

# Migration from ASMX to WCF SOAP

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PC\*MILER Web Services ASMX will be discontinued with the current release of PC\*MILER 29. Versions after PC\*MILER 29 will not support the ASMX platform. Easily migrate from ASMX to WCF SOAP with the following steps:

The following document outlines how to convert the Geocode and Reverse Geocode requests from ASMX to WCF. This document is not meant to be a complete migration from one API to the other, but more of an example of how the parameters are mapped for one particular request. For more in depth documentation on the WCF version of PC\*MILER Web Services, please visit: <http://pcmiler.alk.com/APIs/Help/v1.0/Developer/SoapServices>.

## Websites

PC\*MILER Web Services ASMX URL: <http://pcmws.alk.com/>

PC\*MILER Web Services WCF URL: <http://pcmiler.alk.com/APIs/SOAP/v1.0/service.svc>

## Authentication Changes

As part of the API changes, the authentication model changed from Account/UserID/Password to API key.

The ASMX authentication model was based on the LoginType structure. The LoginType consisted of three required string parameters; UserID, Password and Account. These three elements are required elements for all transactions sent to PC\*MILER Web Services.

The following is an example of the login information that was sent as part of the request body:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <LoginInfo>
      <UserID>string</UserID>
      <Password>string</Password>
      <Account>string</Account>
    </LoginInfo>
  </soap:Body>
</soap:Envelope>
```

For WCF SOAP, the authentication is based on the AuthHeader structure. The AuthHeader consists of one required string parameter, Authorization. The Authorization parameter must contain the API Key and should be included as part of all requests sent to PC\*MILER Web Services.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:alk="http://www.alk.com" xmlns:pcm="http://pcmiler.alk.com/APIs/v1.0">
  <soapenv:Header>
    <alk:AuthHeader>
      <alk:Authorization>abc123def</alk:Authorization>
    </alk:AuthHeader>
  </soapenv:Header>
  <soapenv:Body>
...
  </soapenv:Body>
</soapenv:Envelope>
```

In order to get an API key for you application, please contact your account executive at 800.377.6453

## Data Version

Please note the specific data version between ASMX and WCF will be different.

## Reporting

Reporting is the process of getting the distance and time calculations for a list of stops. In ASMX, the process of routing and reporting was handled by PMWSGetReports. For WCF, this is done via the GetReports operation.

## GetReports Request

The following is an example of a zip-to-zip report request in ASMX and WCF SOAP. For more information about the GetReports operation, please refer to [PC\\*MILER Web Services Help](#).

PC*MILER Web Services (ASMX) Request	PC*MILER Web Services (WCF SOAP) Request
<pre>&lt;soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"&gt;   &lt;soap:Body&gt;     &lt;PMWSGetReport xmlns="http://localhost/PCMilerWS/"&gt;       &lt;LoginInfo&gt;         &lt;UserID&gt;{userid}&lt;/UserID&gt;         &lt;Password&gt;{password}&lt;/Password&gt;         &lt;Account&gt;{account}&lt;/Account&gt;         &lt;DataVer&gt;&lt;/DataVer&gt;       &lt;/LoginInfo&gt;       &lt;TripOrigin&gt;         &lt;LocationInputType&gt;           &lt;Zip&gt;08540&lt;/Zip&gt;         &lt;/LocationInputType&gt;       &lt;/TripOrigin&gt;       &lt;TripDestination&gt;         &lt;LocationInputType&gt;           &lt;Zip&gt;90266&lt;/Zip&gt;         &lt;/LocationInputType&gt;       &lt;/TripDestination&gt;       &lt;ReportType&gt;         &lt;string&gt;miles&lt;/string&gt;       &lt;/ReportType&gt;       &lt;ReportInstance&gt;1&lt;/ReportInstance&gt;     &lt;/PMWSGetReport&gt;   &lt;/soap:Body&gt; &lt;/soap:Envelope&gt;</pre>	<pre>&lt;soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:alk="http://www.alk.com"&gt;   &lt;soapenv:Header&gt;     &lt;alk:AuthHeader&gt;       &lt;alk:Authorization&gt;{API Key} &lt;/alk:Authorization&gt;     &lt;/alk:AuthHeader&gt;   &lt;/soapenv:Header&gt;   &lt;soapenv:Body&gt;     &lt;GetReports xmlns="http://pcmiler.alk.com/APIs/v1.0"&gt;       &lt;Request xmlns:i="http://www.w3.org/2001/XMLSchema-instance"&gt;         &lt;Header&gt;           &lt;DataVersion&gt;&lt;/DataVersion&gt;           &lt;RequestType&gt;TypicalReports&lt;/RequestType&gt;         &lt;/Header&gt;         &lt;Body&gt;           &lt;ReportRoutes&gt;             &lt;ReportRoute&gt;               &lt;Stops&gt;                 &lt;StopLocation&gt;                   &lt;Address&gt;                     &lt;Zip&gt;08540&lt;/Zip&gt;                   &lt;/Address&gt;                   &lt;Region&gt;NA&lt;/Region&gt;                 &lt;/StopLocation&gt;                 &lt;StopLocation&gt;                   &lt;Address&gt;                     &lt;Zip&gt;90266&lt;/Zip&gt;                   &lt;/Address&gt;                   &lt;Region&gt;NA&lt;/Region&gt;                 &lt;/StopLocation&gt;               &lt;/Stops&gt;               &lt;ReportTypes&gt;                 &lt;ReportType i:type="MileageReportType"/&gt;               &lt;/ReportTypes&gt;             &lt;/ReportRoute&gt;           &lt;/ReportRoutes&gt;         &lt;/Body&gt;       &lt;/Request&gt;     &lt;/GetReports&gt;   &lt;/soapenv:Body&gt; &lt;/soapenv:Envelope&gt;</pre>

## GetReports Response

### PC\*MILER Web Services (ASMX) Request

```
<soap:Envelope
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <PMWSGetReportResponse
xmlns="http://localhost/PCMilerWS/">
      <PMWSGetReportResult>
        <ReportResponse>
          <Version>29.3.31.1295</Version>
          <Report>
            <RptType>miles</RptType>
            <StopNum>1</StopNum>
            <MilesReport>
              <StpLineType>
                <SRStop>
                  <Region>NA</Region>
                  <Address1/>
                  <City>Princeton</City>
                  <State>NJ</State>
                  <Zip>08540</Zip>
                  <Juris>Mercer</Juris>
                  <Lat>40348727</Lat>
                  <Long>-74659049</Long>
                </SRStop>
                <LMiles>0.0</LMiles>
                <TMiles>0.0</TMiles>
                <LCostMile>0.00</LCostMile>
                <TCostMile>0.00</TCostMile>
                <LHours>0:00</LHours>
                <THours>0:00</THours>
                <LTolls>0.00</LTolls>
                <TTolls>0.00</TTolls>
                <LEstghg>0.0</LEstghg>
                <TEstghg>0.0</TEstghg>
              </StpLineType>
            <StpLineType>
              <SRStop>
                <Region>NA</Region>
                <Address1/>
                <City>Manhattan Beach</City>
                <State>CA</State>
                <Zip>90266</Zip>
                <Juris>Los Angeles</Juris>
                <Lat>33886615</Lat>
                <Long>-118400617</Long>
                <StopWarning>False</StopWarning>
              </SRStop>
              <LMiles>2767.9</LMiles>
              <TMiles>2767.9</TMiles>
              <LCostMile>3333.13</LCostMile>
              <TCostMile>3333.13</TCostMile>
              <LHours>42:54</LHours>
              <THours>42:54</THours>
              <LTolls>208.60</LTolls>
              <TTolls>208.60</TTolls>
            </StpLineType>
          </MilesReport>
        </ReportResponse>
      </PMWSGetReportResult>
    </PMWSGetReportResponse>
  </soap:Body>
</soap:Envelope>
```

### PC\*MILER Web Services (WCF SOAP) Request

```
<s:Envelope
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Body>
    <GetReportsResponse
xmlns="http://pcmiler.alk.com/APIs/v1.0">
      <GetReportsResult
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <Header>
          <Type>TypicalReports</Type>
          <Success>true</Success>
          <DataVersion>29.3.31.1295</DataVersion>
        </Header>
        <Body>
          <Reports>
            <Report i:type="MileageReport">
              <ReportLines>
                <StopReportLine>
                  <Stop>
                    <Address>
                      <StreetAddress/>
                      <City>Princeton</City>
                      <State>NJ</State>
                      <Zip>08540</Zip>
                      <County>Mercer</County>
                      <Country>United States</Country>
                      <SPLC i:nil="true"/>
                    </Address>
                    <CountryPostalFilter>US</CountryPostalFilter>
                    <AbbreviationFormat>FIPS</AbbreviationFormat>
                    </Address>
                    <Coords>
                      <Lat>40.348727</Lat>
                      <Lon>-74.659049</Lon>
                    </Coords>
                    <Region>NA</Region>
                    <Label/>
                    <PlaceName/>
                    <TimeZone>EST</TimeZone>
                    <Errors/>
                    <SpeedLimitInfo i:nil="true"/>
                  </Stop>
                  <LMiles>0.0</LMiles>
                  <TMiles>0.0</TMiles>
                  <LCostMile>0.00</LCostMile>
                  <TCostMile>0.00</TCostMile>
                  <LHours>0:00</LHours>
                  <THours>0:00</THours>
                  <LTolls>0.00</LTolls>
                  <TTolls>0.00</TTolls>
                  <LEstghg>0.0</LEstghg>
                  <TEstghg>0.0</TEstghg>
                  <EtaEtd i:nil="true"/>
                </StopReportLine>
              </ReportLines>
            </Report>
          </Reports>
        </Body>
      </GetReportsResult>
    </GetReportsResponse>
  </s:Body>
</s:Envelope>
```

<pre> &lt;LEstghg&gt;9482.6&lt;/LEstghg&gt; &lt;TEstghg&gt;9482.6&lt;/TEstghg&gt; &lt;/StpLineType&gt; &lt;/MilesReport&gt; &lt;/Report&gt; &lt;/ReportResponse&gt; &lt;/PMWSGetReportResult&gt; &lt;/PMWSGetReportResponse&gt; &lt;/soap:Body&gt; &lt;/soap:Envelope&gt; </pre>	<pre> &lt;Stop&gt;   &lt;Address&gt;     &lt;StreetAddress/&gt;     &lt;City&gt;Manhattan Beach&lt;/City&gt;     &lt;State&gt;CA&lt;/State&gt;     &lt;Zip&gt;90266&lt;/Zip&gt;     &lt;County&gt;Los Angeles&lt;/County&gt;     &lt;Country&gt;United States&lt;/Country&gt;     &lt;SPLC i:nil="true"/&gt;   &lt;/Address&gt;   &lt;CountryPostalFilter&gt;US&lt;/CountryPostalFilter&gt;   &lt;AbbreviationFormat&gt;FIPS&lt;/AbbreviationFormat&gt;   &lt;/Address&gt;   &lt;Coords&gt;     &lt;Lat&gt;33.886615&lt;/Lat&gt;     &lt;Lon&gt;-118.400617&lt;/Lon&gt;   &lt;/Coords&gt;   &lt;Region&gt;NA&lt;/Region&gt;   &lt;Label/&gt;   &lt;PlaceName/&gt;   &lt;TimeZone&gt;PST&lt;/TimeZone&gt;   &lt;Errors/&gt;   &lt;SpeedLimitInfo i:nil="true"/&gt; &lt;/Stop&gt;   &lt;LMiles&gt;2767.9&lt;/LMiles&gt;   &lt;TMiles&gt;2767.9&lt;/TMiles&gt;   &lt;LCostMile&gt;3333.13&lt;/LCostMile&gt;   &lt;TCostMile&gt;3333.13&lt;/TCostMile&gt;   &lt;LHours&gt;42:54&lt;/LHours&gt;   &lt;THours&gt;42:54&lt;/THours&gt;   &lt;LTolls&gt;208.60&lt;/LTolls&gt;   &lt;TTolls&gt;208.60&lt;/TTolls&gt;   &lt;LEstghg&gt;9482.6&lt;/LEstghg&gt;   &lt;EtaEtd i:nil="true"/&gt; &lt;/StopReportLine&gt; &lt;/ReportLines&gt; &lt;TrafficDataUsed&gt;&gt;false&lt;/TrafficDataUsed&gt; &lt;/Report&gt; &lt;/Reports&gt; &lt;/Body&gt; &lt;/GetReportsResult&gt; &lt;/GetReportsResponse&gt; &lt;/s:Body&gt; &lt;/s:Envelope&gt; </pre>
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## Geocoding

Geocoding is the process by which human readable addresses are converted to coordinates. The opposite, reverse geocoding, is where the coordinates are converted to human readable addresses. Both of these operations are available in PC\*MILER Web Services ASMX and WCF.

In ASMX, the process of geocoding and reverse geocoding was handled by one operation, *PMWSGeocode*. For WCF, we have split these two operations into two separate operations, *ProcessGeocode* and *ProcessReverseGeocode*, respectively.

## Forward Geocoding Request

The following is an example of a geocode request in ASMX and WCF SOAP. For more information about the ProcessGeocode operation, please refer to [PC\\*MILER Web Services Help](#).

PC*MILER Web Services (ASMX) Request	PC*MILER Web Services (WCF SOAP) Request
<pre> &lt;soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"&gt;   &lt;soap:Body&gt;     &lt;PMWSGeoCode xmlns="http://localhost/PCMilerWS/"&gt;       &lt;LoginInfo&gt;         &lt;UserID&gt;{userid}&lt;/UserID&gt;         &lt;Password&gt;{password}&lt;/Password&gt;         &lt;Account&gt;{account}&lt;/Account&gt;         &lt;DataVer&gt;&lt;/DataVer&gt;       &lt;/LoginInfo&gt;       &lt;GeoLoc&gt;         &lt;GeoLocType&gt;           &lt;GeoAddress&gt;             &lt;Region&gt;NA&lt;/Region&gt;             &lt;Address1&gt;457 North Harrison Street&lt;/Address1&gt;             &lt;City&gt;Princeton&lt;/City&gt;             &lt;State&gt;NJ&lt;/State&gt;             &lt;Zip&gt;08540&lt;/Zip&gt;             &lt;SPLC /&gt;             &lt;Juris /&gt;             &lt;Country /&gt;             &lt;CountryPostalCode&gt;&lt;/CountryPostalCode&gt;           &lt;/GeoAddress&gt;           &lt;GeoList&gt;y&lt;/GeoList&gt;         &lt;/GeoLocType&gt;       &lt;/GeoLoc&gt;       &lt;GeoInstance&gt;1&lt;/GeoInstance&gt;     &lt;/PMWSGeoCode&gt;   &lt;/soap:Body&gt; &lt;/soap:Envelope&gt; </pre>	<pre> &lt;soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:alk="http://www.alk.com" xmlns:pcm="http://pcmiler.alk.com/APIs/v1.0"&gt;   &lt;soapenv:Header&gt;     &lt;alk:AuthHeader&gt;       &lt;alk:Authorization&gt;{APIKey}&lt;/alk:Authorization&gt;     &lt;/alk:AuthHeader&gt;   &lt;/soapenv:Header&gt;   &lt;soapenv:Body&gt;     &lt;pcm:ProcessGeocode&gt;       &lt;pcm:Request&gt;         &lt;pcm:Header&gt;           &lt;pcm:DataVersion&gt;&lt;/pcm:DataVersion&gt;         &lt;/pcm:Header&gt;         &lt;pcm:RequestType&gt;Geocode&lt;/pcm:RequestType&gt;       &lt;/pcm:Header&gt;       &lt;pcm:Body&gt;         &lt;pcm:Locations&gt;           &lt;pcm:GeocodeLocation&gt;             &lt;pcm:Address&gt;               &lt;pcm:StreetAddress&gt;457 North Harrison Street&lt;/pcm:StreetAddress&gt;               &lt;pcm:City&gt;Princeton&lt;/pcm:City&gt;               &lt;pcm:State&gt;NJ&lt;/pcm:State&gt;               &lt;pcm:Zip&gt;08540&lt;/pcm:Zip&gt;               &lt;pcm:Country/&gt;               &lt;pcm:Country/&gt;               &lt;pcm:SPLC/&gt;             &lt;/pcm:Address&gt;             &lt;pcm:CountryPostalFilter&gt;US&lt;/pcm:CountryPostalFilter&gt;             &lt;pcm:AbbreviationFormat&gt;ISO3&lt;/pcm:AbbreviationFormat&gt;             &lt;pcm:Region&gt;NA&lt;/pcm:Region&gt;             &lt;pcm:GeoList&gt;true&lt;/pcm:GeoList&gt;           &lt;/pcm:GeocodeLocation&gt;         &lt;/pcm:Locations&gt;       &lt;/pcm:Body&gt;     &lt;/pcm:Request&gt;   &lt;/pcm:ProcessGeocode&gt; &lt;/soapenv:Body&gt; &lt;/soapenv:Envelope&gt; </pre>

## Reverse Geocoding Request

The following is an example of a reverse geocode request in ASMX and SOAP. For more information about the ProcessReverseGeocode operation, please refer to [PC\\*MILER Web Services Help](#).

PC*MILER Web Services (ASMX) Request	PC*MILER Web Services (WCF SOAP) Request
<pre>&lt;soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"&gt;   &lt;soap:Body&gt;     &lt;PMWSGeoCode xmlns="http://localhost/PCMilerWS/"&gt;       &lt;LoginInfo&gt;         &lt;UserID&gt;{userid}&lt;/UserID&gt;         &lt;Password&gt;{password}&lt;/Password&gt;         &lt;Account&gt;{account}&lt;/Account&gt;       &lt;/LoginInfo&gt;       &lt;GeoLoc&gt;         &lt;GeoLocType&gt;           &lt;GeoAddress&gt;             &lt;Region&gt;NA&lt;/Region&gt;             &lt;Lat&gt;40367590&lt;/Lat&gt;             &lt;Long&gt;-74655561&lt;/Long&gt;           &lt;/GeoAddress&gt;         &lt;/GeoLocType&gt;       &lt;/GeoLoc&gt;       &lt;GeoInstance&gt;1&lt;/GeoInstance&gt;     &lt;/PMWSGeoCode&gt;   &lt;/soap:Body&gt; &lt;/soap:Envelope&gt;</pre>	<pre>&lt;soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:alk="http://www.alk.com" xmlns:pcm="http://pcmiler.alk.com/APIs/v1.0"&gt;   &lt;soapenv:Header&gt;     &lt;alk:AuthHeader&gt;       &lt;alk:Authorization&gt;{APIKey}&lt;/alk:Authorization&gt;     &lt;/alk:AuthHeader&gt;   &lt;/soapenv:Header&gt;   &lt;soapenv:Body&gt;     &lt;pcm:ProcessReverseGeocode&gt;       &lt;pcm:Request&gt;         &lt;pcm:Header&gt;           &lt;pcm:DataVersion&gt;&lt;/pcm:DataVersion&gt;         &lt;/pcm:Header&gt;       &lt;/pcm:Request&gt;       &lt;pcm:RequestType&gt;ReverseGeocode&lt;/pcm:RequestType&gt;       &lt;pcm:Body&gt;         &lt;pcm:Coords&gt;           &lt;pcm:ReverseGeoCoord&gt;             &lt;pcm:Lat&gt;40367590&lt;/pcm:Lat&gt;             &lt;pcm:Lon&gt;-74655561&lt;/pcm:Lon&gt;             &lt;pcm:Region&gt;NA&lt;/pcm:Region&gt;           &lt;/pcm:ReverseGeoCoord&gt;         &lt;/pcm:Coords&gt;       &lt;/pcm:Body&gt;     &lt;/pcm:Request&gt;   &lt;/soapenv:Body&gt; &lt;/soapenv:Envelope&gt;</pre>

## Forward and Reverse Geocoding Response

The response for forward geocoding and reverse geocoding is the same. The response will contain both the street address and the latitude and longitude. Below is an example of responses from the ASMX and WCF service.

PC*MILER Web Services (ASMX) Response	PC*MILER Web Services (WCF SOAP) Response
<pre>&lt;soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"&gt;   &lt;soap:Body&gt;     &lt;PMWSGeoCodeResponse xmlns="http://localhost/PCMilerWS/"&gt;       &lt;PMWSGeoCodeResult&gt;         &lt;ReportResponse&gt;           &lt;Version&gt;29.2.29.8972&lt;/Version&gt;         &lt;/ReportResponse&gt;       &lt;/PMWSGeoCodeResult&gt;     &lt;/PMWSGeoCodeResponse&gt;   &lt;/soap:Body&gt; &lt;/soap:Envelope&gt;</pre>	<pre>&lt;s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"&gt;   &lt;s:Body&gt;     &lt;ProcessGeocodeResponse xmlns="http://pcmiler.alk.com/APIs/v1.0"&gt;       &lt;ProcessGeocodeResult xmlns:i="http://www.w3.org/2001/XMLSchema-instance"&gt;         &lt;Header&gt;           &lt;Type&gt;Geocode&lt;/Type&gt;           &lt;Success&gt;true&lt;/Success&gt;           &lt;DataVersion&gt;29.2.30.5918&lt;/DataVersion&gt;         &lt;/Header&gt;       &lt;/ProcessGeocodeResult&gt;     &lt;/ProcessGeocodeResponse&gt;   &lt;/s:Body&gt; &lt;/s:Envelope&gt;</pre>

```

<Geocode>
  <LocationOutputType>
    <Region>NA</Region>
    <Address1>457 North Harrison Street</Address1>
    <City>Princeton</City>
    <State>NJ</State>
    <Zip>08540</Zip>
    <Juris>Mercer</Juris>
    <Lat>40367590</Lat>
    <Long>-74655561</Long>
  </LocationOutputType>
</Geocode>
</Report>
</ReportResponse>
</PMWSGeoCodeResult>
</PMWSGeoCodeResponse>
</soap:Body>
</soap:Envelope>

```

```

<Errors i:nil="true"/>
</Header>
<Body>
  <Locations>
    <GeocodeOutputLocation>
      <Address>
        <StreetAddress>457North Harrison
Street</StreetAddress>
        <City>Princeton</City>
        <State>NJ</State>
        <Zip>08540</Zip>
        <County>Mercer</County>
        <Country>United States</Country>
        <SPLC i:nil="true"/>
        <CountryPostalFilter>US</CountryPostalFilter>
      </Address>
      <Coords>
        <Lat>40.367590</Lat>
        <Lon>-74.655561</Lon>
      </Coords>
      <Region>NA</Region>
      <TimeZone>EST</TimeZone>
    </GeocodeOutputLocation>
  </Locations>
</Body>
</ProcessGeocodeResult>
</ProcessGeocodeResponse>
</s:Body>
</s:Envelope>

```