# Entity Listing

Below entities are listed and modelled as part of the flight booking management system database. The below table describes the entities designed and their corresponding descriptions.

|  |  |  |
| --- | --- | --- |
| **S. No** | **Entities** | **Description** |
| 1. | Person | This entity defines a person who wants to book a flight and have basic  attributes like name and address, and it has two subtypes of namely user and passenger |
| 2. | User | This entity describes the person who is logging into the server to book  the ticket and it has attributes like user id and password |
| 3. | Passenger | This entity describes the details of the passenger who will be  travelling. |
| 4. | Employee | This entity defines an employee working at an airport and can belong  to either administration, maintenance, pilots, crew members, etc. |
| 5. | Airport Employee | This entity describes the person/employee who assist the person booking at the airport |
| 6. | Remote  Employee | This entity describes the person/employee who help the customer in  resolving any customer queries regarding booking or flight enquiry |
| 7. | Airline  Employee | The employee who works for a particular airline agency only. |
| 8. | Aircraft | This entity defines a physical aircraft independent of any flights or routes. |
| 9. | Airports | This entity defines the geographical locations where the aircraft are  operated. It can act as both source and destination for a flight. |
| 10. | Flight Schedule | This entity defines a journey by an aircraft between a source and  destination. |
| 11. | Route | This entity defines a particular path followed by one aircraft  associated with any airline. |
| 12. | Booking | This entity describes the confirmation number/PNR number of the flight journey. |
| 13. | Baggage | This entity describes the number of bags and the maximum weight  of each bag that is allowed per customer throughout the journey. |
| 14. | Airline | It is the agency who provides flight services to the passengers. Ex:  Delta Airlines, Qatar, Air India etc. |
| 15. | Immunization | This entity depicts the vaccinations/immunization details of the  passengers travelling with the airline. |
| 16. | Payment | This entity holds the information of payment details completed by  passenger like credit or debit card. |

|  |  |  |
| --- | --- | --- |
| 17. | Work Location | This entity holds the data for physical location of the customer  support office. |
| 18. | Trip | This entity contains the attributes of a particular journey of an  aircraft between source and destination. |
| 19. | Ticket | This is an associative entity which holds the |

# Entity-Attribute Listing

Below table holds the attributes designed and involved for each entity modeled.

* + *Attribute Name in bold is the Unique Identifier (Primary Key – PK)*

|  |  |  |
| --- | --- | --- |
| **Entity Name** | **Attribute Name** | **Attribute Description** |
| Person | **Person ID** | Unique identification for a person. |
| First Name | First Name of the person |
| Last Name | last Name of the person |
| Date Of Birth | DOB for the person |
| Address (City, State, Country) | residence address for person |
| Email | Email address for the person |
| Phone Number | Contact number for the person |
| Person Type | A person can book a ticket or can book for others -> User, Passenger, Both |
| Employee | **Employee ID** | Employee identification number working for an airline |
| First Name | First Name of the airline employee |
| Last Name | last Name of the airline employee |
| Date Of Birth | DOB for the airline employee |
| Email | Email address for the employee |
| Phone Number | Contact number for the employee |
| Manager ID (FK) | Manager of the employee |
| Employee Type | Type of an employee (Airport, Remote, Airline) |
| Aircraft | **AIN Number** | Aircraft Identification Number |
| Company of Manufacture | Manufacturer of aircraft |
| Model Type | Type of aircraft |
| Model Number | A model/build type number A320, A720. |
| Seats | Number of seats established in aircraft |
| Trip | **Route Number (FK)** | Route number defines a unique path between source  and destination |
| **Airline ID (FK)** | Airline identification number |
| Baggage Allowance | Maximum permissible baggage count |
| Passenger Count | Total no of passengers boarded the flight |
| Crew Member Count | Total no of crew members boarded the flight |
| Airport | **Airport ID** | 3 letter international defined airport code. (BOM - Bombay, BOS - Boston, JFK - New York) |
| Airport Name | Name of the airport (Boston Logan, JF Kennedy  International etc.) |

|  |  |  |
| --- | --- | --- |
|  | Airport Location | Address of the airport |
| Flight Schedule | **Flight Schedule ID** | Flight Identification number for a particular flight/journey (QE-123, 6E-223) |
| Departure Timestamp | Exact Departure time for a flight journey |
| Arrival Timestamp | Exact Arrival time for a flight journey |
| Flight Status Code | Status of flight (Boarding, On Time, Security Check) |
| Seats Available | Number of seats available for booking |
| Route Number (FK) | Route number defines a unique path between source  and destination |
| AIN Number (FK) | Aircraft Identification Number |
| Route | **Route Number** | Route number defines a unique path between source  and destination |
| Origin Airport ID (FK) | From where flight departed(BOS, BOM like airport  codes) |
| Destination Airport ID (FK) | To where flight arrived(BOS, BOM like airport codes) |
| Booking | **Booking ID** | Unique identifier for a particular booking/Ticket ID |
| Booking Timestamp | Date time a particular ticket booking |
| Transaction Timestamp | Date time a particular transaction under a booking |
| Transaction Status | Status of a particular transaction (Pending, Completed,  Failed etc.) |
| Person ID (FK) | Person booking the ticket identifier |
| Number of Passengers | Number of travelling passengers |
| User | **User ID** | Unique identification for a user who login to book. |
| Person ID (FK) | Person identification to the person table |
| Username | Login name credentials for the user |
| Password | Login password credentials for the user |
| Passenger | **Passenger ID** | Unique identification of the passenger |
| Person ID (FK) | Person identification to the person table |
| Booking ID (FK) | Booking number for the passenger |
| Passenger Type | Type of the passenger - Adult, Children or Infant |
| Airline | **Airline ID** | Airline identification number |
| Airline Name | Name of the airline agency (Delta, Qatar etc.) |
| Airline Type | Type of the airline |
| Baggage | **Baggage ID** | Unique identification for a baggage |
| Baggage Weight | Weight of Baggage |
| Passenger ID (FK) | Bag belonging to the passenger |
| Booking ID (FK) | Foreign key to the booking which the bag will get  transported |
| Immunization | **Immunization ID** | Unique identifier for a particular immunization record |
| Passenger ID (FK) | Passenger corresponding to the immunization id |
| Immunization Name | Type of vaccine taken by passenger |
| Completed DateTimestamp | DateTimestamp of final immunization administered |
| Immunization Country | Country where the vaccine was administered |
| Payment | **Payment ID** | Payment identifier number for a transaction |
| Booking ID (FK) | Booking Identification number |
| Card Type | Card type - Visa, Mastercard etc. |
| Card Number | Number of the digital card |

|  |  |  |
| --- | --- | --- |
|  | Expiry Date | Expiration date of the card |
| Airport Employee | **Airport Employee ID** | Employee number for the person booking the ticket |
| Airport ID (FK) | Airport id at which booking is made |
| Remote Employee | **Remote Employee ID** | Employee number for the person assisting the  customer over media |
| Location ID (FK) | Unique identification number for a location |
| Airline Employee | **Airline Employee ID** | Employee number for the person working for a  particular airline agency |
| Salary | Salary of the employee |
| Airline ID (FK) | Airline Identification number |
| Work Location | **Location ID** | Unique identification number for a location |
| Location Name | Location name for the work |
| Address | Physical address for customer support location |
| Number of Employees | Head count of employees |
| Ticket | **Ticket ID** | Unique identification number for a ticket |
| Booking ID (FK) | Foreign key from booking relation |
| Flight Schedule ID (FK) | Foreign key from flight schedule table |
| Layover Time | Gap time between succeeding flight under one ticket |