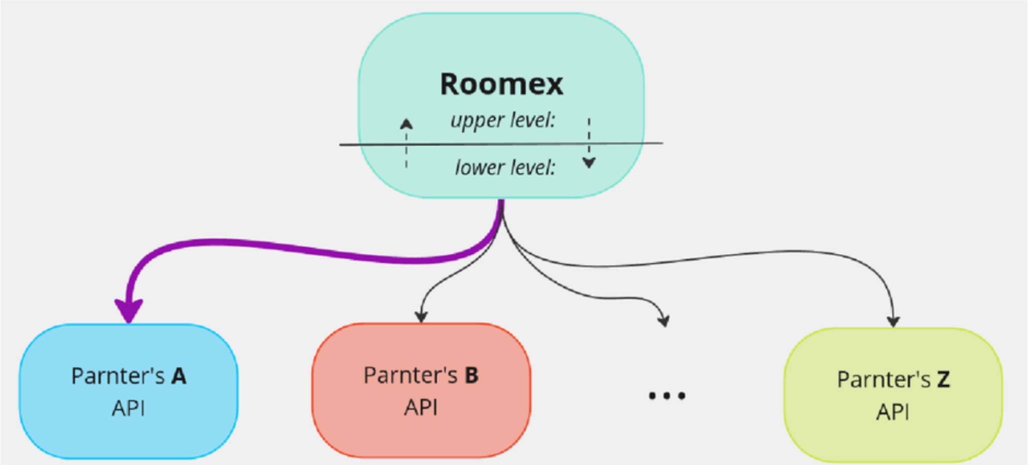
Java XML Role Task

Tech Assessment – HUB

Introduction:

The lowest level of Roomex travel platform often interacts with many third-party APIs. As a result, it must have some organized way of collecting API responses from these partner APIs, transforming them, and then interacting with the upper layer in a unified, standardized way:



Task:

The task is to simulate communication with Partner A (dark purple arrow) by building the proper translator for the lower level. Only [Roomex→Partner A] communication line needs to be simulated (backward communication is not needed in this task).

Input conditions:

Roomex upper level sends the **Snippet 1: INPUT XML** request to the lower level.

Then the lower level must send the **Snippet 2: OUTPUT XML** to Partner A. (please check the comments in XML for additional details).

Build the executable .JAR which would perform this transformation.

Snippet 01: INPUT XML

```xml
<?xml version="1.0" encoding="UTF-8"?>
<ota:OTA_HotelAvailRQ xmlns:ota="http://www.opentravel.org/OTA/2003/05" RequestedCurrency="EUR" PrimaryLangID="e
  <ota:POS>
  <ota:Source>
    <ota:RequestorID ID="WSRMXRDOO" MessagePassword="Pz_882bi"/>
    <ota:RequestorOptions>
      <ota:RequestorOption Name="action" Value="Hotel_MultiSingleAvailability_10.0" />
      <ota:RequestorOption Name="targetHost" Value="nodeD1.test.webservices.amadeus.com" />
      <ota:RequestorOption Name="endpoint" Value="1ASIWROORVZU" />
    </ota:RequestorOptions>
  </ota:Source>
</ota:POS>
<ota:AvailRequestSegments>
  <ota:AvailRequestSegment>
    <ota:StayDateRange End="2024-12-04T12:00:00Z" Start="2024-11-30T12:00:00Z"/><!-- Z means 'Zulu' offset, whic
    <ota:RoomStayCandidates>
      <ota:RoomStayCandidate Quantity="1" RPH="1">
        <ota:GuestCounts>
          <ota:GuestCount AgeQualifyingCode="10" Count="1"/><!-- AgeQualifyingCode=10 represents adults -->
          <ota:GuestCount AgeQualifyingCode="8" Count="1"/><!-- AgeQualifyingCode=8 represents children -->
        </ota:GuestCounts>
      </ota:RoomStayCandidate>
      <ota:RoomStayCandidate Quantity="1" RPH="2">
        <ota:GuestCounts>
          <ota:GuestCount AgeQualifyingCode="10" Count="2"/>
        </ota:GuestCounts>
      </ota:RoomStayCandidate>
      <ota:RoomStayCandidate Quantity="1" RPH="3">
        <ota:GuestCounts>
          <ota:GuestCount AgeQualifyingCode="10" Count="3"/>
          <ota:GuestCount AgeQualifyingCode="8" Count="1"/>
        </ota:GuestCounts>
      </ota:RoomStayCandidate>
      <ota:RoomStayCandidate Quantity="1" RPH="4">
        <ota:GuestCounts>
          <ota:GuestCount AgeQualifyingCode="10" Count="1"/>
        </ota:GuestCounts>
      </ota:RoomStayCandidate>
      <ota:RoomStayCandidate Quantity="1" RPH="5">
        <ota:GuestCounts>
          <ota:GuestCount AgeQualifyingCode="10" Count="1"/>
          <ota:GuestCount AgeQualifyingCode="8" Count="2"/>
        </ota:GuestCounts>
      </ota:RoomStayCandidate>
      <ota:RoomStayCandidate Quantity="1" RPH="6">
        <ota:GuestCounts>
          <ota:GuestCount AgeQualifyingCode="10" Count="3"/>
        </ota:GuestCounts>
      </ota:RoomStayCandidate>
    </ota:RoomStayCandidates>
    <ota:HotelSearchCriteria>
      <ota:Criterion>
        <ota:HotelRef HotelCityCode="NYC" HotelCode="AD_NYC07V" HotelCodeContext="amadeus"/>
      </ota:Criterion>
    </ota:HotelSearchCriteria>
  </ota:AvailRequestSegment>
</ota:AvailRequestSegments>
</ota:OTA_HotelAvailRQ>
```

Snippet 02: OUTPUT XML

```xml
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:oas1="http://docs.oasis-open.o
  <soapenv:Header>
    <add:MessageID>1ed0d3da-50ea-448d-8e5f-b9e76eed820e</add:MessageID><!-- Random UUID as $MessageID -->
    <add:Action>Hotel_MultiSingleAvailability_10.0</add:Action>
    <add:To>https://nodeD1.test.webservices.amadeus.com/1ASIWROORVZU</add:To>
    <oas:Security>
      <oas:UsernameToken oas1:Id="UsernameToken-1">
        <oas:Username>WSRMXRDOO</oas:Username>
        <oas:Nonce EncodingType="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-message-security-1
        <!-- $ClearPassword is taken from ota:RequestorID/@MessagePassword -->
        <oas:Password Type="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-username-token-profile-1.0#P
        <!-- Password is Base64(Sha1($Nonce + $Created + Sha1($ClearPassword))) -->
        <oas1:Created>2024-03-27T10:00:00Z</oas1:Created><!-- Current datetime as $Created -->
      </oas:UsernameToken>
    </oas:Security>
  </soapenv:Header>
<soapenv:Body>
<availabilityRequest inputCurrency="€" inputLanguageCode="EN">
  <globalInputParameters>
    <hotelInputDetails chainCode="AD" hotelId="NYC07V" locationCode="NYC"/>
    <hotelStayDuration numberOfNights="4" startDate="2024-11-30"/>
  </globalInputParameters>
  <roomInputParameters>
    <rooms uniqueRoomGroups="3" numberOfChildren="4">
      <room numberOfRooms="3" numberOfAdults="1"/>
      <room numberOfRooms="1" numberOfAdults="2"/>
      <room numberOfRooms="2" numberOfAdults="3"/>
    </rooms>
  </roomInputParameters>
</availabilityRequest>
</soapenv:Body>
</soapenv:Envelope>
```

Specifications:

- Build an executable .JAR that would process the input XML file and return the output XML.

Launch example:

```
java -jar taskSample.jar "input.xml" "output.xml"
```

- Primary build tool: **Maven**
- .JAR must contain XSL stylesheet inside as a primary tool for the transformation process
- Adding custom Java methods for complex operations and putting them into XSL stylesheet is

strongly recommended.

- You are required to write a JUnit test for this exercise.
- Achieve the best match with the output from Snippet 02.
- GitHub link with the completed task would be ideal.