

# INSTALLING MAPSERVER AND PHP MAPSCRIPT ON LINUX

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Link : [http://www.londatiga.net/downloads/tutorial/mapserver\\_install\\_linux.pdf](http://www.londatiga.net/downloads/tutorial/mapserver_install_linux.pdf)

## Introduction

MapServer is an open source and free software for rendering maps, images, and vector data on the web. MapServer was originally developed by the University of Minnesota (UMN) ForNet project in cooperation with NASA and the Minnesota Department of Natural Resources. Presently, the MapServer project is hosted by the TerraSIP, a NASA sponsored project between the UMN and consortium of land management interests (<http://mapserver.gis.umn.edu>).

MapServer can be compiled on many platforms and operating systems, but in this tutorial, I will focus on unix like system, especially Linux.

## Prerequisites

Operating system used in this tutorial is Linux Fedora Core 7 with Apache (httpd-2.0.55), PHP (php-5.2.3), and PostgreSQL(postgresql-8.2.4) already installed using manual source installation (not using default rpm package). Required libraries that already installed are libpng, libjpeg, libtiff, and zlib. Installation manual for those softwares and libraries are beyond the scope of this tutorial.

Required softwares and libraries:

1. **MapServer:** is the main software.  
Source: <http://download.osgeo.org/mapserver/mapserver-5.0.2.tar.gz>
2. **GD:** used by MapServer for rendering images, version 2.0.28 or greater is required.  
Source: <http://www.libgd.org/releases/gd-2.0.35.tar.gz>
3. **PROJ.4:** provides projection support for MapServer (also needed by PostGIS), version 4.4.6 or greater is required.  
Source: <ftp://ftp.remotesensing.org/proj/proj-4.6.0.tar.gz>
4. **GEOS:** enables MapServer to do spatial operation (within, touches, union, difference, intersection), also needed by PostGIS, version 4.10 or greater is required.  
Source: <http://geos.refractions.net/downloads/geos-3.0.0.tar.bz2>
5. **GDAL:** provides access to at least 42 different raster formats.  
Source: <http://download.osgeo.org/gdal/gdal-1.5.1.tar.gz>
6. **OGR:** provides access to at least 18 different vector formats.  
Source: <http://download.osgeo.org/gdal/gdal-1.5.1.tar.gz>

7. **CURL:** is the foundation of OGC (WFS, WMS, WCS) client and server support, requires version 7.10 or greater.  
Source: <http://curl.haxx.se/download/curl-7.18.1.tar.gz>
8. **PostGIS:** adds support for geographic objects to the PostgreSQL.  
Source: <http://www.postgis.org/download/postgis-1.3.3.tar.gz>

*Note:*

Apache was installed under /usr/local/apache

PostgreSQL was installed under /usr/local/pgsql

All previously installed libraries (libpng, libjpeg, libtiff, and zlib) were installed under /usr/lib

Apache root directory is /data/www/html, cgi-bin directory is /data/www/cgi-bin

## Installation

### 1. GD

Installation steps:

- `[lorenz@devel>>installer]$ tar -xvzf gd-2.0.35.tar.gz`
- `[lorenz@devel>>installer]$ cd gd-2.0.35`
- `[lorenz@devel>>gd-2.0.35]$ ./configure`
- `[lorenz@devel>>gd-2.0.35]$ make`
- `[lorenz@devel>>gd-2.0.35]$ make install`

*Note:* default installation directory is /usr/local

### 2. PROJ.4

Installation steps:

- `[lorenz@devel>>installer]$ tar -xvzf proj-4.6.0.tar.gz`
- `[lorenz@devel>>installer]$ cd proj-4.6.0`
- `[lorenz@devel>>proj-4.6.0]$ ./configure`
- `[lorenz@devel>>proj-4.6.0]$ make`
- `[lorenz@devel>>proj-4.6.0]$ make install`

*Note:* default installation directory is /usr/local

### 3. GEOS

Installation steps:

- `[lorenz@devel>>installer]$ tar -xjvf geos-3.0.0.tar.bz2`
- `[lorenz@devel>>installer]$ cd geos-3.0.0`

- `[lorenz@devel>>geos-3.0.0]$ ./configure`
- `[lorenz@devel>>geos-3.0.0]$ make`
- `[lorenz@devel>>geos-3.0.0]$ make install`

Note: default installation directory is `/usr/local`

#### 4. GDAL

Installation steps:

- `[lorenz@devel>>installer]$ tar -xvzf gdal-1.5.1.tar.gz`
- `[lorenz@devel>>installer]$ cd gdal-1.5.1`
- `[lorenz@devel>>gdal-1.5.1]$ ./configure`
- `[lorenz@devel>>gdal-1.5.1]$ make`
- `[lorenz@devel>>gdal-1.5.1]$ make install`

Note: default installation directory is `/usr/local`

#### 5. CURL

Installation steps:

- `[lorenz@devel>>installer]$ tar -xvzf curl-7.18.1.tar.gz`
- `[lorenz@devel>>installer]$ cd curl-7.18.1`
- `[lorenz@devel>>curl-7.18.1]$ ./configure`
- `[lorenz@devel>>curl-7.18.1]$ make`
- `[lorenz@devel>>curl-7.18.1]$ make install`

Note: default installation directory is `/usr/local`

#### 6. Update ld-config

- `[lorenz@devel>>installer]$ cd /etc/ld.so.conf.d/`
- `[lorenz@devel>>ld.so.conf.d]$ echo /usr/local/lib > usrlocalib.conf`
- `[lorenz@devel>>ld.so.conf.d]$ /sbin/ldconfig`

#### 7. POSTGIS

Installation steps:

- `[lorenz@devel>>installer]$ tar -xvzf postgis-1.3.3.tar.gz`
- `[lorenz@devel>>installer]$ cd postgis-1.3.3`
- `[lorenz@devel>>postgis-1.3.3]$ ./configure --with-pgsql=/usr/local/pgsql/bin/pg_config --with-proj --with-geos`
- `[lorenz@devel>>postgis-1.3.3]$ make`

- `[lorenz@devel]>>postgis-1.3.3]$ make install`

## 8. Recompile PHP as CGI

Installation steps:

- `[lorenz@devel>>installer]$ cd php-5.2.3`
- `[lorenz@devel> php-5.2.3]$ ./configure \`
  - `> --enable-force-cgi-redirect \`
  - `> --with-gd=/usr/local/ \`
  - `> --with-jpeg-dir=/usr/lib \`
  - `> --with-png-dir=/usr/lib \`
  - `> --with-tiff-dir=/usr/lib \`
  - `> --with-zlib-dir=/usr/lib \`
  - `> --with-freetype-dir=/usr/lib \`
  - `> --without-ttf \`
  - `> --with-mysql=/usr/local/mysql/ \`
  - `> --with-pgsql=/usr/local/pgsql/ \`
  - `> --with-curl=/usr/local/ \`
  - `> --with-gettext \`
  - `> --enable-ftp \`
  - `> --enable-xml \`
  - `> --with-zlib \`
  - `> --with-regex=system \`
  - `> --enable-dbase \`
  - `> --enable-dbx \`
  - `> --with-config-file-path=/usr/local/lib`
- `[lorenz@devel>>php-5.2.3]$ make`
- `[lorenz@devel>>php-5.2.3]$ cp sapi/cgi/php-cgi /data/www/cgi-bin`

Note: DO NOT do a “make install”

## 9. MapServer

Installation steps:

- `[lorenz@devel>>installer]$ tar -xzf mapserver-5.0.2.tar.gz`
- `[lorenz@devel>>installer]$ cd mapserver-5.0.2`
- `[lorenz@devel>>mapserver-5.0.2]$ ./configure --with-ogr=/usr/local/bin/gdal-config \`
  - `--with-gdal=/usr/local/bin/gdal-config \`
  - `--with-httpd=/usr/local/apache/bin/httpd \`
  - `--with-wfsclient \`
  - `--with-wmsclient \`
  - `--enable-debug \`

- `--with-curl-config=/usr/local/bin/curl-config \`
- `--with-proj=/usr/local \`
- `--with-tiff \`
- `--with-gd=/usr/local \`
- `--with-jpeg \`
- `--with-freetype=/usr/ \`
- `--with-threads \`
- `--with-wcs \`
- `--with-postgis=/usr/local/pgsql/bin/pg_config \`
- `--with-libiconv=/usr \`
- `--with-geos=/usr/local/bin/geos-config \`
- `--with-xml2-config=/usr/bin/xml2-config \`
- `--with-sos \`
- `--with-php=../php-5.2.3/`
- `[lorenz@devel]>>mapserver-5.0.2]$ make`

Note: DO NOT do a “make install”

PHP MapScript installation steps;

- `[lorenz@devel]>>mapserver-5.0.2]$ cp mapserv legend scalebar /data/www/cgi-bin`
- `[lorenz@devel]>>mapserver-5.0.2]$ mkdir /usr/local/lib/php/extensions`
- `[lorenz@devel]>>mapserver-5.0.2]$ cp mapscript/php3/php_mapscript.so /usr/local/lib/php/extensions`
- `[lorenz@devel]>>mapserver-5.0.2]$ cd /usr/local/lib`
- Edit file `php.ini` and add two lines below:

```
extension_dir = "/usr/local/lib/php/extensions"
extension = "php_mapscript.so"
```

- Edit file `/usr/local/apache/conf/httpd.conf` and add two lines below:

```
AddType application/x-httpd-php-cgi .phtml
Action application/x-httpd-php-cgi /cgi-bin/php-cgi
```

- Restart apache (`#/usr/local/apache/bin/apachectl restart`)

## 10. Test PHP Mapscript

To test PHP MapScript that already installed:

- Go into web root directory (`/data/www/html`)
- Create php file and add `phpinfo()` line into the file
- Save the file as `info.phtml`
- Open browser and point to <http://localhost/info.phtml>
- If installation is successful, the `phpinfo` page should contain part like this:

# MapScript

<b>MapServer Version</b>	MapServer version 5.0.2 OUTPUT=GIF OUTPUT=PNG OUTPUT=JPEG OUTPUT=WBMP OUTPUT=SVG SUPPORTS=PROJ SUPPORTS=FREETYPE SUPPORTS=WMS_SERVER SUPPORTS=WMS_CLIENT SUPPORTS=WFS_CLIENT SUPPORTS=WCS_SERVER SUPPORTS=SOS_SERVER SUPPORTS=THREADS SUPPORTS=GEOS INPUT=TIFF INPUT=EPPL7 INPUT=POSTGIS INPUT=OGR INPUT=GDAL INPUT=SHAPEFILE
<b>PHP MapScript Version</b>	(\$Revision: 7251 \$ \$Date: 2008-01-08 09:04:53 -0800 (Tue, 08 Jan 2008) \$)

To test drawing map, you can download simple demo application from <http://www.londatiga.net/downloads/tutorial/phpmapscript-demo.tar.gz>

Installation steps:

- `[lorenz@devel>>installer]$ cp phpmapscript-demo.tar.gz /data/www/html`
- `[lorenz@devel>>installer]$ cd /data/www/html`
- `[lorenz@devel>>html]$ tar -xzf phpmapscript-demo.tar.gz`
- `[lorenz@devel>>html]$ chmod 777 tmp`
- Open browser and point to <http://localhost/phpmapscript-demo>
- If all things running well it should display a map