

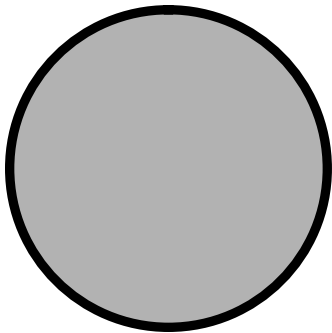
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Lund Simula Documentation

Installing Lund Simula on Unix Systems

For Lund Simula version 4.15 or later

Lund Software House AB, Sweden



SIMULA

Lund Simula Documentation

Installing Lund Simula on Unix Systems
Version 4.15
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1 Introduction

This document describes how to install Lund Software House's SIMULA under UNIX. Any inquiries you have should be directed to:

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2 Media contents

The SIMULA system delivered to you is organised into one directory with sub-directories. The directory is named after the machine it is supporting (such as *sol2* for Sun-SPARC with Solaris 2) and the current release (such as *4.15*)

simula.<machine>.<release>/
simcomp Shell script used to run the SIMULA compiler.
simld Shell script used to run the ld linker.
simmake Shell script used to run simulamake
simman Shell script to run man on SIMULA man-files.
simula The executable SIMULA compiler.
simulamake Compiler driver program,
simuladeb The executable SIMULA debugger.
lib/libsimula.a An object file library containing the SIMULA Run-Time System routines.
lib/libsimdeb.a An object file library containing additional SIMULA Run-Time System routines used by the debugger.
simula.3 A man file with a summary of how to use the SIMULA system
simcomp.3 A man file with a summary of how to use simcomp
simld.3 A man file with a summary of how to use simld
simmake.3 A man file with a summary of how to use simmake
simdeb.help A text file containing help information presented by the debugger.
lib/ Object libraries used by simlib to link a Simula program
lib/lib*.a Links to other object libraries, such as simlib/libsimlib.a below.
simlib/ A directory containing all information regarding the simlib library.
simlib/*.atr Attributefiles matching the simlib library .
simlib/libsimlib.a Object file library matching the simlib library.
simlib/*.3 man-files matching the classes (and procedurs) in simlib
libsim/, sim*/ Other libraries following the same structure as for simlib
man/ A man-file directory structure containing simula man-files and links to manfiles in the libraries.
installsimula Shell script used to put links in appropriate directories to make SIMULA related information easy to access by utilites such as the shell, ld and man.

Delivered on paper:

usersguide SIMULA user's guide.
simdebguide SIMULA debuggers users guide
installationguide The document you are reading now.
library users manuals Documents contents of the libraries

The files have been transferred to the storage medium using the UNIX command tar. The tar command is documented in section 1 of the UNIX manuals.

3 Reading the storage medium

First decide where to put the Simula distribution. The default place for a public installation is `/usr/local/SimulaReleases`, but any other location will do, for private use, or for initial testing. Reading the tape will create a new directory containing all the files from the tape. Different releases of the Simula system will reside in directories with different names so loading the tape will not destroy an existing installation.

Depending on the medium, either mount the magnetic tape on the tape station, or insert the diskette or streamer tape into the appropriate device. The device should be read as a raw device. The name of the device may vary from installation site to installation site, and is often provided by tar as default.

Use the appropriate device name in the tar command below to extract the files from the device and read them into the temporary directory.

```
(%mkdir /usr/local/SimulaReleases - needed first time only)
%cd /usr/local/SimulaReleases
%tar xv (or %tar xf /dev/rst0, or some other device name)
```

This will create the directory `simula.<mach>.<ver>` in the directory

4 Installing Simula

If you have already an installation of Simula (such as version 4.13 or earlier), please see section 6 first. The shell script `installsimula` can be used to install links to the Simula files in appropriate locations in the filesystem. An alternative would be to instruct all Simula users to modify their environment setup to include the relevant locations.

First of all you must install a link named `/usr/local/simulabin` to the directory with the files you just read. This link is used by the Simula system to find information in its current version, for example by the debugger to display help commands. If you have read in the tape in the default location this link can be installed by the unix command:

```
%ln -s /usr/local/SimulaReleases/simula.<mach>.<ver> /usr/local/simulabin
```

4.1 Installing Simula for public use

Now, executing `installsimula` will install links in the filesystem to the files now accessible through the link `/usr/local/simulabin`. You will need superuser privileges since the links will be placed in directories where ordinary users cannot write.

```
%installsimula
```

The links installed are (in `/usr/local/bin` and `/usr/local/man`):

```
/usr/local/bin/simula
/usr/local/bin/sim
/usr/local/bin/simcomp
/usr/local/bin/simld
/usr/local/bin/simman
/usr/local/bin/simmake
/usr/local/man/man1/simula.3
```

These links are created to the corresponding files in /usr/local/simulabin. By switching the simulabin link you can switch version of the Simula system installed for general use. Installfiles also executes the UNIX command ranlib (when needed) for the appropriate libraries. At this point you should also check that the installed files have a suitable protection for the intended SIMULA users.

4.2 Installing Simula for private use, or for initial testing

As an alternativ to using the installation procedure above you can

- 1) modify your environment variable **PATH** to include:
/usr/local/SimulaReleases/simula.<mach>.<rel>
(or the alternative location where you read in the tape),
- 2) set the environment variable **SIMULAHOME** to denote the same location.

This method of installation is useful if you can not (or do not want to) modify the content of /usr/local, or you want to test a new release before installing it for general use. Upgrading the installation to general use you only have to install the /usr/local/simulabin link (or change it if it did already exist) and run installsimula .

5 SIMULA usage

It is recommended that names of files containing SIMULA source code end with .sim. For an explanation of how to use SIMULA, see the SIMULA User's Guide. For a quick test of the installation, create the follwing program (named hello.sim) in your part of the filesystem:

```
begin
  outtext("Hello world !");
  outimage;
end
```

Then compile, link and execute it with:

```
% simcomp hello
...
% simld hello -d
...
% hello -p
Lund STANDARD Simula runtime system ver 4.15
Hello world!
End of simula execution. ...
```

Second, execute the program with the debugger:

```
% hello -d
Simula debugger ...
& trace on
& proceed
2 outtext("Hello world !");
3 outimage;
Hello world !
Goodbye simuladeb
```

5.1 Trouble shooting

- For Solaris 2 users: 'simld' problem:

The program pre-ample '**crt1.o**' which in most installations is found in '/usr/local/lib' is in Solaris 2 delivered with the C distribution. It is thus up to the local system manager where to place this file, and which version is the most recent installed. The script simld currently assumes it to be found in the location: **CRT1=/opt/SUNWspro/SC3.0/lib/crt1.o** If this is not correct, 'opt' may be called something else, or a newer (or older) version of the C distribution is installed (such as **SC2.0** or **SC3.0.1**) simld needs to be edited. Find out where '**crt1.o**' can be found, and adjust the macro **CRT1** in '**simld**' accordingly.

- Debugger problems

If you had any problems performing this test, the most frequent reason is that access rights of the files in the Simula installation are not appropriate for reading and/or execution by the user. Check with the script installsimula and compare with your current settings. For example, if the debugger, normally to be found as /usr/local/simulabin/simuladeb, is not found, or is not executable for the user, this is reported as:

Simula debugger, simuladeb could not be executed, terminating.

6 Removing an old Simula installation

Releases of Simula, before ver 4.15, were not set up to co-exist in different versions on the same machine. In the new set-up the strategy is to put all files belonging to one release in the a single directory subtree while in earlier releases the idea was to distribute the files over appropriate directories (done by the script movefiles). Before installing ver 4.15 it is thus a good idea to make sure the old files are removed. We assume you are working on a Sun with SunOS 4 and are un-installing Simula version 4.13. In other situations, substitute the names as appropriate, below.

```
mkdir /usr/local/SimulaReleases
mv /usr/local/simulabin /usr/local/SimulaReleases/simula.sun4.ver4.13
mv /usr/local/bin/sim /usr/local/SimulaReleases/simula.sun4.ver4.13
mv /usr/local/bin/simcomp /usr/local/SimulaReleases/simula.sun4.ver4.13
mv /usr/local/bin/simld /usr/local/SimulaReleases/simula.sun4.ver4.13
mv /usr/local/lib/libsimula.a /usr/local/SimulaReleases/simula.sun4.ver4.13
mv /usr/local/lib/libsimdeb.a /usr/local/SimulaReleases/simula.sun4.ver4.13
mv /usr/local/lib/libsimlib.a /usr/local/SimulaReleases/simula.sun4.ver4.13
mv /usr/local/man/man1/simula.1 /usr/local/SimulaReleases/ \
simula.sun4.ver4.13
```

Later this step you should continue with normal installation as described above. If you at a later point need to use the old version again you need to adjust the old versions of simcomp and simld to find compiler and libraries in this new location. Hopefully this will not be necessary.