

**IP2LOCATION™ IP-COUNTRY-REGION-CITY-LATITUDE-  
LONGITUDE-ZIPCODE-TIMEZONE-ISP-DOMAIN-NETSPEED  
DATABASE**

**DATA FILE SPECIFICATIONS**

|                        |  |  |
|------------------------|--|--|
| Product:               | IP2Location™ IP-Country-Region-City-Latitude-Longitude-ZIPCode-Timezone-ISP-Domain-Netspeed Database [DB14]  |  |
| File Name:             | IP2Location_IP_Country_Region_City_Latitude_Longitude_ZIPCode_Timezone_ISP_Domain_Netspeed_Specification.PDF |  |
| Total Fields:          | 13   |  |
| Data Format Available: | i. CSV [ Comma-Delimited ASCII ]<br>ii. BIN [ IP2Location™ Binary Format ]                                   |  |

| FIELD # | FIELD NAME   | DATA TYPE  | FIELD DESCRIPTION   |
|---------|--------------|--|---|
| 1       | IP_FROM      | <u>IPv4</u><br>DECIMAL(10)<br><u>IPv6</u><br>DECIMAL(39) | Beginning of IP address range. The data is represented in IP number <sup>1</sup> format.  |
| 2       | IP_TO        | <u>IPv4</u><br>DECIMAL(10)<br><u>IPv6</u><br>DECIMAL(39) | Ending of IP address range. The data is represented in IP number <sup>1</sup> format.   |
| 3       | COUNTRY_CODE | CHAR(2)  | Two-character country code based on ISO 3166.   |
| 4       | COUNTRY_NAME | VARCHAR(64)  | Country name based on ISO 3166.   |
| 5       | REGION       | VARCHAR(128)   | Region name.  |
| 6       | CITY         | VARCHAR(128)   | City name.  |
| 7       | LATITUDE     | NUMERICAL<br>(DOUBLE)                                    | City latitude. Default to capital city latitude if city is unknown.   |
| 8       | LONGITUDE    | NUMERICAL<br>(DOUBLE)                                    | City longitude. Default to capital city longitude if city is unknown.   |
| 9       | ZIPCODE      | CHAR(30)   | ZIP/Postal code. Please refer to <a href="http://www.ip2location.com/zip-code-coverage">http://www.ip2location.com/zip-code-coverage</a> for the latest coverage. |
| 10      | TIME_ZONE    | VARCHAR(7)   | Time zone in UTC (Coordinated Universal Time) with daylight saving time (DST).  |
| 11      | ISP_NAME     | VARCHAR(256)   | Network provider managing the network routing policy within this network range.   |
| 12      | DOMAIN_NAME  | VARCHAR(128)   | Domain name assigned to Internet network.   |
| 13      | NETSPEED     | VARCHAR(10)  | Internet Connection Type<br>(DIAL) DIAL-UP,<br>(DSL)<br>BROADBAND/CABLE/FIBER<br>(COMP) COMPANY/T1  |

**Note:****<sup>1</sup> IP Address to IP Number Conversion**

If the IP address 161.132.13.1, then the IP number is 2709785857.

$$\begin{aligned}\text{IP Number, X} &= 161 \times (256 \times 256 \times 256) + 132 \times (256 \times 256) + 13 \times (256) + 1 \\ &= 2709785857\end{aligned}$$

In general, this is the formula to convert an IP Address to IP Number.

Let assume the IP Address is A.B.C.D.

$$\text{IP Number, X} = A \times (256 \times 256 \times 256) + B \times (256 \times 256) + C \times 256 + D$$

**<sup>2</sup> Record Matching**

First, convert the search IP Address to IP Number, X. Search a record that matches the range condition. You will get only one match per query. The country, city and ISP information is attached to country fields of the record.

$$\text{IP\_FROM} \leq X \leq \text{IP\_TO}$$