

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

**DATA FILE SPECIFICATIONS**

Product:	IP2Location™ IP-Country-Region-City-Latitude-Longitude-ZIPCode-Timezone-ISP-Domain-Netspeed-AreaCode-Weather Database [DB18]
File Name:	IP2Location_IP_Country_Region_City_Latitude_Longitude_ZIPCode_Timezone_ISP_Domain_Netspeed_AreaCode_Weather_Specification.PDF
Total Fields:	17
Data Format Available:	i. CSV [ Comma-Delimited ASCII ] ii. BIN [ IP2Location™ Binary Format ]

FIELD #	FIELD NAME	DATA TYPE	FIELD DESCRIPTION
1	IP_FROM	<u>IPv4</u> DECIMAL(10) <u>IPv6</u> DECIMAL(39)	Beginning of IP address range. The data is represented in IP number <sup>1</sup> format.
2	IP_TO	<u>IPv4</u> DECIMAL(10) <u>IPv6</u> 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 (DOUBLE)	City latitude. Default to capital city latitude if city is unknown.
8	LONGITUDE	NUMERICAL (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	NETSPEED	VARCHAR(10)	Internet Connection Type (DIAL) DIAL-UP, (DSL) BROADBAND/CABLE/FIBER (COMP) COMPANY/T1
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.

FIELD #	FIELD NAME	DATA TYPE	FIELD DESCRIPTION
13	NETSPEED	VARCHAR(10)	Internet Connection Speed (DIAL) DIAL-UP, (DSL) DSL/CABLE or (COMP) COMPANY
14	IDD_CODE	VARCHAR(5)	The IDD prefix to call the city from another country.
15	AREA_CODE	VARCHAR(30)	A varying length number assigned to geographic areas for call between cities.
16	WEATHER_STATION_CODE	VARCHAR(10)	The special code to identify the nearest weather observation station.
17	WEATHER_STATION_NAME	VARCHAR(128)	The name of the nearest weather observation station.

**Note:**

**1 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.

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

**2 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.

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