

IP2LOCATION™ IP-COUNTRY DATABASE

DATA FILE SPECIFICATIONS

Product:	IP2Location™ IP-Country Database [DB1]	
File Name:	IP2Location_IP_Country_Specification.pdf	
Total Records:	58,229	
Total Fields:	4	
Last Updated:	October 2003	
Data Format Available:	i. CSV [Comma-Delimited ASCII] ii. MDB [Microsoft® Access 2000+] iii. MySQL [MySQL Database Dump]	

FIELD #	FIELD NAME	DATA TYPE	FIELD DESCRIPTION
1	IP_FROM	NUMERICAL (DOUBLE)	Beginning of IP address range. The data is represented in IP number ¹ format.
2	IP_TO	NUMERICAL (DOUBLE)	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.

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.

IP_FROM <= X <= IP_TO

Appendix I: ISO3166 Country Code

This table lists all valid ISO3166 two characters country codes that returns from database query and describe the country names behind these country codes.

Country Code	Country Name
AD	ANDORRA
AE	UNITED ARAB EMIRATES
AF	AFGHANISTAN
AG	ANTIGUA AND BARBUDA
AI	ANGUILLA
AL	ALBANIA
AM	ARMENIA
AN	NETHERLANDS ANTILLES
AO	ANGOLA
AP	ASIA PACIFIC
AQ	ANTARCTICA
AR	ARGENTINA
AS	AMERICAN SAMOA
AT	AUSTRIA
AU	AUSTRALIA
AW	ARUBA
AZ	AZERBAIJAN
BA	BOSNIA AND HERZEGOWINA
BB	BARBADOS
BD	BANGLADESH
BE	BELGIUM
BF	BURKINA FASO
BG	BULGARIA
BH	BAHRAIN
BI	BURUNDI
BJ	BENIN
BM	BERMUDA
BN	BRUNEI DARUSSALAM
BO	BOLIVIA
BR	BRAZIL
BS	BAHAMAS
BT	BHUTAN
BV	BOUVET ISLAND
BW	BOTSWANA
BY	BELARUS
BZ	BELIZE
CA	CANADA
CC	COCOS (KEELING) ISLANDS

CD	CONGO, THE DEMOCRATIC REPUBLIC OF THE
CF	CENTRAL AFRICAN REPUBLIC
CG	CONGO
CH	SWITZERLAND
CI	COTE D'IVOIRE
CK	COOK ISLANDS
CL	CHILE
CM	CAMEROON
CN	CHINA
CO	COLOMBIA
CR	COSTA RICA
CS	CZECHOSLOVAKIA (FORMER)
CU	CUBA
CV	CAPE VERDE
CX	CHRISTMAS ISLAND
CY	CYPRUS
CZ	CZECH REPUBLIC
DE	GERMANY
DJ	DJIBOUTI
DK	DENMARK
DM	DOMINICA
DO	DOMINICAN REPUBLIC
DZ	ALGERIA
EC	ECUADOR
EE	ESTONIA
EG	EGYPT
EH	WESTERN SAHARA
ER	ERITREA
ES	SPAIN
ET	ETHIOPIA
EU	EUROPEAN UNION
FI	FINLAND
FJ	FIJI
FK	FALKLAND ISLANDS (MALVINAS)
FM	MICRONESIA, FEDERATED STATES OF
FO	FAROE ISLANDS
FR	FRANCE
FX	FRANCE, METROPOLITAN
GA	GABON
GB	GREAT BRITAIN
GD	GRENADA
GE	GEORGIA
GF	FRENCH GUIANA
GH	GHANA
GI	GIBRALTAR

GL	GREENLAND
GM	GAMBIA
GN	GUINEA
GP	GUADELOUPE
GQ	EQUATORIAL GUINEA
GR	GREECE
GS	SOUTH GEORGIA & SOUTH SANDWICH ISLANDS
GT	GUATEMALA
GU	GUAM
GW	GUINEA-BISSAU
GY	GUYANA
HK	HONG KONG
HM	HEARD ISLAND AND MCDONALD ISLANDS
HN	HONDURAS
HR	CROATIA
HT	HAITI
HU	HUNGARY
ID	INDONESIA
IE	IRELAND
IL	ISRAEL
IN	INDIA
IO	BRITISH INDIAN OCEAN TERRITORY
IQ	IRAQ
IR	IRAN, ISLAMIC REPUBLIC OF
IS	ICELAND
IT	ITALY
JM	JAMAICA
JO	JORDAN
JP	JAPAN
KE	KENYA
KG	KYRGYZSTAN
KH	CAMBODIA
KI	KIRIBATI
KM	COMOROS
KN	SAINT KITTS AND NEVIS
KP	KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF
KR	KOREA, REPUBLIC OF
KW	KUWAIT
KY	CAYMAN ISLANDS
KZ	KAZAKSTAN
LA	LAO PEOPLE'S DEMOCRATIC REPUBLIC
LB	LEBANON
LC	SAINT LUCIA
LI	LIECHTENSTEIN
LK	SRI LANKA

LR	LIBERIA
LS	LESOTHO
LT	LITHUANIA
LU	LUXEMBOURG
LV	LATVIA
LY	LIBYAN ARAB JAMAHIRIYA
MA	MOROCCO
MC	MONACO
MD	MOLDOVA, REPUBLIC OF
MG	MADAGASCAR
MH	MARSHALL ISLANDS
MK	MACEDONIA, THE FORMER YUGOSLAV
ML	MALI
MM	MYANMAR
MN	MONGOLIA
MO	MACAU
MP	NORTHERN MARIANA ISLANDS
MQ	MARTINIQUE
MR	MAURITANIA
MS	MONTSERRAT
MT	MALTA
MU	MAURITIUS
MV	MALDIVES
MW	MALAWI
MX	MEXICO
MY	MALAYSIA
MZ	MOZAMBIQUE
NA	NAMIBIA
NC	NEW CALEDONIA
NE	NIGER
NF	NORFOLK ISLAND
NG	NIGERIA
NI	NICARAGUA
NL	NETHERLANDS
NO	NORWAY
NP	NEPAL
NR	NAURU
NU	NIUE
NZ	NEW ZEALAND
OM	OMAN
PA	PANAMA
PE	PERU
PF	FRENCH POLYNESIA
PG	PAPUA NEW GUINEA
PH	PHILIPPINES

PK	PAKISTAN
PL	POLAND
PM	SAINT PIERRE AND MIQUELON
PN	PITCAIRN
PR	PUERTO RICO
PS	PALESTINIAN TERRITORY, OCCUPIED
PT	PORTUGAL
PW	PALAU
PY	PARAGUAY
QA	QATAR
RE	REUNION
RO	ROMANIA
RU	RUSSIAN FEDERATION
RW	RWANDA
SA	SAUDI ARABIA
SB	SOLOMON ISLANDS
SC	SEYCHELLES
SD	SUDAN
SE	SWEDEN
SG	SINGAPORE
SH	SAINT HELENA
SI	SLOVENIA
SJ	SVALBARD AND JAN MAYEN
SK	SLOVAKIA
SL	SIERRA LEONE
SM	SAN MARINO
SN	SENEGAL
SO	SOMALIA
SR	SURINAME
ST	SAO TOME AND PRINCIPE
SU	RUSSIAN FEDERATION
SV	EL SALVADOR
SY	SYRIAN ARAB REPUBLIC
SZ	SWAZILAND
TC	TURKS AND CAICOS ISLANDS
TD	CHAD
TF	FRENCH SOUTHERN TERRITORIES
TG	TOGO
TH	THAILAND
TJ	TAJIKISTAN
TK	TOKELAU
TM	TURKMENISTAN
TN	TUNISIA
TO	TONGA
TP	EAST TIMOR

TR	TURKEY
TT	TRINIDAD AND TOBAGO
TV	TUVALU
TW	TAIWAN, PROVINCE OF CHINA
TZ	TANZANIA, UNITED REPUBLIC OF
UA	UKRAINE
UG	UGANDA
UK	UNITED KINGDOM
UM	UNITED STATES MINOR OUTLYING ISLANDS
US	UNITED STATES
UY	URUGUAY
UZ	UZBEKISTAN
VA	HOLY SEE (VATICAN CITY STATE)
VC	SAINT VINCENT AND THE GRENADINES
VE	VENEZUELA
VG	VIRGIN ISLANDS, BRITISH
VI	VIRGIN ISLANDS, U.S.
VN	VIET NAM
VU	VANUATU
WF	WALLIS AND FUTUNA
WS	SAMOA
YE	YEMEN
YT	MAYOTTE
YU	YUGOSLAVIA
ZA	SOUTH AFRICA
ZM	ZAMBIA
ZW	ZIMBABWE