

Building and Installing

# SAGA

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# Requirements

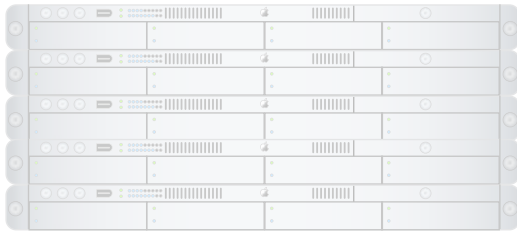
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- Engine and Packages
  - Boost C++ Libraries (  $\geq 1.33$  )
- Default Adaptor Set
  - SOCI (  $\geq 2.2$  )
  - SQLite (  $\geq 3.0$  )
  - XMLRPC (  $\geq 0.7$  )

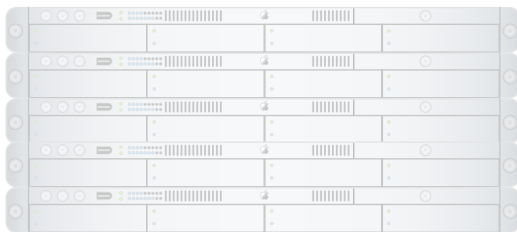
# Tutorial Testbed

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8-way P4 Xeon Linux64  
[gg101.cct.lsu.edu](http://gg101.cct.lsu.edu)



4-way AMD Opteron Linux64  
[gg201.cct.lsu.edu](http://gg201.cct.lsu.edu)



CCT Gumbogrid

# CVS Repository

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- Login to CCT's CVS repository
  - Password: *anon*

```
cvcs -d :pserver:cvcs_anon@cvcs.cct.lsu.edu:2401/projects \  
login
```

- Check out a local copy

```
cvcs -d :pserver:cvcs_anon@cvcs.cct.lsu.edu/projects \  
co VU-SAGA/saga-a
```

# Setup Environment

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- Customized script for tutorial testbed
  - Get the script from CCT's web server

```
wget cct.lsu.edu/~oweidner/sura/set-saga-env-gg.sh
```

- Run (source) the script

```
./set-saga-env-gg.sh
```

# Environment Details

```
export SAGA_VERBOSE=1
export SAGA_ROOT=$HOME/VU-SAGA/saga-a/
export SAGA_LOCATION=$HOME/VU-SAGA/
export BOOST_LOCATION=/usr/local/packages/boost-1.3.1/
export SQLITE3_LOCATION=/usr/local/packages/sqlite-3.3.13/
export SOCI_LOCATION=/usr/local/packages/soci-2.2.0/

# Setup Globus environment
export GLOBUS_LOCATION=/usr/local/globus/globus-4.0.3/
export GLOBUS_FLAVOUR=gcc64dbg
source /usr/local/globus/globus-4.0.3/etc/globus-user-env.sh

# Expand linker search path
export LD_LIBRARY_PATH=/lib:/usr/lib:/usr/local/lib
export LD_LIBRARY_PATH=$XMLRPC_LOCATION/lib/:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH=$SQLITE3_LOCATION/lib/:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH=$SOCI_LOCATION/lib/:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH=$BOOST_LOCATION/lib/:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH=$SAGA_LOCATION/lib/:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH=$GLOBUS_LOCATION/lib/:$LD_LIBRARY_PATH
```

# Build SAGA

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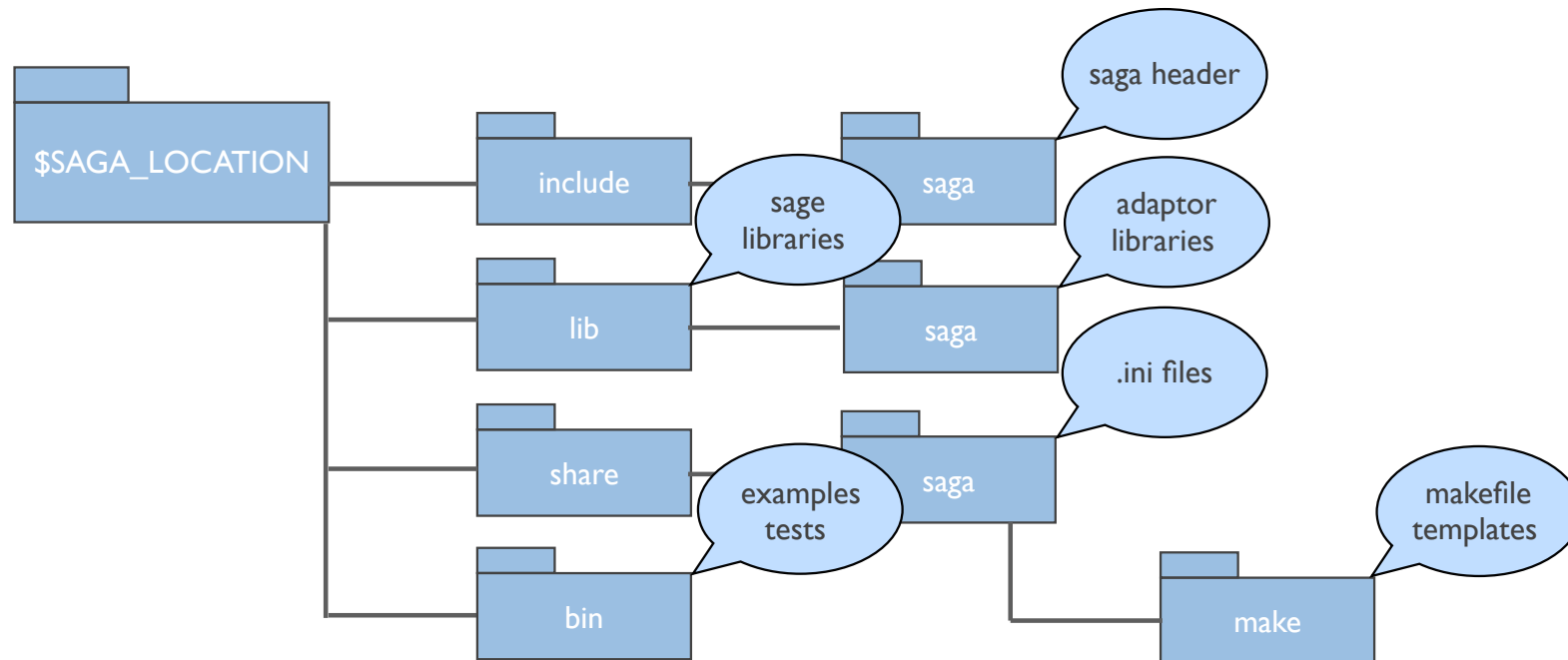
- Configure the build system

```
cd VU-SAGA/saga-a  
./configure --prefix=$SAGA_LOCATION
```

- Build & local install

```
make  
make install
```

# Directory Structure



# A Simple SAGA File App.

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```
01: #include <string>
02: #include <saga/saga.hpp>
03:
04: int main( int argc, char* argv[] )
05: {
06:     if ( argc < 2 ) {
07:         std::cout << "\nUsage: " << argv[0] << " [URL] \n" << std::endl;
08:     }
09:     else {
10:         saga::size_t readbytes = 0;
11:         char inbuff[64];
12:
13:         saga::file f (argv[1], saga::file::Read);
14:
15:         while (readbytes = f.read (saga::buffer(inbuff)))
16:             std::cout << std::string(inbuff,readbytes) << std::flush;
17:     }
18:     return 0;
19: }
```

# A Simple SAGA File App.

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- Get the source code

```
wget http://cct.lsu.edu/~oweidner/sura/saga_file_read.cpp
```

- Compile the source file

```
g++ saga_file_read.cpp -o saga_file_read \
-I$SAGA_ROOT -I$BOOST_LOCATION/include \
-L$SAGA_LOCATION/lib/ \
-lsaga_engine -lsaga_api_file -lsaga_cpi_file \
-lsaga_cpi_namespace -lsaga_api_namespace
```

# A Simple SAGA File App.

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- Run the `saga_file_read` application

```
./saga_file_read any://gg101.cct.lsu.edu//$HOME/.bashrc
```

```
./saga_file_read any://gg201.cct.lsu.edu//$HOME/.bashrc
```



# Globus Adaptors Preview

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- Build & install the Globus Adaptors

```
cd VU-SAGA/saga-a/adaptors/globus/gridftp
make && make install
cd VU-SAGA/saga-a/adaptors/globus/gram
make && make install
```

- Run the saga\_file\_read application again

```
grid-proxy-init
./saga_file_read any://gg201.cct.lsu.edu/.bashrc
```

Not (yet) working

# Further Informations

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- The SAGA C++ Homepage
  - <http://saga.cct.lsu.edu>
- The OGF SAGA Group (saga-rg)
  - <http://forge.gridforum.org/projects/saga-rg/>
- The SAGA Users Mailinglist
  - <https://mail.cct.lsu.edu/mailman/listinfo/saga-users>