

# Autobuild

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## Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>1</b>
<b>2</b>	<b>Tutorial .....</b>	<b>2</b>
<b>3</b>	<b>Integrating autobuild.m4 in your project .....</b>	<b>4</b>
<b>4</b>	<b>Invoking autobuild .....</b>	<b>5</b>
4.1	Synopsis .....	5
4.2	Description .....	5
<b>5</b>	<b>Invoking abindex .....</b>	<b>7</b>
5.1	synopsis .....	7
5.2	Description .....	7
<b>Appendix A</b>	<b>Copying This Manual .....</b>	<b>8</b>
A.1	GNU Free Documentation License .....	8
A.1.1	ADDENDUM: How to use this License for your documents .....	14
<b>Index</b>	<b>.....</b>	<b>15</b>

# 1 Introduction

Autobuild is a package that process output from building software, primarily focused on packages using Autoconf and Automake, and then generate a HTML summary file, containing links to each build log. The output include project name, version, build host types (cross compile aware), compiler host name, date of build, and indication of success or failure. The output is indexed in many ways to simplify browsing.

The quickest way to get an understanding of what Autobuild can do for you, is to look at some example output. For now, we recommend looking at how Autobuild is used in the GNU Libidn project, see <http://josefsson.org/autobuild-logs/libidn.html>.

## 2 Tutorial

The first step is to collect build logs of your package. Autobuild does not help you do this. A very simple way to do this is as follows:

```
jas@latte:~/src/libidn-0.5.0$ ./configure > ~/foo
jas@latte:~/src/libidn-0.5.0$ make check >> ~/foo
```

We'll continue directly and invoke autobuild on the log file.

```
jas@latte:~/src/libidn-0.5.0$ cd
jas@latte:~$ autobuild -v foo
Project: libidn
Revision: 0.5.0
Mode: default
Hosttype: i686-pc-linux-gnu
Buildtype: i686-pc-linux-gnu
Hostname: unknown
Timestamp: unknown
Status: ok
./autobuild,project=libidn,revision=0.5.0,mode=default,hosttype=i686-pc-linux-gnu,buil
jas@latte:~$ ls -la foo autobuild\,project=libidn\,revision=0.5.0\,mode=default\,ho
-rw-r--r--    1 jas    jas          24821 2004-07-07 02:27 autobuild,project=libidn,r
-rwxr-xr-x    1 jas    jas          24821 2004-07-07 02:27 foo
jas@latte:~$
```

The 'foo' file is identical to the 'autobuild,\*,log.txt' except for the name. The special form of the file name is used by `abindex` to create nice looking indices for your log files.

If you have Emacs and `htmlize.el` installed, you can also get nice HTML outputs of the build logs, as follows:

```
jas@latte:~$ autobuild --html -v foo
Project: libidn
Revision: 0.5.0
Mode: default
Hosttype: i686-pc-linux-gnu
Buildtype: i686-pc-linux-gnu
Hostname: unknown
Timestamp: unknown
Status: ok
./autobuild,project=libidn,revision=0.5.0,mode=default,hosttype=i686-pc-linux-gnu,buil
jas@latte:~$
```

You may have noticed that some fields have default looking values. This is because autobuild could not guess them using the log file you provided. Either you can improve the guessing logic, or simpler, specify the values on the command line.

```
jas@latte:~$ autobuild --html -v foo --hostname latte --timestamp=20040607-0220
Project: libidn
Revision: 0.5.0
Mode: default
Hosttype: i686-pc-linux-gnu
```

```
Buildtype: i686-pc-linux-gnu
Hostname: latte
Timestamp: 20040607-0220
Status: ok
./autobuild,project=libidn,revision=0.5.0,mode=default,hosttype=i686-pc-linux-gnu,buil
jas@latte:~$
```

Much better. Let's look at the HTML output for our example. First, invoke `abindex` to get the files.

```
jas@latte:~$ abindex autobuild,*,log.* > example.html
jas@latte:~$
```

Recall that since we supplied some values, and regenerated the output, we have three different files matching the file name glob, but all three are based on the same build, so it will not be very exciting.

See the `'examples/'` sub-directory in the Autobuild source code distribution, it execute the above commands. In that directory, you can remove the distributed `'example.html'` and type `make example.html` to regenerate it.

### 3 Integrating autobuild.m4 in your project

A normal build log from an Autoconf/Automake based project do normally not include the project name, revision, time stamp of build or host name of the build host. Specifying these values using `--project` etc (see [Chapter 4 \[Invoking autobuild\], page 5](#)) can be tedious, especially considering that it would be so simple for the Autoconf ‘`configure`’ script to print them.

To solve the above problem, Autobuild include a M4 macro suitable for use in your Autoconf project, invoked from ‘`configure.ac`’. Properly installed, the macro will make your project print something similar to the following output (this example is what the Autobuild itself print during its build), as part of its build. This format is later recognized by Autobuild.

```
...
checking build system type... i686-pc-linux-gnu
checking host system type... i686-pc-linux-gnu
configure: autobuild project... autobuild
configure: autobuild revision... 1.2
configure: autobuild hostname... latte
configure: autobuild timestamp... 20040708-163123
...
```

To use the macro, put something like the following in your ‘`configure.ac`’:

```
AB_INIT
```

Then make sure your Autoconf installation can find the ‘`autobuild.m4`’ which should have been installed when you installed Autobuild.

The macro can take an optional parameter, the build mode, as follows:

```
AB_INIT(whatever)
```

This would result in an additional message:

```
...
configure: autobuild mode... whatever
...
```

## 4 Invoking autobuild

### 4.1 Synopsis

Read and parse build logs. See [Chapter 2 \[Tutorial\], page 2](#), for more discussion.

```
autobuild [OPTION]... [FILE]...
```

### 4.2 Description

Read and parse build logs to find project name, revision, build mode, build host type, build type (for cross compile builds), hostname, and timestamp, then produce a file (named depending on the extracted parameters) with the build log.

Mandatory arguments to long options are mandatory for short options too.

```
--abort
    Abort if guessing values fail. With the exceptions of build
    mode (falls back to default) and the status (falls back to
    fail).
```

```
-n, --dry-run
    Just parse, don't write file.
```

```
--html Create HTML output instead of text. Need Emacs and htmlize.el.
```

```
-o, --outdir=DIR
    Create files in specified directory.
```

For use when autobuild fail to guess the values properly:

```
-p, --project=STRING
    Specify project name.
```

```
--revision=STRING
    Specify project revision.
```

```
--mode=STRING
    Specify build mode (typically default).
```

```
--hosttype=STRING
    Specify host type (e.g., i686pclinuxgnu).
```

```
--buildtype=STRING
    Specify build type (e.g., m68kuclinuxelf). Different from
    hosttype for cross compiles.
```

```
--hostname=STRING
    Specify name of host log was created on.
```



`--timestamp=STRING`  
Specify when build was made. Any date format will work, but `YYYYMMDDTHH:MM:SS` is recommended.

`--status=STRING`  
Outcome of build. Any string will work, but "ok" and "fail" are recommended for the two basic outcomes.

Other options:

`-v, --verbose`  
Explain what is being done.

`--help` Display this help and exit.

`--version`  
Output version information and exit.

## 5 Invoking abindex

### 5.1 synopsis

Create HTML index to build logs.

```
abindex [OPTION]... [FILE]...
```

### 5.2 Description

Create HTML index to Autobuild generated build logs. See [Chapter 2 \[Tutorial\], page 2](#), for more discussion.

Mandatory arguments to long options are mandatory for short options too.

```
--abort
      Abort when encountering bad filenames.
```

```
-n, --dry-run
      Just parse, dont write file.
```

```
-o, --outdir=DIR
      Create files in specified directory.
```

Other options:

```
-v, --verbose
      Explain what is being done.
```

```
--help Display this help and exit.
```

```
--version
      Output version information and exit.
```

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Index

<b>A</b>	
abindex.....	7
autobuild.....	5
<b>F</b>	
	FDL, GNU Free Documentation License..... 8
	<b>I</b>
	invoking abindex..... 7
	invoking autobuild..... 5