



# **IP2LOCATION<sup>TM</sup>**

## **JAVA COMPONENT**

User Manual

By Hexasoft Development Sdn. Bhd.

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~ Bringing Geography to the Internet ~

# TABLE OF CONTENTS

- 1. INTRODUCTION..... 2
- 2. SYSTEM REQUIREMENTS ..... 2
  - 2.1 Quick Start Guide ..... 3
- 3. DOWNLOAD AND INSTALLATION ..... 3
  - 3.1 Download ZIP File ..... 3
  - 3.2 BIN Database Download ..... 3
  - 3.3 Component Installation ..... 3
- 4. TESTING ..... 4
  - 4.1 Folders and Files Structure..... 4
  - 4.2 Component Testing ..... 4
- 5. IMPLEMENTATION ..... 5
  - 5.1 IP2Location™ Objects Reference..... 5
    - 5.1.1 Object: com.ip2location.IP2Location..... 5
    - 5.1.2 Object: com.ip2location.IPResult ..... 5
    - 5.1.3 Possible Status Code Returned..... 6
- 6. LICENSE PURCHASE ..... 6
  - 6.1 License Information ..... 6
  - 6.2 Purchase Instruction ..... 7
- 7. UPDATE COMPONENT DATABASE ..... 7
  - 7.1 Update Component Internal Database..... 7
- 8. UPGRADE OR UNINSTALL COMPONENT ..... 7
  - 8.1 Upgrade Component ..... 7
  - 8.2 Update Database..... 7
  - 8.3 Uninstall Component ..... 7
- 9. APPENDIX I: ISO3166 COUNTRY CODE ..... 8

# 1. INTRODUCTION

**IP2Location™** is the solution to identify *country, 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 and usage type* of your site visitors in real-time by using IP address. This document provides important information to help you quickly get up to speed with our products. This component is thread-safe.

Developers use this Java component for software and web projects related to, but not limited to:

- Display native language and currency
- Redirect based on country
- Digital rights management
- Prevent password sharing and abuse of service
- Reduce credit card fraud
- Web log stats and analysis
- Auto-selection of country on forms
- Filter access from countries you do not do business with
- Geo-targeting for increased sales and click-through

IP2Location™ Java component is written for Java SDK and optimized with a Java Virtual Machine installed.

# 2. SYSTEM REQUIREMENTS

IP2Location™ Java Component has been developed to run exclusively under any platforms with a Java Virtual Machine. This component required a local IP2Location™ database for lookup purpose. No Internet connection is required to execute this component.

Minimum Requirements	Supported Platforms
<ul style="list-style-type: none"> <li>▪ Java JDK 1.4 or later</li> </ul>	<ul style="list-style-type: none"> <li>▪ Microsoft® Windows XP (Client OS)</li> <li>▪ Microsoft® Windows Server 2003 family (server OS)</li> <li>▪ Microsoft® Windows Vista</li> <li>▪ Microsoft® Windows 7 / 8 / 10</li> <li>▪ Microsoft® Windows Server 2008 family</li> <li>▪ Microsoft® Windows Server 2012 family</li> <li>▪ Microsoft® Windows Server 2016 family</li> <li>▪ MacOS</li> <li>▪ Unix/Linux</li> </ul>

## 2.1 Quick Start Guide

In this document, you will go through these basic steps to use IP2Location™ Java component:

1. Download and installing IP2Location Java Component
2. Test your Java Component installation
3. Start using IP2Location™ in your projects
4. Purchase license to remove random 5 second delay in demo version
5. Update IP2Location™ Component database

**Note:** For unregistered or demo, the component applies random 5-second in query. Registered version has unlimited real-time query without delay.

## 3. DOWNLOAD AND INSTALLATION

### 3.1 Download ZIP File

Please use the following URL to download the latest IP2Location™ Java Component together with sample database.

- <https://www.ip2location.com/downloads/ip2location-java-component>

### 3.2 BIN Database Download

You may download free sample databases, DB1 to DB24, at <https://www.ip2location.com/developers> for your testing. Please take note that the sample databases only contain IP address from 0.0.0.0 to 99.255.255.255 (IPv4) or 2A04:0:0:0:0:0:0:0 to 2A04:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF (IPv6) only.

If you need full IP address ranges but lower accuracy for testing, you may consider to download the LITE database at <https://lite.ip2location.com>.

### 3.3 Component Installation

Installing the IP2Location Java component system is very easy.

General steps in installing IP2Location™ Java component is to unzip the “[ip2location-java-component.zip](#)” into a your local machine.

## 4. TESTING

### 4.1 Folders and Files Structure

The unzipped folder should look like below:

```
/demos/IP2LOCATION-LITE-DB1.BIN  
/demos/IP2LOCATION-LITE-DB1.IPV6.BIN  
/demos/Main.java  
/libs/ip2location.jar  
/README.txt  
/License.txt  
/ip2location_java_user_manual.pdf
```

### 4.2 Component Testing

Please open command prompt to rebuild and execute the application.

Sample Code for IP2Location Java Component

File located in:

<your sample code path>/demos/Main.java

Compile Sample Code (Windows & Linux)

javac -classpath <your classpath>/IP2LocationJavaComponent/libs/ip2location.jar Main.java

Running Sample Code (Windows)

You will need Java JDK 1.4 or later. You can run Main.java like this:

java -cp <your classpath>/IP2LocationJavaComponent/libs/ip2location.jar; Main <ipdbfile> <ipaddr>  
<license> (optional)

Running Sample Code (Linux)

You will need Java JDK 1.4 or later. You can run Main.java like this:

java -cp <your classpath>/IP2LocationJavaComponent/libs/ip2location.jar: Main <ipdbfile> <ipaddr>  
<license> (optional)

with License.key (Windows)

java -cp <your classpath>/IP2LocationJavaComponent/libs/ip2location.jar; Main <your database  
path>/Database/IP2LOCATION-LITE-DB1.BIN 200.0.0.1 <license.key>

without License.key (Windows)

java -cp <your classpath>/IP2LocationJavaComponent/libs/ip2location.jar; Main <your database  
path>/Database/IP2LOCATION-LITE-DB1.BIN 200.0.0.1

## 5. IMPLEMENTATION

### 5.1 IP2Location™ Objects Reference

#### 5.1.1 Object: com.ip2location.IP2Location

Class Variables	Description	Type
IPDatabasePath	Sets the IP2Location™ IPv4 database path. The component will use the database in the component directory by default.	String
IPAddress	The IP Address you wish to query	String
IPLicensePath	Sets the license file path for component registration. The component will use the license key in the component directory by default.	String
UseMemoryMappedFile	Set to true to speed up queries by using more memory. Default is false.	boolean

Method	Description	Return Type
IPQuery(String IPAddress)	This function to query IP2Location data	com.ip2location.IPResult

#### 5.1.2 Object: com.ip2location.IPResult

Method	Description	Return Type
getCountryShort()	Returns the two-character country code based on ISO 3166.	String
getCountryLong()	Returns the country name based on ISO 3166.	String
getRegion()	Returns the region or state name.	String
getCity()	Returns the city name.	String
getLatitude()	Returns the city latitude.	Float
getLongitude()	Returns the city longitude.	Float
getZIPCode()	Returns the United States ZIP code.	String
getTimeZone()	Returns the Time zone in UTC (Coordinated Universal Time)	String
getISP()	Returns the Internet Service Provider (ISP) name.	String
getDomain()	Returns the Internet domain name associated to IP address range.	String

getNetSpeed()	Returns the Internet Connection Speed (DIAL) DIAL-UP,(DSL) DSL/CABLE or(COMP) COMPANY	String
getIDDCode()	Returns the IDD prefix to call the city from another country	String
getAreaCode()	Returns the varying length number assigned to geographic areas for call between cities	String
getWeatherStationCode()	Returns the special code to identify the nearest weather observation station	String
getWeatherStationName()	Returns the name of the nearest weather observation station	String
getMCC()	Returns the mobile country code	String
getMNC()	Returns the mobile network code	String
getMobileBrand()	Returns the mobile brand	String
getElevation()	Returns the elevation	Float
getUsageType()	Returns the usage type	String
getStatus()	Returns the status code of query.	String
toString()	Returns the result in String format	String

\*Note: The result will return a not supported field message if the field of the result is not supported by the current database.

### 5.1.3 Possible Status Code Returned

Status Code	Description
OK	The query has been successfully performed.
EMPTY_IP_ADDRESS	The IP address is empty.
INVALID_IP_ADDRESS	The format of the IP address is wrong.
MISSING_FILE	The BIN file path is wrong or the BIN file is unreadable.
IP_ADDRESS_NOT_FOUND	The IP address does not exists in the BIN file.
IPV6_NOT_SUPPORTED	The BIN file does not contain IPv6 data.

## 6. LICENSE PURCHASE

### 6.1 License Information

A license is required for each machine the product is installed on, including development or staging machines. Please refer to the **License Agreement** section for the complete license agreement.

Trial/Demo license is only meant to be used for the evaluation purpose.

## 6.2 Purchase Instruction

Please visit <https://www.ip2location.com/software/java-component> and select the package that you wish to purchase. Fill in the online form and complete the payment transaction. Once your order has been approved, you will receive your license file (License.Key) immediately through email. Save the license file to the same directory of **IP2Location.jar** in IP2Location director. The random 5-second query delay will be removed once the License Key was successfully installed.

## 7. UPDATE COMPONENT DATABASE

### 7.1 Update Component Internal Database

The IP2Location™ Java Component depends on an internal database for lookup purpose. All users with valid license will be allowed to download the monthly updates from the IP2Location™ download area during subscription period. To update, users need to replace the BIN database with the latest one from the download area. The component will use the latest database once the local copy has been updated. Please refer to the welcome email for more information regarding download updates and account information.

## 8. UPGRADE OR UNINSTALL COMPONENT

### 8.1 Upgrade Component

To upgrade a new version of the component, you need to download and extract the new jar file and replace the old jar with this new one.

### 8.2 Update Database

To update the latest database, you can just replace the existing database binary file.

### 8.3 Uninstall Component

Just delete the jar file.



## 9. APPENDIX I: ISO3166 COUNTRY CODE

This table lists all valid ISO3166 two characters country codes that returns from IP2Location™ Java component 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

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**Hexasoft Development Sdn. Bhd.**

70-3-30A D'Piazza Mall,  
Jalan Mahsuri,  
11950 Bayan Baru,  
Pulau Pinang,  
Malaysia.

Email: [sales@ip2location.com](mailto:sales@ip2location.com)