



IP2LOCATION™

WEB SERVICE

User Manual

By Hexasoft Development Sdn. Bhd.

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~ Bringing Geography to the Internet ~

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1. INTRODUCTION

IP2Location™ IP Geolocation Web Service is a RESTful API service to reverse lookup of IP address to an ISO3166 country code, region, city, latitude & longitude of city, ZIP code, time zone, connection speed, ISP, domain name, IDD country code, area code, weather station code and name, mobile carrier, elevation, usage type, address type and IAB category of your site visitors in real-time by using IP address. The REST API supports both HTTP GET or HTTPS GET. IPv4 and IPv6 supported.

This document guides you through a quick start with IP2Location™ REST API for demonstration or commercial purposes. In this document, you will learn:

- [How to install, setup and test the IP2Location™ Web Service](#)
- [How IP2Location™ Web Service query syntax works](#)
- [How to interpret the search results from IP2Location™ Web Service](#)

If you have comments or just have questions, please contact sales@ip2location.com.

2. SEARCH REQUEST & RESPONSE FORMAT

Search requests submit a query string and a set of parameters to the IP2Location™ web service and receive a search result. Search results are derived from IP2Location™ index of over 4 billion unique IP addresses. All successful HTTP or HTTPS requests will return a response code of 200, together with the lookup information. Error code will be returned if error occurred.

2.1 Parameters

This table lists all the valid name-value pairs that can be used in a search request and describes how these parameters will modify the search results.

Name	Description
key	(required) API key.
ip	(required) IP address (IPv4 or IPv6) for reverse IP location lookup purpose. If not present, the server IP address will be used for the location lookup.
package	(required) Web service package of different granularity of return information.

	<p>Valid value: WS1 WS2 WS3 WS4 WS5 WS6 WS7 WS8 WS9 WS10 WS11 WS12 WS13 WS14 WS15 WS16 WS17 WS18 WS19 WS20 WS21 WS22 WS23 WS24 WS25</p> <p>Please refer to the below pricing table for the information returned.</p>
format	<p>(optional) Format of the response message. Valid value: json xml</p> <p>If unspecified, json format will be used for the response message.</p>
addon	<p>(optional) Extra information in addition to the above selected package. Valid value: continent, country, region, city, geotargeting, country_groupings, time_zone_info</p> <p>Please refer to the pricing table for the information returned.</p>
lang	<p>(optional) Translation information. The translation only applicable for continent, country, region and city name for the addon package. Valid value: ar cs da de en es et fi fr ga it ja ko ms nl pt ru sv tr vi zh-cn zh-tw</p> <p>You can only specify one language value for the returns.</p>

Note: Different credits will be consumed for different package call. Please refers to [Pricing Table](#) for details.

2.2 Response

Package Response Fields

Name	Description
country_code	Two-character country code based on ISO 3166.
country_name	Country name based on ISO 3166.
region_name	Region or state name.
city_name	City name.
latitude	City latitude. Defaults to capital city latitude if city is unknown.
lang	<p>(optional) Translation information. The translation only applicable for continent, country, region and city name for the addon package. Valid value: ar cs da de en es et fi fr ga it ja ko ms nl pt ru sv tr vi zh-cn zh-tw</p> <p>You can only specify one language value for the returns.</p>
longitude	City longitude. Defaults to capital city longitude if city is unknown.
zip_code	ZIP/Postal code (170 countries supported).
time_zone	UTC time zone (with DST supported).
isp	Internet Service Provider or company's name.
domain	Internet domain name associated with IP address range.

net_speed	Internet connection type. DIAL = dial up, DSL = broadband/cable/fiber/mobile, COMP = company/T1
idd_code	The IDD prefix to call the city from another country.
area_code	A varying length number assigned to geographic areas for calls between cities (221 countries supported).
weather_station_code	The special code to identify the nearest weather observation station.
weather_station_name	The name of the nearest weather observation station.
mcc	Mobile Country Codes (MCC) as defined in ITU E.212 for use in identifying mobile stations in wireless telephone networks, particularly GSM and UMTS networks.
mnc	Mobile Network Code (MNC) is used in combination with a Mobile Country Code (MCC) to uniquely identify a mobile phone operator or carrier.
mobile_brand	Commercial brand associated with the mobile carrier. You may click here to view the coverage report.
elevation	Average height of city above sea level in meters (m).
usage_type	Usage type classification of ISP or company (COM) Commercial (ORG) Organization (GOV) Government (MIL) Military (EDU) University/College/School (LIB) Library (CDN) Content Delivery Network (ISP) Fixed Line ISP (MOB) Mobile ISP (DCH) Data Center/Web Hosting/Transit (SES) Search Engine Spider (RSV) Reserved
address_type	IP address types as defined in Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6). (A) Anycast - One to the closest (U) Unicast - One to one (M) Multicast - One to multiple (B) Broadcast - One to all
category	The domain category code based on IAB Tech Lab Content Taxonomy .

category_name	The domain category based on IAB Tech Lab Content Taxonomy . These categories are comprised of Tier-1 and Tier-2 (if available) level categories widely used in services like advertising, Internet security and filtering appliances.
credits_consumed	Credits needed to perform geolocation lookup

2.3 Add-On Response Fields

There are 7 Add-on available, please see the details below.

2.3.1 Continent

Field	Description
(addon: continent) code	Two-character continent code.
(addon: continent) name	Continent name.
(addon: continent) hemisphere	The hemisphere of where the country located. The data in array format with first item indicates (north/south) hemisphere and second item indicates (east/west) hemisphere information.
(addon: continent) translations	Translation data based on the given lang code.

2.3.2 Country

Field	Description
(addon: country) name	Country name based on ISO 3166.
(addon: country) alpha3_code	Three-character country code based on ISO 3166.
(addon: country) numeric_code	Three-character country numeric code based on ISO 3166.
(addon: country) flag	URL of the country flag image.
(addon: country) capital	Capital of the country.
(addon: country) total_area	Total area in km ² .
(addon: country) population	Population of the country.
(addon: country) currency -> code	Currency code based on ISO 4217.

(addon: country) currency -> name	Currency name.
(addon: country) currency -> symbol	Currency symbol.
(addon: country) language -> code	Language code based on ISO 639.
(addon: country) language -> name	Language name.
(addon: country) idd_code	The IDD prefix to call the city from another country.
(addon: country) tld	Country-Code Top-Level Domain.
(addon: country) translations	Translation data based on the given lang code.

2.3.3 Region

Field	Description
(addon: region) name	Region or state name.
(addon: region) code	ISO3166-2 code.
(addon: region) translation	Translation data based on the given lang code.

2.3.4 City

Field	Description
(addon: city) name	City name.
(addon: city) translation	Translation data based on the given lang code.

2.3.5 Geotargeting

Field	Description
(addon: geotargeting) metro	Metro code based on zip/postal code.

2.3.6 Country Grouping

Field	Description
(addon: country_groupings) acronym	Acronym of the country grouping.

(addon: country_groupings) name	Name of the country grouping.
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2.3.7 Time Zone

Field	Description
(addon: time_zone_info) olson	Time zone in olson format.
(addon: time_zone_info) current_time	Current time in ISO 8601 format.
(addon: time_zone_info) gmt_offset	GMT offset value in seconds.
(addon: time_zone_info) is_dst	Indicate if the time zone value is in DST.
(addon: time_zone_info) sunrise	Time of sunrise. (hh:mm format in local time, i.e, 07:47)
(addon: time_zone_info) is_dst	Time of sunset. (hh:mm format in local time, i.e 19:50)

2.4 Search Web API

IP2Location™ web service uses a single web interface to perform the reverse lookup logic. You can test this API as easy as using a web browser. All successful HTTP or HTTPS requests will return a response code of 200, together with the lookup information. Error code will be returned if error occurred.

Basic syntax:

https://api.ip2location.com/v2/?ip={IP_ADDRESS}&key={YOUR_API_KEY}

Search with different package (default is WS1):

https://api.ip2location.com/v2/?ip={IP_ADDRESS}&key={YOUR_API_KEY}&package={PACKAGE}

The full syntax with add-on:

https://api.ip2location.com/v2/?ip={IP_ADDRESS}&key={YOUR_API_KEY}&package={WS1|WS2|WS3|...|WS24}&addon={continent,country,region,city,geotargeting,country_groupings,time_zone_info}

Example to check remaining credits:

https://api.ip2location.com/v2/?key={YOUR_API_KEY}&check=1

API Examples:

WS1 Query:	https://api.ip2location.com/v2/?ip={IP_ADDRESS}&key={YOUR_API_KEY}
WS1 Response:	{ "country_code": "US", "credits_consumed": 1 }

WS5 Query:	https://api.ip2location.com/v2/?ip={IP_ADDRESS}&key={YOUR_API_KEY}&package=WS5
WS5 Response:	{ "country_code": "US", "country_name": "United States", "region_name": "Texas", "city_name": "West University Place", "latitude": "29.71801", "longitude": "-95.43383", "credits_consumed": 3 }

WS9 Query:	https://api.ip2location.com/v2/?ip={IP_ADDRESS}&key={YOUR_API_KEY}&package=WS9
WS9 Response:	{ "country_code": "US", "country_name": "United States", "region_name": "Texas", "city_name": "West University Place", "latitude": "29.71801", "longitude": "-95.43383", "zip_code": "77005", "credits_consumed": 4 }

WS10 Query with add-on:	https://api.ip2location.com/v2/?ip={IP_ADDRESS}&key={YOUR_API_KEY}&package=ws10&addon=continent&lang=ja
WS10 Response:	{ "country_code": "US", "country_name": "United States", "region_name": "Arizona", "city_name": "Fort Huachuca", "latitude": "31.55646", "longitude": "-110.35056", "zip_code": "85613", "isp": "Headquarters USAISC", }

```

"domain": "army.mil",
"credits_consumed": 7,
"continent": {
  "name": "North america",
  "code": "NA",
  "hemisphere": [
    "north",
    "west"
  ],
  "translations": {
    "ja": "北アメリカ大陸"
  }
}
}
}

```

3. PRICING

3.1 Pricing Table for Package

Package	Information Returned	Credit
WS1	Country Code	1 credit
WS2	Country, ISP	2 credits
WS3	Country, Region, City	2 credits
WS4	Country, Region, City, ISP	3 credits
WS5	Country, Region, City, Latitude, Longitude	3 credits
WS6	Country, Region, City, Latitude, Longitude, ISP	4 credits
WS7	Country, Region, City, ISP, Domain	4 credits
WS8	Country, Region, City, Latitude, Longitude, ISP, Domain	5 credits
WS9	Country, Region, City, Latitude, Longitude, ZIPCode	4 credits
WS10	Country, Region, City, Latitude, Longitude, ZIPCode, ISP, Domain	6 credits
WS11	Country, Region, City, Latitude, Longitude, ZIPCode, TimeZone	5 credits

WS12	Country, Region, City, Latitude, Longitude, ZIPCode, TimeZone, ISP, Domain	7 credits
WS13	Country, Region, City, Latitude, Longitude, TimeZone, NetSpeed	5 credits
WS14	Country, Region, City, Latitude, Longitude, ZIPCode, TimeZone, ISP, Domain, NetSpeed	8 credits
WS15	Country, Region, City, Latitude, Longitude, ZIPCode, TimeZone, AreaCode	7 credits
WS16	Country, Region, City, Latitude, Longitude, ZIPCode, TimeZone, ISP, Domain, NetSpeed, AreaCode	10 credits
WS17	Country, Region, City, Latitude, Longitude, TimeZone, NetSpeed, Weather	6 credits
WS18	Country, Region, City, Latitude, Longitude, ZIPCode, TimeZone, ISP, Domain, NetSpeed, AreaCode, Weather	11 credits
WS19	Country, Region, City, Latitude, Longitude, ISP, Domain, Mobile	8 credits
WS20	Country, Region, City, Latitude, Longitude, ZIPCode, TimeZone, ISP, Domain, NetSpeed, AreaCode, Weather, Mobile	14 credits
WS21	Country, Region, City, Latitude, Longitude, ZIPCode, TimeZone, AreaCode, Elevation	8 credits
WS22	Country, Region, City, Latitude, Longitude, ZIPCode, TimeZone, ISP, Domain, NetSpeed, AreaCode, Weather, Mobile, Elevation	15 credits
WS23	Country, Region, City, Latitude, Longitude, ISP, Domain, Mobile, UsageType	11 credits
WS24	Country, Region, City, Latitude, Longitude, ZIPCode, TimeZone, ISP, Domain, NetSpeed, AreaCode, Weather, Mobile, Elevation, UsageType	18 credits
WS25	Country, Region, City, Latitude, Longitude, ZIPCode, TimeZone, ISP, Domain, NetSpeed, AreaCode, Weather, Mobile, Elevation, UsageType, AddressType, Category	20 credits

3.2 Pricing Table for Add-on

Add-On	Information Returned	Credit
continent	Continent details with multilingual supports.	1 credit
country	Country information with multilingual supports.	2 credits
region	Region names with multilingual supports. Required WS3 and above.	2 credits
city	City names with multilingual supports. Required WS3 and above.	2 credits
geotargeting	Metro code for supported area. Required the package that has zip code data, such as WS9.	2 credits
country_groupings	Country Grouping Terminology.	2 credits

time_zone_info	Local time in real time. Required the package that has time zone data, such as DB11.	4 credits
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Note: You can query for multiple add-ons by joining the values with comma. For example:
addon=country,region,city

3.3 Auto Recharge

User can configure the auto recharge on the license page to allow the system to automatically top up the credits when it falls below the 10% threshold. Users will be required to enter the payment information before enabling the recharge option.

Note: The system performs the threshold check in every 10 minutes interval. Therefore, the recharge maybe not happening immediately upon hitting the threshold, but within 10 minutes period.

4. APPENDIX I: ISO3166 COUNTRY CODE

This table lists all valid ISO3166 two characters country codes that returns from IP2Location™ Web Service and explain the full country names for 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
AO	ANGOLA
AQ	ANTARCTICA
AR	ARGENTINA
AS	AMERICAN SAMOA
AT	AUSTRIA
AU	AUSTRALIA
AW	ARUBA
AX	ÅLAND ISLANDS
AZ	AZERBAIJAN
BA	BOSNIA AND HERZEGOWINA
BB	BARBADOS
BD	BANGLADESH
BE	BELGIUM
BF	BURKINA FASO
BG	BULGARIA
BH	BAHRAIN
BI	BURUNDI
BJ	BENIN
BL	SAINT BARTHÉLEMY
BM	BERMUDA
BN	BRUNEI DARUSSALAM
BO	BOLIVIA (PLURINATIONAL STATE OF)
BQ	BONAIRE, SINT EUSTATIUS AND SABA
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

Country Code	Country Name
CF	CENTRAL AFRICAN REPUBLIC
CG	CONGO (DEMOCRATIC REPUBLIC OF THE)
CH	SWITZERLAND
CI	CÔTE D'IVOIRE
CK	COOK ISLANDS
CL	CHILE
CM	CAMEROON
CN	CHINA
CO	COLOMBIA
CR	COSTA RICA
CU	CUBA
CV	CABO VERDE
CW	CURAÇAO
CX	CHRISTMAS ISLAND
CY	CYPRUS
CZ	CZECHIA
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
FI	FINLAND
FJ	FIJI
FK	FALKLAND ISLANDS (MALVINAS)
FM	MICRONESIA (FEDERATED STATES OF)
FO	FAROE ISLANDS
FR	FRANCE
GA	GABON
GB	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND
GD	GRENADA
GE	GEORGIA
GF	FRENCH GUIANA
GG	GUERNSEY
GH	GHANA
GI	GIBRALTAR
GL	GREENLAND
GM	GAMBIA

Country Code	Country Name
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
IM	ISLE OF MAN
IN	INDIA
IO	BRITISH INDIAN OCEAN TERRITORY
IQ	IRAQ
IR	IRAN (ISLAMIC REPUBLIC OF)
IS	ICELAND
IT	ITALY
JE	JERSEY
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

Country Code	Country Name
LS	LESOTHO
LT	LITHUANIA
LU	LUXEMBOURG
LV	LATVIA
LY	LIBYA
MA	MOROCCO
MC	MONACO
MD	MOLDOVA (REPUBLIC OF)
ME	MONTENEGRO
MF	SAINT MARTIN (FRENCH PART)
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

Country Code	Country Name
PK	PAKISTAN
PL	POLAND
PM	SAINT PIERRE AND MIQUELON
PN	PITCAIRN
PR	PUERTO RICO
PS	PALESTINIAN, STATE OF
PT	PORTUGAL
PW	PALAU
PY	PARAGUAY
QA	QATAR
RE	RÉUNION
RO	ROMANIA
RS	SERBIA
RU	RUSSIAN FEDERATION
RW	RWANDA
SA	SAUDI ARABIA
SB	SOLOMON ISLANDS
SC	SEYCHELLES
SD	SUDAN
SE	SWEDEN
SG	SINGAPORE
SH	SAINT HELENA, ASCENSION AND TRISTAN DA CUNHA
SI	SLOVENIA
SJ	SVALBARD AND JAN MAYEN
SK	SLOVAKIA
SL	SIERRA LEONE
SM	SAN MARINO
SN	SENEGAL
SO	SOMALIA
SR	SURINAME
SS	SOUTH SUDAN
ST	SAO TOME AND PRINCIPE
SV	EL SALVADOR
SX	SINT MAARTEN (DUTCH PART)
SY	SYRIAN ARAB REPUBLIC
SZ	ESWATINI
TC	TURKS AND CAICOS ISLANDS
TD	CHAD
TF	FRENCH SOUTHERN TERRITORIES
TG	TOGO
TH	THAILAND
TJ	TAJIKISTAN
TK	TOKELAU
TL	TIMOR-LESTE
TM	TURKMENISTAN
TN	TUNISIA

Country Code	Country Name
TO	TONGA
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 OF AMERICA
UY	URUGUAY
UZ	UZBEKISTAN
VA	HOLY SEE
VC	SAINT VINCENT AND THE GRENADINES
VE	VENEZUELA (BOLIVARIAN REPUBLIC OF)
VG	VIRGIN ISLANDS (BRITISH)
VI	VIRGIN ISLANDS (U.S.)
VN	VIET NAM
VU	VANUATU
WF	WALLIS AND FUTUNA
WS	SAMOA
YE	YEMEN
YT	MAYOTTE
ZA	SOUTH AFRICA
ZM	ZAMBIA
ZW	ZIMBABWE

5. APPENDIX II: LANGUAGE CODE

Language Code	Language Name
AR	Arabic
CS	Czech
DA	Danish
DE	German
EN	English
ES	Spanish
ET	Estonian
FI	Finnish
FR	French
GA	Irish
IT	Italian
JA	Japanese
KO	Korean
MS	Malay
NL	Dutch
PT	Portuguese
RU	Russian
SV	Swedish
IT	Italian
JA	Japanese
KO	Korean
MS	Malay
NL	Dutch
PT	Portuguese
RU	Russian
SV	Swedish
TR	Turkish
VI	Vietnamese
ZH-CN	Chinese Simplified
ZH-TW	Chinese Traditional

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