

Projet de Bases de données semi-structurées

Réalisé par:

- ✓ BOUCHAARA
- ✓ OUMAYMA
- ✓ IDHIKA OUMAIMA

Encadré par :

M.Dahchour

Sujet : Réservations des vols aériens avec ou sans réservation des chambres d'hôtel.

I. La description des données avec XML

(Voir la fin du document)

II. Les modifications apportées au fichier XSD

Les clés primaires et étrangères

```
<!--Définir les clés primaires et étrangères-->
<xs:key name="AirportKey">
    <xs:selector xpath=".//Airport"/>
    <xs:field xpath="@Airport_code"/>
</xs:key>

<xs:key name="FlightKey">
    <xs:selector xpath=".//flight"/>
    <xs:field xpath="@flight.number"/>
</xs:key>

<xs:key name="ReservationKey">
    <xs:selector xpath=".//Seat.reservation"/>
    <xs:field xpath="@reservation.id"/>
</xs:key>

<xs:key name="AirplaneKey">
    <xs:selector xpath=".//Airplane"/>
    <xs:field xpath="@Airplane.id"/>
</xs:key>

<xs:key name="PassengerKey">
    <xs:selector xpath=".//passenger"/>
    <xs:field xpath="@passenger_id"/>
</xs:key>

<xs:key name="HotelKey">
    <xs:selector xpath=".//hotel_reservation"/>
    <xs:field xpath="@hotel_reservation_id"/>
</xs:key>

<xs:keyref name="Airportref1" refer="AirportKey">
    <xs:selector xpath="Depart"/>
    <xs:field xpath="@airport.depart.id"/>
</xs:keyref>

<xs:keyref name="Airportref2" refer="AirportKey">
    <xs:selector xpath="Arrivee"/>
    <xs:field xpath="@airport.arrivee.id"/>
</xs:keyref>

<xs:keyref name="Airportref3" refer="AirportKey">
    <xs:selector xpath="flight"/>
    <xs:field xpath="@Airport.escal.id"/>
</xs:keyref>

<xs:keyref name="flightref" refer="FlightKey">
    <xs:selector xpath="Seat.reservation"/>
    <xs:field xpath="@flight.id"/>
</xs:keyref>

<xs:keyref name="seatref" refer="ReservationKey">
    <xs:selector xpath="passenger"/>
    <xs:field xpath="@seat_reservation_number"/>
</xs:keyref>

<xs:keyref name="hotelref" refer="HotelKey">
    <xs:selector xpath="passenger"/>
    <xs:field xpath="@hotel_reservation_number"/>
</xs:keyref>
```

III. Vérification du fait que le fichier XML est bien formé et valide

The screenshot shows an XML editor interface with the following details:

- XML Content:**

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE reservations SYSTEM "file:///C:/Users/EliteBook/Downloads/vols-reservations1.dtd">
<reservations xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="file:///C:/Users/EliteBook/Downloads/vols-reservations1.xsd">
<passengers>
  <passenger::passenger_id="1" seat_reservation_number="231">
    <first_name>mohamed</first_name>
    <last_name>alouci</last_name>
    <phone_number>111111</phone_number>
  </passenger>
  <passenger::passenger_id="2" seat_reservation_number="230" hotel_reservation_number="33">
    <first_name>ali</first_name>
    <last_name>normane</last_name>
    <phone_number>222828</phone_number>
  </passenger>
  <passenger::passenger_id="3" seat_reservation_number="240" hotel_reservation_number="35">
    <first_name>imad</first_name>
    <last_name>salmi</last_name>
    <phone_number>453758</phone_number>
  </passenger>
  <passenger::passenger_id="4" seat_reservation_number="232" hotel_reservation_number="37">
    <first_name>imane</first_name>
    <last_name>badri</last_name>
    <phone_number>444444</phone_number>
  </passenger>
</passengers>
```
- Information Bar:** "vols_reservations.xml est bien formé" (vols_reservations.xml is well-formed)

The screenshot shows an XML editor interface with the following details:

- XML Content:** Same as the first screenshot, showing the XML structure of vols_reservations.xml.
- Information Bar:** "vols_reservations.xml is valid" (vols_reservations.xml is valid)

IV. Les requêtes XQuery

Requête 1

Les passagers qui n'ont pas réservé un hôtel

```
1 [:les personnes qui n'ont pas réservé un hôtel:]
2 <passengers>
3 {for $p in //passenger[not(@hotel_reservation_number)]}
4 return
5 <passengerSansHotel>
6   <full-name>{$p/first_name/text()}_{$p/last_name/text()}</full-name>
7   <passenger-id>{data($p/@passenger_id)}</passenger-id>
8 </passengerSansHotel>
9
10 }
11 </passengers>
12
```

```
<passengers>
  <passengerSansHotel>
    <full-name>mohamed_alaoui</full-name>
    <passenger-id>1</passenger-id>
  </passengerSansHotel>
  <passengerSansHotel>
    <full-name>saida_hitane</full-name>
    <passenger-id>5</passenger-id>
  </passengerSansHotel>
  <passengerSansHotel>
    <full-name>amal_ouardi</full-name>
    <passenger-id>6</passenger-id>
  </passengerSansHotel>
  <passengerSansHotel>
    <full-name>mouamane_fakiri</full-name>
    <passenger-id>10</passenger-id>
  </passengerSansHotel>
  <passengerSansHotel>
    <full-name>samir_radi</full-name>
    <passenger-id>13</passenger-id>
  </passengerSansHotel>
  <passengerSansHotel>
    <full-name>maroua_bouhadi</full-name>
    <passenger-id>14</passenger-id>
  </passengerSansHotel>
</passengers>
```

Requête 2

Les vols utilisant l'avion Boeing arrivant aux Etats Unis

```
1 (:les flights qui ont utilisé airplane de company Boeing arrivant aux etats unis:)
2 <flights>
3 {for $f in //flight[Airplane/airplane.company="Boeing" and Arrivee/@airport.arrivee.id="SFO" ]
4 return
5 <flight>
6 <flight-id>{data($f/@flight.number)}</flight-id>
7 <Airplane-company>{$f/Airplane/airplane.company/text()}</Airplane-company>
8 </flight>
9
10 }
11 </flights>
12
```

OK 1 : 30

```
<flights>
  <flight>
    <flight-id>AA1522</flight-id>
    <Airplane-company>Boeing</Airplane-company>
  </flight>
  <flight>
    <flight-id>AA3472</flight-id>
    <Airplane-company>Boeing</Airplane-company>
  </flight>
</flights>
```

Requête 3

Les passagers qui ont payé plus que la moyenne des prix

```
1 (:les personnes qui ont payé plus que la moyenne des prix:)
2 <passengers>
3 {let $a :=avg(//price/text())
4  for $pr in //price[text()>=$a]
5   let $i :=$pr/../@reservation.id
6   return
7
8   <passenger>
9     <first_name>{ //passenger[@seat_reservation_number=$i]/first_name/text() }</first_name>
10    <last_name>{ //passenger[@seat_reservation_number=$i]/last_name/text() }</last_name>
11    <moyenne_prix>{$a}</moyenne_prix>
12   </passenger>
13 }
14 </passengers>
```

```
<passengers>
  <passenger>
    <first_name>ali</first_name>
    <last_name>normane</last_name>
    <moyenne_prix>4640</moyenne_prix>
  </passenger>
  <passenger>
    <first_name>imane</first_name>
    <last_name>badri</last_name>
    <moyenne_prix>4640</moyenne_prix>
  </passenger>
  <passenger>
    <first_name>mouamane</first_name>
    <last_name>fakiri</last_name>
    <moyenne_prix>4640</moyenne_prix>
  </passenger>
  <passenger>
    <first_name>nora</first_name>
    <last_name>soumar</last_name>
    <moyenne_prix>4640</moyenne_prix>
  </passenger>
  <passenger>
    <first_name>mohamed</first_name>
    <last_name>naji</last_name>
    <moyenne_prix>4640</moyenne_prix>
  </passenger>
  <passenger>
    <first_name>mourad</first_name>
    <last_name>zahri</last_name>
    <moyenne_prix>4640</moyenne_prix>
  </passenger>
  <passenger>
    <first_name>amal</first_name>
    <last_name>ouardi</last_name>
    <moyenne_prix>4640</moyenne_prix>
  </passenger>
</passengers>
```

Requête 4

Les vols associés à chaque passager

```
1 (:les vols associés à chaque passager :)
2 <flights>
3 {
4 for $p in //passenger
5 let $s :=$p/@seat_reservation_number
6 return
7 <passenger>
8   <first-name>{$p/first_name/text()}</first-name>
9   <last-name>{$p/last_name/text()}</last-name>
10  <flight-id>{data(//Seat.reservation[@reservation.id=$s]/@flight.id)}</flight-id>
11 </passenger>
12 }
13
14 </flights>
15
```

```
<flights>
  <passenger>
    <first-name>mohamed</first-name>
    <last-name>alaoui</last-name>
    <flight-id>G4154</flight-id>
  </passenger>
  <passenger>
    <first-name>ali</first-name>
    <last-name>normane</last-name>
    <flight-id>G4155</flight-id>
  </passenger>
  <passenger>
    <first-name>imad</first-name>
    <last-name>salmi</last-name>
    <flight-id>WN380</flight-id>
  </passenger>
  <passenger>
    <first-name>imane</first-name>
    <last-name>badri</last-name>
    <flight-id>G4155</flight-id>
  </passenger>
  <passenger>
    <first-name>saida</first-name>
    <last-name>hitane</last-name>
    <flight-id>HA48</flight-id>
  </passenger>
  <passenger>
    <first-name>amal</first-name>
    <last-name>ouardi</last-name>
    <flight-id>AA3472</flight-id>
  </passenger>
  <passenger>
    <first-name>nora</first-name>
    <last-name>soumar</last-name>
    <flight-id>AA1522</flight-id>
  </passenger>
  <passenger>
    <first-name>mohamed</first-name>
    <last-name>naji</last-name>
    <flight-id>B6624</flight-id>
  </passenger>
  <passenger>
    <first-name>sami</first-name>
    <last-name>riboui</last-name>
    <flight-id>HA48</flight-id>
  </passenger>
  <passenger>
    <first-name>mouamane</first-name>
    <last-name>fakiri</last-name>
    <flight-id>DL1149</flight-id>
  </passenger>
  <passenger>
    <first-name>nabil</first-name>
    <last-name>tabet</last-name>
    <flight-id>HA48</flight-id>
  </passenger>
  <passenger>
    <first-name>rania</first-name>
    <last-name>jadi</last-name>
    <flight-id>DL5841</flight-id>
  </passenger>
  <passenger>
    <first-name>samir</first-name>
    <last-name>radi</last-name>
```

```
<flight-id>HA48</flight-id>
</passenger>
<passenger>
  <first-name>maroua</first-name>
  <last-name>bouhadi</last-name>
  <flight-id>DL1149</flight-id>
</passenger>
<passenger>
  <first-name>mourad</first-name>
  <last-name>zahri</last-name>
  <flight-id>WN380</flight-id>
</passenger>
</flights>
```

Requête 5

Le nombre des aéroports de la France avec leurs villes

```
1 (:le nombre des airports de france avec leurs villes:)
2 <airports-france>
3 {let $somme :=count(//Airport[Country='France'])
4   for $a in //Airport[Country='France']
5   return
6
7   <airport Airport-code='{$a/@Airport_code}'>
8     <city>{$a/City/text()}</city>
9     <nbre-airports>{$somme}</nbre-airports>
10   </airport>
11 }
12 }
13
14 </airports-france>
```

OK

1 : 25

```
<airports-france>
  <airport Airport-code="LFBD">
    <city>Bordeaux</city>
    <nbre-airports>5</nbre-airports>
  </airport>
  <airport Airport-code="LFQM">
    <city>Besancon</city>
    <nbre-airports>5</nbre-airports>
  </airport>
  <airport Airport-code="LFQQ">
    <city>Lille</city>
    <nbre-airports>5</nbre-airports>
  </airport>
  <airport Airport-code="LFLY">
    <city>Lyon</city>
    <nbre-airports>5</nbre-airports>
  </airport>
  <airport Airport-code="LFP0">
    <city>Paris</city>
    <nbre-airports>5</nbre-airports>
  </airport>
</airports-france>
```

Requête 6

Le nombre de passagers par vol

```
1 (: le nombre de passagers par flight:)
2 <flights>
3 { for $r in //flight
4   let $s := count(//Seat.reservation[@flight.id=$r/@flight.number])
5   return
6   <flight>
7     <flight-number>{data($r/@flight.number)}</flight-number>
8     <nbr-passengers>{$s}</nbr-passengers>
9   </flight>
10
11
12 }
13
14 </flights>
```

```
<flights>
  <flight>
    <flight-number>G4155</flight-number>
    <nbr-passengers>2</nbr-passengers>
  </flight>
  <flight>
    <flight-number>G4154</flight-number>
    <nbr-passengers>1</nbr-passengers>
  </flight>
  <flight>
    <flight-number>DL5841</flight-number>
    <nbr-passengers>1</nbr-passengers>
  </flight>
  <flight>
    <flight-number>DL1149</flight-number>
    <nbr-passengers>2</nbr-passengers>
  </flight>
  <flight>
    <flight-number>HA48</flight-number>
    <nbr-passengers>4</nbr-passengers>
  </flight>
  <flight>
    <flight-number>AA1522</flight-number>
    <nbr-passengers>1</nbr-passengers>
  </flight>
  <flight>
    <flight-number>AA3472</flight-number>
    <nbr-passengers>1</nbr-passengers>
  </flight>
  <flight>
    <flight-number>WN380</flight-number>
    <nbr-passengers>2</nbr-passengers>
  </flight>
  <flight>
    <flight-number>B6624</flight-number>
    <nbr-passengers>1</nbr-passengers>
  </flight>
  <flight>
    <flight-number>AA1542</flight-number>
    <nbr-passengers>0</nbr-passengers>
  </flight>
  <flight>
    <flight-number>G4178</flight-number>
    <nbr-passengers>0</nbr-passengers>
  </flight>
  <flight>
    <flight-number>BB568</flight-number>
    <nbr-passengers>0</nbr-passengers>
  </flight>
  <flight>
    <flight-number>WN689</flight-number>
    <nbr-passengers>0</nbr-passengers>
  </flight>
  <flight>
    <flight-number>AA2001</flight-number>
    <nbr-passengers>0</nbr-passengers>
  </flight>
</flights>
```

Requête 7

Les aéroports utilisés comme destination

```
1 [:les airports utilises comme destination:]
2 <airpots>
3 {for $a in //Airport
4 where some $ar in //Arrivee satisfies $ar/@airport.arrivee.id=$a/@Airport_code
5 return
6 <airport>
7   <airport-id>{data($a/@Airport_code)}</airport-id>
8   <country>{$a/Country/text()}</country>
9 </airport>
10 }
11 </airpots>
```

OK

1 : 1

```
<airpots>
  <airport>
    <airport-id>LERI</airport-id>
    <country>Espagne</country>
  </airport>
  <airport>
    <airport-id>DABB</airport-id>
    <country>AlgÃ©rie</country>
  </airport>
  <airport>
    <airport-id>SF0</airport-id>
    <country>Etats Unis</country>
  </airport>
  <airport>
    <airport-id>JFK</airport-id>
    <country>Etats Unis</country>
  </airport>
  <airport>
    <airport-id>ORD</airport-id>
    <country>Etats Unis</country>
  </airport>
</airpots>
```

Requête 8

Les réservations les plus chères

```
1 [:les seats les plus chers:]
2 <Seats>
3 {let $seuil :=5000
4  for $p in //Seat.reservation/price[text()>5000]
5
6  return
7  <Seat>
8  <seat-id>{data($p/../@reservation.id)}</seat-id>
9  <price>{$p/text()}</price>
10 <etat>cher</etat>
11 </Seat>
12 }
13
14 </Seats>
```

OK

1 : 1

```
<Seats>
  <Seat>
    <seat-id>230</seat-id>
    <price>5300</price>
    <etat>cher</etat>
  </Seat>
  <Seat>
    <seat-id>238</seat-id>
    <price>7500</price>
    <etat>cher</etat>
  </Seat>
  <Seat>
    <seat-id>239</seat-id>
    <price>6400</price>
    <etat>cher</etat>
  </Seat>
  <Seat>
    <seat-id>242</seat-id>
    <price>7400</price>
    <etat>cher</etat>
  </Seat>
</Seats>
```

V. Les requêtes XUpdate

Requête 1

Insérer l'attribut hotel_reservation_number de valeur 33 au premier passager

```
1 insert node attribute {'hotel_reservation_number'} {33} into //passenger[1]
```



```
<passengers>
  <passenger hotel_reservation_number="33" passenger_id="1" seat_reservation_number="231">
    <names>
      <first_name>mohamed</first_name>
      <pseudo_name>hamada</pseudo_name>
    </names>
    <last_name>alaoui</last_name>
```

Requête 2

Renommer l'élément airport en lui donnant comme nom « aeroport »

```
for $a in //Airport return rename node $a as 'aeroport'
```

```
<aeroport Airport_code= "LECA">
  <Name>Airport of Calamocha</Name>
  <Country>Espagne</Country>
  <City>Calamocha</City>
</aeroport>
<aeroport Airport_code="LECN">
  <Name>Airport of Castellon</Name>
  <Country>Espagne</Country>
  <City>Castellon</City>
</aeroport>
```

Requête 3

Remplacer l'élément first_name par l'élément names

```
replace node //passenger[1]/first_name with
<names>
<first_name>mohamed</first_name>
<pseudo_name>hamada</pseudo_name>
</names>
```



```
<passengers>
  <passenger hotel_reservation_number="33" passenger_id="1" seat_
reservation_number="231">
    <names>
      <first_name>mohamed</first_name>
      <pseudo_name>hamada</pseudo_name>
    </names>
    <last_name>alaoui</last_name>
```

Requête 4

Supprimer le premier passager

```
delete node //passenger[1]
```

```
<passengers>
  <passenger passenger_id="2" seat_reservation_number="230" hotel_
reservation_number="33">
    <first_name>ali</first_name>
    <last_name>normane</last_name>
    <phone_number>222828</phone_number>
  </passenger>
```

Les données XML

```
<?xml version="1.0" encoding="UTF-8"?>

<!DOCTYPE reservations SYSTEM "file:///C:/Users/EliteBook/Downloads/vols-reservations1.dtd">
<reservations xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="file:///C:/Users/EliteBook/Downloads/vols-reservations1.dtd">
<passengers>

    <passenger passenger_id="1" seat_reservation_number="231">
        <first_name>mohamed</first_name>
        <last_name>alaoui</last_name>
        <phone_number>111111</phone_number>
    </passenger>
    <passenger passenger_id="2" seat_reservation_number="230" hotel_reservation_number="33">
        <first_name>ali</first_name>
        <last_name>normane</last_name>
        <phone_number>222828</phone_number>
    </passenger>
    <passenger passenger_id="3" seat_reservation_number="240" hotel_reservation_number="35">
        <first_name>imad</first_name>
        <last_name>salmi</last_name>
        <phone_number>453758</phone_number>
    </passenger>
    <passenger passenger_id="4" seat_reservation_number="232" hotel_reservation_number="37">
        <first_name>imane</first_name>
        <last_name>badri</last_name>
        <phone_number>444444</phone_number>
    </passenger>
    <passenger passenger_id="5" seat_reservation_number="244">
        <first_name>saida</first_name>
        <last_name>hitane</last_name>
        <phone_number>587555</phone_number>
    </passenger>
    <passenger passenger_id="6" seat_reservation_number="242">
        <first_name>amal</first_name>
        <last_name>ouardi</last_name>
        <phone_number>897000</phone_number>
    </passenger>
    <passenger passenger_id="7" seat_reservation_number="238" hotel_reservation_number="34">
        <first_name>nora</first_name>
        <last_name>soumar</last_name>
        <phone_number>453611</phone_number>
    </passenger>
    <passenger passenger_id="8" seat_reservation_number="239" hotel_reservation_number="36">
        <first_name>mohamed</first_name>

```

```
<last_name>naji</last_name>
<phone_number>888888</phone_number>

</passenger>
<passenger passenger_id="9" seat_reservation_number="243" hotel_reservation_number="40">

    <first_name>sami</first_name>
    <last_name>riboui</last_name>
    <phone_number>606060</phone_number>

</passenger>
<passenger passenger_id="10" seat_reservation_number="233">

    <first_name>mouamane</first_name>
    <last_name>fakiri</last_name>
    <phone_number>343434</phone_number>

</passenger>
<passenger passenger_id="11" seat_reservation_number="236" hotel_reservation_number="39">

    <first_name>nabil</first_name>
    <last_name>tabet</last_name>
    <phone_number>121212</phone_number>

</passenger>
<passenger passenger_id="12" seat_reservation_number="235" hotel_reservation_number="38">

    <first_name>rania</first_name>
    <last_name>jadi</last_name>
    <phone_number>000005</phone_number>

</passenger>
<passenger passenger_id="13" seat_reservation_number="237">

    <first_name>samir</first_name>
    <last_name>radi</last_name>
    <phone_number>1010101</phone_number>

</passenger>
<passenger passenger_id="14" seat_reservation_number="234">
    <first_name>maroua</first_name>
    <last_name>bouhadi</last_name>
    <phone_number>709867</phone_number>

</passenger>
<passenger passenger_id="15" seat_reservation_number="241" hotel_reservation_number="38">

    <first_name>mourad</first_name>
    <last_name>zahri</last_name>
    <phone_number>000005</phone_number>

</passenger>

</passengers>
<hotel_reservations>
<hotel_reservation hotel_reservation_id="33">
    <hotel_name>All Suites Besancon</hotel_name>
    <country>France</country>
```

```

<city>Besancon</city>
</hotel_reservation>
<hotel_reservation hotel_reservation_id="34">
    <hotel_name>MOB HOTEL Lyon Confluence</hotel_name>
    <country>France</country>
    <city>Lyon</city>
</hotel_reservation>
<hotel_reservation hotel_reservation_id="35">
    <hotel_name>Hotel Fidalgo</hotel_name>
    <country>Espagne</country>
    <city>Calamocha</city>
</hotel_reservation>
<hotel_reservation hotel_reservation_id="36">
    <hotel_name>Hotel Juma</hotel_name>
    <country>Espagne</country>
    <city>Pollensa</city>
</hotel_reservation>
<hotel_reservation hotel_reservation_id="37">
    <hotel_name>Hotel Grand Bassin</hotel_name>
    <country>Algérie</country>
    <city>Tlemcen</city>
</hotel_reservation>
<hotel_reservation hotel_reservation_id="38">
    <hotel_name>Bel Azur Hotel</hotel_name>
    <country>Liban</country>
    <city>Jounieh</city>
</hotel_reservation>
<hotel_reservation hotel_reservation_id="39">
    <hotel_name>Astrus Hotel Moscow</hotel_name>
    <country>Russie</country>
    <city>Moscou</city>
</hotel_reservation>
<hotel_reservation hotel_reservation_id="40">
    <hotel_name>Four Seasons Hotel</hotel_name>
    <country>Etats Unis</country>
    <city>Chicago</city>
</hotel_reservation>
</hotel_reservations>
<Airports>

    <Airport Airport_code="GMMD">
        <Name>Airport of Beni Mellal</Name>
        <Country>Morocco</Country>
        <City>Beni Mellal</City>
    </Airport>

    <Airport Airport_code="GMMU">
        <Name>Airport of El Jadida</Name>
        <Country>Morocco</Country>
        <City>El Jadida</City>
    </Airport>

    <Airport Airport_code="QCA">
        <Name>Airport of Makkah</Name>
        <Country>Morocco</Country>
        <City>Makkah</City>
    </Airport>

    <Airport Airport_code="GMFA">
        <Name>Airport of Ouezzane</Name>

```

<Country>Morocco</Country>
<City>Ouezzane</City>
</Airport>

<Airport Airport_code="GMMO">
<Name>Airport of Taroudant</Name>
<Country>Morocco</Country>
<City>Taroudant</City>
</Airport>

<Airport Airport_code="GMFZ">
<Name>Airport of Taza</Name>
<Country>Morocco</Country>
<City>Taza</City>
</Airport>

<Airport Airport_code="GMFT">
<Name>Airport of Touahar</Name>
<Country>Morocco</Country>
<City>Touahar</City>
</Airport>

<Airport Airport_code="GMAD">
<Name>Al Massira/Inezgane</Name>
<Country>Morocco</Country>
<City>Agadir</City>
</Airport>

<Airport Airport_code="GMAZ">
<Name>Airport of Zagora</Name>
<Country>Morocco</Country>
<City>Zagora</City>
</Airport>

<Airport Airport_code="GMMC">
<Name>Anfa Airport</Name>
<Country>Morocco</Country>
<City>Casablanca</City>
</Airport>

<Airport Airport_code="GMFM">
<Name>BASSATINE</Name>
<Country>Morocco</Country>
<City>Bassatine</City>
</Airport>

<Airport Airport_code="GMMM">
<Name>Casablanca ACC/FIC</Name>
<Country>Morocco</Country>
<City>Casablanca</City>
</Airport>

<Airport Airport_code="GMMI">
<Name>Essaouira</Name>
<Country>Morocco</Country>
<City>Essaouira</City>
</Airport>

<Airport Airport_code="GMFI">
<Name>IFRANE</Name>

```
<Country>Morocco</Country>
<City>Ifrane</City>
</Airport>

<Airport Airport_code="MEK">
<Name>Meknes</Name>
<Country>Morocco</Country>
<City>Meknes</City>
</Airport>

<Airport Airport_code="GMMX">
<Name>Menara</Name>
<Country>Morocco</Country>
<City>Marrakech</City>
</Airport>

<Airport Airport_code="CMN">
<Name>Mohamed V</Name>
<Country>Morocco</Country>
<City>Casablanca</City>
</Airport>

<Airport Airport_code="GMMN">
<Name>Mohammed V International</Name>
<Country>Morocco</Country>
<City>Casablanca</City>
</Airport>

<Airport Airport_code="GMME">
<Name>Sale</Name>
<Country>Morocco</Country>
<City>Rabat</City>
</Airport>

<Airport Airport_code="LFBD">
<Name>Merignac</Name>
<Country>France</Country>
<City>Bordeaux</City>
</Airport>

<Airport Airport_code="LFQM">
<Name>La Veze</Name>
<Country>France</Country>
<City>Besancon</City>
</Airport>

<Airport Airport_code="LFQQ">
<Name>Lesquin</Name>
<Country>France</Country>
<City>Lille</City>
</Airport>

<Airport Airport_code="LFLY">
<Name>Bron</Name>
<Country>France</Country>
<City>Lyon</City>
</Airport>

<Airport Airport_code="LFPO">
<Name>Orly</Name>
```

```
<Country>France</Country>
<City>Paris</City>
</Airport>

<Airport Airport_code="LECH">
<Name>Airport of Calamocha</Name>
<Country>Espagne</Country>
<City>Calamocha</City>
</Airport>

<Airport Airport_code="LECA">
<Name>Airport of Calamocha</Name>
<Country>Espagne</Country>
<City>Calamocha</City>
</Airport>

<Airport Airport_code="LECN">
<Name>Airport of Castellon</Name>
<Country>Espagne</Country>
<City>Castellon</City>
</Airport>

<Airport Airport_code="LEPO">
<Name>Airport of Pollensa</Name>
<Country>Espagne</Country>
<City>Pollensa</City>
</Airport>

<Airport Airport_code="LEBN">
<Name>Barcelona MET</Name>
<Country>Espagne</Country>
<City>Barcelona</City>
</Airport>

<Airport Airport_code="LERI">
<Name>Alcantarilla Airbase</Name>
<Country>Espagne</Country>
<City>Murcia</City>
</Airport>

<Airport Airport_code="DAON">
<Name>Zenata - Messali El Hadj Airport</Name>
<Country>Algérie</Country>
<City>Tlemcen</City>
</Airport>

<Airport Airport_code="DAOO">
<Name>Oran Ahmed Ben Bella Airport</Name>
<Country>Algérie</Country>
<City>Oran</City>
</Airport>

<Airport Airport_code="DABC">
<Name>Mohamed Boudiaf International Airport</Name>
<Country>Algérie</Country>
<City>Constantine</City>
</Airport>
```

```
<Airport Airport_code="DAAG">
<Name>Houari Boumediene Airport</Name>
<Country>Algérie</Country>
<City>Algiers</City>
</Airport>
```

```
<Airport Airport_code="DABB">
<Name>Rabah Bitat Airport</Name>
<Country>Algérie</Country>
<City>Annaba</City>
</Airport>
```

```
<Airport Airport_code="QJQ">
<Name>Airport of Jal Edib</Name>
<Country>Liban</Country>
<City>Jal Edib</City>
</Airport>
```

```
<Airport Airport_code="GJN">
<Name>Airport of Jounieh</Name>
<Country>Liban</Country>
<City>Jounieh</City>
</Airport>
```

```
<Airport Airport_code="QSQ">
<Name>Airport of Sidon (As Siddiqin)</Name>
<Country>Liban</Country>
<City>Sidon (As Siddiqin)</City>
</Airport>
```

```
<Airport Airport_code="OLKA">
<Name>Rene Mouawad</Name>
<Country>Liban</Country>
<City>Kleyate/Tripoli</City>
</Airport>
```

```
<Airport Airport_code="OLDD">
<Name>Beirut Dir General of Civil Aviation</Name>
<Country>Liban</Country>
<City>Beirut</City>
</Airport>
```

```
<Airport Airport_code="UUBM">
<Name>Myachkovo Airport</Name>
<Country>Russie</Country>
<City>Moscou</City>
</Airport>
```

```
<Airport Airport_code="UEEA">
<Name>Aldan</Name>
<Country>Russie</Country>
<City>Aldan</City>
</Airport>
```

```
<Airport Airport_code="UHWW">
<Name>Vladivostok</Name>
<Country>Russie</Country>
<City>Vladivostok</City>
</Airport>
```

```
<Airport Airport_code="UUOK">
<Name>Koursk-Vostochny</Name>
<Country>Russie</Country>
<City>Koursk</City>
</Airport>

<Airport Airport_code="UUBC">
<Name>Kaluga (Grabitsevo)</Name>
<Country>Russie</Country>
<City>Kalouga</City>
</Airport>

<Airport Airport_code="SFO">
<Name>San-Francisco-International</Name>
<Country>Etats Unis</Country>
<City>San-Francisco</City>
</Airport>

<Airport Airport_code="OAK">
<Name>Oakland-International</Name>
<Country>Etats Unis</Country>
<City>Oakland</City>
</Airport>

<Airport Airport_code="LAS">
<Name>McCarren-International</Name>
<Country>Etats Unis</Country>
<City>Las-Vegas</City>
</Airport>

<Airport Airport_code="JFK">
<Name>John-F-Kennedy-International</Name>
<Country>Etats Unis</Country>
<City>New-York</City>
</Airport>

<Airport Airport_code="ORD">
<Name>Chicago-OHare-International</Name>
<Country>Etats Unis</Country>
<City>Chicago</City>
</Airport>

</Airports>

<flights>

<flight flight.number="G4155" Airport.escal.id="GMMC">

<Airplane Airplane.id="1">

<total.number.of.seats>180</total.number.of.seats>
<airplane.company>Airbus</airplane.company>
<airplane.name>A320</airplane.name>

</Airplane>

<Depart airport.depart.id="SCK">
```

```
<time.depart>5:31PM</time.depart>
</Depart>
<Arrivee airport.arrivee.id="DABB">
<time.arrivee>8:14PM</time.arrivee>
</Arrivee>

</flight>
<flight flight.number="G4154">
<Airplane Airplane.id="2">
<total.number.of.seats>156</total.number.of.seats>
<airplane.company>Airbus</airplane.company>
<airplane.name>A319</airplane.name>
</Airplane>
<Depart airport.depart.id="QSQ">
<time.depart>5:00AM</time.depart>
</Depart>
<Arrivee airport.arrivee.id="ORD">
<time.arrivee>8:00AM</time.arrivee>
</Arrivee>

</flight>
<flight flight.number="DL5841" Airport.escal.id="WN1119">
<Airplane Airplane.id="3">
<total.number.of.seats>236</total.number.of.seats>
<airplane.company>Airbus</airplane.company>
<airplane.name>A321</airplane.name>
</Airplane>
<Depart airport.depart.id="LAX">
<time.depart>4:00PM</time.depart>
</Depart>
<Arrivee airport.arrivee.id="LERI">
```

```
<time.arrivee>6:23PM</time.arrivee>
</Arrivee>

</flight>
<flight flight.number="DL1149">
<Airplane Airplane.id="4">
<total.number.of.seats>200</total.number.of.seats>
<airplane.company>Airbus</airplane.company>
<airplane.name>A322</airplane.name>
</Airplane>
<Depart airport.depart.id="SMF">
<time.depart>11:25PM</time.depart>
</Depart>
<Arrivee airport.arrivee.id="ORD">
<time.arrivee>02:30AM</time.arrivee>
</Arrivee>

</flight>
<flight flight.number="HA48" Airport.escal.id="MN2001">
<Airplane Airplane.id="5">
<total.number.of.seats>189</total.number.of.seats>
<airplane.company>Boeing</airplane.company>
<airplane.name>707</airplane.name>
</Airplane>
<Depart airport.depart.id="SCB">
<time.depart>5:31AM</time.depart>
</Depart>
<Arrivee airport.arrivee.id="DABB">
<time.arrivee>12:10AM</time.arrivee>
</Arrivee>
```

```
</flight>

<flight flight.number="AA1522">

<Airplane Airplane.id="6">

<total.number.of.seats>124</total.number.of.seats>
<airplane.company>Boeing</airplane.company>
<airplane.name>737</airplane.name>

</Airplane>

<Depart airport.depart.id="HNL">

<time.depart>7:00AM</time.depart>

</Depart>

<Arrivee airport.arrivee.id="SFO">

<time.arrivee>8:14AM</time.arrivee>

</Arrivee>

</flight>

<flight flight.number="AA3472" Airport.escal.id="AC2205">

<Airplane Airplane.id="7">

<total.number.of.seats>550</total.number.of.seats>
<airplane.company>Boeing</airplane.company>
<airplane.name>747</airplane.name>

</Airplane>

<Depart airport.depart.id="OAK">

<time.depart>7:55AM</time.depart>

</Depart>

<Arrivee airport.arrivee.id="SFO">

<time.arrivee>10:10AM</time.arrivee>

</Arrivee>

</flight>

<flight flight.number="WN380">
```

```
<Airplane Airplane.id="8">  
<total.number.of.seats>228</total.number.of.seats>  
<airplane.company>Boeing</airplane.company>  
<airplane.name>757</airplane.name>  
</Airplane>  
  
<Depart airport.depart.id="ORD">  
  
<time.depart>7:19AM</time.depart>  
</Depart>  
  
<Arrivee airport.arrivee.id="JFK">  
  
<time.arrivee>8:19AM</time.arrivee>  
</Arrivee>  
  
</flight>  
  
<flight flight.number="B6624" Airport.escal.id="BB865">  
  
<Airplane Airplane.id="9">  
<total.number.of.seats>323</total.number.of.seats>  
<airplane.company>Boeing</airplane.company>  
<airplane.name>787</airplane.name>  
</Airplane>  
  
<Depart airport.depart.id="ORD">  
  
<time.depart>11:31PM</time.depart>  
</Depart>  
  
<Arrivee airport.arrivee.id="JFK">  
  
<time.arrivee>7:55AM</time.arrivee>  
</Arrivee>  
  
</flight>  
  
<flight flight.number="AA1542">  
  
<Airplane Airplane.id="10">  
<total.number.of.seats>50</total.number.of.seats>
```

```
<airplane.company>Embraer</airplane.company>
<airplane.name>ERJ145</airplane.name>
</Airplane>

<Depart airport.depart.id="ONT">

<time.depart>10:45AM</time.depart>
</Depart>

<Arrivee airport.arrivee.id="LERI">

<time.arrivee>11:45AM</time.arrivee>
</Arrivee>

</flight>

<flight flight.number="G4178" Airport.escal.id="AU45">

<Airplane Airplane.id="11">

<total.number.of.seats>80</total.number.of.seats>
<airplane.company>Embraer</airplane.company>
<airplane.name>170</airplane.name>

</Airplane>

<Depart airport.depart.id="LAX">

<time.depart>9:15PM</time.depart>
</Depart>

<Arrivee airport.arrivee.id="JFK">

<time.arrivee>5:22AM</time.arrivee>
</Arrivee>

</flight>

<flight flight.number="BB568">

<Airplane Airplane.id="12">

<total.number.of.seats>44</total.number.of.seats>
<airplane.company>Bombardier</airplane.company>
<airplane.name>CRJ440</airplane.name>

</Airplane>
```

```
<Depart airport.depart.id="LAX">

<time.depart>2:31PM</time.depart>

</Depart>

<Arrivee airport.arrivee.id="SFO">

<time.arrivee>9:30PM</time.arrivee>

</Arrivee>

</flight>

<flight flight.number="WN689" Airport.escal.id="GG456">

<Airplane Airplane.id="13">

<total.number.of.seats>78</total.number.of.seats>
<airplane.company>Bombardier</airplane.company>
<airplane.name>CRJ700</airplane.name>

</Airplane>

<Depart airport.depart.id="OAK">

<time.depart>6:45PM</time.depart>

</Depart>

<Arrivee airport.arrivee.id="LERI">

<time.arrivee>10:43PM</time.arrivee>

</Arrivee>

</flight>

<flight flight.number="AA2001">

<Airplane Airplane.id="14">

<total.number.of.seats>166</total.number.of.seats>
<airplane.company>McDonnell-Douglas</airplane.company>
<airplane.name>MD80</airplane.name>

</Airplane>

<Depart airport.depart.id="IWA">
```

```
<time.depart>4:06PM</time.depart>
</Depart>
<Arrivee airport.arrivee.id="DABB">

<time.arrivee>4:51PM</time.arrivee>
</Arrivee>

</flight>

</flights>
<Seats>
<Seat.reservation reservation.id="230" flight.id="G4155">
<seat.number>1A</seat.number>
<price>5300</price>
<passenger.id>1</passenger.id>
</Seat.reservation>
<Seat.reservation reservation.id="231" flight.id="G4154">
<seat.number>11A</seat.number>
<price>4000</price>
<passenger.id>2</passenger.id>
</Seat.reservation>
<Seat.reservation reservation.id="232" flight.id="G4155">
<seat.number>2A</seat.number>
<price>5000</price>
<passenger.id>3</passenger.id>
</Seat.reservation>
<Seat.reservation reservation.id="233" flight.id="DL1149">
<seat.number>11B</seat.number>
<price>4900</price>
<passenger.id>4</passenger.id>
</Seat.reservation>
<Seat.reservation reservation.id="234" flight.id="DL1149">
```

```
<seat.number>17A</seat.number>
<price>4300</price>
<passenger.id>5</passenger.id>

</Seat.reservation>

<Seat.reservation reservation.id="235" flight.id="DL5841">

<seat.number>7B</seat.number>
<price>2600</price>
<passenger.id>6</passenger.id>

</Seat.reservation>

<Seat.reservation reservation.id="236" flight.id="HA48">

<seat.number>6A</seat.number>
<price>2300</price>
<passenger.id>7</passenger.id>

</Seat.reservation>

<Seat.reservation reservation.id="237" flight.id="HA48">

<seat.number>7C</seat.number>
<price>2500</price>
<passenger.id>8</passenger.id>

</Seat.reservation>

<Seat.reservation reservation.id="238" flight.id="AA1522">

<seat.number>23D</seat.number>
<price>7500</price>
<passenger.id>9</passenger.id>

</Seat.reservation>

<Seat.reservation reservation.id="239" flight.id="B6624">

<seat.number>8A</seat.number>
<price>6400</price>
<passenger.id>10</passenger.id>

</Seat.reservation>

<Seat.reservation reservation.id="240" flight.id="WN380">

<seat.number>8F</seat.number>
<price>4600</price>
<passenger.id>11</passenger.id>

</Seat.reservation>
```

```
<Seat.reservation reservation.id="241" flight.id="WN380">

<seat.number>4F</seat.number>
<price>4900</price>
<passenger.id>12</passenger.id>

</Seat.reservation>

<Seat.reservation reservation.id="242" flight.id="AA3472">

<seat.number>19A</seat.number>
<price>7400</price>
<passenger.id>13</passenger.id>

</Seat.reservation>

<Seat.reservation reservation.id="243" flight.id="HA48">

<seat.number>7E</seat.number>
<price>3300</price>
<passenger.id>14</passenger.id>

</Seat.reservation>

<Seat.reservation reservation.id="244" flight.id="HA48">

<seat.number>2A</seat.number>
<price>4600</price>
<passenger.id>15</passenger.id>

</Seat.reservation>

</Seats>

</reservations>
```