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| [Airports]  Contains information about airports  For more information, view **“full\_airport\_list.xlsx”** in **References** folder | | | |
| **Field name** | **Data type** | **Constraints** | **Description** |
| ApID | VARCHAR(4) | PRIMARY KEY | Airport ID, using airport’s ICAO code (Field `ident`) |
| ApName | NVARCHAR(MAX) | NOT NULL | Airport Name (Field `name`) |
| Address | NVARCHAR(MAX) | NOT NULL | Address of Airport |
| TimeOffset | INT | NOT NULL | Differences between the airport time and Zulu time (e.g. 0, -1, 2) |
| MaxWTCategory | VARCHAR(1) | NOT NULL | Maximum aircraft type that the airport can handle, using weight turbulence category (S, M, L, J) |

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| [Routes]  Contain information about routes, including the departure and arrival airports, distance, and expected time. | | | |
| **Field name** | **Data type** | **Constraints** | **Description** |
| RouteID | UNIQUEINDENTIFIER | PRIMARY KEY | Route ID, format in UUIDv4 |
| ArrICAO | VARCHAR(4) | REFERENCE Airports(ApID) | Arrival airport, using airport’s ICAO. |
| DepartICAO | VARCHAR(4) | REFERENCE Airports(ApID) | Departure airport, using airport’s ICAO. |
| Distance | FLOAT | NOT NULL | Distances between airports (actual distance, not direct) |

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| [Airlines]  Contain information about airlines  Further information, see “7340.2G\_Bsc\_dtd\_1-5-17” in Reference folder | | | |
| **Field name** | **Data type** | **Constraints** | **Description** |
| AirlineID | VARCHAR(3) | PRIMARY KEY | Airline ID, using ICAO code. See in 7340.2G\_Bsc\_dtd\_1-5-17 |
| AirlineName | NVARCHAR(MAX) | NOT NULL | Airline real name |
| OperatingCountry | VARCHAR(2) | NOT NULL | Country code where airline mainly operates, follow ISO 3166-2 |
| Address | NVARCHAR(MAX) | NOT NULL | Address of the Airline (Headquarters) |
| Email | NVARCHAR(255) |  | Email of the Airline (must be support/helpdesk) |
| PhoneNum | NVARCHAR(20) |  | Phone Number of the Airline (must be support/helpdesk) |

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| [FlightNums]  Contain information about the relation between [Routes] and [Airlines] | | | |
| **Field name** | **Data type** | **Constraints** | **Description** |
| FlightNum | VARCHAR(7) | PRIMARY KEY | Flight Number, assigned via the ICAO code of the airline and flight number. See in “AC 120-26L - Assignment of Aircraft Call Signs and Associated Telephones”, section 5.1 |
| RouteID | UNIQUEINDENTIFIER | REFERENCE Routes(RouteID) | Route ID, format in UUIDv4 |
| AirlineID | VARCHAR(3) | REFERENCE Airlines (AirlineID) | Airline ID, using ICAO code. See in 7340.2G\_Bsc\_dtd\_1-5-17 |

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| [AircraftTypes]  Contain information about aircraft types  Further information, see in “Part2-By Type Designator(Decode)” of “Reference” folder | | | |
| **Field name** | **Data type** | **Constraints** | **Description** |
| AcID | VARCHAR(4) | PRIMARY KEY | ICAO code of the aircraft. |
| AcName | NVARCHAR(MAX) | NOT NULL | Aircraft’s actual name |
| SeatCapacity | INT | NOT NULL | Maximum passengers an aircraft can carry |
| MaxDistance | FLOAT | NOT NULL | Maximum distance aircraft can fly |
| WTCategory | VARCHAR(1) | NOT NULL | Weight turbulence category of the aircraft |

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| [FlightInstances]  Contain information about flight instances | | | |
| **Field name** | **Data type** | **Constraints** | **Description** |
| FlightID | UNIQUEINDENTIFIER | PRIMARY KEY | Flight ID, format in UUIDv4 |
| FlightNum | VARCHAR(7) | REFERENCE FlightNums(FlightNum) | Flight Number, assigned via the ICAO code of the airline and flight number. See in “AC 120-26L - Assignment of Aircraft Call Signs and Associated Telephones”, section 5.1 |
| Status | NVARCHAR(MAX) |  | Current status of that flight instance (Available, Delayed, Cancelled, or self-defined) |
| ArrTime | DATETIME | NOT NULL | Arrival time of that flight instance. Must be before the DepartTime |
| DepartTime | DATETIME | NOT NULL | Departure time of that flight instance. Must be after the ArrTime |
| AcID | VARCHAR(4) | REFERENCE AircraftTypes(AcID) | ICAO code of the aircraft. See in “AIRCRAFT TYPE DESIGNATORS (DECODE)” |

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| [Transactions]  Contain information about transactions | | | |
| **Field name** | **Data type** | **Constraints** | **Description** |
| TransactionID | UNIQUEINDENTIFIER | PRIMARY KEY | Transaction ID, format in UUIDv4 |
| Amount | MONEY | NOT NULL | Amount of the transaction, in USD |
| PaymentMethod | NVARCHAR(MAX) | NOT NULL | Either default values like “Debit/Credit Card” or self-defined payment method |
| PaymentTime | DATETIME | NOT NULL | Time when the transaction occurred |
| isSuccess | BIT | NOT NULL | Whether the transaction is completed. |

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| [Passengers]  Contain information about passengers | | | |
| **Field name** | **Data type** | **Constraints** | **Description** |
| PassengerID | UNIQUEINDENTIFIER | PRIMARY KEY | Passenger ID, format in UUIDv4 |
| FirstName | NVARCHAR(MAX) | NOT NULL | First Name of passenger |
| LastName | NVARCHAR(MAX) | NOT NULL | Last Name of passenger |
| Email | NVARCHAR(255) |  | Email of Passenger |
| PassportNum | NVARCHAR(255) | NOT NULL, UNIQUE | Passport number of passenger |

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| [Seats]  Contain information about seating in that flight | | | |
| **Field name** | **Data type** | **Constraints** | **Description** |
| SeatID | UNIQUEINDENTIFIER | PRIMARY KEY | Seat ID, format in UUIDv4 |
| FlightID | UNIQUEINDENTIFIER | REFERENCE FlightInstances (FlightID) | Flight ID, format in UUIDv4 |
| Description | NVARCHAR(MAX) |  | Description of that seat. Note may be included. |
| Price | MONEY | NOT NULL | Price of seat to book |
| Seat | VARCHAR(5) | NOT NULL | Seat in format:<Type><Loc><Num>  Where:   1. Seat Type is either “L” (Luxury) or “N” (Normal) 2. Loc is “L” (Left), “M” (Middle), or “R” (Right) 3. Number of seat (001 - 999) |
| isOccupied | BIT | NOT NULL | Whether seat is occupied |

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| [Booking]  Contain information about booking relational table. | | | |
| **Field name** | **Data type** | **Constraints** | **Description** |
| BookingID | UNIQUEINDENTIFIER | PRIMARY KEY | Booking ID, format in UUIDv4 |
| SeatID | UNIQUEINDENTIFIER | REFERENCE Seat(SeatID) | Seat ID, format in UUIDv4 |
| TransactionID | UNIQUEINDENTIFIER | REFERENCE Transactions (TransactionID) | Transaction ID, format in UUIDv4 |
| PassengerID | UNIQUEINDENTIFIER | REFERENCE Passengers(PassengerID) | Passenger ID, format in UUIDv4 |