



REPUBLIC OF TURKEY
MINISTRY OF HEALTH
Medicines & Medical Devices Agency

ITS REFERENCE WEB SERVICES USER GUIDELINE

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1. OBJECTIVE, SCOPE, GENERAL OPERATION OF WEB SERVICES

1.1. Objective

The services in which auxiliary data is shared with stakeholders which they need and will ease their works in the operational web services of ITS and Package Transfer System (PTS). In case our stakeholders need new data, they will be added to the services.

The objective of this guideline is to inform our stakeholders on the structure and working principles of the Reference Web Services.

1.2. Scope

This document explains the communication structure, messaging structure, and the data types to be used in the messages of the Reference Web Services (Stakeholder Service, Drug Service, Error Codes Service, Branch GLN Service and Package Detail Service) provided by the Turkish Medicines and Medical Devices Agency. In addition it includes recommendations on how and how often the services should be used in terms of its efficiency.

Sample codes will be shared on site called github: <https://github.com/ilactakipsistemi>

1.3. General Operation of Web Services

The Turkish Pharmaceutical Track and Trace System web services operate in two ways. The “Request” message of the client is transferred to the system, the system processes the messages and transfers the “Response” related to its request to the client. The errors which occur during the transfer of data or during the processing of the data are feedback to the client as a Fault message. The client needs to evaluate the response and fault messages, and it is assumed that it does so. The request, response and fault messages are transferred using HTTP protocol within a SOAP envelope. Clients access the web services with the HTTP Basic Authentication method. Communication can be encoded with SSL.

2. DEVELOPMENT AND USAGE OF REFERENCE WEB SERVICES

2.1. Development of Reference Web Services

With the transition to Phase 2 in the Turkish Pharmaceutical Track and Trace System all our stakeholders; manufacturers, pharmaceutical wholesalers, exporter pharmaceutical wholesalers, hospitals (drug consuming centers) and pharmacies; have become active users of the system. Thus the life cycles of the pharmaceuticals within the supply chain have become traceable by ITS as a whole. However problems have been encountered in learning the GLN of the recipient stakeholder which needs to be provided when making notifications. In order to solve this problem and which stakeholders can obtain and use the identity information by the stakeholder software as a whole, the first Reference Web Service which is the Stakeholder Service has been prepared. Thus a standard has been determined in order to share the data needed for our stakeholders in the operational web services used in ITS and PTS.

In this scope new services in which the data which our stakeholders need is provided by our ITS software developing team or additional features have been added to the available services and taken under this scope. When new needs arise, new services will be added to the already existing ones.

The needs of our stakeholders and the problems encountered during the use have been taken into consideration when developing the Reference Web Services and user friendliness was given particular importance.

2.2. Usage of Reference Web Services

Reference Web Services should not be invoked for each operation as it is done in the other web services used to make notifications to ITS (except for Package Detail Service). This is because the length of the response time and the size of the returned response will ve very

high since the reference services transmit data in bulks. Invoking these services too often will slow down the service as the response time is too long and the data to be processed is too large. Therefore it is advised that these services are invoked periodically and that the received data should be saved as a definition data by the client and used like that.

3. REFERENCE WEB SERVICES

3.1. Stakeholder Service

The Stakeholder Service which is the first service published under the scope of Reference Web Services is similar to the GLN Service which formerly took place in the Package Transfer System (PTS) and provides additional filtering features. With the publishing of the Stakeholder Service it has been determined to remove the GLN Service and it has been done so in the announced date.

The stakeholder service provides to invoke the information of all stakeholders registered to .ITS. It is possible to obtain the stakeholders by filtering them according to stakeholder type, activeness of the stakeholder and city criteria. Since information in bulks is invoked with the stakeholder service, it is obligatory to indicate a stakeholder type when invoking reference services and only one stakeholder type can be indicated. The parameters other than this are optional. The details of the parameters are as explained in article 3.1.1.

3.1.1. Request Message Example and Data Fields in the Message

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ser="http://services.reference.its/">
  <soapenv:Header/>
  <soapenv:Body>
    <ser:request>
      <stakeholderType>depo</stakeholderType>
      <getAll>true</getAll>
      <cityPlate>19</cityPlate>
    </ser:request>
  </soapenv:Body>
</soapenv:Envelope>
```

Explanations of the fields in the request message are as stated below:

▲ <stakeholderType> Field

This field provides the indication of the stakeholder type and is obligatory to be sent. Even though the value is any abbreviation in XSD it must be “uretici” (manufacturer), “depo” (wholesaler), “ihracatci” (exporter), “hastane” (hospital) or “eczane” (pharmacy). Otherwise the Service returns an error response.

▲ <getAll> Field

This field provides that the deactivated stakeholders are also included to the response. The field can take Boolean values (true, false). If the field is not sent or if sent “false” then the deactivated stakeholders will not be included to the response.

▲ <cityPlate> Field

This field provides that the information of stakeholders in a specified city is received by giving that city’s Plate number. If it is left empty or not sent, it will respond about stakeholders in all cities. If an incorrect plate number is entered an empty message will be responded by the service.

3.1.2. Response Message Example and Data Fields in the Message

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Body>
    <ns2:response xmlns:ns2="http://services.reference.its/">
      <companies>
        <company isActive="true">
          <gln>8680001012345</gln>
          <companyName>ITS Active Test Pharmaceutical Wholesaler</companyName>
          <authorized>Authorized Person's Name</authorized>
          <email>depo1@example.com</email>
          <phone>3642272203</phone>
          <city>Çorum</city>
          <town>Merkez</town>
          <address>Bahçelievler Mah. Bahabey Cad. No. 47/B</address>
        </company>
        <company isActive="false">
          <gln>8680284612345</gln>
          <companyName>ITS Passive Test Pharmaceutical Wholesaler</companyName>
```

```
<authorized>Authorized Person's Name</authorized>  
<email>depo2@example.com</email>  
<phone>3642251919</phone>  
<city>Çorum</city>  
<town>Merkez</town>  
<address>Kale Mah. Eti Cad. 2</address>  
</company>  
</companies>  
</ns2:response>  
</S:Body>  
</S:Envelope>
```

Explanations of the fields in the response message are as stated below:

▲ **<companies> Field**

This field contains the **<company>** field belonging to the response. When there is no record found appropriate to the criteria the content of this field will be left empty.

▲ **<company> Field**

This field contains the information of the stakeholders. Contains the **gln**, **companyName**, **authorized**, **email**, **phone**, **city**, **town**, **address** fields and the **isActive** attribute:

- ▼ **<gln> Field:** This field contains the GLN of the related stakeholder.
- ▼ **<companyName> Field:** This field contains the name of the related stakeholder.
- ▼ **<authorized> Field:** This field contains the authorized person information of the related stakeholder.
- ▼ **<email> Field:** This field contains the e-mail address information of the related stakeholder.
- ▼ **<phone> Field:** This field contains the phone number information of the related stakeholder.
- ▼ **<city> Field:** This field contains the city information of the related stakeholder.
- ▼ **<town> Field:** This field contains the town information of the related stakeholder.

- ▼ **<address> Field:** This field contains the address information of the related stakeholder.
- ▼ **isActive Attribute:** This attribute shows whether the stakeholder is active or not. In cases when the stakeholder is active the value of this attribute will be “true” and in cases when the stakeholder is deactivated it will be “false”.

3.2. Drug Service

The Drug Service provides that the information of all drugs recorded to ITS can be retrieved. There is a single parameter in the request message of this service. According to this parameter the service either brings only (license) active drugs or all drugs. No other filter comes into question. This service provides that the stakeholder software can select GTIN with the name of the drug, and you can find out which drug has been removed from the market (which products are not produced).

3.2.1. Request Message Example and Data Fields in the Message

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ser="http://services.reference.its/">
  <soapenv:Header />
  <soapenv:Body>
    <ser:request>
      <getAll>false</getAll>
    </ser:request>
  </soapenv:Body>
</soapenv:Envelope>
```

Explanations of the fields in the request message are as stated below:

▲ **<getAll> Field**

This field provides that the deactivated drugs are also included to the response. The field can take Boolean values (true, false). If the field is not sent or if sent “false” then the deactivated drugs will not be included to the response.

3.2.2. Response Message Example and Data Fields in the Message

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Body>
    <ns2:response xmlns:ns2="http://services.reference.its/">
      <drugs>
        <drug isActive="true">
          <gtin>08680001000038</gtin>
          <drugName>ITS TEST DRUG 1</drugName>
          <manufacturerGLN>8680001000043</manufacturerGLN>
          <manufacturerName>ITS TEST MANUFACTURER</manufacturerName>
          <isImported>>false</isImported>
        </drug>
        <drug isActive="true">
          <gtin>08680001000039</gtin>
          <drugName>ITS TEST DRUG 2</drugName>
          <manufacturerGLN>8680001000043</manufacturerGLN>
          <manufacturerName>ITS TEST MANUFACTURER</manufacturerName>
          <isImported>>true</isImported>
        </drug>
        .....
        .....
      </drugs>
    </ns2:response>
  </S:Body>
</S:Envelope>
```

Explanations of the fields in the response message are as stated below:

▲ <drugs> Field

This field contains the <drug> field belonging to the response.

▲ <drug> Field

This field contains the information of the drugs. Contains the gtin, drugName, manufacturerGLN, manufacturerName, isImported fields and the isActive attribute:

- ▼ <gtin> Field: This field contains the GTIN of the related drug.
- ▼ <drugName> Field: This field contains the name of the related drug.

- ▼ **<manufacturerGLN> Field:** This field contains the GLN of the related drug's manufacturer.
- ▼ **<manufacturerName> Field:** This field contains the name of the related drug's manufacturer.
- ▼ **<isImported> Field:** This field shows whether the drug is imported or not. If the drug is an imported drug the value of this field will be “true”, if the drug is a domestic production the value will be “false”.
- ▼ **isActive Attribute:** This attribute shows whether the drug is in the market or not. In cases when the drug is in the market the value of this attribute will be “true” and in other cases it will be “false”. A drug which is not in the market can only not be manufactured; this does not mean that our stakeholders cannot sell the drugs in their stocks.

3.3. Error Codes Service

Error Codes Services is prepared to share error codes which return from ITS notifications in case invalid data or inappropriate data

Error Codes Service is a service prepared to share error messages which returns while ITS notifications in case invalid or inappropriate data passed with stakeholders. With this service our stake holders accessibility to our most updated error codes, ability to handle when error occurred with the information provided with the service are aimed.

3.3.1. Request Message Example and Data Fields in the Message

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ser="http://services.reference.its/">
  <soapenv:Header />
  <soapenv:Body>
    <ser:request />
  </soapenv:Body>
</soapenv:Envelope>
```

There are no fields in the request message.

3.3.2. Response Message Example and Data Fields in the Message

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Body>
    <ns2:response xmlns:ns2="http://services.reference.its/">
      <errorCodes>
        <errorCode>
          <type>UC</type>
          <code>00000</code>
          <message>The operation done over the drug unit is successful.</message>
          <description>The operation of dispatch, dispact cancellation, purchase, return,
turnover, deactivation, consume or exportation over the drug unit is successfully completed. This
message is only valid for one drug unit, there could be unsuccessful drug units in the same
notification.</description>
        </errorCode>
        <errorCode>
          <type>PC</type>
          <code>20001</code>
          <message>Source GLN is empty/invalid.</message>
          <description> Source GLN is empty/invalid.</description>
        </errorCode>
        <errorCode>
          <type>UC</type>
          <code>10231</code>
          <message>Drug unit is consumed by you.</message>
          <description>Drug unit is consumed by the hospital who is sending the notification. No
action could be taken over this drug unit.</description>
        </errorCode>
      </errorCodes>
    </ns2:response>
  </S:Body>
</S:Envelope>
```

Explanations of the fields in the response message are as stated below:

▲ <errorCodes> Field

This field contains the <errorCode> field belonging to the response.

▲ <errorCode> Field

This field contains the information of the error codes. Contains the type, code, message, description fields:

- ▼ **<type> Field:** This field contains type of error code. The field could either be one of the following: “UC” product code, “PC” PTS error code, “FC” error code, “WC” warning code.
- ▼ **<code> Field:** This field contains 5 digit code of the error.
- ▼ **<message> Field:** This field contains the short explanation of the error code.
- ▼ **<description> Field:** This field contains description of the error. The reason of the error and what actions should be taken in case the occurrence of this error appears in this field.

3.4. Branch GLNs Service

Branch GLNs Service is service which provides our stakeholders to get information like GLN of stakeholders who has center-branch relation in hierarchical structure. With this service, our stakeholders’ accessibility to the information of all branches of a stakeholder is aimed.

3.4.1. Request Message Example and Data Fields in the Message

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ser="http://services.reference.its/">
  <soapenv:Header/>
  <soapenv:Body>
    <ser:request/>
  </soapenv:Body>
</soapenv:Envelope>
```

There are no fields in the request message.

3.4.2. Response Message Example and Data Fields in the Message

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Body>
    <ns2:response xmlns:ns2="http://services.reference.its/">
      <branches>
        <branch>
          <gln>8680123012345</gln>
          <glnPrefix>8680123</glnPrefix>
          <isCentral>true</isCentral>
```

```
<name>ITS TEST CENTRAL PHAR. WHOLESALER</name>
<city>Istanbul</city>
<town>Beykoz</town>
<email>info@wholesaler.com.tr</email>
<phoneNumber>02162342323</phoneNumber>
<responsiblePerson>Central Wholesaler Responsible Person</responsiblePerson>
<address>Yildiz Mah. Ata Cad. Büyük Plaza 49</address>
<isActive>true</isActive>
<branchList>
  <branch>
    <gln>8680123012356</gln>
    <glnPrefix>8680123</glnPrefix>
    <isCentral>false</isCentral>
    <name>ITS TEST BRANCH PHAR. WHOLESALER</name>
    <city>Ankara</city>
    <town>Yenimahalle</town>
    <email>branch@wholesaler.com.tr</email>
    <phoneNumber>03122189834</phoneNumber>
    <responsiblePerson>Branch Wholesaler Responsible Person</responsiblePerson>
    <address>Ismail Paşa Mah. Bayram Cad. No.6</address>
    <isActive>true</isActive>
  </branch>
  .....
  <branchList>
</branch>
  .....
  .....
</branches>
</ns2:response>
</S:Body>
</S:Envelope>
```

Explanations of the fields in the response message are as stated below:

▲ **<branches> Field**

This field contains the <branch> field belonging to the response.

▲ **<branch> Field**

This field contains the information of the error codes. Contains the gln, glnPrefix, isCentral, name, city, town, email, phoneNumber, responsiblePerson, address, isActive, updateTime fields:

- ▼ **<gln> Field:** This field contains the GLN of the related branch.
- ▼ **<glnPrefix> Field:** This field contains the GLN prefix of the related branch.
- ▼ **<isCentral> Field:** This field shows whether the branch is central or not.
- ▼ **<name> Field:** This field contains the name of the related branch.
- ▼ **<city> Field:** This field contains the city information of the related branch.
- ▼ **<town> Field:** This field contains the town information of the related branch.
- ▼ **<email> Field:** This field contains the e-mail address information of the related branch.
- ▼ **<phoneNumber> Field:** This field contains the phone number information of the related branch.
- ▼ **<responsiblePerson> Field:** This field contains the responsible person information of the related branch.
- ▼ **<address> Field:** This field contains the address information of the related branch.
- ▼ **<isActive> Field:** This field shows whether the branch is in the active or not.
- ▼ **<updateTime> Field:** This field contains the last update time of the related branch.

3.5. Package Detail Service

Package Detail Service is the updated version of the PTSHelper Service. With this service a stakeholder could get information about packages that are sent to it or sent from it. A stakeholder is not permitted to see packages of other stakeholders'.

3.5.1. Request Message Example and Data Fields in the Message

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ser="http://services.reference.its/">
  <soapenv:Header/>
  <soapenv:Body>
    <ser:request>
      <sender>8680001000036</sender>
```

```
<receiver>8680001000012</receiver>  
<bringNotReceivedTransferInfo>>false</bringNotReceivedTransferInfo>  
<startDate>2012-08-01</startDate>  
<endDate>2012-08-07</endDate>  
</ser:request>  
</soapenv:Body>  
</soapenv:Envelope>
```

Explanations of the fields in the request message are as stated below:

▲ **<sender> Field**

This field contains the GLN of the stakeholder sending the package.

▲ **<receiver> Field**

This field contains the GLN of the stakeholder whom the package sent to.

▲ **<bringNotReceivedTransferInfo> Field**

This field provides that already received packages to be also included to the response. The field can take Boolean values (true, false). If the field is not sent or if sent “false” then the already received packages will not be included to the response.

▲ **<startDate> Field**

This field contains the start date of the query. This field could contain date and time information.

▲ **<endDate> Field**

This field contains the end date of the query. This field could contain date and time information.

Caution! The difference between start date and end date could be up to one month(31 days). If both of them are not specified then package details of last week will return as a response. If only one of them is specified then the other one will either be 7 days earlier or later depending on which one specified.

3.5.2. Response Message Example and Data Fields in the Message

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Body>
    <ns2:response xmlns:ns2="http://services.reference.its/">
      <transferDetails>
        <transferDetail>
          <sender>8680001000036</sender>
          <receiver>8680001000012</receiver>
          <transferId>327516</transferId>
          <sendDate>2012-08-03T11:07:18.000+02:00</sendDate>
          <md5Checksum>6da227e8e99bd008e72746992bfc0b77</md5Checksum>
        </transferDetail>
        <transferDetail>
          <sender>8680001000036</sender>
          <receiver>8680001000012</receiver>
          <transferId>329456</transferId>
          <sendDate>2012-08-04T14:023:45.000+02:00</sendDate>
          <md5Checksum>93d18000937ffbbcebe909dc37bc1269</md5Checksum>
        </transferDetail>
      </transferDetails>
    </ns2:response>
  </S:Body>
</S:Envelope>
```

Explanations of the fields in the response message are as stated below:

▲ <transferDetails> Field

This field contains the <transferDetail> field belonging to the response.

▲ <transferDetail> Field

This field contains the information of the packages. Contains the sender, receiver, transferId, sendDate, firstTransferDate, lastTransferDate, md5Checksum fields:

- ▼ **<sender> Field:** This field contains the GLN of the stakeholder sending the package.
- ▼ **<receiver> Field:** This field contains the GLN of the stakeholder whom the package sent to.
- ▼ **<transferId> Field:** This field contains the Transfer Id information of the package.
- ▼ **<sendDate> Field:** This field contains the date when package sent.
- ▼ **<firstTransferDate> Field:** This field contains the first transfer date of the package.
- ▼ **<lastTransferDate> Field:** This field contains the last transfer date of the package.
- ▼ **<md5Checksum> Field:** This field contains the md5 checksum information of the package.

3.6. Common Messages

3.6.1. Fault Message

The fault messages given by reference services are in the same type. Sample error message is as follows:

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Body>
    <S:Fault xmlns:ns4="http://www.w3.org/2003/05/soap-envelope">
      <faultcode>S:Server</faultcode>
      <faultstring>Alici GLN formati uygun degildir! GLN 13 haneli olmalı ve rakamlardan
      olusmalıdır.</faultstring>
      <detail>
        <ns2:referenceError xmlns:ns2="http://services.reference.its/">
          <faultCode>21002</faultCode>
          <faultMessage>Alici GLN formati uygun degildir! GLN 13 haneli olmalı ve rakamlardan
          olusmalıdır.</faultMessage>
        </ns2:referenceError>
      </detail>
    </S:Fault>
  </S:Body>
</S:Envelope>
```

Explanations of the fields in the Fault Message are stated below:

▲ **<faultCode> Field**

This field contains the fault code. It consists of 5 numeric characters. The possible fault codes could be obtained with Error Codes service.

▲ **<faultMessage> Field**

This field contains the fault message. It explains the fault reason.