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DATABASE SYSTEMS

Database Project (Airport)

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Title

The title of our project: Airport Database.

Description

Airport database stores airplanes, their owners, their services, airport technicians, flight attendants and pilots.

Each airplane has a registration number [Reg#], is of a particular plane type [OF- TYPE], and is stored in a particular hangar [STORED-IN].

Each plane type has a model number [Model], a capacity [Capacity], and a weight [Weight].

The database keeps track of the owners of each airplane [OWNS], the pilot authorized to fly [FLIES], the technicians who have maintained the airplane [MAINTAIN] and flight attendants who have worked on the airplane [WORKS_ON].

Each relationship instance in [OWNS] relates an airplane to an owner and includes the purchase data [Pdate].

Each relationship instance in MAINTAIN relates a technician to a service record [SERVICE].

Each plane undergoes service many times; hence, it is related by [PLANE-SERVICE] to several service records.

A service record includes as attributes the date of maintenance [Date], the number of hours spent on the work [Hours], and the type

of work done [Workcode] and the id of service of work done [Service_id].

We use a weak entity type [SERVICE] to represent airplane service, because the airplane registration number is used to identify a service record.

An owner is either a person or a corporation. Hence, we use a union category [OWNER] that is a subset of the union of corporation [CORPORATION] and person [PERSON] entity types.

Employee is a subset of person.

Employees are either Pilots [PILOT], flight attendants [FLIGHT_ATTENDANT] and technicians [TECHNICIAN].

Pilot has specific attribute license number [License_No], Flight attendant has specific attribute spoken language [Spoken_language] and Technician has specific attribute specialty [Specialty].

Each employee has specific attributes salary [Salary], working hours [Working hours] and the shift worked [Shift].

All person entities in the database have data kept on their social security number [SSN], name [Name], address [Address], and telephone number [Phone].

For corporation entities, the data kept includes name [Name], address [Address], and telephone number [Phone].

Assumptions

1-Employee must be either a Technician ,flight attendant or Pilot.

2-Owner must be either a person or a Corporation.

3-Many Airplanes can be stored in a hanger.

4-An airplane must be stored in a hanger.

5-A hanger must store at least an airplane.

6-Airplane must have only one plane type.

7-Many airplanes can have the same plane type.

8-A plane type must be the type of at least one airplane.

9-A Pilot must be able to fly one or more certain plane types.

10-plane type must be flown by one or more pilots.

11-Flight attendant must work on one or more airplanes.

12-Flight attendant can speak many languages

(Spoken_language multi-valued attribute).

13-Airplanes may have one or more flight attendants.

For ex. Private airplanes may not have a flight attendant.

14-Technician must maintain one or more services.

15-Service must be maintained by one or more technicians.

16-Airplane must have one or more plane services.

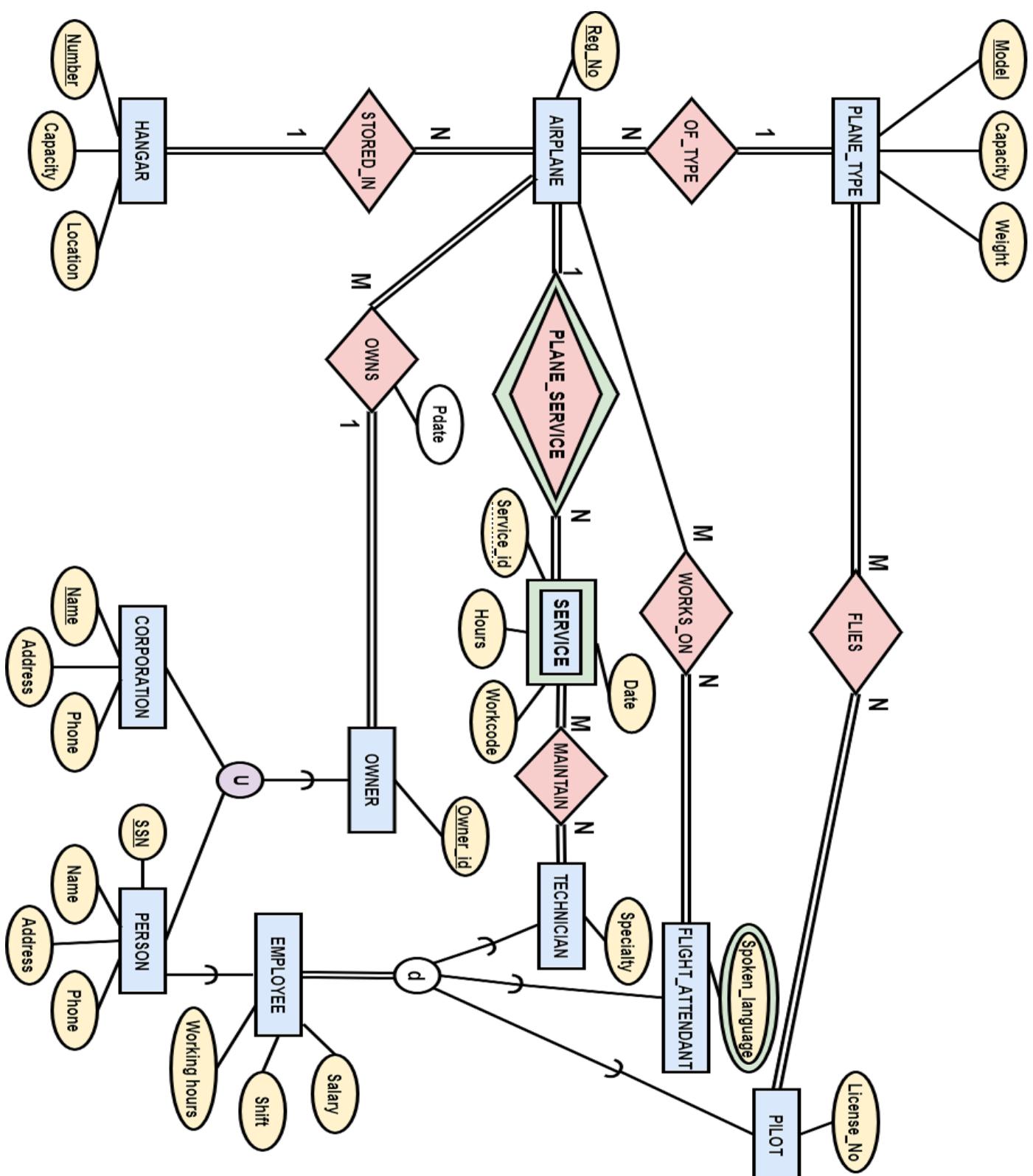
17-Plane services must be done for each airplane independently.

18-Service cannot co-exist without Airplane.

19-Owner must own one or more airplanes.

20-Airplane must be owned by only one owner.

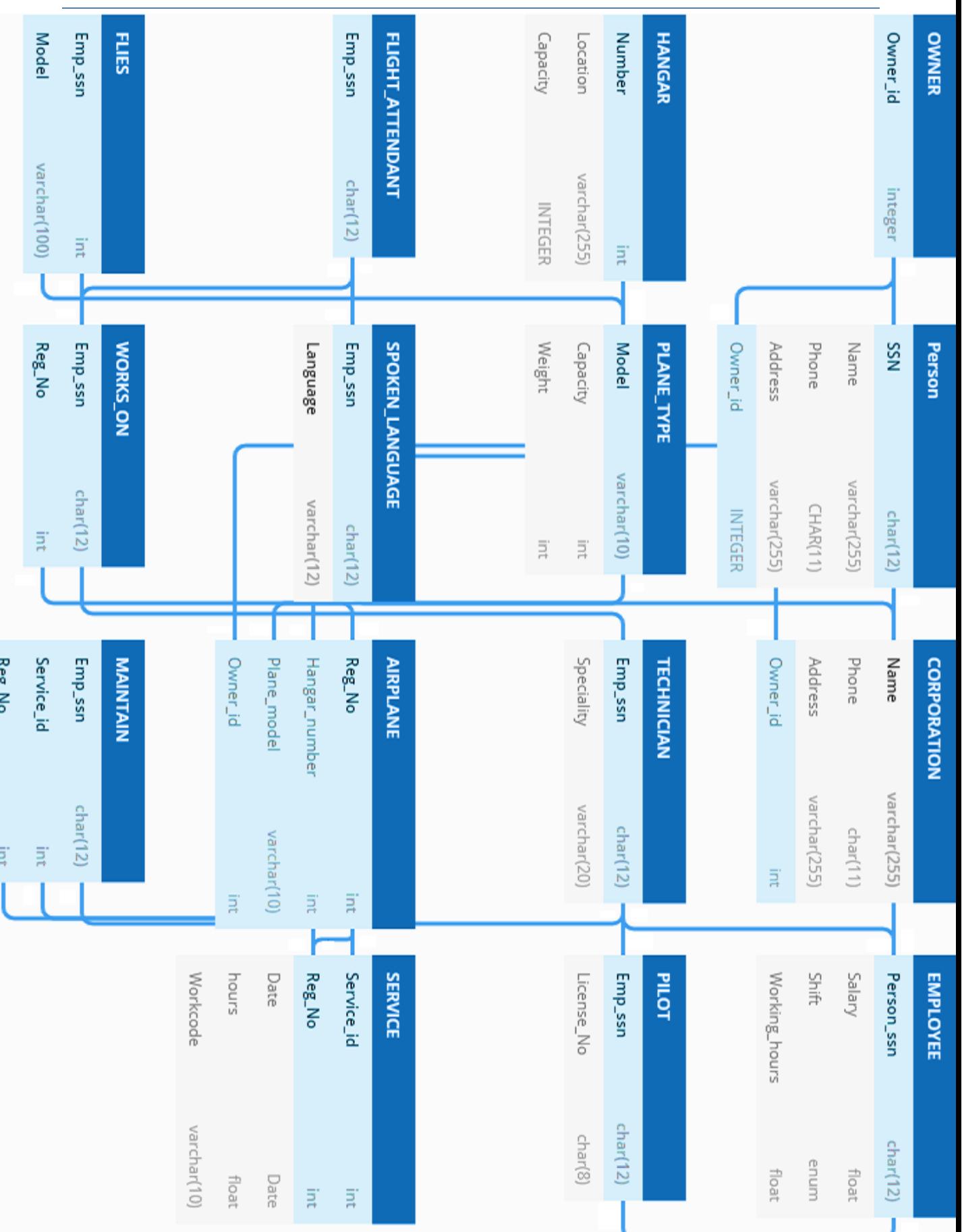
EER Diagram



Foreign Key Table

Table Name	Foreign Keys	Refer To
PERSON	Owner_id	OWNER.Owner_id
Employee	Person_ssn	PERSON.SSN
CORPORATION	Owner_id	OWNER.Owner_id
AIRPLANE	Hanger_number , Plane_model, Owner_id	HANGER.Number , PLANE_TYPE.Model, OWNER.Owner_id
PILOT	Emp_ssn	EMPLOYEE.Person_ssn
TECHNICIAN	Emp_ssn	EMPLOYEE.Person_ssn
FLIGHT_ATTENDANT	Emp_ssn	EMPLOYEE.Person_ssn
SPOKEN_LANGUAGE	Emp_ssn	FLIGHT_ATTENDANT.Emp_ssn
FLIES	Emp_ssn , Model	PILOT.Emp_ssn , PLANE_TYPE.Model
WORKS_ON	Emp_ssn , Reg_No	FLIGHT_ATTENDANT.Emp_ssn , AIRPLANE.Model
MAINTAIN	Emp_ssn , Service_id , Reg_No	TECHNICIAN.Emp_ssn , SERVICE.Service_id , AIRPLANE.Reg_No
SERVICE	Reg_No	AIRPLANE.Reg_No

Relational Data Model



SQL

```
CREATE DATABASE airport;

CREATE TABLE OWNER(
    Owner_id INTEGER NOT NULL AUTO_INCREMENT,
    PRIMARY KEY(Owner_id)
);

CREATE TABLE PERSON(
    SSN CHAR(12) NOT NULL,
    Name VARCHAR(255),
    Phone CHAR(11),
    Address VARCHAR(255),
    Owner_id INTEGER ,
    PRIMARY KEY(SSN),
    FOREIGN KEY(Owner_id) REFERENCES OWNER(Owner_id) ON UPDATE CASCADE ON DELETE SET
NULL
);

CREATE TABLE EMPLOYEE(
    Person_ssn CHAR(12) NOT NULL,
    Salary FLOAT,
    Shift ENUM("pm","am"),
    Working_hours FLOAT,
    PRIMARY KEY(Person_ssn),
    FOREIGN KEY(Person_ssn) REFERENCES PERSON(SSN) ON UPDATE CASCADE ON DELETE RESTRICT
);

CREATE TABLE CORPORATION(
    Name VARCHAR(255) NOT NULL,
    Phone CHAR(11),
    Address VARCHAR(255),
    Owner_id INTEGER NOT NULL,
    PRIMARY KEY(Name),
    FOREIGN KEY(Owner_id) REFERENCES OWNER(Owner_id) ON UPDATE CASCADE ON DELETE RESTRICT
);

CREATE TABLE HANGAR(
    Number INTEGER NOT NULL AUTO_INCREMENT,
    Location VARCHAR(255),
    Capacity INTEGER,
    PRIMARY KEY(Number)
);

CREATE TABLE PLANE_TYPE(
    Model VARCHAR(10) NOT NULL,
    Capacity INTEGER,
    Weight INTEGER,
    PRIMARY KEY(Model)
);

CREATE TABLE AIRPLANE(
    Reg_No INTEGER NOT NULL AUTO_INCREMENT,
    Hangar_number INTEGER NOT NULL,
    Plane_model VARCHAR(10) NOT NULL,
```

```

Owner_id INTEGER NOT NULL,
Pdate DATE,
    PRIMARY KEY(Reg_No),
FOREIGN KEY(Hangar_number) REFERENCES HANGAR(Number) ON UPDATE CASCADE ON DELETE
RESTRICT,
    FOREIGN KEY(Plane_model) REFERENCES PLANE_TYPE(Model) ON UPDATE CASCADE ON DELETE
RESTRICT,
    FOREIGN KEY(Owner_id) REFERENCES OWNER(Owner_id) ON UPDATE CASCADE ON DELETE RESTRICT
);
CREATE TABLE PILOT(
    Emp_ssn CHAR(12) NOT NULL,
    License_No CHAR(8),
    PRIMARY KEY(Emp_ssn),
    FOREIGN KEY(Emp_ssn) REFERENCES EMPLOYEE(Person_ssn) ON UPDATE CASCADE ON DELETE
RESTRICT
);
CREATE TABLE TECHNICIAN(
    Emp_ssn CHAR(12) NOT NULL,
    Speciality VARCHAR(20),
    PRIMARY KEY(Emp_ssn),
    FOREIGN KEY(Emp_ssn) REFERENCES EMPLOYEE(Person_ssn) ON UPDATE CASCADE ON DELETE
RESTRICT
);
CREATE TABLE FLIGHT_ATTENDANT(
    Emp_ssn CHAR(12) NOT NULL,
    PRIMARY KEY(Emp_ssn),
    FOREIGN KEY(Emp_ssn) REFERENCES EMPLOYEE(Person_ssn) ON UPDATE CASCADE ON DELETE
RESTRICT
);
CREATE TABLE SPOKEN_LANGUAGE(
    Emp_ssn CHAR(12) NOT NULL,
    Language VARCHAR(12) NOT NULL,
    PRIMARY KEY(Emp_ssn,Language),
    FOREIGN KEY(Emp_ssn) REFERENCES FLIGHT_ATTENDANT(Emp_ssn) ON UPDATE CASCADE ON DELETE
RESTRICT
);
CREATE TABLE FLIES(
    Emp_ssn CHAR(12) NOT NULL,
    Model VARCHAR(10) NOT NULL,
    PRIMARY KEY(Emp_ssn,Model),
    FOREIGN KEY(Emp_ssn) REFERENCES PILOT(Emp_ssn) ON UPDATE CASCADE ON DELETE RESTRICT,
    FOREIGN KEY(Model) REFERENCES PLANE_TYPE(Model) ON UPDATE CASCADE ON DELETE RESTRICT
);

CREATE TABLE WORKS_ON(
    Emp_ssn CHAR(12) NOT NULL,
    Reg_No INTEGER NOT NULL,
    PRIMARY KEY(Emp_ssn,Reg_No),
    FOREIGN KEY(Emp_ssn) REFERENCES FLIGHT_ATTENDANT(Emp_ssn) ON UPDATE CASCADE ON DELETE
RESTRICT,
    FOREIGN KEY(Reg_No) REFERENCES AIRPLANE(Reg_No) ON UPDATE CASCADE ON DELETE RESTRICT
);

```

```

CREATE TABLE SERVICE(
    Service_id INTEGER NOT NULL AUTO_INCREMENT,
    Reg_No INTEGER NOT NULL,
    Date DATE,
    Hours FLOAT,
    Workcode VARCHAR(10),
    PRIMARY KEY(Service_id,Reg_No),
    FOREIGN KEY(Reg_No) REFERENCES AIRPLANE(Reg_No) ON UPDATE CASCADE ON DELETE RESTRICT
);

CREATE TABLE MAINTAIN(
    Emp_ssn CHAR(12) NOT NULL,
    Reg_No INTEGER NOT NULL,
    Service_id INTEGER NOT NULL,
    PRIMARY KEY(Emp_ssn,Reg_No,Service_id),
    FOREIGN KEY(Emp_ssn) REFERENCES TECHNICIAN(Emp_ssn) ON UPDATE CASCADE ON DELETE RESTRICT,
    FOREIGN KEY(Reg_No) REFERENCES AIRPLANE(Reg_No) ON UPDATE CASCADE ON DELETE RESTRICT,
    FOREIGN KEY(Service_id) REFERENCES SERVICE(Service_id) ON UPDATE CASCADE ON DELETE RESTRICT
);

```

phpMyAdmin Server: 127.0.0.1 » Database: airport

Structure SQL Search Query Export Import Operations Privileges Routines

Filters Containing the word:

Table	Action	Rows	Type	Collation	Size	Overhead
airplane	Browse Structure Search Insert Empty Drop	12	InnoDB	utf8_bin	64 KiB	-
corporation	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8_bin	32 KiB	-
employee	Browse Structure Search Insert Empty Drop	15	InnoDB	utf8_bin	16 KiB	-
flies	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8_bin	32 KiB	-
flight_attendant	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8_bin	16 KiB	-
hangar	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8_bin	16 KiB	-
maintain	Browse Structure Search Insert Empty Drop	21	InnoDB	utf8_bin	48 KiB	-
owner	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8_bin	16 KiB	-
person	Browse Structure Search Insert Empty Drop	20	InnoDB	utf8_bin	32 KiB	-
pilot	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8_bin	16 KiB	-
plane_type	Browse Structure Search Insert Empty Drop	6	InnoDB	utf8_bin	16 KiB	-
service	Browse Structure Search Insert Empty Drop	16	InnoDB	utf8_bin	32 KiB	-
spoken_language	Browse Structure Search Insert Empty Drop	9	InnoDB	utf8_bin	16 KiB	-
technician	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8_bin	16 KiB	-
works_on	Browse Structure Search Insert Empty Drop	9	InnoDB	utf8_bin	32 KiB	-

```

INSERT INTO PERSON VALUES ("123165748192","Shawn Micheals","01012744003","New Cairo",1);
INSERT INTO PERSON VALUES ("421341234123","Shawn Cena", "01112312312","Maadi",2);
INSERT INTO PERSON VALUES ("643654654634","Eslam Tarek", "01234123111","Nasr City",3);
INSERT INTO PERSON VALUES ("234124324132","Baher Ahmed", "01124541412","Ainshams",4);
INSERT INTO PERSON VALUES ("678567856867","Ahmed Amr", "01212312312","October",5);
INSERT INTO PERSON VALUES ("585694251165","Samy Amr", "01013412341","Heliopolis",NULL);
INSERT INTO PERSON VALUES ("656835612353","Samer Mohsen", "01132231274","Giza",NULL);
INSERT INTO PERSON VALUES ("634654865869","Aya Ahmed", "01045634564","Dokki",NULL);
INSERT INTO PERSON VALUES ("325565153253","Anas Kfagy", "01241234132","Downtown",NULL);
INSERT INTO PERSON VALUES ("734613566421","Yara atef", "01122142122","Heliopolis",NULL);
INSERT INTO PERSON VALUES ("622157535795","Sara Ahmed", "01113830952","Attaba",NULL);
INSERT INTO PERSON VALUES ("759734532512","Diaa Adel", "01141445208","Ramsis",NULL);
INSERT INTO PERSON VALUES ("793112232244","Khaled alfath", "01523412312","Maadi",NULL);
INSERT INTO PERSON VALUES ("987353512224","Said Ahmed", "01154563414","New Cairo",NULL);
INSERT INTO PERSON VALUES ("222115423355","Mona Tarek", "01524161111","Ramsis",NULL);
INSERT INTO PERSON VALUES ("463566585435","Ashraf Taher", "01245235435","Maadi",NULL);
INSERT INTO PERSON VALUES ("624234312233","Ali saad", "01586939322","New Cairo",NULL);
INSERT INTO PERSON VALUES ("332444425444","John atef", "01578669696","Ramsis",NULL);
INSERT INTO PERSON VALUES ("776444363252","Tom hanks", "01222395993","Maadi",NULL);
INSERT INTO PERSON VALUES ("886544441211","Scarlet Gomes", "01012234232","Heliopolis",NULL);

```

phpMyAdmin ← Server: 127.0.0.1 » Database: airport » Table: person

	Browse	Structure	SQL	Search	Insert	Export	Import	
+ Options								
			SSN	Name	Phone	Address	Owner_id	
	Edit	Copy	Delete	123165748192	Shawn Micheals	01012744003	New Cairo	1
	Edit	Copy	Delete	222115423355	Mona Tarek	01524161111	Ramsis	NULL
	Edit	Copy	Delete	234124324132	Baher Ahmed	01124541412	Ainshams	4
	Edit	Copy	Delete	325565153253	Anas Kfagy	01241234132	Downtown	NULL
	Edit	Copy	Delete	332444425444	John atef	01578669696	Ramsis	NULL
	Edit	Copy	Delete	421341234123	Shawn Cena	01112312312	Maadi	2
	Edit	Copy	Delete	463566585435	Ashraf Taher	01245235435	Maadi	NULL
	Edit	Copy	Delete	585694251165	Samy Amr	01013412341	Heliopolis	NULL
	Edit	Copy	Delete	622157535795	Sara Ahmed	01113830952	Attaba	NULL
	Edit	Copy	Delete	624234312233	Ali saad	01586939322	New Cairo	NULL
	Edit	Copy	Delete	634654865869	Aya Ahmed	01045634564	Dokki	NULL
	Edit	Copy	Delete	643654654634	Eslam Tarek	01234123111	Nasr City	3
	Edit	Copy	Delete	656835612353	Samer Mohsen	01132231274	Giza	NULL
	Edit	Copy	Delete	678567856867	Ahmed Amr	01212312312	October	5
	Edit	Copy	Delete	734613566421	Yara atef	01122142122	Heliopolis	NULL
	Edit	Copy	Delete	759734532512	Diaa Adel	01141445208	Ramsis	NULL
	Edit	Copy	Delete	776444363252	Tom hanks	01222395993	Maadi	NULL
	Edit	Copy	Delete	793112232244	Khaled alfath	01523412312	Maadi	NULL
	Edit	Copy	Delete	886544441211	Scarlet Gomes	01012234232	Heliopolis	NULL
	Edit	Copy	Delete	987353512224	Said Ahmed	01154563414	New Cairo	NULL

```
INSERT INTO OWNER VALUES();
```

phpMyAdmin Server: 127.0.0.1 » Database: airport »

Recent Favorites

New
airport
New
airplane
corporation
employee
flies
flight_attendant
hangar
maintain
owner
person
pilot
plane_type
service
spoken_language
technician
works_on
forum
information_schen
much

Browse Structure SQL

Showing rows 0 - 9 (10 total, Query took 0.0000 sec)

SELECT * FROM `owner`

Show all Number of rows: 25

+ Options

Owner_id
1
2
3
4
5
6
7
8
9
10

```

INSERT INTO EMPLOYEE VALUES ("585694251165",2000,"am",8);
INSERT INTO EMPLOYEE VALUES ("656835612353",3000,"pm",10);
INSERT INTO EMPLOYEE VALUES ("634654865869",1500,"am",6);
INSERT INTO EMPLOYEE VALUES ("325565153253",8000,"am",10);
INSERT INTO EMPLOYEE VALUES ("734613566421",4000,"pm",8);
INSERT INTO EMPLOYEE VALUES ("622157535795",2000,"am",7);
INSERT INTO EMPLOYEE VALUES ("759734532512",5000,"am",9);
INSERT INTO EMPLOYEE VALUES ("793112232244",4000,"pm",6);
INSERT INTO EMPLOYEE VALUES ("987353512224",6000,"pm",7);
INSERT INTO EMPLOYEE VALUES ("222115423355",5000,"am",10);
INSERT INTO EMPLOYEE VALUES ("463566585435",1800,"am",9);
INSERT INTO EMPLOYEE VALUES ("624234312233",2800,"am",8);
INSERT INTO EMPLOYEE VALUES ("332444425444",1300,"pm",12);
INSERT INTO EMPLOYEE VALUES ("776444363252",6500,"am",7);
INSERT INTO EMPLOYEE VALUES ("886544441211",10000,"pm",10);

```

phpMyAdmin ← Server: 127.0.0.1 » Database: airport » Table: employee

Browse Structure SQL Search Insert Export

Show all Number of rows: 25 Filter rows: Search this table

+ Options

	Person_ssn	Salary	Shift	Working_hours
<input type="checkbox"/> Edit Copy Delete	222115423355	5000	am	10
<input type="checkbox"/> Edit Copy Delete	325565153253	8000	am	10
<input type="checkbox"/> Edit Copy Delete	332444425444	1300	pm	12
<input type="checkbox"/> Edit Copy Delete	463566585435	1800	am	9
<input type="checkbox"/> Edit Copy Delete	585694251165	2000	am	8
<input type="checkbox"/> Edit Copy Delete	622157535795	2000	am	7
<input type="checkbox"/> Edit Copy Delete	624234312233	2800	am	8
<input type="checkbox"/> Edit Copy Delete	634654865869	1500	am	6
<input type="checkbox"/> Edit Copy Delete	656835612353	3000	pm	10
<input type="checkbox"/> Edit Copy Delete	734613566421	4000	pm	8
<input type="checkbox"/> Edit Copy Delete	759734532512	5000	am	9
<input type="checkbox"/> Edit Copy Delete	776444363252	6500	am	7
<input type="checkbox"/> Edit Copy Delete	793112232244	4000	pm	6
<input type="checkbox"/> Edit Copy Delete	886544441211	10000	pm	10
<input type="checkbox"/> Edit Copy Delete	987353512224	6000	pm	7

New airport New airplane corporation employee flies flight_attendant hangar maintain owner person pilot plane_type service spoken_language technician works_on forum information_schen

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```
INSERT INTO TECHNICIAN VALUES ("585694251165","Engine");
INSERT INTO TECHNICIAN VALUES ("656835612353","Electrical");
INSERT INTO TECHNICIAN VALUES ("634654865869","Mechanical");
INSERT INTO TECHNICIAN VALUES ("325565153253","Electronic");
INSERT INTO TECHNICIAN VALUES ("734613566421","Engine");
```

phpMyAdmin Server: 127.0.0.1 » Database: airport » Table: technician

Browse Structure SQL Search

Showing rows 0 - 4 (5 total, Query took 0.0011 seconds.)

SELECT * FROM `technician`

Show all Number of rows: 25 Filter rows: Se

Emp_ssn	Speciality
325565153253	Electronic
585694251165	Engine
634654865869	Mechanical
656835612353	Electrical
734613566421	Engine

+ Options ←→ Emp_ssn Speciality

Edit Copy Delete 325565153253 Electronic

Edit Copy Delete 585694251165 Engine

Edit Copy Delete 634654865869 Mechanical

Edit Copy Delete 656835612353 Electrical

Edit Copy Delete 734613566421 Engine

Check all With selected: Edit Copy

New airport New airplane corporation employee flies flight_attendant hangar maintain owner person pilot plane_type service spoken_language technician

```
INSERT INTO PILOT VALUES ("622157535795","36353532");
INSERT INTO PILOT VALUES ("759734532512","15345433");
INSERT INTO PILOT VALUES ("793112232244","46344355");
INSERT INTO PILOT VALUES ("987353512224","53522255");
INSERT INTO PILOT VALUES ("222115423355","75352353");
```

phpMyAdmin ← Server: 127.0.0.1 » Database: airport » Table: pilot

Recent Favorites

New
airport
New
airplane
corporation
employee
flies
flight_attendant
hangar
maintain
owner
person
pilot
plane_type

Browse Structure SQL Search

Showing rows 0 - 4 (5 total, Query took 0.0015 seconds.)

SELECT * FROM `pilot`

Show all Number of rows: 25 Filter rows:

+ Options ← T → Emp_ssn License_No

	Edit	Copy	Delete	Emp_ssn	License_No
<input type="checkbox"/>				222115423355	75352353
<input type="checkbox"/>				622157535795	36353532
<input type="checkbox"/>				759734532512	15345433
<input type="checkbox"/>				793112232244	46344355
<input type="checkbox"/>				987353512224	53522255

```
INSERT INTO FLIGHT_ATTENDANT VALUES ("463566585435");
INSERT INTO FLIGHT_ATTENDANT VALUES ("624234312233");
INSERT INTO FLIGHT_ATTENDANT VALUES ("332444425444");
INSERT INTO FLIGHT_ATTENDANT VALUES ("776444363252");
INSERT INTO FLIGHT_ATTENDANT VALUES ("886544441211");
```

phpMyAdmin Server: 127.0.0.1 » Database: airport »

Recent Favorites

New
airport
New
airplane
corporation
employee
flies
flight_attendant
hangar
maintain
owner
person
pilot
plane_type

Browse Structure SQL

Showing rows 0 - 4 (5 total, Query took 0.0010)

```
SELECT * FROM `flight_attendant`
```

Show all Number of rows: 25

+ Options ← T → Emp_ssn

	Edit	Copy	Delete	Emp_ssn
<input type="checkbox"/>				332444425444
<input type="checkbox"/>				463566585435
<input type="checkbox"/>				624234312233
<input type="checkbox"/>				776444363252
<input type="checkbox"/>				886544441211

```
INSERT INTO SPOKEN_LANGUAGE VALUES ("463566585435","English");
INSERT INTO SPOKEN_LANGUAGE VALUES ("463566585435","Deutsch");
INSERT INTO SPOKEN_LANGUAGE VALUES ("624234312233","English");
INSERT INTO SPOKEN_LANGUAGE VALUES ("624234312233","French");
INSERT INTO SPOKEN_LANGUAGE VALUES ("332444425444","English");
INSERT INTO SPOKEN_LANGUAGE VALUES ("332444425444","Spanish");
INSERT INTO SPOKEN_LANGUAGE VALUES ("776444363252","English");
INSERT INTO SPOKEN_LANGUAGE VALUES ("776444363252","Italian");
INSERT INTO SPOKEN_LANGUAGE VALUES ("886544441211","English");
```

phpMyAdmin ← Server: 127.0.0.1 » Database: airport » Table: spoken_language

Recent **Favorites**

New
airport
New
airplane
corporation
employee
flies
flight_attendant
hangar
maintain
owner
person
pilot
plane_type
service
spoken_language
technician
works_on
forum

Browse Structure SQL Search

Showing rows 0 - 8 (9 total, Query took 0.0010 seconds.)

```
SELECT * FROM `spoken_language`
```

Show all Number of rows: 25 Filter rows:

+ Options Emp_ssn Language

				Emp_ssn	Language
<input type="checkbox"/>				332444425444	English
<input type="checkbox"/>				332444425444	Spanish
<input type="checkbox"/>				463566585435	Deutsch
<input type="checkbox"/>				463566585435	English
<input type="checkbox"/>				624234312233	English
<input type="checkbox"/>				624234312233	French
<input type="checkbox"/>				776444363252	English
<input type="checkbox"/>				776444363252	Italian
<input type="checkbox"/>				886544441211	English

```
INSERT INTO CORPORATION VALUES ("EGYPTAIR","00222780987","Sheraton",6);
INSERT INTO CORPORATION VALUES ("Aegean", "00223811813","New Cairo",7);
INSERT INTO CORPORATION VALUES ("JetBlue", "00224234211","Nasr City",8);
INSERT INTO CORPORATION VALUES ("Delta Air Lines", "00221414232","Heliopolis",9);
INSERT INTO CORPORATION VALUES ("Frontier Airlines","00222113123","New Capital",10);
```

phpMyAdmin ← Server: 127.0.0.1 » Database: airport » Table: corporation

Recent Favorites

New
airport
New
airplane
corporation
employee
flies
flight_attendant
hangar
maintain
owner
person
pilot
plane_type

Browse Structure SQL Search Insert Export

Showing rows 0 - 4 (5 total, Query took 0.0186 seconds.)

SELECT * FROM `corporation`

Show all Number of rows: 25 Filter rows: Search this table

+ Options

	Name	Phone	Address	Owner_id
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Aegean	00223811813	New Cairo	7
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Delta Air Lines	00221414232	Heliopolis	9
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	EGYPTAIR	00222780987	Sheraton	6
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Frontier Airlines	00222113123	New Capital	10
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	JetBlue	00224234211	Nasr City	8

```
INSERT INTO HANGAR VALUES (Number,"Zone A1",12);
INSERT INTO HANGAR VALUES (Number,"Zone B1",11);
INSERT INTO HANGAR VALUES (Number,"Zone C1",12);
INSERT INTO HANGAR VALUES (Number,"Zone D1",8);
INSERT INTO HANGAR VALUES (Number,"Zone E1",10);
```

phpMyAdmin ← Server: 127.0.0.1 » Database: airport » Table: hangar

Recent Favorites

New
airport
New
airplane
corporation
employee
flies
flight_attendant
hangar
maintain
owner
person
pilot
plane_type

Browse Structure SQL Search Insert

Showing rows 0 - 4 (5 total, Query took 0.0015 seconds.)

SELECT * FROM `hangar`

Show all Number of rows: 25 Filter rows: Search

+ Options

Number	Location	Capacity
1	Zone A1	12
2	Zone B1	11
3	Zone C1	12
4	Zone D1	8
5	Zone E1	10

```
INSERT INTO PLANE_TYPE VALUES ("C1200",200,41000);
INSERT INTO PLANE_TYPE VALUES ("CZ1211",400,80000);
INSERT INTO PLANE_TYPE VALUES ("B2000",320,65000);
INSERT INTO PLANE_TYPE VALUES ("Columbus",4,8000);
INSERT INTO PLANE_TYPE VALUES ("Sovereign",6,6000);
INSERT INTO PLANE_TYPE VALUES ("Embraer",2,5000);
```

phpMyAdmin Server: 127.0.0.1 » Database: airport » Table: plane_type

Browse Structure SQL Search Import

New Recent Favorites

Showing rows 0 - 5 (6 total, Query took 0.0016 seconds.)

SELECT * FROM `plane_type`

Show all Number of rows: 25 Filter rows: Search

+ Options

	Model	Capacity	Weight
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	B2000	320	65000
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	C1200	200	41000
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	CZ1211	400	80000
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Columbus	4	8000
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Embraer	2	5000
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Sovereign	6	6000

New airport New airplane corporation employee flies flight_attendant hangar maintain owner person pilot plane_type service spoken_languages

```

INSERT INTO AIRPLANE VALUES (Reg_No,1,"C1200",6,"2010-05-12");
INSERT INTO AIRPLANE VALUES (Reg_No,1,"C1200",7,"2008-04-13");
INSERT INTO AIRPLANE VALUES (Reg_No,2,"CZ1211",8,"2004-07-22");
INSERT INTO AIRPLANE VALUES (Reg_No,2,"CZ1211",9,"2006-02-14");
INSERT INTO AIRPLANE VALUES (Reg_No,2,"C1200",9,"2011-06-17");
INSERT INTO AIRPLANE VALUES (Reg_No,2,"CZ1211",10,"2002-04-19");
INSERT INTO AIRPLANE VALUES (Reg_No,2,"B2000",10,"2011-11-12");
INSERT INTO AIRPLANE VALUES (Reg_No,3,"Columbus",1,"2013-04-20");
INSERT INTO AIRPLANE VALUES (Reg_No,4,"Sovereign",2,"2015-11-2");
INSERT INTO AIRPLANE VALUES (Reg_No,4,"Sovereign",3,"2013-6-6");
INSERT INTO AIRPLANE VALUES (Reg_No,5,"Embraer",4,"2012-7-7");
INSERT INTO AIRPLANE VALUES (Reg_No,5,"Embraer",5,"2015-1-11");

```

phpMyAdmin ← Server: 127.0.0.1 » Database: airport » Table: airplane

Browse **Structure** **SQL** **Search** **Insert** **Export** **Import**

Showing rows 0 - 11 (12 total, Query took 0.0010 seconds.)

SELECT * FROM `airplane`

Show all Number of rows: 25 Filter rows: Search this table Sort by key:

+ Options

	Reg_No	Hangar_number	Plane_model	Owner_id	Pdate
<input type="checkbox"/> Edit Copy Delete	1	1	C1200	6	2010-05-12
<input type="checkbox"/> Edit Copy Delete	2	1	C1200	7	2008-04-13
<input type="checkbox"/> Edit Copy Delete	3	2	CZ1211	8	2004-07-22
<input type="checkbox"/> Edit Copy Delete	4	2	CZ1211	9	2006-02-14
<input type="checkbox"/> Edit Copy Delete	5	2	C1200	9	2011-06-17
<input type="checkbox"/> Edit Copy Delete	6	2	CZ1211	10	2002-04-19
<input type="checkbox"/> Edit Copy Delete	7	2	B2000	10	2011-11-12
<input type="checkbox"/> Edit Copy Delete	8	3	Columbus	1	2013-04-20
<input type="checkbox"/> Edit Copy Delete	9	4	Sovereign	2	2015-11-02
<input type="checkbox"/> Edit Copy Delete	10	4	Sovereign	3	2013-06-06
<input type="checkbox"/> Edit Copy Delete	11	5	Embraer	4	2012-07-07
<input type="checkbox"/> Edit Copy Delete	12	5	Embraer	5	2015-01-11

```
INSERT INTO FLIES VALUES ("622157535795","C1200");
INSERT INTO FLIES VALUES ("622157535795","B2000");
INSERT INTO FLIES VALUES ("793112232244","C1200");
INSERT INTO FLIES VALUES ("987353512224","CZ1211");
INSERT INTO FLIES VALUES ("987353512224");
INSERT INTO FLIES VALUES ("759734532512","Columbus");
INSERT INTO FLIES VALUES ("759734532512","Sovereign");
INSERT INTO FLIES VALUES ("759734532512","Embraer");
INSERT INTO FLIES VALUES ("222115423355","Sovereign");
INSERT INTO FLIES VALUES ("222115423355","Embraer");
```

phpMyAdmin Server: 127.0.0.1 » Database: airport » Table: flies

Browse Structure SQL Search

Showing rows 0 - 9 (10 total, Query took 0.0011 seconds.)

SELECT * FROM `flies`

Show all Number of rows: 25 Filter row

+ Options Emp_ssn Model

	Edit	Copy	Delete	Emp_ssn	Model
<input type="checkbox"/>				222115423355	Embraer
<input type="checkbox"/>				222115423355	Sovereign
<input type="checkbox"/>				622157535795	B2000
<input type="checkbox"/>				622157535795	C1200
<input type="checkbox"/>				759734532512	Columbus
<input type="checkbox"/>				759734532512	Embraer
<input type="checkbox"/>				759734532512	Sovereign
<input type="checkbox"/>				793112232244	C1200
<input type="checkbox"/>				987353512224	B2000
<input type="checkbox"/>				987353512224	CZ1211

```

INSERT INTO WORKS_ON VALUES ("463566585435",1);
INSERT INTO WORKS_ON VALUES ("463566585435",2);
INSERT INTO WORKS_ON VALUES ("624234312233",3);
INSERT INTO WORKS_ON VALUES ("332444425444",3);
INSERT INTO WORKS_ON VALUES ("332444425444",4);
INSERT INTO WORKS_ON VALUES ("776444363252",5);
INSERT INTO WORKS_ON VALUES ("886544441211",6);
INSERT INTO WORKS_ON VALUES ("886544441211",7);
INSERT INTO WORKS_ON VALUES ("886544441211",10);

```

phpMyAdmin

← Server: 127.0.0.1 » Database: airport » Table: works_on

Browse **Structure** **SQL** **Search**

Showing rows 0 - 8 (9 total, Query took 0.0904 seconds.)

```

SELECT * FROM `works_on`

```

Show all | Number of rows: 25 Filter row

+ Options

Emp_ssn	Reg_No
332444425444	3
332444425444	4
463566585435	1
463566585435	2
624234312233	3
776444363252	5
886544441211	6
886544441211	7
886544441211	10

```

INSERT INTO SERVICE VALUES (Service_id,1,"2012-05-12",2.5,"C122A2");
INSERT INTO SERVICE VALUES (Service_id,1,"2010-04-13",1.5,"D1221S");
INSERT INTO SERVICE VALUES (Service_id,2,"2010-07-22",4,"CD2211A");
INSERT INTO SERVICE VALUES (Service_id,3,"2008-02-14",2,"Z221A");
INSERT INTO SERVICE VALUES (Service_id,4,"2012-06-17",3,"C122A2");
INSERT INTO SERVICE VALUES (Service_id,4,"2003-04-19",3.5,"D1221S");
INSERT INTO SERVICE VALUES (Service_id,5,"2012-11-12",3,"D1221S");
INSERT INTO SERVICE VALUES (Service_id,6,"2014-04-20",2.5,"C122A2");
INSERT INTO SERVICE VALUES (Service_id,7,"2017-11-02",3.5,"E1212");
INSERT INTO SERVICE VALUES (Service_id,7,"2016-06-06",2,"E21SZZ");
INSERT INTO SERVICE VALUES (Service_id,8,"2014-07-07",3,"C122A2");
INSERT INTO SERVICE VALUES (Service_id,9,"2014-01-11",3,"A121AA");
INSERT INTO SERVICE VALUES (Service_id,10,"2014-06-06",2,"E21SZZ");
INSERT INTO SERVICE VALUES (Service_id,11,"2015-07-07",3,"Z221A");
INSERT INTO SERVICE VALUES (Service_id,12,"2016-01-11",2.5,"E1212");
INSERT INTO SERVICE VALUES (Service_id,12,"2017-01-11",2,"A121AA");

```

phpMyAdmin ← Server: 127.0.0.1 » Database: airport » Table: service

Browse Structure SQL Search Insert Export

Show all Number of rows: 25 Filter rows: Search this table

+ Options

	Service_id	Reg_No	Date	Hours	Workcode
<input type="checkbox"/> Edit Copy Delete	1	1	2012-05-12	2.5	C122A2
<input type="checkbox"/> Edit Copy Delete	2	1	2010-04-13	1.5	D1221S
<input type="checkbox"/> Edit Copy Delete	3	2	2010-07-22	4	CD2211A
<input type="checkbox"/> Edit Copy Delete	4	3	2008-02-14	2	Z221A
<input type="checkbox"/> Edit Copy Delete	5	4	2012-06-17	3	C122A2
<input type="checkbox"/> Edit Copy Delete	6	4	2003-04-19	3.5	D1221S
<input type="checkbox"/> Edit Copy Delete	7	5	2012-11-12	3	D1221S
<input type="checkbox"/> Edit Copy Delete	8	6	2014-04-20	2.5	C122A2
<input type="checkbox"/> Edit Copy Delete	9	7	2017-11-02	3.5	E1212
<input type="checkbox"/> Edit Copy Delete	10	7	2016-06-06	2	E21SZZ
<input type="checkbox"/> Edit Copy Delete	11	8	2014-07-07	3	C122A2
<input type="checkbox"/> Edit Copy Delete	12	9	2014-01-11	3	A121AA
<input type="checkbox"/> Edit Copy Delete	13	10	2014-06-06	2	E21SZZ
<input type="checkbox"/> Edit Copy Delete	14	11	2015-07-07	3	Z221A
<input type="checkbox"/> Edit Copy Delete	15	12	2016-01-11	2.5	E1212
<input type="checkbox"/> Edit Copy Delete	16	12	2017-01-11	2	A121AA

New airport New airplane corporation employee flies flight_attendant hangar maintain owner person pilot plane_type service spoken_language technician works_on forum information_schen mydb mvsrl

```
INSERT INTO MAINTAIN VALUES ("585694251165",1,1);
INSERT INTO MAINTAIN VALUES ("656835612353",1,1);
INSERT INTO MAINTAIN VALUES ("656835612353",1,2);
INSERT INTO MAINTAIN VALUES ("325565153253",1,2);
INSERT INTO MAINTAIN VALUES ("734613566421",1,2);
INSERT INTO MAINTAIN VALUES ("585694251165",2,3);
INSERT INTO MAINTAIN VALUES ("656835612353",3,4);
INSERT INTO MAINTAIN VALUES ("634654865869",4,5);
INSERT INTO MAINTAIN VALUES ("325565153253",4,6);
INSERT INTO MAINTAIN VALUES ("734613566421",5,7);
INSERT INTO MAINTAIN VALUES ("325565153253",6,8);
INSERT INTO MAINTAIN VALUES ("734613566421",7,9);
INSERT INTO MAINTAIN VALUES ("585694251165",7,10);
INSERT INTO MAINTAIN VALUES ("656835612353",8,11);
INSERT INTO MAINTAIN VALUES ("634654865869",9,12);
INSERT INTO MAINTAIN VALUES ("325565153253",10,13);
INSERT INTO MAINTAIN VALUES ("734613566421",11,14);
INSERT INTO MAINTAIN VALUES ("585694251165",12,15);
INSERT INTO MAINTAIN VALUES ("656835612353",12,15);
INSERT INTO MAINTAIN VALUES ("325565153253",12,16);
INSERT INTO MAINTAIN VALUES ("734613566421",12,16);
```



Recent

Favorites

	Browse	Structure	SQL	Search	Insert
<input type="checkbox"/> Show all	Number of rows: 25			Filter rows:	Search this
+ Options					
	← T →	Emp_ssn	Reg_No	Service_id	
	Edit Copy Delete	325565153253	1	2	
	Edit Copy Delete	325565153253	4	6	
	Edit Copy Delete	325565153253	6	8	
	Edit Copy Delete	325565153253	10	13	
	Edit Copy Delete	325565153253	12	16	
	Edit Copy Delete	585694251165	1	1	
	Edit Copy Delete	585694251165	2	3	
	Edit Copy Delete	585694251165	7	10	
	Edit Copy Delete	585694251165	12	15	
	Edit Copy Delete	634654865869	4	5	
	Edit Copy Delete	634654865869	9	12	
	Edit Copy Delete	656835612353	1	1	
	Edit Copy Delete	656835612353	1	2	
	Edit Copy Delete	656835612353	3	4	
	Edit Copy Delete	656835612353	8	11	
	Edit Copy Delete	656835612353	12	15	
	Edit Copy Delete	734613566421	1	2	
	Edit Copy Delete	734613566421	5	7	
	Edit Copy Delete	734613566421	7	9	
	Edit Copy Delete	734613566421	11	14	
	Edit Copy Delete	734613566421	12	16	

SELECT QUERIES

1-Get Pilots who fly plane model “B200”.

✓ Showing rows 0 - 1 (2 total, Query took 0.0212 seconds.)

```
SELECT PERSON.SSN , PERSON.Name, PERSON.Phone, EMPLOYEE.Salary, PILOT.License_No FROM FLIES,PILOT,PERSON,EMPLOYEE,PLANE_TYPE WHERE  
FLIES.Emp_ssn = PILOT.Emp_ssn AND FLIES.Model = PLANE_TYPE.Model AND PILOT.Emp_ssn = EMPLOYEE.Person_ssn AND EMPLOYEE.Person_ssn =  
PERSON.SSN AND PLANE_TYPE.Model = "B200"
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25

Filter rows: Search this table

+ Options

SSN	Name	Phone	Salary	License_No
622157535795	Sara Ahmed	01113830952	2000	36353532
987353512224	Said Ahmed	01154563414	6000	53522255

2-Get Airplanes and their owners that exist in hangar number “4” and order them by their owner name.

✓ Showing rows 0 - 1 (2 total, Query took 0.0026 seconds.)

```
SELECT AIRPLANE.Reg_No, Person.Name,AIRPLANE.Plane_model FROM AIRPLANE,HANGAR,OWNER,PERSON WHERE HANGAR.Number =  
AIRPLANE.Hangar_number AND AIRPLANE.Owner_id = OWNER.Owner_id AND OWNER.Owner_id = PERSON.Owner_id AND HANGAR.Number = 4 ORDER BY  
person.Name
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25

Filter rows: Search this table

+ Options

Reg_No	Name	Plane_model
10	Eslam Tarek	Sovereign
9	Shawn Cena	Sovereign

3-Get Average Salary of technicians for each workcode.

Showing rows 0 - 6 (7 total, Query took 0.0028 seconds.)

```
SELECT AVG(EMPLOYEE.Salary) , service.Workcode FROM EMPLOYEE, TECHNICIAN, SERVICE , MAINTAIN WHERE TECHNICIAN.Emp_ssn = EMPLOYEE.Person_ssn AND SERVICE.Reg_No = MAINTAIN.Reg_No AND SERVICE.Service_id = MAINTAIN.Service_id AND MAINTAIN.Emp_ssn = TECHNICIAN.Emp_ssn GROUP BY SERVICE.Workcode
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 ▾

Filter rows: Search this table

+ Options

AVG(EMPLOYEE.Salary)	Workcode
4500	A121AA
3500	C122A2
2000	CD2211A
5400	D1221S
3000	E1212
5000	E21SZZ
3500	Z221A

4-Get Flight attendant who speak Deutsch and French.

Showing rows 0 - 1 (2 total, Query took 0.0027 seconds.)

```
SELECT PERSON.SSN , PERSON.Name , PERSON.Phone , SPOKEN_LANGUAGE.Language FROM SPOKEN_LANGUAGE,FLIGHT_ATTENDANT,PERSON,EMPLOYEE WHERE SPOKEN_LANGUAGE.Emp_ssn = FLIGHT_ATTENDANT.Emp_ssn AND FLIGHT_ATTENDANT.Emp_ssn = EMPLOYEE.Person_ssn AND EMPLOYEE.Person_ssn = PERSON.SSN AND SPOKEN_LANGUAGE.Language IN ("Deutsch","French")
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 ▾

Filter rows: Search this table

+ Options

SSN	Name	Phone	Language
463566585435	Ashraf Taher	01245235435	Deutsch
624234312233	Ali saad	01586939322	French

5-Get flight attendants who work on plane model "Sovereign".

Showing rows 0 - 0 (1 total, Query took 0.0027 seconds.)

```
SELECT PERSON.SSN , PERSON.Name, PERSON.Phone FROM WORKS_ON,FLIGHT_ATTENDANT,PERSON,EMPLOYEE,AIRPLANE WHERE WORKS_ON.Emp_ssn = FLIGHT_ATTENDANT.Emp_ssn AND WORKS_ON.Reg_No = AIRPLANE.Reg_No AND FLIGHT_ATTENDANT.Emp_ssn = EMPLOYEE.Person_ssn AND EMPLOYEE.Person_ssn = PERSON.SSN AND AIRPLANE.Plane_model = "Sovereign"
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows:

25

Filter rows: Search this table

+ Options



▼

SSN

Name

Phone

Edit Copy Delete 886544441211 Scarlet Gomes 01012234232

6-Get Corporations name that have more than one airplane.

```
SELECT CORPORATION.Name FROM CORPORATION , OWNER, AIRPLANE WHERE CORPORATION.Owner_id = OWNER.Owner_id AND AIRPLANE.Owner_id = OWNER.Owner_id GROUP BY OWNER.Owner_id HAVING count(*) >1
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows:

25

Filter rows: Search this table

+ Options



Name

Edit Copy Delete Delta Air Lines

Edit Copy Delete Frontier Airlines

UPDATE QUERIES

1-Update Airplane which has Reg_No = 10 to be stored in Hangar_number = 6.

UPDATE AIRPLANE

```
SET Hangar_number = 1  
WHERE AIRPLANE.Reg_No = 6;
```

The screenshot shows the MySQL Workbench interface with the 'airplane' table selected. The left sidebar lists various databases and tables, including 'airplane', 'corporation', 'employee', 'flies', 'flight_attendant', 'hangar', 'maintain', 'owner', 'person', 'pilot', 'plane_type', 'service', 'spoken_language', 'technician', 'works_on', 'information_schema', 'mysql', 'performance_schema', 'phpmyadmin', and 'test'. The main pane displays the 'airplane' table with the following data:

	Reg_No	Hangar_number	Plane_model	Owner_id	Pdate
<input type="checkbox"/>	1	1	C1200	6	2010-05-12
<input type="checkbox"/>	2	1	C1200	7	2008-04-13
<input type="checkbox"/>	3	2	CZ1211	8	2004-07-22
<input type="checkbox"/>	4	2	CZ1211	9	2006-02-14
<input type="checkbox"/>	5	2	C1200	9	2011-06-17
<input type="checkbox"/>	6	1	CZ1211	10	2002-04-19
<input type="checkbox"/>	7	2	B2000	10	2011-11-12
<input type="checkbox"/>	8	3	Columbus	1	2013-04-20
<input type="checkbox"/>	9	4	Sovereign	2	2015-11-02
<input type="checkbox"/>	10	4	Sovereign	3	2013-06-06
<input type="checkbox"/>	11	5	Embraer	4	2012-07-07
<input type="checkbox"/>	12	5	Embraer	5	2015-01-11

2-Update Spoken language of Flight attendant who has
Emp_ssn = "776444363252" and Language = "Italian"
into "Portuguese".

```
UPDATE SPOKEN_LANGUAGE
SET Language = "Portuguese"
WHERE SPOKEN_LANGUAGE.Emp_ssn = 776444363252 AND
SPOKEN_LANGUAGE.Language = "Italian";
```

The screenshot shows the MySQL Workbench interface with the 'spoken_language' table selected in the schema tree on the left. The main area displays the table structure and data.

Table Structure:

	Emp_ssn	Language
<input type="checkbox"/>	332444425444	English
<input type="checkbox"/>	332444425444	Spanish
<input type="checkbox"/>	463566585435	Deutsch
<input type="checkbox"/>	463566585435	English
<input type="checkbox"/>	624234312233	English
<input type="checkbox"/>	624234312233	French
<input type="checkbox"/>	776444363252	English
<input type="checkbox"/>	776444363252	Portuguese
<input type="checkbox"/>	886544441211	English

Table Data:

	Emp_ssn	Language
<input type="checkbox"/>	332444425444	English
<input type="checkbox"/>	332444425444	Spanish
<input type="checkbox"/>	463566585435	Deutsch
<input type="checkbox"/>	463566585435	English
<input type="checkbox"/>	624234312233	English
<input type="checkbox"/>	624234312233	French
<input type="checkbox"/>	776444363252	English
<input type="checkbox"/>	776444363252	Portuguese
<input type="checkbox"/>	886544441211	English

DELETE QUERIES

1-Delete Hangar that has Location = "Zone E1".

“Delete operation did not carry out because there are foreign keys from AIRPLANE table which refers the record that we are trying to delete, that's because the constraint of delete is RESTRICT. If there are no foreign keys that refer this record, delete operation will be carried out correctly.”

DELETE FROM HANGAR WHERE Location = "Zone E1";

The screenshot shows the phpMyAdmin interface for a MySQL database named 'airport'. The user is currently viewing the 'spoken_language' table. In the SQL query editor, the following DELETE statement was entered:

```
1 DELETE FROM HANGAR
2 WHERE Location = "Zone E1";
```

The 'Columns' panel on the right lists two columns: 'Emp_ssn' and 'Language'. Below the query editor, there are several buttons: SELECT*, SELECT, INSERT, UPDATE, DELETE, Clear, Format, Get auto-saved query, Bind parameters, and a bookmark field. At the bottom, there are options for Delimiter, Show this query here again (checked), Retain query box, Rollback when finished, Enable foreign key checks, Simulate query, and Go.

In the 'Error' section at the bottom, the SQL query is repeated:

```
DELETE FROM HANGAR
WHERE Location = "Zone E1"
```

And the MySQL error message is displayed:

```
#1451 - Cannot delete or update a parent row: a foreign key constraint fails ('airport`.`airplane', CONSTRAINT `airplane_ibfk_1` FOREIGN KEY (`Hangar_number`) REFERENCES `hangar` (`Number`) ON UPDATE CASCADE)
```

2-Delete that Pilot with Emp_ssn = "759734532512"
can fly Airplane model = "Embraer".

The screenshot shows the phpMyAdmin interface. On the left, there's a tree view of databases and tables: 'Recent' (empty), 'Favorites' (empty), 'New', 'airport' (selected), 'New', 'airplane', 'corporation', 'employee', and 'flies'. The main area shows the 'flie' table under 'Database: airport' with 'Table: flies'. The top navigation bar has tabs: 'Browse', 'Structure', 'SQL', 'Search', 'Insert', and 'Show query box'. Below the tabs, it says 'Show query box'. A green message box says '1 row affected. (Query took 0.0070 seconds.)'. The SQL query shown is: `DELETE FROM FLIES WHERE FLIES.Emp_ssn = 759734532512 AND FLIES.Model = "Embraer"`.

FLIES Table after deleting:

This screenshot shows the 'flie' table in phpMyAdmin. The left sidebar lists tables: 'flies', 'flight_attendant', 'hangar', 'maintain', 'owner', 'person', 'pilot', 'plane_type', 'service', 'spoken_language', 'technician', 'works_on', 'information_schema', and 'mysql'. The main area shows the 'flie' table with the following data:

	Emp_ssn	Model
<input type="checkbox"/>	222115423355	Embraer
<input type="checkbox"/>	222115423355	Sovereign
<input type="checkbox"/>	622157535795	B2000
<input type="checkbox"/>	622157535795	C1200
<input type="checkbox"/>	759734532512	Columbus
<input type="checkbox"/>	759734532512	Sovereign
<input type="checkbox"/>	793112232244	C1200
<input type="checkbox"/>	987353512224	B2000
<input type="checkbox"/>	987353512224	CZ1211