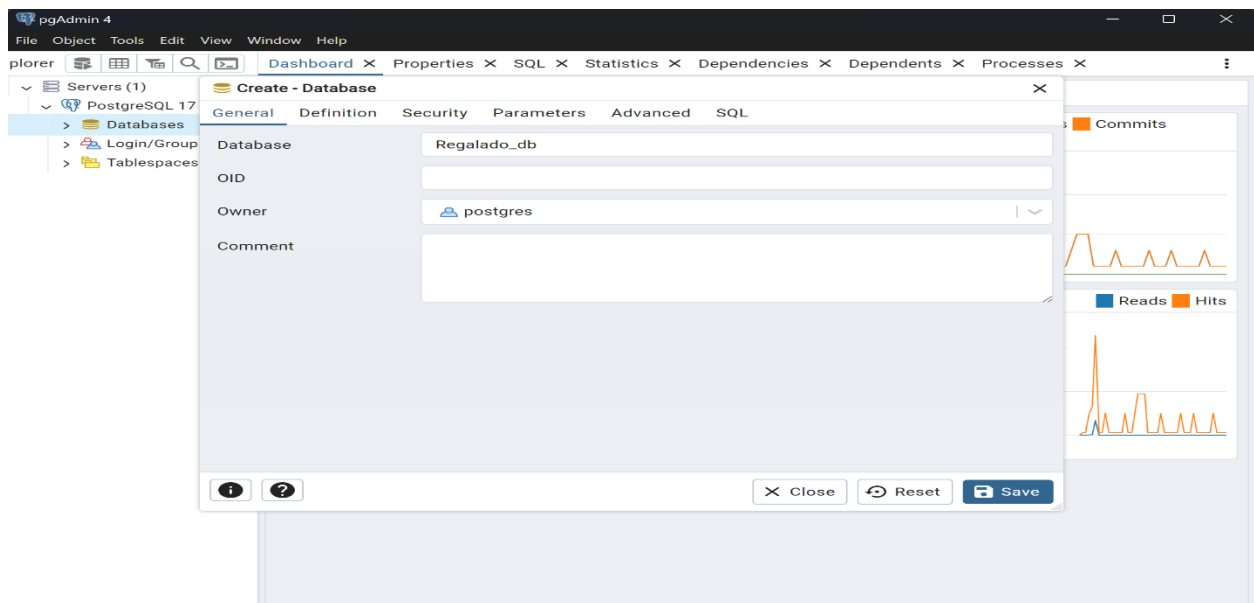


SE 2142 - LABORATORY 4

Part 1: Setting Up the PostgreSQL Database



To create a database, right click the “database” under your database server. Select create and a similar window like above would show up. Name your database and click save.

Part 2: Creating a Table Structure

The screenshot shows an Excel spreadsheet with a table of Genshin Impact characters. The table has 4 columns: ID, Name, Element, and Weapon. The data is as follows:

ID	Name	Element	Weapon
1	Jean	Anemo	Sword
2	Diluc	Pyro	Claymore
3	Fischl	Electro	Bow
4	Bennett	Pyro	Sword
5	Mona	Electro	Catalyst
6	Klee	Pyro	Catalyst
7	Xiao	Anemo	Polearm
8	Ganyu	Cryo	Bow
9	Zhongli	Geo	Polearm
10	Xinyan	Pyro	Claymore
11	Xianyun	Anemo	Catalyst
12	Keqing	Electro	Sword
13	Yelan	Hydro	Bow
14	Gaming	Pyro	Claymore
15	Nahida	Sumeru	Dendro
16	Dehya	Pyro	Claymore
17	Cyno	Electro	Polearm
18	Nilou	Hydro	Sword
19	Tighnari	Sumeru	Dendro
20	Alhaitham	Sumeru	Sword
21	Sethos	Sumeru	Bow
22	Candace	Sumeru	Polearm
23	Furina	Hydro	Sword
24	Neuvillette	Hydro	Catalyst
25	Clorinde	Electro	Sword
26	Navia	Geo	Claymore
27	Charlotte	Cryo	Catalyst
28	Lyney	Pyro	Bow
29	Arlecchino	Pyro	Polearm
30	Emilie	Dendro	Polearm

Char CSV file

The screenshot shows an Excel spreadsheet with a table of actions. The table has 4 columns: ID, Date, Action, and Count. The data is as follows:

ID	Date	Action	Count
1	16/10/2024	110 attack	1
2	17/10/2024	110 attack	2
3	18/10/2024	110 attack	3
4	19/10/2024	110 attack	4
5	20/10/2024	110 attack	5
6	21/10/2024	200 attack	6
7	22/10/2024	200 attack	7
8	23/10/2024	200 attack	8
9	24/10/2024	200 attack	9
10	25/10/2024	200 attack	10
11	26/10/2024	200 attack	11
12	27/10/2024	200 attack	12
13	28/10/2024	200 attack	13
14	29/10/2024	200 attack	14
15	30/10/2024	1000 attack	15
16	31/10/2024	900 attack	16
17	01/11/2024	900 attack	17
18	02/11/2024	900 attack	18
19	03/11/2024	900 attack	19
20	04/11/2024	900 attack	20
21	05/11/2024	900 attack	21
22	06/11/2024	2222 attack	22
23	07/11/2024	2222 attack	23
24	08/11/2024	2222 attack	24
25	09/11/2024	4355 attack	25
26	10/11/2024	8888 attack	26
27	11/11/2024	4321 attack	27
28	12/11/2024	4321 attack	28
29	13/11/2024	2121 attack	29
30	14/11/2024	2121 attack	30

Actions CSV file



```
1  ✓ CREATE TABLE Char (  
2      char_id SERIAL PRIMARY KEY,  
3      char_name VARCHAR(100),  
4      region VARCHAR(50),  
5      vision VARCHAR(50),  
6      weapon VARCHAR(50)  
7  );  
8  
9  
10  
11  
12  ✓ CREATE TABLE Actions (  
13      action_id SERIAL PRIMARY KEY,  
14      action_date DATE NOT NULL,  
15      amount INTEGER NOT NULL,  
16      action_type VARCHAR(50),  
17      char_id INTEGER,  
18      FOREIGN KEY (char_id) REFERENCES Char(char_id)  
19  );  
20
```

Tables for Char and Actions

Part 3: Creating and Importing the CSV File into PostgreSQL

Importing CVS files to created tables

Import/Export data - table 'char'

GeneralOptionsColumns

Import/Export

✓ Import

Export

Filename

C:\Users\Sean Ashton\Downloads\Char.csv

Format

csv

| v

Encoding

UTF8

x | v

i?

Close

Reset

✓ OK

Import/Export data - table 'actions'

GeneralOptionsColumns

Import/Export

✓ Import

Export

Filename

C:\Users\Sean Ashton\Downloads\Actions.csv

Format

csv

| v

Encoding

UTF8

x | v

i?

Close

Reset

✓ OK

Import Verification

<input type="checkbox"/>			PID	Type	Server	Object	Start Time v	Status	Time Taken (sec)
<input type="checkbox"/>	<input checked="" type="checkbox"/>		40324	Import Data	PostgreSQL 17 (loca...	Regalado_db/public...	10/16/2024, 7:00:08...	Finished	0.22
<input type="checkbox"/>	<input checked="" type="checkbox"/>		40104	Import Data	PostgreSQL 17 (loca...	Regalado_db/public...	10/16/2024, 6:59:42...	Finished	0.23

Part 4: Handling Errors and Verifying Data

Query results for table Char

QueryQuery History

1SELECT * FROM Char

Scratch Pad

Data OutputMessagesNotifications

SQL

	char_id [PK] integer	char_name character varying (100)	region character varying (50)	vision character varying (50)	weapon character varying (50)
1	1	Jean	Mondstadt	Anemo	Sword
2	2	Diluc	Mondstadt	Pyro	Claymore
3	3	Fischl	Mondstadt	Electro	Bow
4	4	Bennett	Mondstadt	Pyro	Sword
5	5	Mona	Mondstadt	Electro	Catalyst
6	6	Klee	Mondstadt	Pyro	Catalyst
7	7	Xiao	Liyue	Anemo	Polearm
8	8	Ganyu	Liyue	Cryo	Bow
9	9	Zhongli	Liyue	Geo	Polearm
10	10	Xinyan	Liyue	Pyro	Claymore
11	11	Xianyun	Liyue	Anemo	Catalyst
12	12	Keqing	Liyue	Electro	Sword
13	13	Yelan	Liyue	Hydro	Bow
14	14	Gaming	Liyue	Pyro	Claymore
15	15	Nahida	Sumeru	Dendro	Catalyst
16	16	Dehya	Sumeru	Pyro	Claymore
17	17	Cyno	Sumeru	Electro	Polearm
18	18	Nilou	Sumeru	Hydro	Sword
19	19	Tighnari	Sumeru	Dendro	Bow
20	20	Alhaitham	Sumeru	Dendro	Sword

✓ Table rows counted: 30✕

21	21	Sethos	Sumeru	Electro	Bow
22	22	Candace	Sumeru	Hydro	Polearm
23	23	Furina	Fontaine	Hydro	Sword
24	24	Neuvillette	Fontaine	Hydro	Catalyst
25	25	Clorinde	Fontaine	Electro	Sword
26	26	Navia	Fontaine	Geo	Claymore
27	27	Charlotte	Fontaine	Cryo	Catalyst
28	28	Lyney	Fontaine	Pyro	Bow
29	29	Arlecchino	Fontaine	Pyro	Polearm
30	30	Emilie	Fontaine	Dendro	Polearm

Query results for table Actions

Query

Query History

Scratch Pad

1

SELECT * FROM Actions

Data Output

Messages

Notifications

</

Comparisons between the query results and the CSV data

For Char:

	A	B	C	D	E
1	1	Jean	Mondstadt	Anemo	Sword
2	2	Diluc	Mondstadt	Pyro	Claymore
3	3	Fischl	Mondstadt	Electro	Bow
4	4	Bennett	Mondstadt	Pyro	Sword
5	5	Mona	Mondstadt	Electro	Catalyst
6	6	Klee	Mondstadt	Pyro	Catalyst
7	7	Xiao	Liyue	Anemo	Polearm
8	8	Ganyu	Liyue	Cryo	Bow
9	9	Zhongli	Liyue	Geo	Polearm
10	10	Xinyan	Liyue	Pyro	Claymore
11	11	Xianyun	Liyue	Anemo	Catalyst
12	12	Keqing	Liyue	Electro	Sword
13	13	Yelan	Liyue	Hydro	Bow
14	14	Gaming	Liyue	Pyro	Claymore
15	15	Nahida	Sumeru	Dendro	Catalyst
16	16	Dehya	Sumeru	Pyro	Claymore
17	17	Cyno	Sumeru	Electro	Polearm
18	18	Nilou	Sumeru	Hydro	Sword
19	19	Tighnari	Sumeru	Dendro	Bow
20	20	Alhaitham	Sumeru	Dendro	Sword
21	21	Sethos	Sumeru	Electro	Bow
22	22	Candace	Sumeru	Hydro	Polearm
23	23	Furina	Fontaine	Hydro	Sword
24	24	Neuvillette	Fontaine	Hydro	Catalyst
25	25	Clorinde	Fontaine	Electro	Sword
26	26	Navia	Fontaine	Geo	Claymore
27	27	Charlotte	Fontaine	Cryo	Catalyst
28	28	Lyney	Fontaine	Pyro	Bow
29	29	Arlecchino	Fontaine	Pyro	Polearm
30	30	Emilie	Fontaine	Dendro	Polearm
31					
32					

< >

Char

+

CSV Data

	char_id [PK] integer	char_name character varying (100)	region character varying (50)	vision character varying (50)	weapon character varying (50)
1	1	Jean	Mondstadt	Anemo	Sword
2	2	Diluc	Mondstadt	Pyro	Claymore
3	3	Fischl	Mondstadt	Electro	Bow
4	4	Bennett	Mondstadt	Pyro	Sword
5	5	Mona	Mondstadt	Electro	Catalyst
6	6	Klee	Mondstadt	Pyro	Catalyst
7	7	Xiao	Liyue	Anemo	Polearm
8	8	Ganyu	Liyue	Cryo	Bow
9	9	Zhongli	Liyue	Geo	Polearm
10	10	Xinyan	Liyue	Pyro	Claymore
11	11	Xianyun	Liyue	Anemo	Catalyst
12	12	Keqing	Liyue	Electro	Sword
13	13	Yelan	Liyue	Hydro	Bow
14	14	Gaming	Liyue	Pyro	Claymore
15	15	Nahida	Sumeru	Dendro	Catalyst
16	16	Dehya	Sumeru	Pyro	Claymore
17	17	Cyno	Sumeru	Electro	Polearm
18	18	Nilou	Sumeru	Hydro	Sword
19	19	Tighnari	Sumeru	Dendro	Bow
20	20	Alhaitham	Sumeru	Dendro	Sword
21	21	Sethos	Sumeru	Electro	Bow
22	22	Candace	Sumeru	Hydro	Polearm
23	23	Furina	Fontaine	Hydro	Sword
24	24	Neuvillette	Fontaine	Hydro	Catalyst
25	25	Clorinde	Fontaine	Electro	Sword
26	26	Navia	Fontaine	Geo	Claymore
27	27	Charlotte	Fontaine	Cryo	Catalyst
28	28	Lyney	Fontaine	Pyro	Bow
29	29	Arlecchino	Fontaine	Pyro	Polearm
30	30	Emilie	Fontaine	Dendro	Polearm

Query Results

For Actions:

[illegible]

CSV Data

Query Data

Extra query to check if Foreign Key works

Regalado_db/postgres@PostgreSQL 17

Query History Scratch Pad X

```

1 SELECT C.char_name, c.region, c.weapon, c.vision, a.action_id, a.amount, a.action_type
2 FROM Actions a
3 JOIN Char c ON a.char_id = c.char_id;

```

Data Output Messages Notifications

	char_name character varying (100)	region character varying (50)	weapon character varying (50)	vision character varying (50)	action_id integer	amount integer	action_type character varying (50)
1	Jean	Mondstadt	Sword	Anemo	1	110	attack
2	Diluc	Mondstadt	Claymore	Pyro	2	110	attack
3	Fischl	Mondstadt	Bow	Electro	3	110	attack
4	Bennett	Mondstadt	Sword	Pyro	4	110	attack
5	Mona	Mondstadt	Catalyst	Electro	5	110	attack
6	Klee	Mondstadt	Catalyst	Pyro	6	200	attack
7	Xiao	Liyue	Polearm	Anemo	7	200	attack
8	Ganyu	Liyue	Bow	Cryo	8	200	attack
9	Zhongli	Liyue	Polearm	Geo	9	200	attack
10	Xinyan	Liyue	Claymore	Pyro	10	200	attack
11	Xiaoyun	Liyue	Catalyst	Anemo	11	200	attack
12	Keqing	Liyue	Sword	Electro	12	200	attack
13	Yelan	Liyue	Bow	Hydro	13	200	attack
14	Gaming	Liyue	Claymore	Pyro	14	200	attack
15	Nahida	Sumeru	Catalyst	Dendro	15	1000	attack
16	Dehya	Sumeru	Claymore	Pyro	16	900	attack
17	Cyno	Sumeru	Polearm	Electro	17	900	attack
18	Wriothesley	Sumeru	Sword	Ice	18	200	attack

Total rows: 30 of 30 Query complete 00:00:00.172 Ln 1, Col 50

Table rows counted: 30