

IP2LOCATION™ IP-COUNTRY-ISP DATABASE

DATA FILE SPECIFICATIONS

Product:	IP2Location™ IP-Country-ISP Database [DB2]		
File Name:	IP2Location_IP_Country_ISP_Specification.PDF		
Total Fields:	5		
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 ¹ 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 ¹ 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	ISP_NAME	VARCHAR(256)	Internet Service Provider registered under the IP address range.

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 information is attached to country fields of the record.

$$\text{IP_FROM} \leq X \leq \text{IP_TO}$$