



ER SCHEMA

```

aircraft_type(aircraft_type_id, aircraft_type, manufacturer, max_range)
assigned_type(aircraft_type_id, aircraft_type_id)
aircraft(aircraft_id, aircraft_type_id, pilot_capacity, cabin_crew_capacity, passenger_capacity)
aircraft_type(first_name, last_name, birth_date, password_hash, role, rank, gender, nationality)
licensed_on(staff_id, aircraft_type_id)
can_cook(staff_id, dish_id)
dish(dish_id, dish_name)
operating_on(staff_id, flight_id)
flight(flight_id, aircraft_id, date, departure_time, departure_airport, arrival_time, arrival_airport, gate, status, flight_number, boarding_time)
on_aircraft(flight_id, aircraft_id)
connected_flight(flight_id, ticket_id)
flight_ticket(ticket_id, seat_number, class)
owns_ticket(ticket_id, passport_number)
passenger(passport_number, first_name, last_name, birth_date, gender, nationality, has_allergy, disability_assistance)

```

Cardinality

Relation	Type	Reason
assigned_type	M(aircraft_type)X(aircraft)	An aircraft type may be assigned to more than 1 aircraft An aircraft can have many aircraft types.
licensed_on	M(aircraft_type)M(staff)	An aircraft type may have many staff who are licensed on it Many staff can be licensed on the same aircraft type
can_cook	M(dish)M(staff)	A dish can have multiple staff who can cook it A staff could cook more than 1 dish
operating_on	T(flight)M(staff)	A flight can have multiple staff assigned to it A staff can be assigned to multiple flights at different times!
on_aircraft	T(flight)X(aircraft)	A flight must have an aircraft assigned to it Not every aircraft is assigned to a flight
connected_flight	M(flight_ticket)M(flight)	A flight ticket can be associated with multiple flights allowing transit / shared flights An aircraft may have multiple flights assigned to it at different times!
owns_ticket	M(passenger)X(flight_ticket)	A passenger may own multiple flight tickets A flight ticket can be owned by only 1 passenger

Participation

Relation	Type	Reason
assigned_type	M(aircraft_type)T(aircraft)	Not every aircraft type has to have an aircraft Every aircraft has to have a type
licensed_on	M(aircraft_type)M(staff)	Not every aircraft type has staff who are licensed on it Many staff can be licensed on the same aircraft type
can_cook	M(dish)M(staff)	Not every dish can be cooked by a staff Not every staff is able to cook
operating_on	T(flight)M(staff)	Every flight has to have staff assigned to it Not every staff is assigned to a flight
on_aircraft	T(flight)X(aircraft)	Every flight must have an aircraft assigned to it Not every aircraft is assigned to a flight
connected_flight	M(flight_ticket)T(flight)	Every flight ticket must be connected to a flight Not every flight has flight tickets
owns_ticket	M(passenger)T(flight_ticket)	Not every passenger has a flight ticket Every flight ticket is owned by a passenger

Relational Schema

```

aircraft_type(aircraft_type_id, aircraft_type, manufacturer, max_range)
aircraft(aircraft_id, aircraft_type_id, pilot_capacity, cabin_crew_capacity, passenger_capacity)
staff(staff_id, first_name, last_name, birth_date, password_hash, role, rank, gender, nationality)
speaks(staff_id, language)
licensed_on(staff_id, aircraft_type_id)
can_cook(staff_id, dish_id)
dish(dish_id, dish_name)
operating_on(staff_id, flight_id)
flight(flight_id, aircraft_id, date, departure_time, departure_airport, arrival_time, arrival_airport, gate, status, flight_number, boarding_time)
connected_flight(flight_id, ticket_id)
flight_ticket(ticket_id, passport_number, seat_number, class)
passenger(passport_number, first_name, last_name, birth_date, gender, nationality, has_allergy, disability_assistance)

```

SNAPSHOT

aircraft_type		aircraft	
aircraft_type_id	aircraft_type	aircraft_id	aircraft_type_id
1	B-737-200W	Boeing	1
2	B-747-300	Boeing	2
3	A-310-800	Airbus	3
4	E-175	Embraer	4
5	ATR-72-600	Airbus	5
		max_range (km)	pilot_capacity
		6,000	2
		8,000	4
		14,000	6
		14,000	8
		14,000	10

staff		speaks		licensed_on		can_cook		operating_on	
staff_id	first_name	last_name	birth_date	password_hash	role	rank	gender	nationality	language
1	Zeynep	Boz	01/12/1990	ab1234567890	Pilot	Junior	Male	Turkish	English
2	Selim	Yilmaz	02/05/1995	cd1234567890	Captain	Senior	Male	Turkish	English
3	Ali	Can	03/07/1990	ef1234567890	Captain	Senior	Male	Turkish	English
4	Sahika	Kesenci	10/07/2000	gh1234567890	Cabin Crew	Trainee	Male	Turkish	English
5	Dilek	Yilmaz	10/12/2000	ij1234567890	Cabin Crew	Junior	Male	Turkish	English

flight_id	aircraft_id	date	departure_time	departure_airport	arrival_time	arrival_airport	gate	status	flight_number	boarding_time
1	1	20/10/2024	08:30	IST	08:30	LHR	12A	Arrived	AI001	08:10
2	1	20/10/2024	10:45	LHR	09:45	IST	12B	Boarding	AI011	10:25
3	2	20/10/2024	11:00	IST	10:00	CDG	12C	Scheduled	AI002	11:15
4	4	20/10/2024	12:30	CDG	12:30	LHR	12D	Scheduled	AI012	12:10
5	5	20/10/2024	11:00	CDG	10:00	LHR	12E	Deboarding	AI003	10:30

flight_id	ticket_id	seat_number	class
1	1	10A	Economy
2	1	10B	Economy
2	2	32D	Economy
2	2	32E	Business

passenger								
1	Zeynep Boz	01/12/1990	ab1234567890	Male	no	no	no	Turkish
2	Selim Yilmaz	02/05/1995	cd1234567890	Male	yes	yes	yes	Turkish
3	Ali Can	03/07/1990	ef1234567890	Male	yes	yes	yes	Turkish
4	Sahika Kesenci	10/07/2000	gh1234567890	Male	no	no	no	Turkish
5	Dilek Yilmaz	10/12/2000	ij1234567890	Male	no	no	no	Turkish