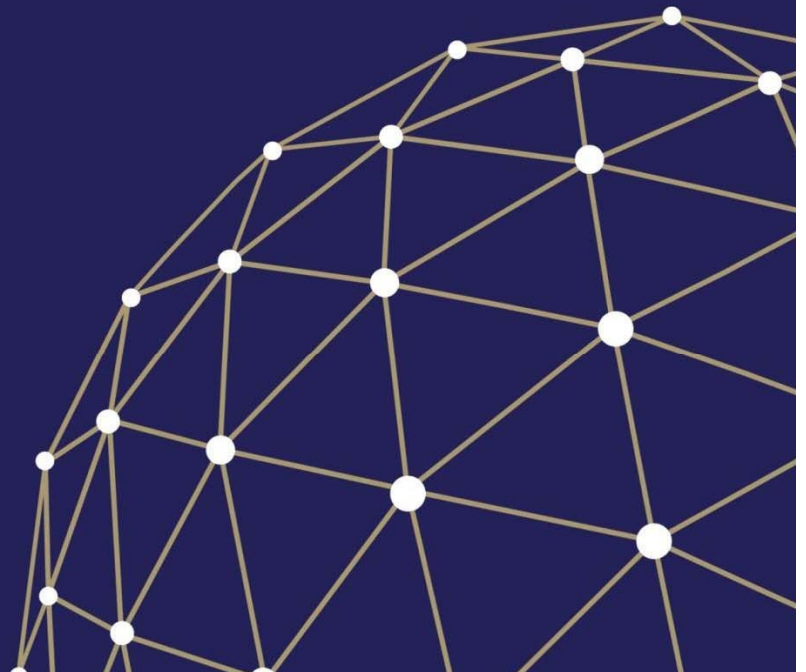# Documentation on the MNB's web service on current and historic exchange rates

1. EXCHANGE RATE WEB SERVICE

The service consists of one main part:

The interface can be accessed through the internet (arfolyamok.asmx). Being a .NET developed service, this is a simple text file that defines which component individual service calls should be directed to.

1.1. Input and output data

For the sake of simplicity, inputs and outputs contain string type data only: All outputs are strings, with each string being the source code of an XML document.

Note: in the outputs the ISO 8601 format is used for date type values: without time and time zone ((YYYY-MM-DD, for example: "1988-04-07").

2. METHODS

The service has six methods, of which five methods are queries and one informative. We suggest that the developers of the applications linked to the service query the GetInfo method first. Based on this, the application will obtain enough data to construct correct queries.

2.1. GetInfo

Input: none

Output: string

Task: To provide information on queriable data.

It retrieves the time interval that can be queried and lists all queriable currencies.

Output example:

```
<MNBExchangeRatesQueryValues>
 <FirstDate>1949-01-03</FirstDate>
 <LastDate>2015-07-23</LastDate>
 <Currencies>
  <Curr>HUF</Curr>
  <Curr>EUR</Curr>
  <Curr>AUD</Curr>
  <Curr>BGN</Curr>
  <Curr>BRL</Curr>
  <Curr>CAD</Curr>
  <Curr>CHF</Curr>
  <Curr>CNY</Curr>
  <Curr>CZK</Curr>
  <Curr>DKK</Curr>
  <Curr>GBP</Curr>
  <Curr>HKD</Curr>
  <Curr>HRK</Curr>
```

```
<Curr>KRW</Curr>
<Curr>MXN</Curr>
<Curr>MYR</Curr>
<Curr>NOK</Curr>
<Curr>NZD</Curr>
<Curr>PHP</Curr>
<Curr>PLN</Curr>
<Curr>RON</Curr>
<Curr>RSD</Curr>
<Curr>RUB</Curr>
<Curr>SEK</Curr>
<Curr>SGD</Curr>
<Curr>THB</Curr>
<Curr>TRY</Curr>
<Curr>UAH</Curr>
<Curr>USD</Curr>
<Curr>ZAR</Curr>
<Curr>ATS</Curr>
<Curr>AUP</Curr>
<Curr>BEF</Curr>
<Curr>BGL</Curr>
<Curr>CYN</Curr>
<Curr>CSD</Curr>
<Curr>CSK</Curr>
<Curr>DDM</Curr>
<Curr>DEM</Curr>
<Curr>EEK</Curr>
<Curr>EGP</Curr>
<Curr>ESP</Curr>
<Curr>FIM</Curr>
<Curr>FRF</Curr>
<Curr>GHP</Curr>
<Curr>GRD</Curr>
<Curr>IEP</Curr>
<Curr>ITL</Curr>
<Curr>KPW</Curr>
<Curr>KWD</Curr>
<Curr>LBP</Curr>
<Curr>LTL</Curr>
<Curr>LUF</Curr>
<Curr>LVL</Curr>
<Curr>MNT</Curr>
<Curr>NLG</Curr>
<Curr>OAL</Curr>
<Curr>OBL</Curr>
<Curr>OFR</Curr>
<Curr>ORB</Curr>
<Curr>PKR</Curr>
<Curr>PTE</Curr>
<Curr>ROL</Curr>
<Curr>SDP</Curr>
<Curr>SIT</Curr>
```

```
<Curr>SKK</Curr>
<Curr>SUR</Curr>
<Curr>VND</Curr>
<Curr>XEU</Curr>
<Curr>XTR</Curr>
<Curr>YUD</Curr>
</Currencies>
</MNBExchangeRatesQueryValues>
```

2.2. GetCurrencies

Input: none

Output: string
Task: It retrieves the queriable currencies.

Output example:

```
<MNBCurrencies>
<Currencies>
<Curr>HUF</Curr>
<Curr>EUR</Curr>
<Curr>AUD</Curr>
<Curr>BGN</Curr>
<Curr>BRL</Curr>
<Curr>CAD</Curr>
<Curr>CHF</Curr>
<Curr>CNY</Curr>
<Curr>CZK</Curr>
<Curr>DKK</Curr>
<Curr>GBP</Curr>
<Curr>HKD</Curr>
<Curr>HRK</Curr>
<Curr>IDR</Curr>
<Curr>ILS</Curr>
<Curr>INR</Curr>
<Curr>ISK</Curr>
<Curr>JPY</Curr>
<Curr>KRW</Curr>
<Curr>MXN</Curr>
<Curr>MYR</Curr>
<Curr>NOK</Curr>
<Curr>NZD</Curr>
<Curr>PHP</Curr>
<Curr>PLN</Curr>
<Curr>RON</Curr>
<Curr>RSD</Curr>
<Curr>RUB</Curr>
<Curr>SEK</Curr>
<Curr>SGD</Curr>
<Curr>THB</Curr>
<Curr>TRY</Curr>
<Curr>UAH</Curr>
<Curr>USD</Curr>
```

```
        <Curr>CYN</Curr>
        <Curr>CSD</Curr>
        <Curr>CSK</Curr>
        <Curr>DDM</Curr>
        <Curr>DEM</Curr>
        <Curr>EEK</Curr>
        <Curr>EGP</Curr>
        <Curr>ESP</Curr>
        <Curr>FIM</Curr>
        <Curr>FRF</Curr>
        <Curr>GHP</Curr>
        <Curr>GRD</Curr>
        <Curr>IEP</Curr>
        <Curr>ITL</Curr>
        <Curr>KPW</Curr>
        <Curr>KWD</Curr>
        <Curr>LBP</Curr>
        <Curr>LTL</Curr>
        <Curr>LUF</Curr>
        <Curr>LVL</Curr>
        <Curr>MNT</Curr>
        <Curr>NLG</Curr>
        <Curr>OAL</Curr>
        <Curr>OBL</Curr>
        <Curr>OFR</Curr>
        <Curr>ORB</Curr>
        <Curr>PKR</Curr>
        <Curr>PTE</Curr>
        <Curr>ROL</Curr>
        <Curr>SDP</Curr>
        <Curr>SIT</Curr>
        <Curr>SKK</Curr>
        <Curr>SUR</Curr>
        <Curr>VND</Curr>
        <Curr>XEU</Curr>
        <Curr>XTR</Curr>
        <Curr>YUD</Curr>
    </Currencies>
</MNBCurrencies>
```

2.3. GetCurrencyUnits

Input: string (separated by commas in case of multiple inputs)
Output: string
Task: It retrieves the currency unit(s) defined in the parameter.

Output example:

```xml
<MNBCurrencyUnits>
  <Units>
    <Unit curr="EUR">1</Unit>
    <Unit curr="USD">1</Unit>
  </Units>
</MNBCurrencyUnits>



<MNBCurrentExchangeRates>
  <Day date="2015-07-23">
    <Rate unit="1" curr="AUD">208,27</Rate>
    <Rate unit="1" curr="BGN">157,88</Rate>
    <Rate unit="1" curr="BRL">87,21</Rate>
    <Rate unit="1" curr="CAD">216,58</Rate>
    <Rate unit="1" curr="CHF">294,40</Rate>
    <Rate unit="1" curr="CNY">45,25</Rate>
    <Rate unit="1" curr="CZK">11,42</Rate>
    <Rate unit="1" curr="DKK">41,39</Rate>
    <Rate unit="1" curr="EUR">308,79</Rate>
    <Rate unit="1" curr="GBP">438,17</Rate>
    <Rate unit="1" curr="HKD">36,25</Rate>
    <Rate unit="1" curr="HRK">40,74</Rate>
    <Rate unit="100" curr="IDR">2,09</Rate>
    <Rate unit="1" curr="ILS">73,56</Rate>
    <Rate unit="1" curr="INR">4,41</Rate>
    <Rate unit="1" curr="ISK">2,09</Rate>
    <Rate unit="100" curr="JPY">226,00</Rate>
    <Rate unit="100" curr="KRW">24,20</Rate>
    <Rate unit="1" curr="MXN">17,49</Rate>
    <Rate unit="1" curr="MYR">73,83</Rate>
    <Rate unit="1" curr="NOK">34,49</Rate>
    <Rate unit="1" curr="NZD">188,04</Rate>
    <Rate unit="1" curr="PHP">6,19</Rate>
    <Rate unit="1" curr="PLN">74,82</Rate>
    <Rate unit="1" curr="RON">69,85</Rate>
    <Rate unit="1" curr="RSD">2,57</Rate>
    <Rate unit="1" curr="RUB">4,90</Rate>
    <Rate unit="1" curr="SEK">32,80</Rate>
    <Rate unit="1" curr="SGD">205,69</Rate>
    <Rate unit="1" curr="THB">8,09</Rate>
    <Rate unit="1" curr="TRY">103,03</Rate>
    <Rate unit="1" curr="UAH">12,70</Rate>
    <Rate unit="1" curr="USD">280,95</Rate>
    <Rate unit="1" curr="ZAR">22,61</Rate>
  </Day>
```

```
</MNBCurrentExchangeRates>
```

2.5. GetDateInterval

Input: none

Output: string

Task: It retrieves the first and the last day covered by the exchange rate table.

Output example:

```
<MNBStoredInterval>
  <DateInterval startdate="1949-01-03" enddate="2015-07-23" />
</MNBStoredInterval>
```

2.6. GetExchangeRates

Input: string startDate, string endDate, string currencyNames
Output: string
Task: It retrieves the exchange rate table corresponding to the given parameters. Dates are entered in a year-month-day format (separated by hyphens); currency names are entered with their three-letter capitalised abbreviation, separated by commas.

Output example:

```
<MNBExchangeRates>
  <Day date="2014-12-31">
    <Rate unit="1" curr="EUR">314,89</Rate>
    <Rate unit="1" curr="USD">259,13</Rate>
  </Day>
</MNBExchangeRates>
```

A blank document will be received if:
- There was no quote for the requested currencies in the given time interval.
- The startDate is bigger than the endDate.
- The currency names are invalid.

In case of an invalid date, an error message will be sent.
- String was not recognised as a valid DateTime.