

## Data Dictionary (Entities description)

Entity Name	Description	Aliases	Occurrence
<a href="#">AirportCode</a>	This entity contains information relating to an airport, primarily identified through its 3-letter code, and contains information regarding its name and location (city). This information is crucial in identifying where flights depart or arrive.	Airport	One airport can be the departure or arrival location of multiple flights. One airport cannot be both the departure and arrival location of the same flight.
<a href="#">Aircraft</a>	This entity contains information on the aircraft, uniquely identified by its tail number. It contains information regarding its type, seat capacity per passenger class for all airplanes operated under Air Canada.	Airplane	One aircraft must be associated with at least one flight and can be associated with multiple flights.
<a href="#">Flight</a>	This entity contains information regarding each flight, uniquely identified by a flight ID, a flight number indicating route, departure and arrival datetimes, and the specific aircraft associated with each flight.		One flight must be booked by at least one booking, up to multiple bookings. One flight should consist of exactly one aircraft. One flight is associated with exactly one flight status (where each instance is split into primary and secondary status). One flight must consist of exactly one flight route.
<a href="#">FlightRoute</a>	This entity contains information regarding the flight route: departure and arrival airport codes, where each instance is uniquely identified by the flight number.	Route	One flight route must be taken by at least one flight, and can be taken by multiple flights.
<a href="#">FlightStatus</a>	This entity provides real-time information on flight statuses (e.g., boarding, departed, delayed, gate change, etc.) and real-time information regarding departure and arrival time and gate if changes occurred. Each flight status is uniquely identified by the Flight ID	Flight status	One flight status must be associated with only one flight.
<a href="#">Passenger</a>	This entity holds a passenger's personal information, including name, email, phone, and passport number.	Customer	One passenger must be associated with at least one booking and can be associated with multiple bookings. One passenger can only have one frequent flyer account.

Booking	This entity represents a reservation made by a passenger for one or more flights. It includes details about the booking including the booking date, the passenger who made the booking, the information regarding that booking (flight, booking status, booking class, and payment).		One booking must be associated with exactly one flight. To simplify the scope of the project, one booking must be booked for exactly one passenger. One booking must be paid for by a single payment. One booking can have no or at most one check-in.
Payment	This entity contains information regarding the payment made for a unique booking.	Invoice	One payment must be done for exactly one booking.
FrequentFlyer	This entity reflects the number of points each member holds and their respective membership tier.	Rewards	One frequent flyer account must be associated with only one passenger.
Check-In	This entity reflects check-in information (check-in time, flight number, boarding pass number, and seat selection) associated with a passenger.		One check-in must be associated with exactly one booking.

## Data Dictionary (Attributes description)

Entity Name	Attributes	Description	Data Type	Nulls	Multi-valued	Derived	Default
AirportCode	airport_code	Unique code for each airport.	VARCHAR(10)	No	No	No	None
	airport_name	Name of the airport.	VARCHAR(100)	No	No	No	None
	city	City where the airport is located.	VARCHAR(50)	No	No	No	None
	country	Country where the airport is located.	VARCHAR(50)	No	No	No	None
Aircraft	er	aircraft.	VARCHAR(20)	No	No	No	None
	aircraft_type	Type of aircraft.	VARCHAR(50)	No	No	No	None
	total_first_class_seats	Total number of first-class seats.	INT	No	No	No	None
	total_business_classes_seats	Total number of business class seats.	INT	No	No	No	None
	total_economy_classes_seats	Total number of economy class seats.	INT	No	No	No	None
Flight	flight_id	Unique ID for each flight.	INT	No	No	Yes	AUTO_INCREMENT
	flight_number	Flight number.	VARCHAR(10)	No	No	No	None
	scheduled_departure_time	Scheduled time of departure.	DATETIME	No	No	No	None
	scheduled_arrival_time	Scheduled time of arrival.	DATETIME	No	No	No	None
	er	for the flight.	VARCHAR(20)	No	No	No	None
FlightRoute	flight_number	flight route.	VARCHAR(10)	No	No	No	None
	departure_airport_code	Code of the departure airport.	VARCHAR(10)	No	No	No	None
	arrival_airport_code	Code of the arrival airport.	VARCHAR(10)	No	No	No	None
FlightStatus	status_id	Unique ID for each flight status.	INT	No	No	Yes	AUTO_INCREMENT
	flight_id	ID of the flight.	INT	Yes	No	No	None
	primary_status	Primary status of the flight.	ENUM	No	No	No	None
	secondary_status	Secondary Status of the flight.	ENUM	Yes	No	No	'None'
	updated_departure_time	Updated departure time of the flight.	DATETIME	Yes	No	No	None

	updated_arrival_time	Updated arrival time of the flight	DATETIME	Yes	No	No	None
	current_departure_gate	Current departure gate of the flight.	VARCHAR(10)	Yes	No	No	None
	current_arrival_gate	Current arrival gate of the flight.	VARCHAR(10)	Yes	No	No	None
	updated_time	Time when status was last updated.	DATETIME	No	No	No	None
Passenger	passenger_id	Unique ID for each passenger.	INT	No	No	YES	AUTO_INCREMENT
	name	Name of the passenger.	VARCHAR(100)	No	No	No	None
	email	Email of the passenger.	VARCHAR(100)	No	No	No	None
	phone	Phone number of the passenger.	VARCHAR(20)	No	No	No	None
	passport_number	Passport number of the passenger.	VARCHAR(50)	No	No	No	None
Booking	booking_id	Unique ID for each booking.	INT	No	No	Yes	AUTO_INCREMENT
	booking_date	Date of booking.	DATETIME	No	No	No	None
	passenger_id	ID of the passenger.	INT	Yes	No	No	None
	flight_id	ID of the flight.	INT	Yes	No	No	None
	booking_class	Class of booking of the passenger.	ENUM	No	No	No	None
	booking_status	Status of the booking of the passenger.	VARCHAR(20)	No	No	No	None
	payment_id	The ID of the payment.	INT	No	No	No	None
Payment	payment_id	Unique ID for each payment.	INT	No	No	Yes	AUTO_INCREMENT
	payment_date	Date of the payment.	DATETIME	No	No	No	None
	amount	Amount of the payment.	DECIMAL(10,2)	No	No	No	None
	payment_method	Method of the payment.	VARCHAR(20)	Yes	No	No	None
	payment_status	Status of the payment.	VARCHAR(20)	Yes	No	No	None
	points_earned	Points earned from the payment.	INT	Yes	No	No	0
FrequentFlyer	ff_id	Unique ID for each frequent flyer.	INT	No	No	Yes	AUTO_INCREMENT
	passenger_id	ID of the passenger.	INT	Yes	No	No	None

	points_balance	Balance of frequent flyer points of the passenger.	INT	Yes	No	No	0
	membership_tier	Membership tier level of the passenger.	ENUM	Yes	No	No	None
CheckIn	checkin_id	Unique ID for each checked-in passenger.	INT	No	No	Yes	AUTO_INCREMENT
	booking_id	ID of the passenger.	INT	Yes	No	No	None
	checkin_time	Check-in time.	DATETIME	No	No	No	None
	boarding_pass_number	Boarding pass number of the passenger.	VARCHAR(20)	No	No	No	None
	seat_number	Seat number of the passenger.	VARCHAR(5)	No	No	No	None