

Description of the ATIS Database

ATIS (Air Travel Information Service) is a relational database (DB) for storing information on flights, and it is used as benchmark for understanding spoken and written language. This document presents a diagram of the DB schema and details of the DB tables.

Schema

The ATIS database schema describes the DB tables and the links (relations) between tables (Figure 1). The tables most used in queries to the database are: *flight*, *fare*, *airline*, *airport*, *compound_class*, and *transport*.

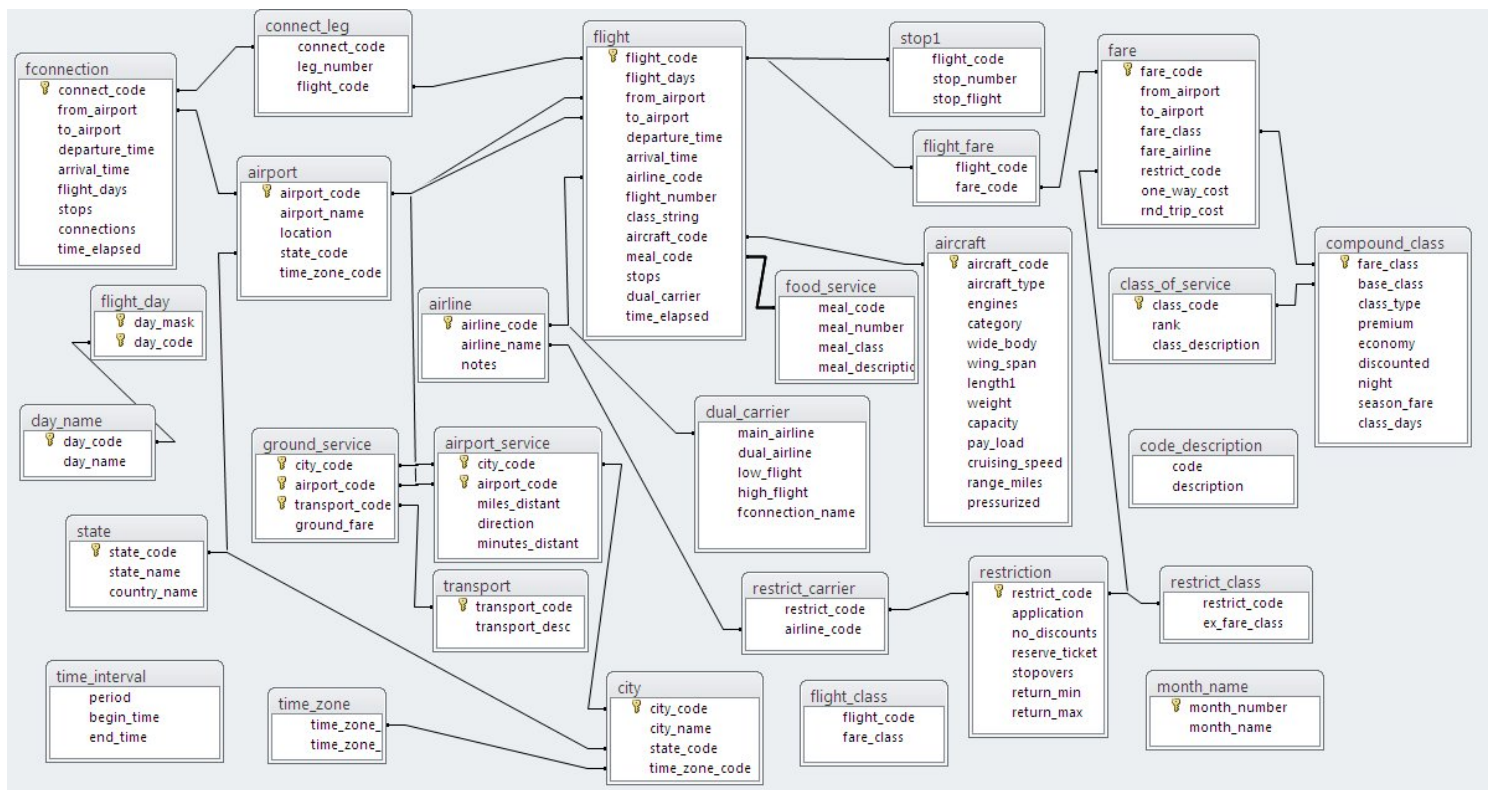


Figure 1. ATIS database schema

Table and Column Descriptions

In order to provide an adequate understanding of the ATIS database contents, this document presents information on the contents of each DB table and column. It is important to mention that the descriptions for tables and columns are constituted by a word or syntagma (phrase) of the following syntactic categories: noun, verb, adjective and preposition.

Next, the descriptions of the DB columns of the ATIS tables are presented, as well as the description of each DB table, which is shown at the top of each table. For each DB column, the first table column contains the name of the DB column, the second column indicates the data type of the DB column, and the third column contains the descriptor for the DB column (both: in English and [Spanish](#)). It is important to make clear that the NLIDB of this demo has been developed for answering queries in Spanish. Therefore, the Spanish descriptors were used for the automatic customization of the NLIDB. Notes: There exist different slightly different versions of the ATIS database. The following description of the database includes two tables (*month_name* and *time_interval*) that are not defined in some DB versions; additionally, some necessary primary and foreign keys, which are not defined in some versions, are included in this description.

Table: *aircraft*

Description: Aircraft ([Avión](#))

Column	Type	Description
aircraft_code	Text	Aircraft code (Código de avión)
aircraft_type	Text	Aircraft type (Tipo de avión)
engines	Numeric	Number of engines (Número de motores)
category	Text	Category (Categoría)
wide_body	Text	Fuselage width (Tamaño del fuselaje)
wing_span	Numeric	Wingspan (Extensión de alas)
length1	Numeric	Length (Longitud)
weight	Numeric	Weight (Peso)
capacity	Numeric	Capacity (Capacidad)
pay_load	Numeric	Payload (Carga)
cruising_speed	Numeric	Cruising speed (Velocidad de crucero)
range_miles	Numeric	Range miles (Alcance de vuelo)
pressurized	Text	Pressurized (Presurización)

PRIMARY KEY: aircraft_code

Table: *airline*

Description: Airline ([Aerolínea](#))

Column	Type	Description
airline_code	Text	Airline code (Código de aerolínea)
airline_name	Text	Airline name (Nombre de aerolínea)
notes	Text	Notes (Notas)

PRIMARY KEY: airline_code

FOREIGN KEY: airline (airline_code) – restrict_carrier (airline_code)

Table: *airport* **Description:** Airport ([Aeropuerto](#))

Column	Type	Description
airport_code	Text	Airport code (Código de aeropuerto)
airport_name	Text	Airport name (Nombre de aeropuerto)
location	Text	Location (Ubicación)
state_code	Text	State code (Código de estado)
time_zone_code	Text	Time zone code (Código de zona horaria)

PRIMARY KEY: airport_code
FOREIGN KEY: airport (state_code) – state (state_code)
airport (time_zone_code) – time_zone (time_zone_code)

Table: *airport_service* **Description:** Airport service ([Servicio de aeropuerto](#))

Column	Type	Description
city_code	Text	City code (Código de ciudad)
airport_code	Text	Airport code (Código de aeropuerto)
miles_distant	Numeric	Miles distant (Distancia en millas)
direction	Text	Airport direction (Dirección)
minutes_distant	Numeric	Minutes distant (Distancia en minutos)

PRIMARY KEY: city_code, airport_code
FOREIGN KEY: airport_service (airport_code) – airport (airport_code)
airport_service (city_code) – city (city_code)
airport_service (airport_code) – ground_service (airport_code)
airport_service (city_code) – ground_service (city_code)

Table: *city* **Description:** City ([Ciudad](#))

Column	Type	Description
city_code	Text	City code (Código de ciudad)
city_name	Text	City name (Nombre de ciudad)
state_code	Text	State code (Código de estado)
time_zone_code	Text	Time zone code (Código de zona horaria)

PRIMARY KEY: city_code
FOREIGN KEY: city (state_code) – state (state_code)
city (time_zone_code) – time_zone (time_zone_code)

Table: *class_of_service* **Description:** Class of service ([Clase de servicio](#))

Column	Type	Description
class_code	Text	Class code (Código de clase de servicio)
rank	Numeric	Rank (Rango)
class_description	Text	Class description (Descripción de clase de servicio)
PRIMARY KEY: class_code		

Table: *code_description* **Description:** Code description ([Descripción de código](#))

Column	Type	Description
code	Text	Código (Código)
description	Text	Code description (Descripción de código)
PRIMARY KEY: code		

Table: *compound_class* **Description:** Compound class ([Clase compuesta](#))

Column	Type	Description
fare_class	Text	Fare class (Clase de tarifa)
base_class	Text	Base class (Clase base)
class_type	Text	Class type (Tipo de clase)
premium	Text	Premium class (Primera clase)
economy	Text	Economy class (Clase económica)
discounted	Text	Discounted (Descuento)
night	Text	Night flight (Vuelo nocturno)
season_fare	Text	Season fare (Tarifa de temporada)
class_days	Text	Days (Días)
PRIMARY KEY: fare_class		
FOREIGN KEY: compound_class (base_class) – class_of_service (class_code)		

Table: *connect_leg* **Description:** Connect leg ([Segmento de conexión](#))

Column	Type	Description
connect_code	Numeric	Connect code (Código de conexión)
leg_number	Numeric	Leg number (Número de segmento)
flight_code	Numeric	Flight code (Código de vuelo)
PRIMARY KEY: connect_code, connect_leg.flight_code		
FOREIGN KEY: connect_leg (connect_code) – fconnection (connect_code)		
connect_leg (flight_code) – flight (flight_code)		

Table: *day_name* **Description:** Days ([Día](#))

Column	Type	Description
day_code	Numeric	Day code (Código de día)
day_name	Text	Day name (Nombre de día)
PRIMARY KEY:		day_code

Table: *dual_carrier* **Description:** Dual carrier ([Compañía dual](#))

Column	Type	Description
main_airline	Text	Main airline code (Código de aerolínea principal)
dual_airline	Text	Dual airline code (Código de compañía dual)
low_flight	Numeric	Low flight (Vuelo inferior)
high_flight	Numeric	High flight (Vuelo superior)
fconnection_name	Text	Connection name (Nombre de conexión)
PRIMARY KEY:		main_airline, dual_airline, low_flight
FOREIGN KEY:		dual_carrier (dual_airline) – airline (airline_code) dual_carrier (main_airline) – airline (airline_code)

Table: *fare* **Description:** Fare ([Tarifa](#))

Column	Type	Description
fare_code	Text	Fare code (Código de tarifa)
from_airport	Text	Origin airport (Aeropuerto de origen)
to_airport	Text	Destination airport (Aeropuerto de destino)
fare_class	Text	Fare class (Clase de tarifa)
fare_airline	Text	Airline code (Código de aerolínea)
restrict_code	Text	Restrict code (Código de restricción)
one_way_cost	Numeric	One-way fare (Tarifa de vuelo sencillo)
rnd_trip_cost	Numeric	Round-trip fare (Tarifa de vuelo redondo)
PRIMARY KEY:		fare_code
FOREIGN KEY:		fare (restrict_code) – restriction (restrict_code) fare (fare_class) – compound_class (fare_class)

Table: *fconnection* **Description:** Connection ([Conexión](#))

Column	Type	Description
connect_code	Numeric	Connect code (Código de conexión)
from_airport	Text	Origin airport (Aeropuerto de origen)
to_airport	Text	Destination airport (Aeropuerto de destino)
departure_time	Numeric	Departure time (Hora de salida)

arrival_time	Numeric	Arrival time (Hora de llegada)
flight_days	Text	Days (Días de vuelo)
stops	Numeric	Stops (Escalas)
connections	Numeric	Connections (Conexiones)
PRIMARY KEY:	connect_code	
FOREIGN KEY:	fconnection (to_airport) – airport (airport_code)	
	fconnection (from_airport) – airport (airport_code)	

Table: *flight* **Description:** Flight ([Vuelo](#))

Column	Type	Description
flight_code	Numeric	Flight code (Código de vuelo)
flight_days	Text	Flight days (Días de vuelo)
from_airport	Text	Origin airport (Aeropuerto de origen)
to_airport	Text	Destination airport (Aeropuerto de destino)
departure_time	Numeric	Departure time (Hora de salida)
arrival_time	Numeric	Arrival time (Hora de llegada)
airline_code	Text	Airline code (Código de aerolínea)
flight_number	Numeric	Flight number (Número de vuelo)
class_string	Text	Class string (Clase de código)
aircraft_code	Text	Aircraft code (Código de avión)
meal_code	Text	Meal code (Código de comida)
stops	Numeric	Stops (Escalas)
dual_carrier	Text	Dual carrier (Empresa dual)
time_elapsed	Numeric	Flight time (Tiempo de vuelo)
PRIMARY KEY:	flight_code	
FOREIGN KEY:	flight (aircraft_code) – aircraft (aircraft_code)	
	flight (airline_code) – airline (airline_code)	
	flight (from_airport) – airport (airport_code)	
	flight (to_airport) – airport (airport_code)	
INFORMAL LINK:	flight (flight_days) – flight_day (day_mask)	

Table: *flight_class* **Description:** Flight class ([Clase de vuelo](#))

Column	Type	Description
flight_code	Numeric	Flight code (Código de vuelo)
fare_class	Text	Fare class (Clase de tarifa)
PRIMARY KEY:	flight_code, fare_class	
FOREIGN KEY:	flight_class (flight_code) – flight (flight_code)	
	flight_class (fare_class) – fare (fare_class)	

Table: *flight_day* **Description:** Flight days ([Día de vuelo](#))

Column	Type	Description
day_mask	Text	Day mask (Máscara de día)
day_code	Numeric	Day code (Código de día)
PRIMARY KEY:	day_mask, day_code	
FOREIGN KEY:	flight_day (day_code) – day_name (day_code)	

Table: *flight_fare* **Description:** Flight fare ([Tarifa de vuelo](#))

Column	Type	Description
flight_code	Numeric	Flight code (Código de vuelo)
fare_code	Text	Fare code (Código de tarifa)
PRIMARY KEY:	flight_code, fare_code	
FOREIGN KEY:	flight_fare (fare_code) – fare (fare_code)	
FOREIGN KEY:	flight_fare (flight_code) – flight (flight_code)	

Table: *food_service* **Description:** Food service ([Servicio de comida](#))

Column	Type	Description
meal_code	Text	Meal code (Código de comida)
meal_number	Numeric	Meal number (Número de comida)
meal_class	Text	Meal class (Clase de comida)
meal_description	Text	Meal description (Descripción de comida)
PRIMARY KEY:	meal_code, meal_number, meal_class	
FOREIGN KEY:	food_service (meal_code) – flight (meal_code)	

Table: *ground_service* **Description:** Ground service ([Transporte terrestre](#))

Column	Type	Description
city_code	Text	City code (Código de ciudad)
airport_code	Text	Airport code (Código de aeropuerto)
transport_code	Text	Transport code (Código de transporte)
ground_fare	Numeric	Ground fare (Tarifa terrestre)
PRIMARY KEY:	city_code, airport_code, transport_code	
FOREIGN KEY:	ground_service (transport_code) – transport (transport_code)	

Table: *month_name* **Description:** Month name ([Nombre de mes](#))

Column	Type	Description
month_number	Numeric	Month number (Número de mes)

month_name	Text	Month name (Nombre de mes)
PRIMARY KEY: month_number		

Table: *restriction* **Description:** Restriction ([Restricción](#))

Column	Type	Description
restrict_code	Text	Restrict code (Código de restricción)
application	Text	Application (Aplicación)
no_discounts	Text	No discounts (Sin descuento)
reserve_ticket	Numeric	Reserve ticket (Boleto en reserva)
stopovers	Text	Stopovers (Escalas)
return_min	Numeric	Minimum return (Rendimiento mínimo)
return_max	Numeric	Maximum return (Rendimiento máximo)
PRIMARY KEY: restrict_code		

Table: *restrict_carrier* **Description:** Restrict carrier ([Restricción de aerolínea](#))

Column	Type	Description
restrict_code	Text	Restrict code (Código de restricción)
airline_code	Text	Airline code (Código de aerolínea)
PRIMARY KEY: restrict_code, airline_code		
FOREIGN KEY: restrict_carrier (restrict_code) – restriction (restrict_code)		

Table: *restrict_class* **Description:** Restrict class ([Clase de restricción](#))

Column	Type	Description
restrict_code	Text	Restrict code (Código de restricción)
ex_fare_class	Text	Fare class (Clase de tarifa)
PRIMARY KEY: ex_fare_class		
FOREIGN KEY: restrict_class (restrict_code) – restriction (restrict_code)		

Table: *state* **Description:** State ([Estado](#))

Column	Type	Description
state_code	Text	State code (Código de estado)
state_name	Text	State name (Nombre de estado)
country_name	Text	Country name (Nombre de país)
PRIMARY KEY: state_code		

Table: *stop* **Description:** Stop ([Escala](#))

Column	Type	Description
flight_code	Numeric	Flight code (Código de vuelo)
stop_number	Numeric	Stop number (Número de escala)
stop_flight	Numeric	Stop flight (Escala de vuelo)
PRIMARY KEY:	flight_code, stop_number	
FOREIGN KEY:	stop (flight_code) – flight (flight_code)	
	stop (stop_flight) – flight (flight_code)	

Table: *time_interval* **Description:** Time interval ([Intervalo de tiempo](#))

Column	Type	Description
period	Text	Period (Periodo)
begin_time	Numeric	Begin time (Hora inicial)
end_time	Numeric	End time (Hora final)
PRIMARY KEY:	period, begin_time	

Table: *time_zone* **Description:** Time zone ([Zona horaria](#))

Column	Type	Description
time_zone_code	Text	Time zone code (Código de zona horaria)
time_zone_name	Text	Time zone name (Nombre de zona horaria)
PRIMARY KEY:	time_zone_code	

Table: *transport* **Description:** Transport ([Transporte](#))

Column	Type	Description
transport_code	Texto	Transport code (Código de transporte)
transport_desc	Texto	Transport description (Descripción de transporte)
PRIMARY KEY:	transport_code	