

# macOS

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This page documents the requirements and special instructions for building Traffic Server on [macOS](#).

To build Traffic Server, you will need to retrieve yourself a copy of PCRE, libtool, and automake. You can get it yourself from the source or elsewhere like [mports](#) or [Homebrew](#).

Traffic Server only builds with clang on macOS We do not support building with gcc on this platform. You will need to install the latest version of [Xcode](#).

## Building Traffic Server with Homebrew

First, visit <http://brew.sh> to install the Homebrew package manager.

Next, install the build dependencies:

```
$ brew install automake autoconf libtool pcre openssl
```

On certain versions of macOS / OS X and Xcode, you will also have to install libxml2:

```
$ brew install libxml2
$ brew link --force libxml2
```

After you have PCRE development libraries installed on your system, you should get the Traffic Server code with [git](#).

```
$ git clone https://github.com/apache/trafficserver.git
```

Run autoreconf to generate the configure script:

```
$ cd trafficserver # enter the new checkout directory
$ autoreconf -i    # generate the configure script
```

From the checkout directory, run `configure` to generate the Makefile files. You may need to specify the base path where the development files (headers and libraries) for PCRE are installed, e.g. if you installed pcre with MacPorts, you will need to specify the directory '/opt/local'. When building against Homebrew, specify the openssl library with --with-openssl=/usr/local/opt/openssl

```
$ ./configure --with-openssl=/usr/local/opt/openssl
```

Now you can make and install:

```
$ make
$ sudo make install
```

## Generates a compilation database for clang tooling with Bear

[JSON Compilation Database](#) ( `compile_commands.json` ) is used by clang based tools. For autotools based project (like Traffic Server), [Bear](#) is a tool that generates a compilation database.

On macOS or Fedora there is a know [issue](#) that bear generates empty compilation database because of SIP. Below is instruction to avoid the issue. Assuming above instruction is done. (automake autoconf libtool are already installed).

In short, all building tool chain should not be under [certain](#) directories which is protected by SIP.

```
$ cp /bin/sh /usr/local/bin/  
$ brew install bear llvm make  
$ which clang clang++ gmake  
/usr/local/opt/llvm/bin/clang  
/usr/local/opt/llvm/bin/clang++  
/usr/local/bin/gmake  
$ CONFIG_SHELL=/usr/local/bin/sh CC=clang CXX=clang++ ./configure --ADD-OPTIONS-YOU-WANT  
$ bear gmake
```

## Links

- [Mac Ports](#) - package retrieval and installation system.
- [Homebrew](#) - package retrieval and installation system.
- [Xcode](#) - if you want to use the latest version of GCC from Apple. Requires free registration to get to the download page.
- [PCRE](#) - required software for building Traffic Server from the source.