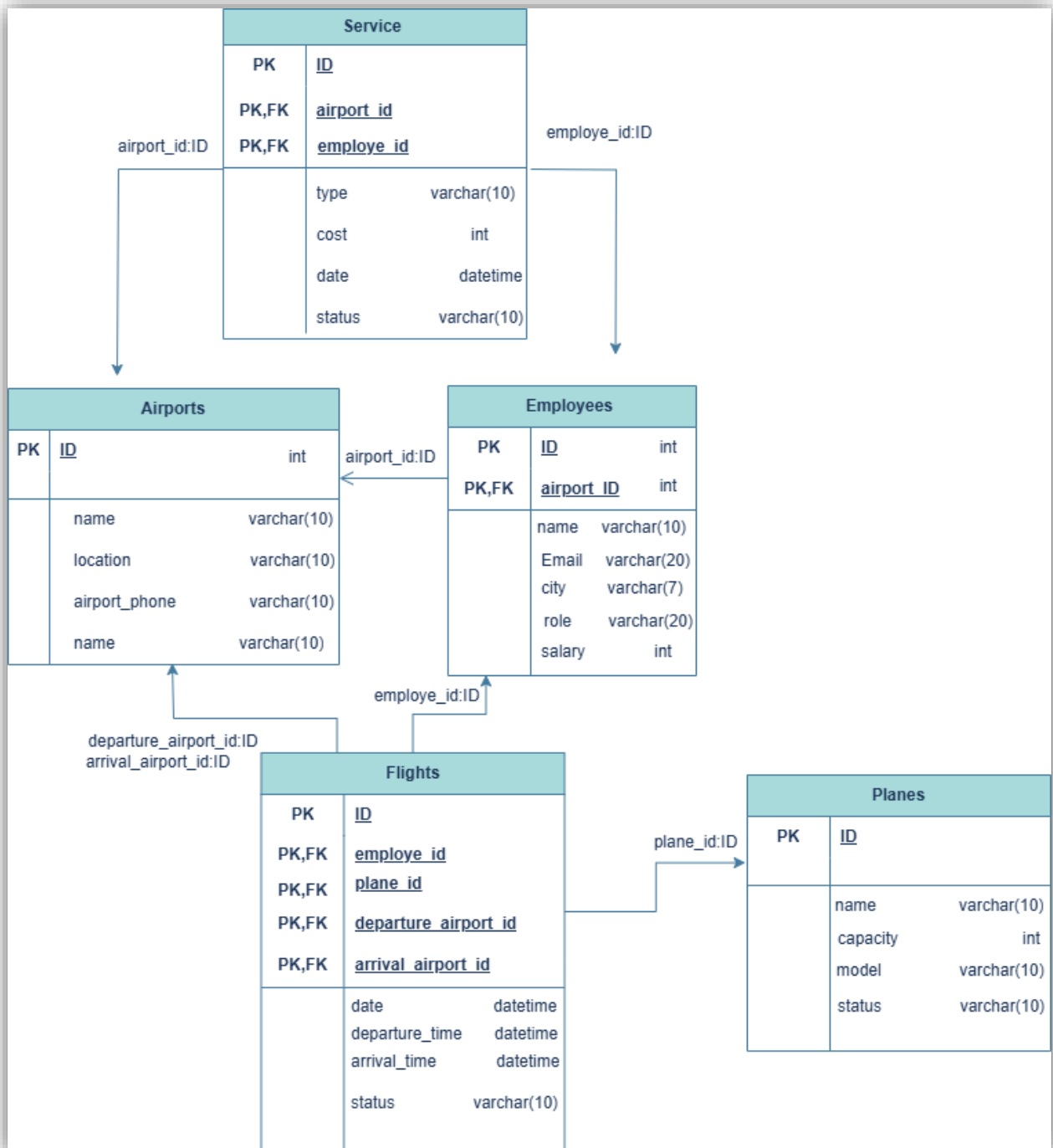


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The data represents an airport management system that organizes information about airports, employees, planes, flights, and services. It includes details such as airport locations, employee roles and salaries, plane models and capacities, flight schedules and statuses, and service types and costs. The system enforces constraints to ensure data accuracy and consistency.

Airports Table:

This table contains details about the airports,

- ✓ **ID:** Unique identifier for each airport.
- ✓ **name:** Name of the airport (up to 50 characters).
- ✓ **location:** Geographic location of the airport.
- ✓ **contact_num:** Contact phone number of the airport.
- ✓ **gates_num:** Number of gates available at the airport.

Employees Table

This table holds information about airport employees. It includes:

- ✓ **ID:** Unique identifier for each employee.
- ✓ **airport_ID:** Foreign key linking to the Airports table.
- ✓ **name:** Employee's name.
- ✓ **email:** Employee's email address.
- ✓ **city:** City where the employee resides.
- ✓ **role:** Job role of the employee, which must be either 'pilot' or 'aircraft service'.
- ✓ **salary:** Salary of the employee

Planes Table

This table contains details about planes in the fleet. It includes:

- ✓ **ID:** Unique identifier for each plane.
- ✓ **name:** Name or model of the plane.
- ✓ **capacity:** Seating capacity of the plane, which must be greater than 0.
- ✓ **model:** Model of the plane.
- ✓ **status:** Current status of the plane, which must be one of the following: 'available', 'in maintenance', or 'in flight'

Flights Table

This table tracks flight details, including:

- ✓ **ID:** Unique identifier for each flight.
- ✓ **employee_id:** Foreign key linking to the Employees table.
- ✓ **plane_id:** Foreign key linking to the Planes table.
- ✓ **departure_airport_id:** Foreign key linking to the departure airport.

- ✓ **arrival_airport_id:** Foreign key linking to the arrival airport.
- ✓ **departure_time:** Time the flight departs.
- ✓ **arrival_time:** Time the flight arrives.
- ✓ **status:** Current status of the flight, which must be one of the following: 'in flight', 'boarding', 'landed', or 'cancelled'.

Service Table

This table stores details about the services provided at the airport. It includes:

- ✓ **ID:** Unique identifier for each service.
- ✓ **airport_id:** Foreign key linking to the Airports table.
- ✓ **employee_id:** Foreign key linking to the Employees table.
- ✓ **type:** Type of service provided (e.g., cleaning, refueling, maintenance).

must be one of the following: 'aircraft cleaning', 'aircraft refueling', 'aircraft maintenance'.

- ✓ **cost:** Cost of the service.
- ✓ **date:** The date the service was provided.
- ✓ **status:** Current status of the service, which must be either 'completed' or 'on progress'.

database in DataGrip:

```
114 create database Airport_management_system;
115
116 create table airports (
117     id int primary key ,
118     name varchar(50) not null ,
119     location varchar(10) not null ,
120     contact_num varchar(10) not null ,
121     gates_num int not null
122 );
123
124
125 ALTER table airports modify column name varchar(50) not null ;
126 insert into airports value ( id 1001, name 'king Khaled airport', location 'riyadh', contact_num '800989878', gates_num 9);
127 insert into airports value ( id 1002, name 'king AbdulAziz airport', location 'Jeddah', contact_num '800989888', gates_num 10);
128 insert into airports value ( id 1003, name 'king Fahd airport', location 'Al-Dammam', contact_num '800989899', gates_num 6);
129 insert into airports value ( id 1004, name 'Abha international airport', location 'Abha', contact_num '800989866', gates_num 10);
130
131
132 update airports set contact_num= '900088800' where id='1001';
133
134 create table employees (
135     id int primary key ,
136     name varchar(10) not null ,
137     email varchar(10) not null ,
138     city varchar(7) not null ,
139     salary int not null ,
140     role varchar(10) not null check ( role='pilot' or role= 'aircraft service' ),
141     airport_id int,
142     foreign key (airport_id) references airports (id)
143 )
```

```

145 ALTER table employees modify column role varchar(25) not null check ( role='pilot' or role='aircraft service' );
146
147 insert into employees value ( id 1112, name 'bayan', email 'b@hotmail', city 'jeddah', salary 10000, role 'pilot', airport_id 1002);
148 insert into employees value ( id 1113, name 'ahmed', email 'a@hotmail', city 'abha', salary 5000, role 'aircraft service', airport_id 1004);
149 insert into employees value ( id 1114, name 'mohammed', email 'm@hotmail', city 'riyadh', salary 20000, role 'pilot', airport_id 1001);
150 insert into employees value ( id 1115, name 'sara', email 's@hotmail', city 'Dammam', salary 7000, role 'aircraft service', airport_id 1003);
151 update employees set email='a13@hotmail' where id=1113;
152
153 create table services (
154     id int primary key ,
155     airport_id int,
156     foreign key (airport_id) references airports (id),
157     employee_id int,
158     foreign key (employee_id) references employees (id),
159     type varchar(10) not null check ( type='aircraft cleaning' or type='aircraft refueling' or type='aircraft maintenance' ),
160     cost int not null,
161     date datetime not null,
162     status varchar(10) not null check ( status='completed' or status='on progress' )
163 );
164
165
166 ALTER table services modify column status varchar(15) not null check ( status='completed' or status='on progress' );
167
168 alter table services modify column date date;
169 insert into services value ( id 22, airport_id 1001, employee_id 1113, type 'aircraft maintenance', cost 500, date '2024-11-8', status 'on progress');
170 insert into services value ( id 23, airport_id 1002, employee_id 1115, type 'aircraft refueling', cost 200, date '2024-10-8', status 'completed');
171 insert into services value ( id 24, airport_id 1002, employee_id 1115, type 'aircraft refueling', cost 500, date '2024-10-29', status 'on progress');
172
173 update services set cost=700 where id=22;
174 delete from services where id=22;

```

```

177 create table planes (
178     id int primary key,
179     name varchar(10) not null,
180     capacity int not null check ( capacity > 0 ),
181     model varchar(10) not null,
182     status varchar(10) not null check ( status='available' or status='in maintenance'
183         or status='in flight' )
184 );
185 alter table planes modify column status varchar(20) check ( status='available' or status='in maintenance'
186     or status='in flight' );
187 insert into planes value ( id 55, name 'f55-airbus', capacity 40, model 'airbus', status 'available');
188 insert into planes value ( id 66, name 'f66-airbus', capacity 100, model 'airbus', status 'in flight');
189 insert into planes value ( id 77, name 'n77-airbus', capacity 120, model 'airbus', status 'in flight' );
190 insert into planes value ( id 99, name 'n88-airbus', capacity 120, model 'airbus', status 'in flight');
191 update planes set name='a99-airbus' where id=99;
192 delete from planes where id=88 ;
193 delete from planes where id=77 ;

```

```

194 create table flights (
195     id int primary key ,
196     departure_id int,
197     foreign key (departure_id) references airports (id),
198     arrival_id int,
199     foreign key (arrival_id) references airports (id),
200     plane_id int,
201     foreign key (plane_id) references planes (id),
202     employee_id int ,
203     foreign key (employee_id) references employees (id),
204     date datetime not null ,
205     departure_time datetime not null ,
206     arrival_time datetime not null ,
207     status varchar(10) not null check ( status='in flight'
208         or status='boarding' or status='landed' or status='cancelled' )
209 );
210
211
212 alter table flights drop column date;
213 insert into flights value ( id 8080, departure_id 1001, arrival_id 1002, plane_id 55, employee_id 1112,
214     departure_time '2024-11-8 02:30:50', arrival_time '2024-11-8 04:00:00', status 'landed');
215 insert into flights value ( id 8081, departure_id 1002, arrival_id 1001, plane_id 55, employee_id 1112,
216     departure_time '2024-11-9 02:30:50', arrival_time '2024-11-9 04:00:00', status 'boarding');
217
218 insert into flights value ( id 8082, departure_id 1002, arrival_id 1001, plane_id 55, employee_id 1112,
219     departure_time '2024-10-9 02:30:50', arrival_time '2024-10-9 04:00:00', status 'cancelled');
220
221 update flights set plane_id=66 where id=8082;
222 ✓ delete from flights where id=8080;
223
224

```

Tables:

➤ Airports

	id	name	location	contact_num	gates_num
1	1001	king Khaled airport	riyadh	900088800	9
2	1002	king AbdulAziz airport	Jeddah	800989888	10
3	1003	king Fahd airport	Al-Dammam	800989899	6
4	1004	Abha international airport	Abha	800989866	10

➤ Employees

	id	name	email	city	salary	role	airport_id
1	1112	bayan	b@hotmail	jeddah	10000	pilot	1002
2	1113	ahmed	a13@hotmail	abha	5000	aircraft service	1004
3	1114	mohammed	m@hotmail	riyadh	20000	pilot	1001
4	1115	sara	s@hotmail	Dammam	7000	aircraft servic	1003

➤ Planes

	id	name	capacity	model	status
1	55	f55-airbus	40	airbus	available
2	66	f66-airbus	100	airbus	in flight
3	99	a99-airbus	120	airbus	in flight

➤ Flights

	id	departure_id	arrival_id	plane_id	employee_id	departure_time	arrival_time	status
1	8081	1002	1001	55	1112	2024-11-09 02:30:50	2024-11-09 04:00:00	boarding
2	8082	1002	1001	66	1112	2024-10-09 02:30:50	2024-10-09 04:00:00	cancelled

➤ Service

	id	airport_id	employee_id	type	cost	date	status
1	23	1002	1115	aircraft refueling	200	2024-10-08	completed
2	24	1002	1115	aircraft refueling	500	2024-10-29	on progress