

PmaControl [GeoIP](#) [mmdb](#) [IPv4](#) [IPv6](#)

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Introduction

100+ [MariaDB](#) / MySQL [GeoIP](#)

MaxMind [GeoLite2](#) IP [lookup](#).....

- HTTP [700MB](#)
- 100 [100](#) [lookup](#)
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- PHP-FPM [worker](#)

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[GeoIP](#) [MariaDB](#)

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IPv4 $2^{32} = 43$ `MaxMindReader()` CIDR

```
$ip = 0;
while ($ip <= 4294967295) {
    [$record, $prefixLen] = $reader->getWithPrefixLen(long2ip($ip));

    // 
    $networkSize = 1 << (32 - $prefixLen);
    $networkEnd = $ip + $networkSize - 1;

    if ($record && !empty($record['country']['iso_code'])) {
        // INSERT data_geoip
    }

    // CIDR 
    $ip = $networkEnd + 1;
}
```

650,000 ranges `range(0, 255, 10)` `10.0.0.0/24` 1024

IPv6 2000::/3

IPv6 2^{128} `2000::/3` IPv4 Global Unicast `10.0.0.0/24` 1024

16

```
$current = inet_pton('2000::');
$end6    = inet_pton('3fff:ffff:ffff:ffff:ffff:ffff:ffff:ffff');

while ($current <= $end6) {
    [$record, $prefixLen] = $reader->getWithPrefixLen(inet_ntop($current));
    $endBin = binNetworkEnd($current, $prefixLen);

    if ($record && !empty($record['country']['iso_code'])) {
        // INSERT UNHEX(bin2hex(...))
    }

    $current = binIncrement($endBin); // 128 +1
}
```

128 PHP GMP

```
// IPv6 1
function binIncrement(string $bin): string|false
{
    $bytes = unpack('C16', $bin);
    for ($i = 15; $i >= 0; $i--) {
        $bytes[$i]++;
        if ($bytes[$i] <= 255) return pack('C16', ...$bytes);
        $bytes[$i] = 0; // 
    }
    return false; // 
}
```

GeoIP

Table

	IPv4	IPv6	
data_geoiP	~650K	~180K	~830K ranges
data_geoiP_city	~3.7M	~1.2M	~4.9M ranges

Performance

GeoIPv4 + IPv6	~30 ms
GeoIPv4 + IPv6	~5 ms
1 IP	< 1 ms
100 IP server/main	~15 ms
AJAX	

Integration

PmaControl IP emoji

```
89.30.104.134:3306 PIXID-MDB-MASTER1
136.243.1.1:3306 Hetzner-Slave
210.171.224.1:3306 NTT-Tokyo
8.8.8.8:3306 Google-Test
```

IP 10.x 172.16-31.x 192.168.x 127.x GeoLite2

MaxMind GeoLite2

```
# .mmdb data/
#
php App/Webroot/index.php server loadGeoip # ~30
php App/Webroot/index.php server loadGeoipCity # ~5
```

TRUNCATE diff

data_geoip_city GPS

```
SELECT country_iso, region_name, city, latitude, longitude, time_zone
FROM data_geoip_city
WHERE network_start <= INET6_ATON('136.243.1.1')
AND network_end >= INET6_ATON('136.243.1.1')
LIMIT 1;
```

DE | Saxony | Falkenstein | 50.4779 | 12.3713 | Europe/Berlin

LEFT JOIN

```
LEFT JOIN data_geoip g ON g.network_start <= INET6_ATON(s.ip) AND g.network_end >=
INET6_ATON(s.ip) 650K ranges N lookup IP
```

GeoLite2 MariaDB Lock 1 ms PRUNCE/6 INSERT

GitHub