

Arc en Ciel Ltd.

“Pay As You Go” FactSheet

Overview

If you expect that your web site will not be heavily used - perhaps in its first years, or because it serves a specialised user base - it can be more economical to use address lookup on a “pay as you go” basis. Note that the Royal Mail currently only licences this for “public facing” web sites, which must be available to all comers at no cost.

To see how it works, simply paste the following link into the address field of your browser (you’ll have to do it in two parts):

[www.addressgeo.co.uk/perclick/lookup.aspx?
function=getroadaddress&user=test&password=password&postcode=cb11du](http://www.addressgeo.co.uk/perclick/lookup.aspx?function=getroadaddress&user=test&password=password&postcode=cb11du)

You will see the result:-

```
<?xml version="1.0" encoding="utf-8" ?>
  <Result>
    <Label>Prospect Row;CAMBRIDGE;CB1 1DU</Label>
    <STR>Prospect Row</STR>
    <TWN>Cambridge</TWN>
    <CTY>(Cambridgeshire)</CTY>
    <PCD>CB1 1DU</PCD>
  </Result>
```

It’s easy to automate this in your website code so that the user types their postcode into a text box and their address appears, needing only the addition of a house number to complete.

The above example is for a road-level lookup. If you need full details of the premises at a postcode, simply substitute “[function=getpremiseaddress](#)” for “[function=getroadaddress](#)” above. You will then see:-

```
<?xml version="1.0" encoding="utf-8" ?>
<Result>
  <Label>Prospect Row;CAMBRIDGE;CB1 1DU</Label>
  <NUM_R>1;1A;2;3;4;5;6</NUM_R>
  <ORG> The Free Press</ORG>
  <NUM_N>7</NUM_N>
  <STR>Prospect Row</STR>
  <TWN>Cambridge</TWN>
  <CTY>(Cambridgeshire)</CTY>
  <PCD>CB1 1DU</PCD>
</Result>
```

Now you also have a list of all premise numbers (separated into residential and non-residential) and all organisation names at the postcode. With a little extra coding a drop-down list can be filled so the user can select their house number or organisation. This usage is especially valuable if your web site serves businesses, as it saves a lot of time in typing a business name. It's also useful when data cleanliness is important as it ensures that a house number is valid for that postcode.

A common requirement on websites is a "where's my nearest?" facility. This can be used for example to direct a customer to the nearest branch of your organisation. To do this use "function=getpostzon" which gives the result:-

```
<?xml version="1.0" encoding="utf-8" ?>
<Result>
  <GRE>545600</GRE>
  <GRN>258400</GRN>
  <WCD>12UBFY</WCD>
  <NHS>Q35</NHS>
  <SCD>47631</SCD>
</Result>
```

In this result, the first two fields give the map reference of the centre of the postcode. Effectively these are co-ordinates in metres from a notional origin off the Scilly Isles. So in this case, postcode CB1 1DU is 545.6 km. east of the Scillies and 258.4 km. north. Now it's simple to find the straight-line distances to your branches and display the nearest one.

Pricing

When you first purchase credits, you will be assigned a user name and password. These will be used in the web access. You can supply an email address and a top-up point. When your credits reduce to this level, you'll automatically be sent a message inviting you to top up.

Road-level credits are **£150** + VAT for 10,000 lookups.
Premise-level credits are **£300** + VAT for 10,000 lookups.
Postzon credits are **£75** + VAT for 10,000 lookups

Credits expire within a year of the date of purchase.

To find your credit balance at any time, use: "function=getcredit".

Implementation

Java

Put the following declarations at the head of the source file.

```
import java.net.HttpURLConnection;  
import java.net.URL;  
import java.io.*;
```

Then to perform a lookup use:-

```
// Set the lookup string with a test postcode  
String sURL =  
    "http://www.addressgeo.co.uk/perclick/lookup.aspx?user=test&  
    password=password&function=getroadaddress&postcode=cbl1du";  
  
// Define a string to hold the result  
String xmlResult = "";  
  
try  
{  
  
    // Set up the connection with pay-as-you-go server  
    URL url = new URL( sURL );  
    HttpURLConnection urlConn = null;  
    urlConn = (HttpURLConnection) url.openConnection();  
    urlConn.setRequestMethod( "GET" );  
    urlConn.setDoOutput (true);  
    urlConn.setRequestProperty( "Content-Type",  
        "application/x-www-form-urlencoded" );  
  
    // Connect to server  
    urlConn.connect();  
  
    // Read answer from server  
    BufferedReader in;  
    in = new BufferedReader(new InputStreamReader(  
        urlConn.getInputStream() ));  
    xmlResult = in.readLine();  
  
    // xmlResult now holds the address in XML format  
  
}  
catch(Exception ex) // Error handling  
{  
    System.err.println( ex.getMessage() );  
  
}
```

PHP

In PHP the code is simply:-

```
// Set the lookup string with a test postcode
$url =
    "http://www.addressgeo.co.uk/perclick/lookup.aspx?user=test&
    password=password&function=getroadaddress&postcode=cb11du";

// Perform the lookup
$xmlResult = file_get_contents( $url );

// $xmlResult now holds the address in XML format
```

C++

Put the following declaration at the head of the source file.

```
#include "Wininet.h";
```

Then to perform a lookup use:-.

```
// Set the lookup string with a test postcode
char sURL[200];
strcpy(sURL ,
    "http://www.addressgeo.co.uk/perclick/lookup.aspx?user=test&
    password=password&function=getroadaddress&postcode=cb11du");

// Define a string to hold the result
char xmlResult[10000];

// Set up the connection with pay-as-you-go server
HINTERNET internet;
if((internet = InternetOpen( "Daemon", INTERNET_OPEN_TYPE_PRECONFIG,
    NULL, NULL, NULL)) != NULL)
{
    HINTERNET file_handle
    if((file_handle = InternetOpenUrl(internet, sURL, NULL, 0,
    INTERNET_FLAG_RELOAD, 0)) !=
NULL)
    {

        // Read answer from server
        unsigned long cbResult;
        InternetReadFile( file_handle, xmlResult, sizeof(xmlResult),
            &cbResult);

        // Close the connection
        InternetCloseHandle(internet);

        // xmlResult now holds the address in XML format
    }
}
```

Visual Basic .NET

Put the following declarations at the head of the source file.

```
Imports System.NET
Imports System.IO
```

Then to perform a lookup use:-

```
' Set the lookup string with a test postcode
Dim sURL As String
sURL =
    "http://www.addressgeo.co.uk/perclick/lookup.aspx?user=test&
    password=password&function=getroadaddress&postcode=cb11du"

' Define a string to hold the result
Dim xmlResult As String = ""

Try
    ' Set up the connection with pay-as-you-go server
    Dim webRequest As HttpWebRequest
    webRequest = HttpWebRequest.Create(sURL)
    Dim webResponse As HttpWebResponse
    webResponse = webRequest.GetResponse()
    If (webResponse.StatusCode = HttpStatusCode.OK) Then

        ' Read answer from server
        Dim sr As StreamReader
        sr = New StreamReader(webResponse.GetResponseStream(),
False)
        xmlResult = sr.ReadToEnd()

        ' Close the connection
        sr.Close()
        webResponse.Close()

        ' xmlResult now holds the address in XML format

    End If
Catch ex As Exception          // Error handling

    MessageBox.Show(ex.Message)

End Try
```

C#

Put the following declarations at the head of the source file:-

```
using System.Net;
using System.IO;
```

Then to perform a lookup use:-

```
// Set the lookup string with a test postcode
string sURL =
    "http://www.addressgeo.co.uk//perclick//lookup.aspx?user=test&
    password=password&function=getroadaddress&postcode=cb11du";

// Define a string to hold the result
string xmlResult = "";

try
{
    // Set up the connection with pay-as-you-go server
    HttpWebRequest webRequest = (HttpWebRequest)
        HttpWebRequest.Create( sURL );
    HttpWebResponse webResponse = (HttpWebResponse)
        webRequest.GetResponse();
    if (webResponse.StatusCode == HttpStatusCode.OK )
    {
        // Read answer from server
        StreamReader sr = new
            StreamReader(webResponse.GetResponseStream(),
false);
        xmlResult = sr.ReadToEnd();

        // Close the connection
        sr.Close();
        webResponse.Close();

        // xmlResult now holds the address in XML format
    }
}
catch (Exception ex) // Error handling
{
    MessageBox.Show(ex.Message);
}
```

Data structure

Road-level

The codes in the first column relate to road-level data. The TWN and PCD fields will always contain data. Any or all remaining fields may be blank. If a field contains no data it will not be included in the XML result.

Code	Description	Comment
Label	Address label	Convenient assembly of road-level fields suitable for display.
DST	Dependant Street	May be a terrace or yard in the principal street
STR	Street	Street name
DDL	Double-Dependant Locality	Often an Industrial Estate or hamlet outside a village
DLO	Dependant Locality	Often a village or small town
TWN	Post Town	Main town from where mail is distributed
CTY	County	Ceremonial county as defined by the Lieutenancies Act. If the county is not normally included in the address (e.g. Bedford, Bedfordshire) it is bracketed.
PCD	Postcode	

Premise-level

A postcode may contain one or more premises. These may be residential, non-residential or a mixture.

The NUM_R and BNA_R lists are matched; empty entries being present where there is no building name for a premise number or vice-versa.

Similarly, the ORG, NUM_N and BNA_N lists are matched.

Code	Description	Comment
NUM_R	Premise numbers (residential)	List of house or flat numbers, semi-colon separated
BNA_R	Building names (residential)	List of building names, semi-colon separated
ORG	Organisations	List of organisations, semi-colon separated
NUM_N	Premise numbers (non-residential)	List of premise numbers, semi-colon separated.
BNA_N	Building names (non-residential)	List of building names, semi-colon separated
POB	Post Office Box number	Only one can be present

Postzon

The following data is supplied for Postzon information. Note that Post Office box numbers are not considered to have a geographical position and so have no grid reference or Local Authority designation.

Code	Description	Comment
GRE	Easting Grid Reference	An x-coordinate in metres
GRN	Northing Grid Reference	A y-coordinate in metres
WCD	Local Authority Ward code	
NHS	NHS Authority code	
SCD	Mailsort code	

Error Messages

If an error occurs, the XML response will look something like:-

```
<?xml version="1.0" encoding="utf-8" ?>
<Result>
  <ErrCode>4</ErrCode>
  <ErrorMessage>Invalid user name or password</ErrorMessage>
</Result>
```

A complete list of all errors that may be returned is:-

1	Missing user name
2	Missing password
3	Missing function
4	Invalid user name or password
5	Invalid function
6	No credit left for this function
7	Missing postcode
8	Invalid postcode
9	Only codes starting with CB1-CB3 are permitted while testing
100	System error: could not initialise addressing system
101	System error: duplicate user
102	System error: invalid credit check
103	System error: error in addressing system