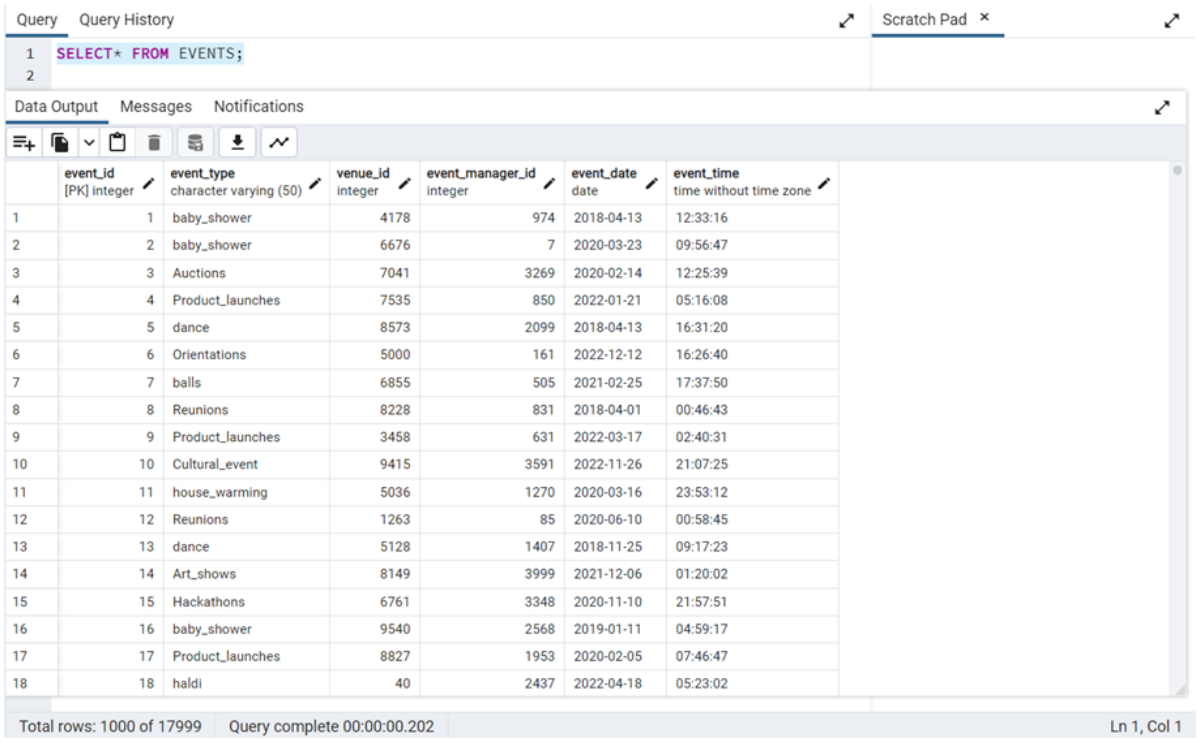


	manager_id [PK] integer	manager_name character varying (100)	email_id character varying (100)	ph_number character (50)	experience_in_yrs integer	salary integer
1	1	Steven Warner	xjackson@example.com	(842)287-5977x9877	18	702193
2	2	Jordan Watson	joseph08@example.com	920.034.7823x75972	2	289608
3	3	Kimberly Powers	turnerrobert@example.com	+1-178-257-9539x15357	16	546255
4	4	Jennifer Hines	ysmith@example.net	6087576165	10	821654
5	5	Robert Miller	heatherortega@example.net	(408)246-8465x7868	13	337760
6	6	Jacob Johnson	jesse44@example.net	447.417.4913x34899	20	997396
7	7	Samantha Collins	timothylawson@example.net	+1-315-163-4703	19	648731
8	8	Dennis Mendez	mark09@example.net	469.663.9840x78704	12	173799
9	9	Allison Bean	ronaldwilliams@example.org	(695)222-8289	8	491245
10	10	Elaine Bond	qarias@example.com	305-170-9901x82629	17	81167
11	11	Carl Smith	gary76@example.net	+1-870-697-5334	3	85737
12	12	Johnathan Velez	russellwright@example.net	340-446-3224	15	738333
13	13	Dakota Pratt	cooperanthony@example.org	554-270-1154x415	3	705493
14	14	Tiffany Williams	jcruz@example.org	104.376.9118	4	617049
15	15	Nicholas White	morrowhenry@example.com	193-927-8974	4	159035
16	16	Denise Atkins	shannonjohnson@example.com	440.804.3313x2853	20	135767
17	17	Kathleen Anderson	rodney36@example.org	500-863-4381x13352	9	717227
18	18	Andrew Anderson	yfoster@example.net	276-831-3753	18	815477

Events

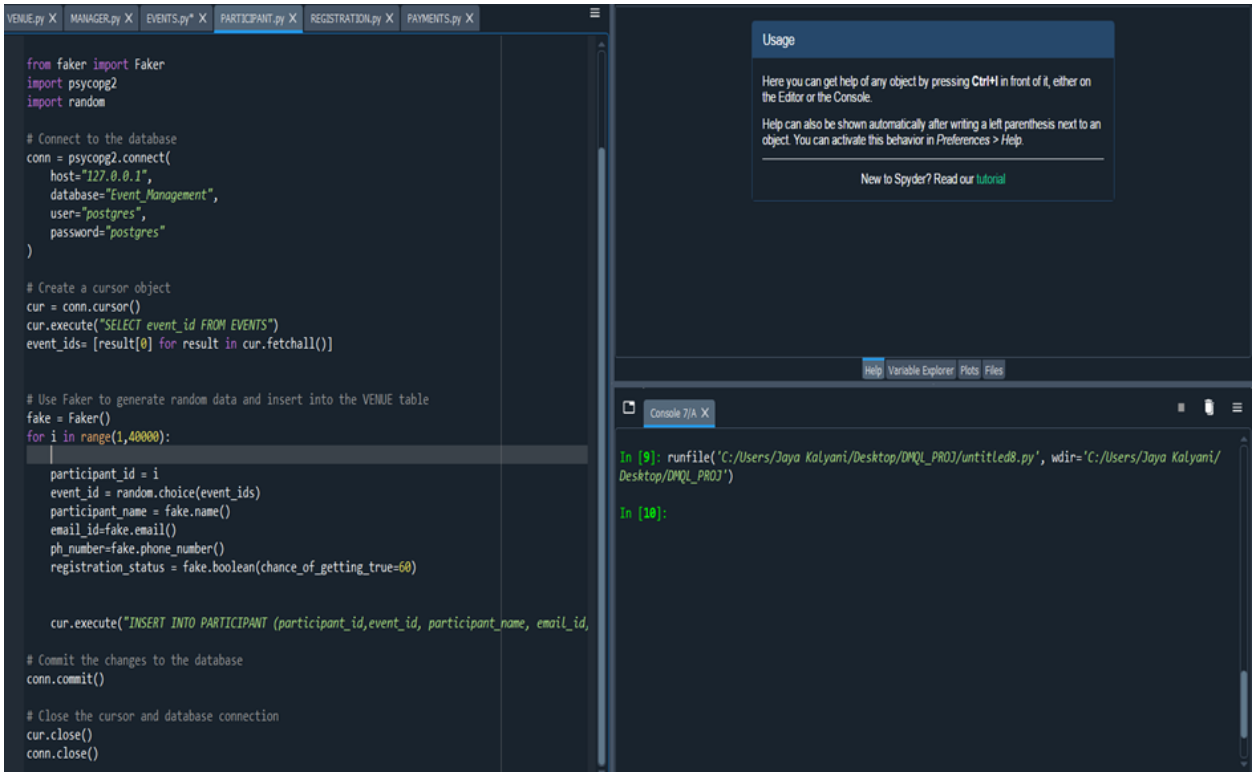


17999 tuples

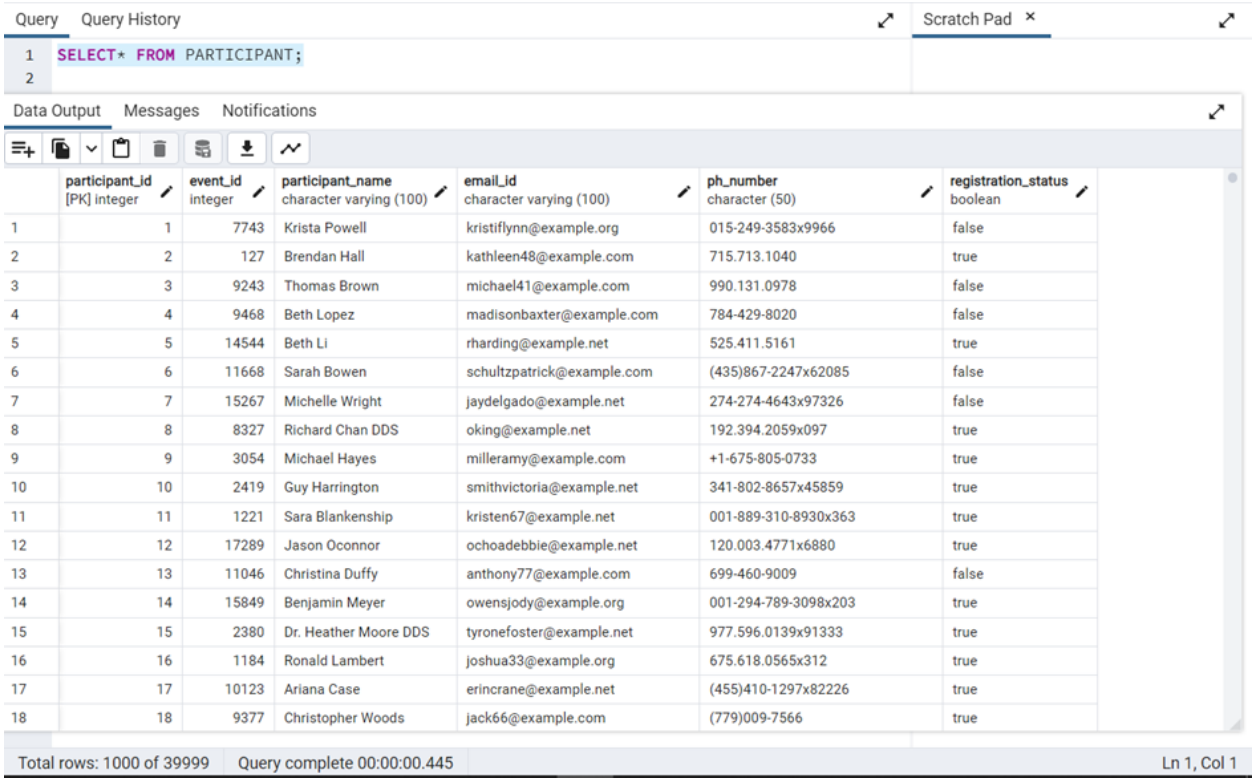


	event_id [PK] integer	event_type character varying (50)	venue_id integer	event_manager_id integer	event_date date	event_time time without time zone
1	1	baby_shower	4178	974	2018-04-13	12:33:16
2	2	baby_shower	6676	7	2020-03-23	09:56:47
3	3	Auctions	7041	3269	2020-02-14	12:25:39
4	4	Product_launches	7535	850	2022-01-21	05:16:08
5	5	dance	8573	2099	2018-04-13	16:31:20
6	6	Orientations	5000	161	2022-12-12	16:26:40
7	7	balls	6855	505	2021-02-25	17:37:50
8	8	Reunions	8228	831	2018-04-01	00:46:43
9	9	Product_launches	3458	631	2022-03-17	02:40:31
10	10	Cultural_event	9415	3591	2022-11-26	21:07:25
11	11	house_warming	5036	1270	2020-03-16	23:53:12
12	12	Reunions	1263	85	2020-06-10	00:58:45
13	13	dance	5128	1407	2018-11-25	09:17:23
14	14	Art_shows	8149	3999	2021-12-06	01:20:02
15	15	Hackathons	6761	3348	2020-11-10	21:57:51
16	16	baby_shower	9540	2568	2019-01-11	04:59:17
17	17	Product_launches	8827	1953	2020-02-05	07:46:47
18	18	haldi	40	2437	2022-04-18	05:23:02

PARTICIPANT:

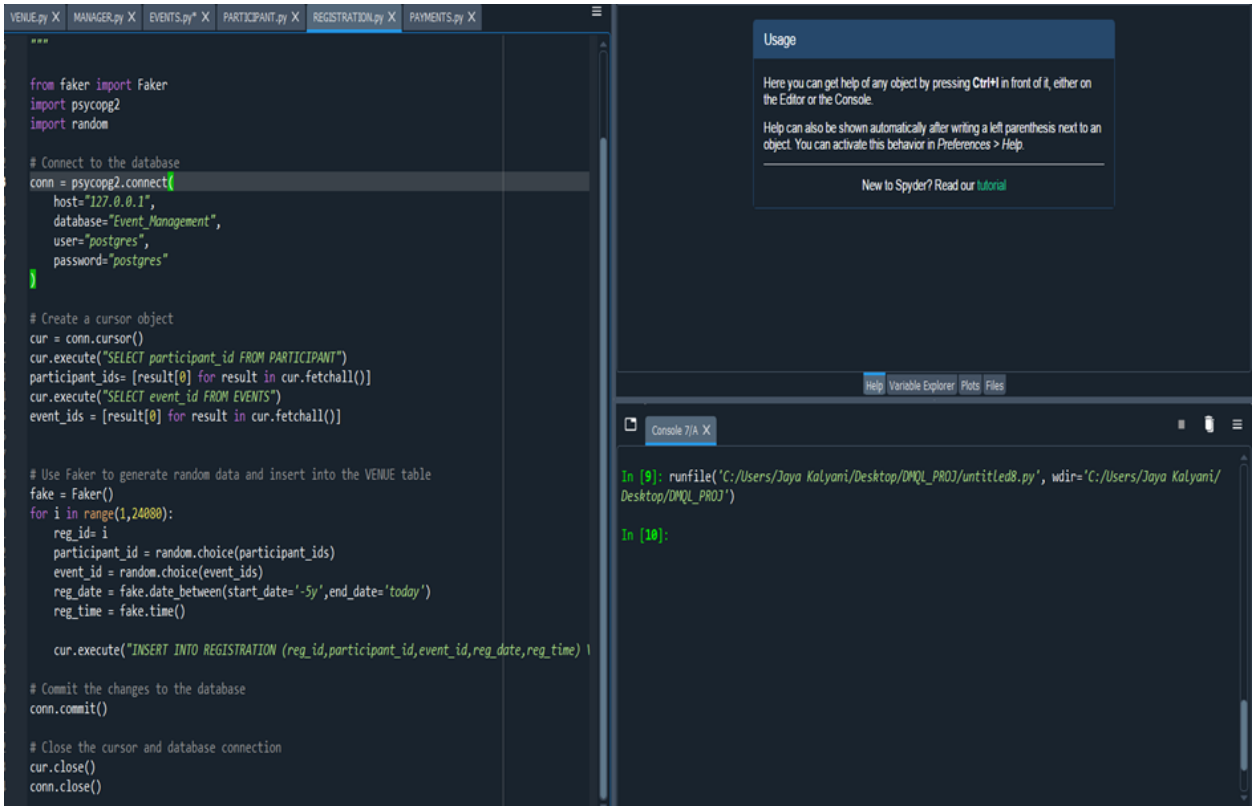


39999 tuples



	participant_id [PK] integer	event_id integer	participant_name character varying (100)	email_id character varying (100)	ph_number character (50)	registration_status boolean
1	1	7743	Krista Powell	kristiflynn@example.org	015-249-3583x9966	false
2	2	127	Brendan Hall	kathleen48@example.com	715.713.1040	true
3	3	9243	Thomas Brown	michael41@example.com	990.131.0978	false
4	4	9468	Beth Lopez	madisonbaxter@example.com	784-429-8020	false
5	5	14544	Beth Li	rharding@example.net	525.411.5161	true
6	6	11668	Sarah Bowen	schultzpatrick@example.com	(435)867-2247x62085	false
7	7	15267	Michelle Wright	jaydelgado@example.net	274-274-4643x97326	false
8	8	8327	Richard Chan DDS	oking@example.net	192.394.2059x097	true
9	9	3054	Michael Hayes	milleramy@example.com	+1-675-805-0733	true
10	10	2419	Guy Harrington	smithvictoria@example.net	341-802-8657x45859	true
11	11	1221	Sara Blankenship	kristen67@example.net	001-889-310-8930x363	true
12	12	17289	Jason Oconnor	ochoadebbie@example.net	120.003.4771x6880	true
13	13	11046	Christina Duffy	anthony77@example.com	699-460-9009	false
14	14	15849	Benjamin Meyer	owensjody@example.org	001-294-789-3098x203	true
15	15	2380	Dr. Heather Moore DDS	tyronefoster@example.net	977.596.0139x91333	true
16	16	1184	Ronald Lambert	joshua33@example.org	675.618.0565x312	true
17	17	10123	Ariana Case	erincrane@example.net	(455)410-1297x82226	true
18	18	9377	Christopher Woods	jack66@example.com	(779)009-7566	true

REGISTRATION:



```
"""

from faker import Faker
import psycopg2
import random

# Connect to the database
conn = psycopg2.connect(
    host="127.0.0.1",
    database="Event_Management",
    user="postgres",
    password="postgres"
)

# Create a cursor object
cur = conn.cursor()
cur.execute("SELECT participant_id FROM PARTICIPANT")
participant_ids= [result[0] for result in cur.fetchall()]
cur.execute("SELECT event_id FROM EVENTS")
event_ids = [result[0] for result in cur.fetchall()]


# Use Faker to generate random data and insert into the VENUE table
fake = Faker()
for i in range(1,24080):
    reg_id= i
    participant_id = random.choice(participant_ids)
    event_id = random.choice(event_ids)
    reg_date = fake.date_between(start_date='-5y',end_date='today')
    reg_time = fake.time()

    cur.execute("INSERT INTO REGISTRATION (reg_id,participant_id,event_id,reg_date,reg_time) \

# Commit the changes to the database
conn.commit()

# Close the cursor and database connection
cur.close()
conn.close()
```

```
Usage

Here you can get help of any object by pressing Ctrl+I in front of it, either on the Editor or the Console.

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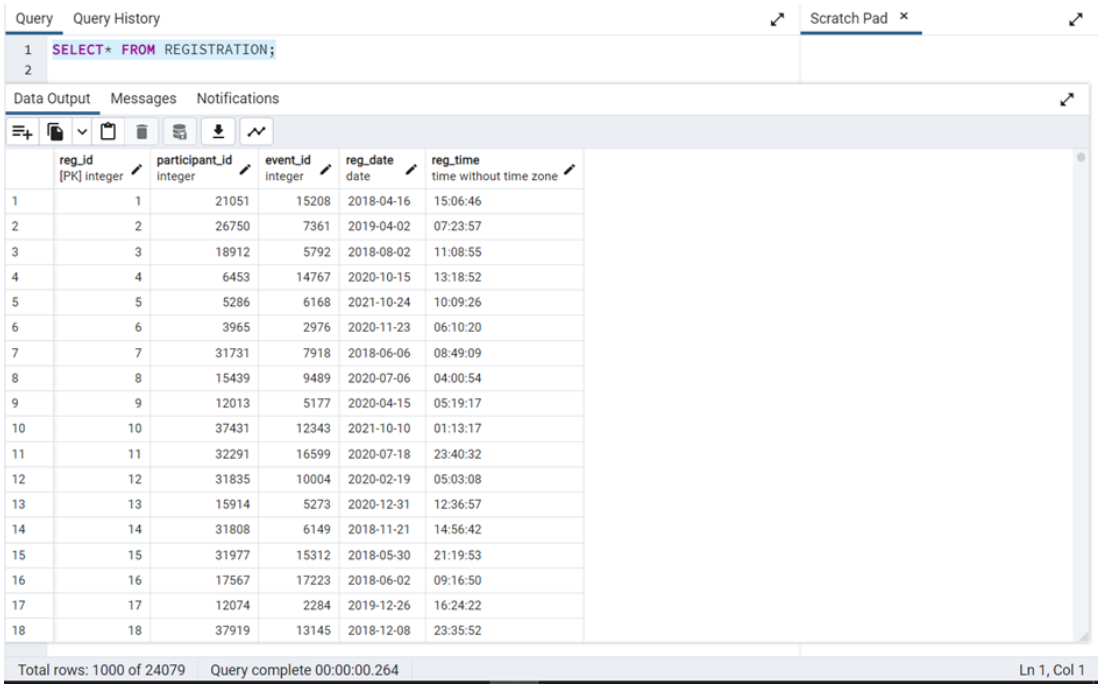
Console 7/A

In [9]: runfile('C:/Users/Jaya Kalyani/Desktop/DMQL_PROJ/untitled8.py', wdir='C:/Users/Jaya Kalyani/Desktop/DMQL_PROJ')

In [10]:
```

24079 tuples



Query Query History

```
SELECT* FROM REGISTRATION;
```

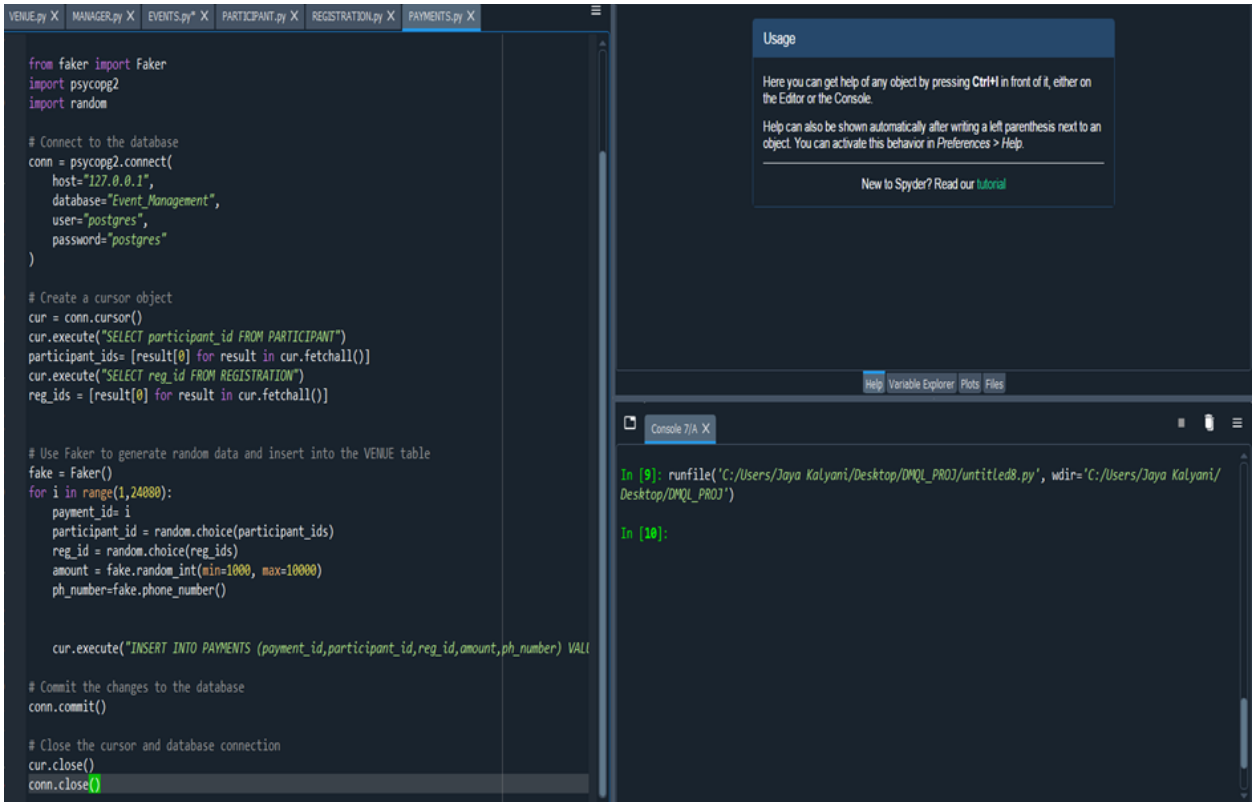
Scratch Pad

Data Output Messages Notifications

	reg_id [PK] integer	participant_id integer	event_id integer	reg_date date	reg_time time without time zone
1	1	21051	15208	2018-04-16	15:06:46
2	2	26750	7361	2019-04-02	07:23:57
3	3	18912	5792	2018-08-02	11:08:55
4	4	6453	14767	2020-10-15	13:18:52
5	5	5286	6168	2021-10-24	10:09:26
6	6	3965	2976	2020-11-23	06:10:20
7	7	31731	7918	2018-06-06	08:49:09
8	8	15439	9489	2020-07-06	04:00:54
9	9	12013	5177	2020-04-15	05:19:17
10	10	37431	12343	2021-10-10	01:13:17
11	11	32291	16599	2020-07-18	23:40:32
12	12	31835	10004	2020-02-19	05:03:08
13	13	15914	5273	2020-12-31	12:36:57
14	14	31808	6149	2018-11-21	14:56:42
15	15	31977	15312	2018-05-30	21:19:53
16	16	17567	17223	2018-06-02	09:16:50
17	17	12074	2284	2019-12-26	16:24:22
18	18	37919	13145	2018-12-08	23:35:52

Total rows: 1000 of 24079 Query complete 00:00:00.264 Ln 1, Col 1

PAYMENTS:



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cur = conn.cursor()
cur.execute("SELECT participant_id FROM PARTICIPANT")
participant_ids= [result[0] for result in cur.fetchall()]
cur.execute("SELECT reg_id FROM REGISTRATION")
reg_ids = [result[0] for result in cur.fetchall()]


# Use Faker to generate random data and insert into the VENUE table
fake = Faker()
for i in range(1,24080):
    payment_id= i
    participant_id = random.choice(participant_ids)
    reg_id = random.choice(reg_ids)
    amount = fake.random_int(min=1000, max=10000)
    ph_number=fake.phone_number()


    cur.execute("INSERT INTO PAYMENTS (payment_id,participant_id,reg_id,amount,ph_number) VALU

# Commit the changes to the database
conn.commit()

# Close the cursor and database connection
cur.close()
conn.close()
```

```
Usage

Here you can get help of any object by pressing Ctrl+I in front of it, either on the Editor or the Console.

Help can also be shown automatically after writing a left parenthesis next to an object. You can activate this behavior in Preferences > Help.

New to Spyder? Read our tutorial

Help  Variable Explorer  Plots  Files

Console 7/A

In [9]: runfile('C:/Users/Jaya Kalyani/Desktop/DMQL_PROJ/untitled8.py', wdir='C:/Users/Jaya Kalyani/Desktop/DMQL_PROJ')

In [10]:
```

24079 tuples

Query Query History

```
SELECT* FROM PAYMENTS;
```

Scratch Pad

Data Output Messages Notifications

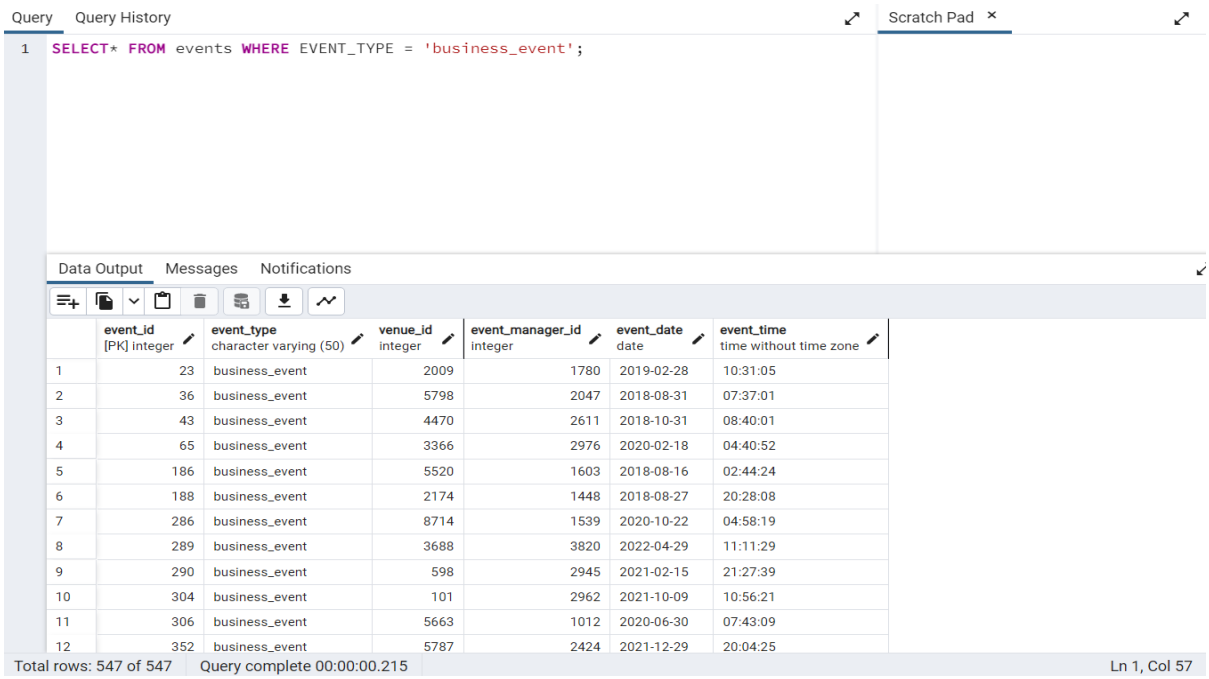
	payment_id [PK] integer	reg_id integer	participant_id integer	amount integer	ph_number character (50)
1	1	9785	35601	5705	001-573-231-1514x2725
2	2	1883	12777	8537	343-570-8249
3	3	14961	19717	8409	+1-956-752-5234
4	4	21644	10458	1360	+1-548-977-5565x335
5	5	4411	37935	8378	090.023.3041x060
6	6	1666	13879	6134	+1-665-016-9046x7417
7	7	23554	6531	6080	863-032-5999
8	8	12245	18626	1968	001-297-532-4673
9	9	17273	454	8635	633.909.4766x1954
10	10	2563	21807	6848	746.066.4076
11	11	21193	10710	8883	953.908.8581
12	12	21379	26041	3149	+1-294-669-7712x651
13	13	22735	16244	8202	428-609-2036
14	14	3738	12520	5515	593.859.7507
15	15	3713	37947	9685	933-940-5588x5738
16	16	16649	11922	1303	3142425053
17	17	14717	22014	8653	4972573622
18	18	1319	27719	9902	(689)193-4370x4606

Total rows: 1000 of 24079 Query complete 00:00:00.170 Ln 1, Col 1

8. Queries

1. Using the SELECT and WHERE clause

Get all the details of all the business events from the event table.



Query | Query History

```
1  SELECT* FROM events WHERE EVENT_TYPE = 'business_event';
```

Scratch Pad

Data Output | Messages | Notifications

	event_id [PK] integer	event_type character varying (50)	venue_id integer	event_manager_id integer	event_date date	event_time time without time zone
1	23	business_event	2009	1780	2019-02-28	10:31:05
2	36	business_event	5798	2047	2018-08-31	07:37:01
3	43	business_event	4470	2611	2018-10-31	08:40:01
4	65	business_event	3366	2976	2020-02-18	04:40:52
5	186	business_event	5520	1603	2018-08-16	02:44:24
6	188	business_event	2174	1448	2018-08-27	20:28:08
7	286	business_event	8714	1539	2020-10-22	04:58:19
8	289	business_event	3688	3820	2022-04-29	11:11:29
9	290	business_event	598	2945	2021-02-15	21:27:39
10	304	business_event	101	2962	2021-10-09	10:56:21
11	306	business_event	5663	1012	2020-06-30	07:43:09
12	352	business_event	5787	2424	2021-12-29	20:04:25

Total rows: 547 of 547 | Query complete 00:00:00.215 | Ln 1, Col 57

2. Using the SELECT and JOIN clause

Get all the event_id, venue_id, manager_id and his name by joining events and manager table.

```
SELECT e.event_id, e.venue_id,m.manager_id, m.manager_name
FROM  events e
JOIN manager m
ON e.event_manager_id=m.manager_id;
```

	event_id integer	venue_id integer	manager_id integer	manager_name character varying (100)
1	1	4178	974	Michelle Solis
2	2	6676	7	Samantha Collins
3	3	7041	3269	Joshua Jones
4	4	7535	850	Melissa Lynn
5	5	8573	2099	Mark Santos
6	6	5000	161	Michael Terrell
7	7	6855	505	Mr. David Murphy
8	8	8228	831	Martha Carpenter
9	9	3458	631	Sierra Lee
10	10	9415	3591	Jeanette Black
11	11	5036	1270	Jennifer Mullen
12	12	1263	85	Douglas Watkins

Total rows: 1000 of 17999 Query complete 00:00:00.123 Ln 4, Col 36

3. Using the SELECT clause and WHERE clause

To retrieve the participants' details who are not in the registration table by using the subquery.

```
SELECT participant_id, event_id, participant_name
FROM  participant
WHERE participant_id
NOT IN (SELECT participant_id
        FROM registration);
```

	participant_id [PK] integer	event_id integer	participant_name character varying (100)
1	1	7743	Krista Powell
2	2	127	Brendan Hall
3	3	9243	Thomas Brown
4	4	9468	Beth Lopez
5	9	3054	Michael Hayes
6	13	11046	Christina Duffy
7	15	2380	Dr. Heather Moore DDS
8	20	13290	Robert Lawson
9	22	13714	Jeffrey Roth
10	24	7452	Arthur Barnett
11	25	6157	Bethany Elliott
12	27	4316	Jeffrey Taylor

Total rows: 1000 of 21871 Query complete 00:00:00.136 Ln 1, Col 1

4. Using the SELECT clause and GROUP BY and ORDER BY

To Get all the grouping the event types and counting the number of persons registered for each event and ordering them by event type.

```
SELECT e.event_type, count(reg.event_id) as tot_mem_registered
FROM events e
JOIN registration reg
ON e.event_id = reg.event_id
GROUP BY e.event_type
ORDER BY event_type ASC;
```

Data Output | Messages | Notifications

	event_type character varying (50)	tot_mem_registered bigint
1	anniversary	704
2	Art_shows	653
3	Auctions	725
4	Awards	787
5	baby_shower	690
6	balls	697
7	birthday	719
8	business_event	796
9	concert	749
10	Cultural_event	747
11	dance	706
12	Dinners	734
13	engagement	650
14	flash_mob	721

Total rows: 33 of 33 | Query complete 00:00:00.070 | Ln 1, Col 1

5. Update

This query can be used to update one or more attributes of a specific venue record.

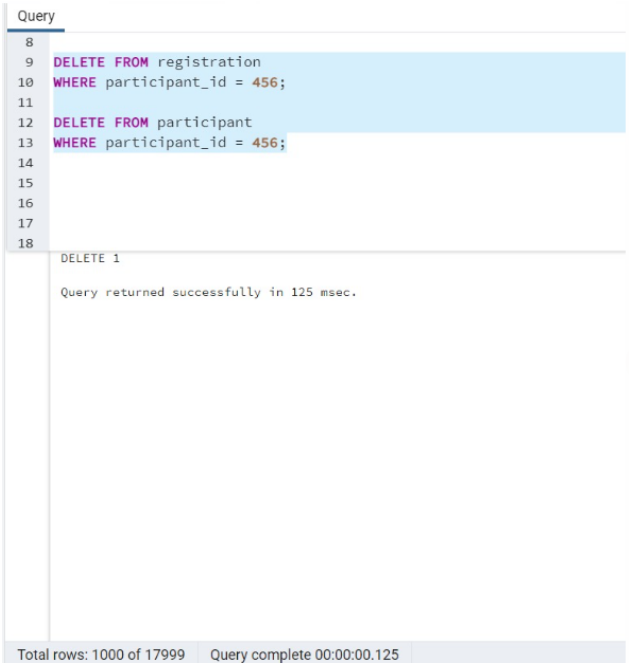
```
UPDATE venue
SET venue_availability = FALSE
WHERE venue_id = 123;
```

```
UPDATE 1

Query returned successfully in 50 msec.
```

6. Delete query

A "Delete participant" query is a database query used to remove one or more participant records from the "Participant" table. This query can be used to delete a specific participant record based on the participant ID, or to delete multiple participant records based on various conditions.



7. Left Outer Join

This query will return a list of all participants and their registration details (registration date and time), including those who have not yet registered for any events (i.e., their registration details will be NULL). The LEFT OUTER JOIN ensures that all records from the left table (participant) are included in the result set, even if there is no matching record in the right table (registration).

Query

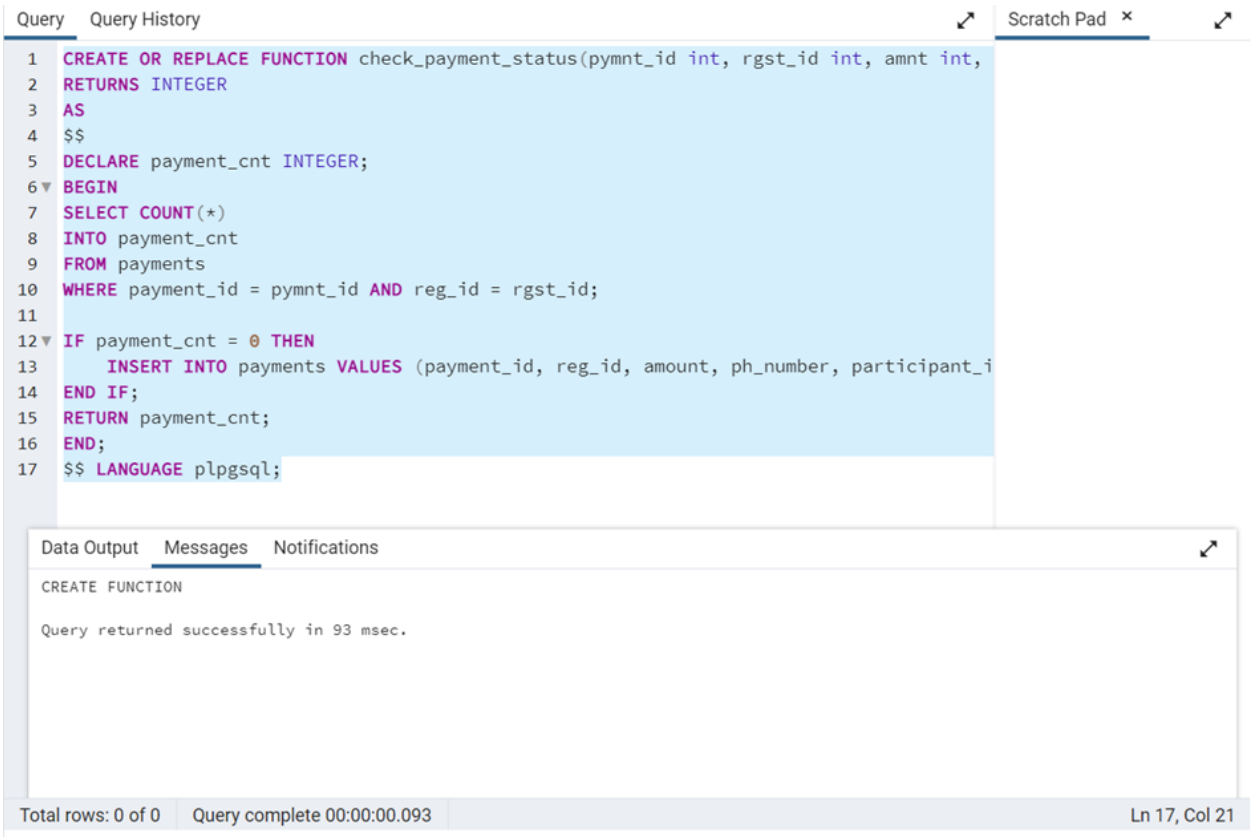
```
1
2  SELECT participant.participant_id, participant.participant_name,
3  registration.reg_date, registration.reg_time
4  FROM participant
5  LEFT OUTER JOIN registration
6  ON participant.participant_id = registration.participant_id;
7
8
9
10
11
```

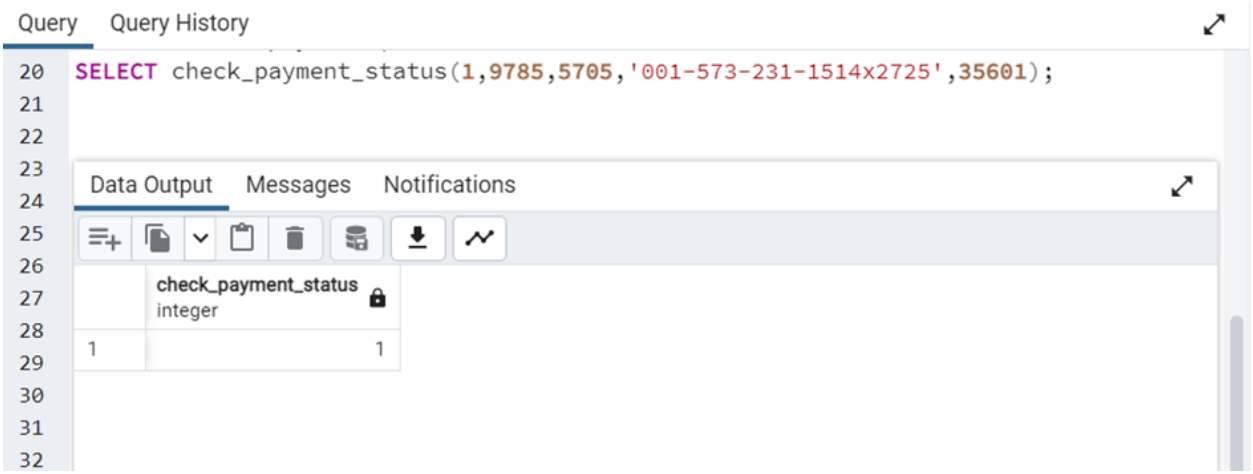
	participant_id integer	participant_name character varying (100)	reg_date date	reg_time time without time zone
1	21051	Angela Hamilton	2018-04-16	15:06:46
2	26750	Jacqueline Bailey	2019-04-02	07:23:57
3	18912	Sarah Daniels	2018-08-02	11:08:55
4	6453	Kaitlyn Johnson	2020-10-15	13:18:52
5	5286	Robert Davis	2021-10-24	10:09:26
6	3965	Michelle Kim	2020-11-23	06:10:20
7	31731	Michelle Simmons	2018-06-06	08:49:09
8	15439	Kim Brooks	2020-07-06	04:00:54
9	12013	Wesley Parker	2020-04-15	05:19:17
10	37431	Daniel Davies	2021-10-10	01:13:17
11	32291	Joshua Winters	2020-07-18	23:40:32
12	31835	Mary Jackson	2020-02-19	05:03:08
13	15914	Jennifer Davis	2020-12-31	12:36:57

Total rows: 1000 of 45948 Query complete 00:00:00.102

8. Function

A function named "check_payment_status" is created. It checks if a payment with the given payment_id and reg_id exists in the "payments" table. If the payment doesn't exist, the function inserts a new payment record with the given payment_id, reg_id, amount, phone number, and participant_id. The function then returns the count of payments with the given payment_id and reg_id.





9. Create View

This SQL query creates a view named "vw_available_venues". The view selects the venue_id, venue_name, venue_addr, and venue_capacity columns from the "venue" table where the venue_availability column is 'true'. This view will show all available venues based on the value of the venue_availability column, and it can be queried like a table to retrieve this information.

Query | Query History

```
22 CREATE OR REPLACE VIEW vw_available_venues
23 AS
24 SELECT venue_id, venue_name, venue_addr, venue_capacity
25 FROM venue
26 WHERE venue_availability = 'true';
27
28
29
30
31
32
33
34
35
36
37
38
39 CREATE VIEW
40
41 Query returned successfully in 145 msec.
```

Data Output | Messages | Notifications

```
28
29 SELECT * FROM vw_available_venues;
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
```

	venue_id integer	venue_name character varying (100)	venue_addr character varying (150)	venue_capacity integer
1	1	Nielsen Ltd	30363 Rodriguez Summit Apt. 118 West Bradley, VI 65594	842
2	3	Anderson, Davidson and White	USS Day FPO AE 07865	297
3	5	Thompson, Martinez and Price	044 Carol Light Apt. 688 West Douglasborough, CA 49295	371
4	6	Hines-Bailey	USS Flores FPO AP 49252	124
5	7	Griffin, Ortiz and Lloyd	3116 Rodriguez Spring Potterfort, VA 78199	622
6	9	Greer LLC	13603 Montgomery Manor West Karichester, DE 02211	697
7	10	Cunningham-Johnson	268 Gordon Expressway West Meganside, FM 65529	548
8	11	Malone-Conner	6196 Christopher Fall Suite 381 Lake Rebeccamouth, TN 42178	771
9	12	Knapp, Kirk and Taylor	6759 Johnson Gateway Lake Kennethburgh, IL 93547	227
10	14	Reyes, Bowman and Rodriguez	USS Solis FPO AP 61668	417
11	15	Howe PLC	9795 Cortez Loaf West Bobbyberg, DC 57650	749
12	16	Evans, Hebert and Lee	230 Shelley Tunnel Apt. 999 Brianmouth, VA 35010	896
13	17	Solis-Davis	007 Morano Track Suite 174 Port Jacqueview, CO 40654	277

Total rows: 1000 of 4927 | Query complete 00:00:00.088 | Ln 29, Col 1

9. Data Normalization

The following is a summary of the functional dependencies (FDs) and the satisfaction of the Boyce-Codd Normal Form (BCNF) in each of the six tables:

a. VENUE TABLE: The FD venue_id -> venue_name, venue_addr, venue_capacity, venue_availability holds, and it is nontrivial. The left-hand side of the FD is a super key, so the BCNF condition is satisfied.

b. MANAGER TABLE: The FD manager_id -> manager_name, email_id, ph_number, experience_in_yrs, salary holds, and it is nontrivial. The left-hand side of the FD is a super key, so the BCNF condition is satisfied.

c. EVENT TABLE: The FD event_id -> event_type, venue_id, event_manager_id, event_date, event_time holds, and it is nontrivial. The left-hand side of the FD is a super key, so the BCNF condition is satisfied.

d. PARTICIPANT TABLE: The FD participant_id -> event_id, participant_name, email_id, ph_number, registration_status holds, and it is nontrivial. The left-hand side of the FD is a super key, so the BCNF condition is satisfied.

e. REGISTRATION TABLE: The FD reg_id -> participant_id, event_id, reg_date, reg_time holds, and it is nontrivial. The left-hand side of the FD is a super key, so the BCNF condition is satisfied.

f. PAYMENTS TABLE: The FD payment_id -> reg_id, participant_id, amount, ph_number holds, and it is nontrivial. The left-hand side of the FD is a super key, so the BCNF condition is satisfied.

10. Query Optimization

After indexing the queries, it is important to assess their performance, cost, and time. The optimization has resulted in very efficient performance and cost indicating that the

indexing has significantly improved the performance of the queries and has resulted in a more efficient use of system resources.

a. The first query uses a JOIN operation to combine data from two tables, which can be more efficient than running separate queries and then merging the results. The second query creates an index on a frequently queried column, which can speed up data retrieval operations on that column.

```
SELECT e.event_id, e.venue_id,m.manager_id, m.manager_name
FROM events e
JOIN manager m
ON e.event_manager_id=manager_id;
```

Data Output | Messages | Notifications

	event_id integer	venue_id integer	manager_id integer	manager_name character varying (100)
1	1	4178	974	Michelle Solis
2	2	6676	7	Samantha Collins
3	3	7041	3269	Joshua Jones
4	4	7535	850	Melissa Lynn
5	5	8573	2099	Mark Santos
6	6	5000	161	Michael Terrell
7	7	6855	505	Mr. David Murphy
8	8	8228	831	Martha Carpente

✓ Successfully run. Total query runtime: 161 msec. 17999 rows affected. ×

Total rows: 1000 of 17999 | Query complete 00:00:00.161 | Ln 32, Col 1

```
CREATE UNIQUE INDEX index_venue_id
ON venue (venue_id);
```

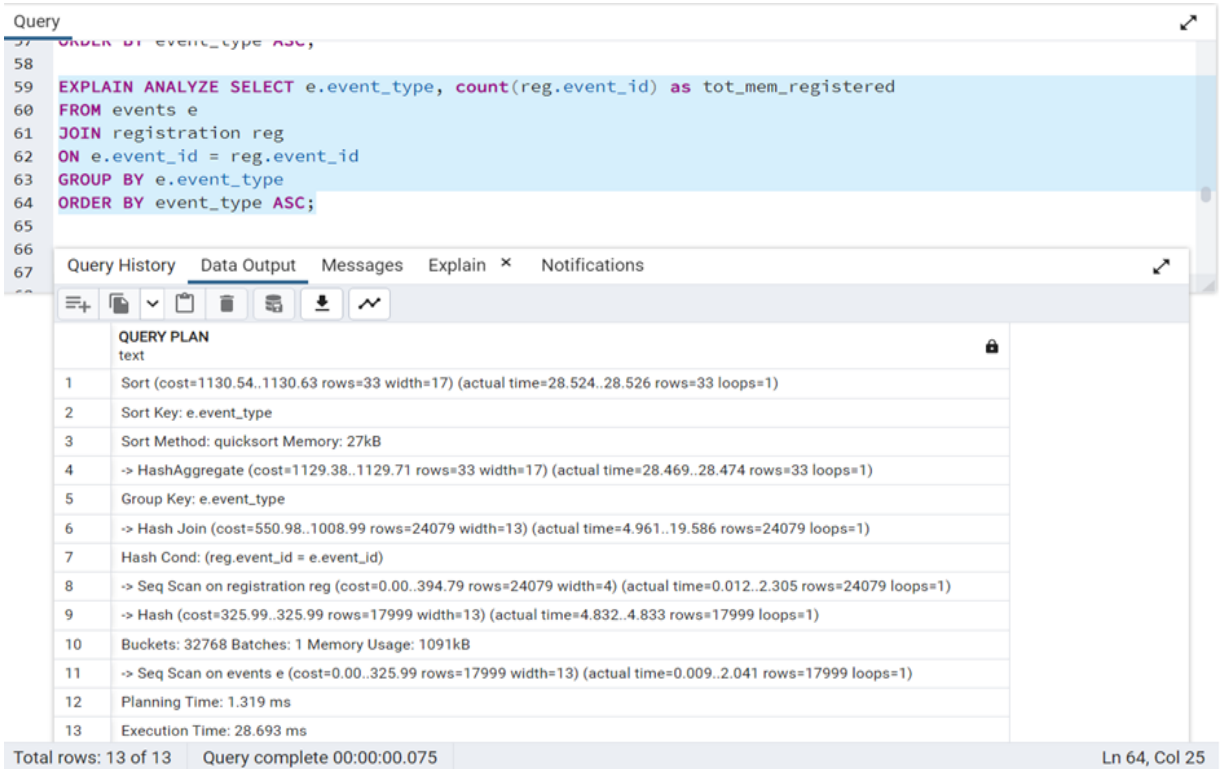
Data Output | Messages | Notifications

```
CREATE INDEX

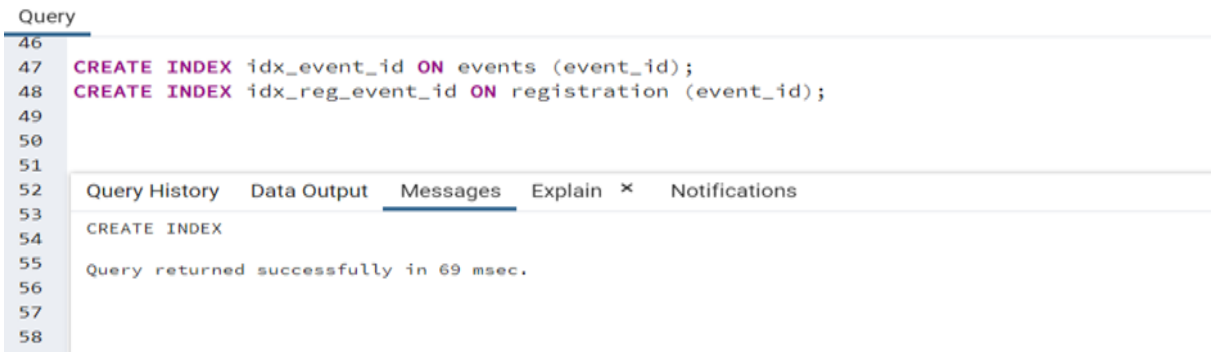
Query returned successfully in 61 msec.
```

b. By using Indexing

The query retrieves data from two tables, "events" and "registration", and summarizes the results by event type. It returns the count of total participants registered for each event type, sorted in ascending order by event type. The statistics can be observed in the below images.



After adding idx_event_id, idx_reg_event the performance has been improved and the execution time has reduced from 28.693 ms to 23.552 ms as observed in the outputs.



Query

```
GROUP BY e.event_type
ORDER BY event_type ASC;

EXPLAIN ANALYZE SELECT e.event_type, count(reg.event_id) as tot_mem_registered
FROM events e
JOIN registration reg
ON e.event_id = reg.event_id
GROUP BY e.event_type
ORDER BY event_type ASC;
```

	QUERY PLAN text
1	Sort (cost=1130.54..1130.63 rows=33 width=17) (actual time=23.371..23.375 rows=33 loops=1)
2	Sort Key: e.event_type
3	Sort Method: quicksort Memory: 27kB
4	-> HashAggregate (cost=1129.38..1129.71 rows=33 width=17) (actual time=23.303..23.308 rows=33 loops=1)
5	Group Key: e.event_type
6	-> Hash Join (cost=550.98..1008.99 rows=24079 width=13) (actual time=5.240..16.760 rows=24079 loops=1)
7	Hash Cond: (reg.event_id = e.event_id)
8	-> Seq Scan on registration reg (cost=0.00..394.79 rows=24079 width=4) (actual time=0.012..1.801 rows=24079 loops=1)
9	-> Hash (cost=325.99..325.99 rows=17999 width=13) (actual time=5.113..5.113 rows=17999 loops=1)
10	Buckets: 32768 Batches: 1 Memory Usage: 1091kB
11	-> Seq Scan on events e (cost=0.00..325.99 rows=17999 width=13) (actual time=0.009..2.031 rows=17999 loops=1)
12	Planning Time: 2.575 ms
13	Execution Time: 23.552 ms

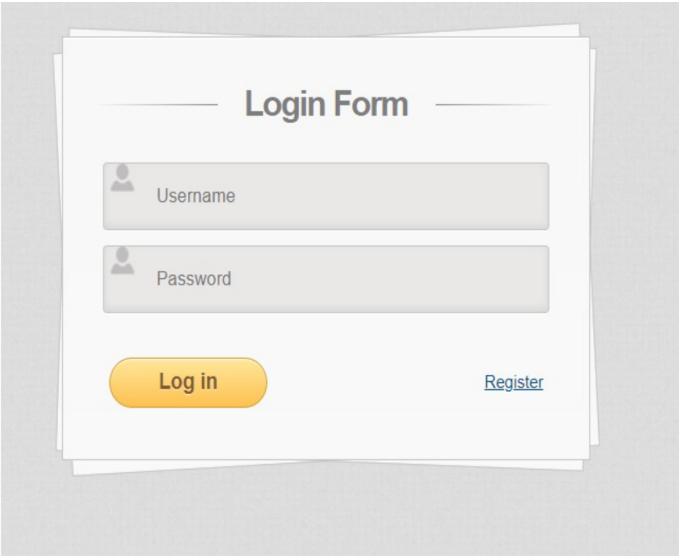
Total rows: 13 of 13 | Query complete 00:00:00.063 | Ln 65, Col 1

Bonus:

Project Application:

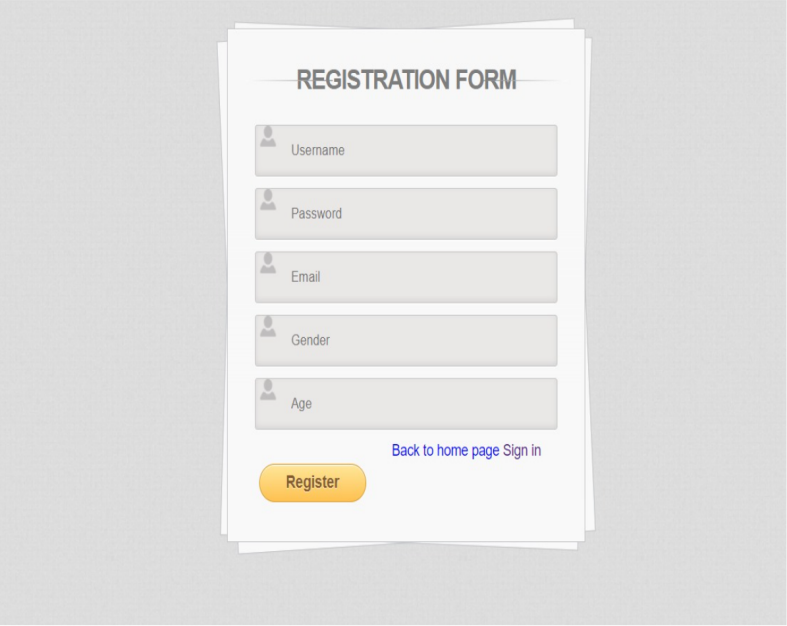
Login form:

The login form is a basic user interface that allows users to enter their login credentials, such as their username and password, to access the event management system.



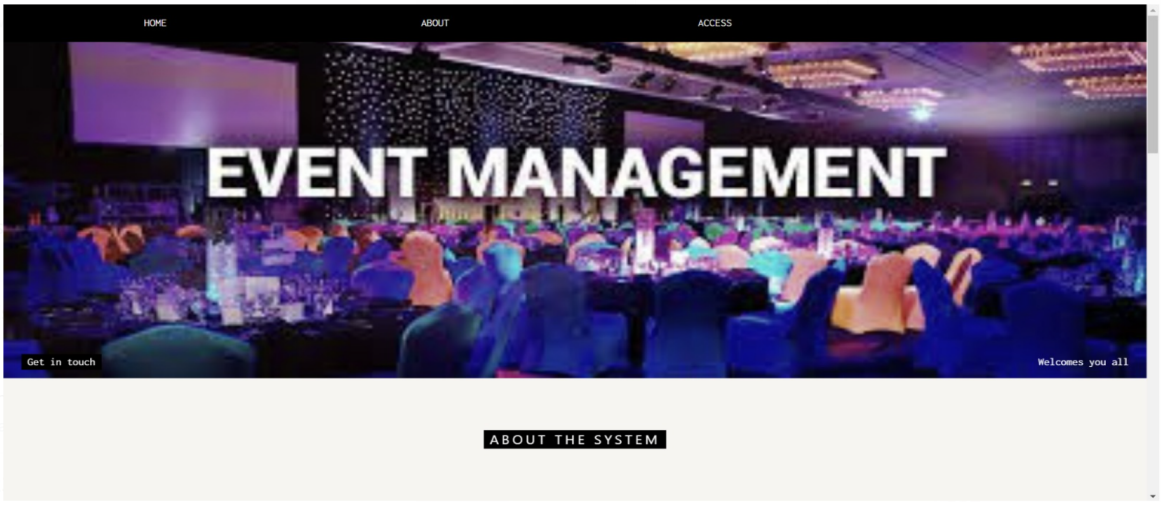
Registration form:

A registration form allows users to create an account on a system or application. It consists of a series of input fields that collect information about the user, such as their name, email address, username, gender, age and password.



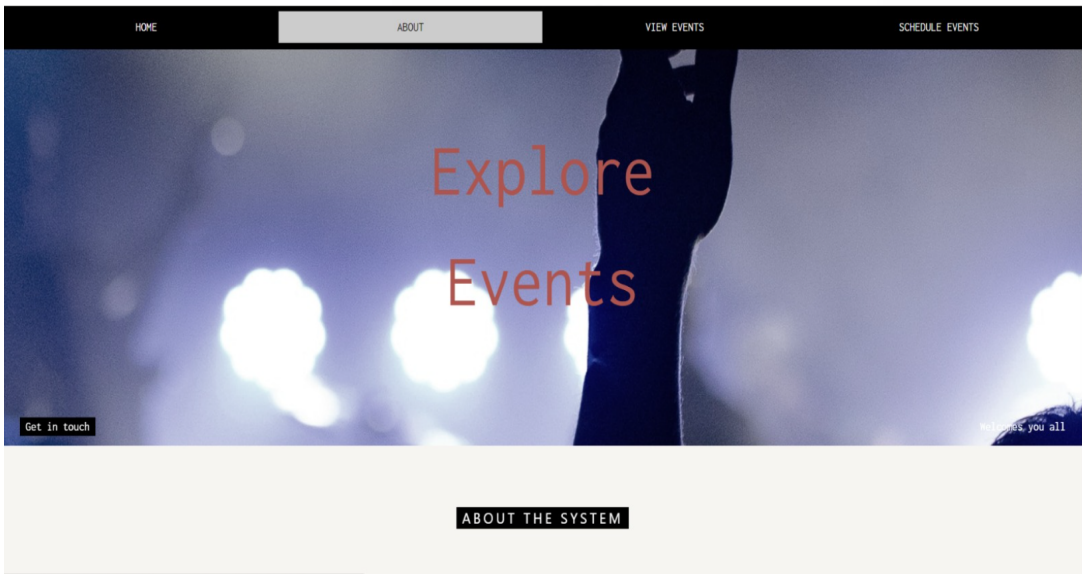
Event_management home page

An event management homepage serves as the main portal for an event management system to help them plan, organize, and manage events of various types and sizes.



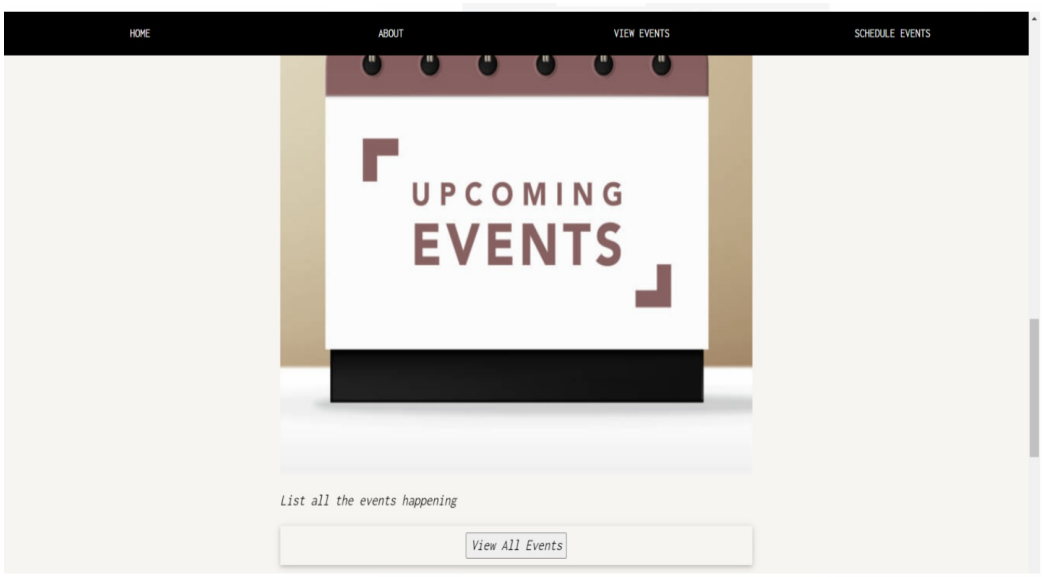
User_home_page

The user home page displays information relevant to the user, such as their upcoming events, past events, and other important details.



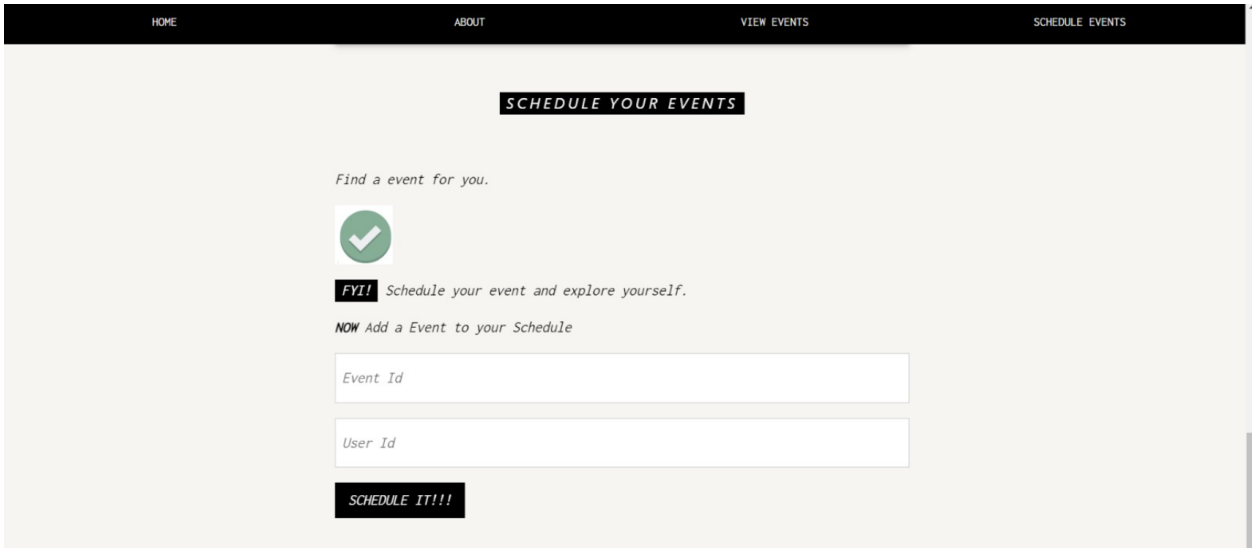
View Events

This page displays a list of all upcoming events in the event management system.



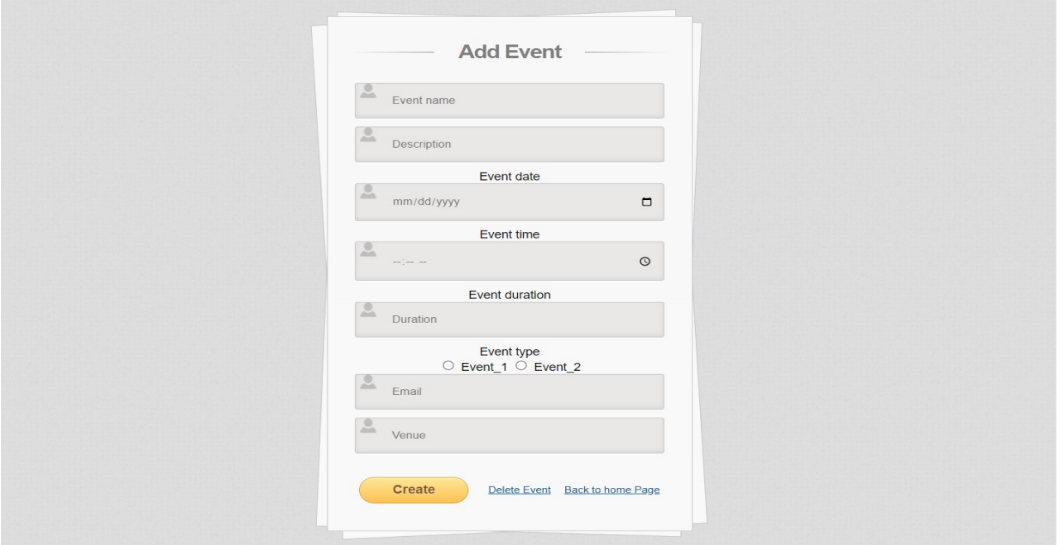
Schedule Events

This page allows users to schedule an event by entering the event id, and user id. Once the event has been scheduled, it will appear on the user's home page and in the system's event management dashboard.



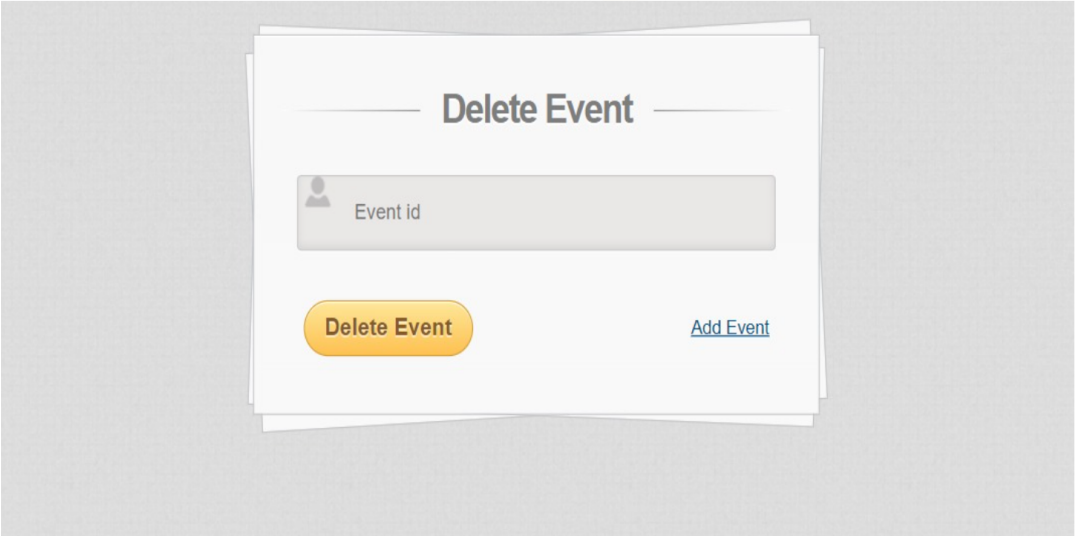
Add_event

Once the user schedules an event they can add the event details such as duration, date location etc.



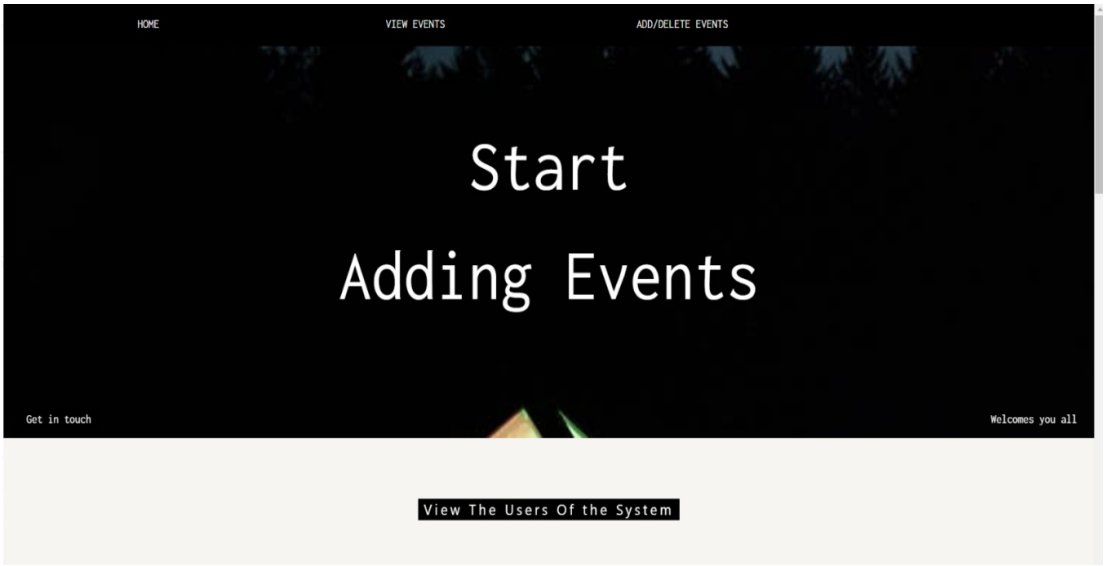
Delete_event

Whenever a user is willing to cancel an event they can do it through using the delete event option through their particular event id's.



Admin_homepage

A landing page or dashboard within an event management system that is designed for administrators.



11. Conclusion

Based on the analysis of the event management system, it can be concluded that the system provides an effective way to manage various events and their related information. The system enables event managers to create, update and manage events, venues, participants and payments efficiently. The use of various database concepts such as normalization, indexes, and views helps in ensuring data integrity, performance and efficient data retrieval. However, the system can be further improved by adding user interfaces and dashboards to make it more user-friendly and easier to use for both event managers and participants. Overall, the event management system has the potential to streamline event planning and management processes and enhance the overall experience of organizing and participating in events.

12.References

1. https://ijisrt.com/wp-content/uploads/2017/04/Study-on-Event-Management-Applications.pdf
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3. Theocharis, 2008, Special event management and event marketing: A case study of TKBL All Star 2011 in Turkey.
4. Gurung, Bikash,2013,Marketing in Event Management.