To install the Slurm application version 22.05.6 in the directory /a/apps/tb/slurm-green/22.05.6, you can follow these steps:

1. Login to shared server as sudo user
2. Download slurm and extract

    wget https://download.schedmd.com/slurm/slurm-22.05.6.tar.bz2
    tar xvf slurm-22.05.6.tar.bz2
    ./configure --prefix=/a/apps/tb/slurm-green/22.05.6

```
ubuntu@ip-172-31-86-97:~/teamgreen/slurm-22.05.6$ ./configure --prefix=/a/apps/tb/slurm-green/22.05.6
checking build system type... x86_64-pc-linux-gnu
checking host system type... x86_64-pc-linux-gnu
checking target system type... x86_64-pc-linux-gnu
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a race-free mkdir -p... /usr/bin/mkdir -p
checking for gawk... gawk
checking whether make sets $(MAKE)... yes
checking whether make supports nested variables... yes
checking whether to enable maintainer-specific portions of Makefiles... no
checking whether to include rpath in build... yes
checking whether make supports the include directive... yes (GNU style)
checking for gcc... gcc
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether the compiler supports GNU C... yes
checking whether gcc accepts -g... yes
checking for gcc option to enable C11 features... none needed
checking whether gcc understands -c and -o together... yes
checking dependency style of gcc... gcc3
checking for mysql_config... no
checking for mariadb_config... /usr/bin/mariadb_config
MySQL 10.3.37 test program built properly.
checking for gcc... (cached) gcc
checking whether the compiler supports GNU C... (cached) yes
checking whether gcc accepts -g... (cached) yes
checking for gcc option to enable C11 features... (cached) none needed
checking whether gcc understands -c and -o together... (cached) yes
checking dependency style of gcc... (cached) gcc3
checking for g++... g++
checking whether the compiler supports GNU C++... yes
checking whether g++ accepts -g... yes
checking for g++ option to enable C++11 features... none needed
checking dependency style of g++... gcc3
checking whether make sets $(MAKE)... (cached) yes
checking how to print strings... printf
checking for a sed that does not truncate output... /usr/bin/sed
checking for grep that handles long lines and -e... /usr/bin/grep
checking for egrep... /usr/bin/grep -E
checking for fgrep... /usr/bin/grep -F
checking for ld used by gcc... /usr/bin/ld
checking if the linker (/usr/bin/ld) is GNU ld... yes
checking for BSD- or MS-compatible name lister (nm)... /usr/bin/nm -B
checking the name lister (/usr/bin/nm -B) interface... BSD nm
checking whether ln -s works... yes
checking the maximum length of command line arguments... 1572864
```

3. Run the following commands to compile and install

    make
    sudo make install

```
ubuntu@ip-172-31-86-97:~/teamgreen/slurm-22.05.6$ make
make  all-recursive
make[1]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6'
Making all in auxdir
make[2]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/auxdir'
make[2]: Nothing to be done for 'all'.
make[2]: Leaving directory '/home/ubuntu/teamgreen/slurm-22.05.6/auxdir'
Making all in src
make[2]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src'
Making all in api
make[3]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/api'
(echo "{ global:";   \
 echo "   islurm_*;"; \
 echo "   slurm_*;"; \
 echo "   slurmdb_*;"; \
 echo "   plugin_context_*;"; \
 echo "   working_cluster_rec;"; \
 echo "  local: *;"; \
 echo "};") > version.map
(echo "{ global: *; };") > full_version.map
make[4]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/api'
/bin/bash ../../libtool  --tag=CC   --mode=compile gcc -DHAVE_CONFIG_H -I. -I../.. -I../../slurm  -I../..   -g -O2 -fno-omi
  -MT allocate.lo -MD -MP -MF .deps/allocate.Tpo -c -o allocate.lo allocate.c
libtool: compile:  gcc -DHAVE_CONFIG_H -I. -I../.. -I../../slurm -I../..  -g -O2 -fno-omit-frame-pointer -pthread -ggdb3 -Wa
```

```
ubuntu@ip-172-31-86-97:~/teamgreen/slurm-22.05.6$ sudo make install
Making install in auxdir
make[1]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/auxdir'
make[2]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/auxdir'
make[2]: Nothing to be done for 'install-exec-am'.
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/home/ubuntu/teamgreen/slurm-22.05.6/auxdir'
make[1]: Leaving directory '/home/ubuntu/teamgreen/slurm-22.05.6/auxdir'
Making install in src
make[1]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src'
Making install in api
make[2]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/api'
make[3]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/api'
make[4]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/common'
make[4]: 'libcommon.la' is up to date.
make[4]: Leaving directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/common'
make[3]: Leaving directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/api'
make  install-am
make[3]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/api'
make[4]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/common'
make[4]: 'libcommon.o' is up to date.
make[4]: Leaving directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/common'
make[4]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/api'
make[5]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/common'
make[5]: 'libcommon.la' is up to date.
make[5]: Leaving directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/common'
make[4]: Leaving directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/api'
make[4]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/common'
make[4]: 'libcommon.la' is up to date.
make[4]: Leaving directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/common'
make[4]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/api'
make[5]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/api'
make[6]: Entering directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/common'
make[6]: 'libcommon.la' is up to date.
make[6]: Leaving directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/common'
make[5]: Leaving directory '/home/ubuntu/teamgreen/slurm-22.05.6/src/api'
 /usr/bin/mkdir -p '/a/apps/tb/slurm-green/22.05.6/lib'
 /bin/bash ../../libtool   --mode=install /usr/bin/install -c   libslurm.la '/a/apps/tb/slurm-green/22.05.6/lib'
```

4. Create a config file
   sudo mv /a/apps/tb/slurm-green/22.05.6/slurm.conf.example /a/apps/tb/slurm-green/22.05.6/slurm.conf
5. Update the above slurm.conf by the setting the following values
   a. ClusterName=green
   b. SlurmctldHost=ip-172-31-86-97

```
#
# Example slurm.conf file. Please run configurator.html
# (in doc/html) to build a configuration file customized
# for your environment.
#
#
# slurm.conf file generated by configurator.html.
# Put this file on all nodes of your cluster.
# See the slurm.conf man page for more information.
#
ClusterName=green
SlurmctldHost=ip-172-31-86-97
#ControlMachine=ip-172-31-86-97
#SlurmctldHost=
#
#DisableRootJobs=NO
#EnforcePartLimits=NO
#Epilog=
#EpilogSlurmctld=
#FirstJobId=1
#MaxJobId=67043328
#GresTypes=
#GroupUpdateForce=0
#GroupUpdateTime=600
#JobFileAppend=0
#JobRequeue=1
#JobSubmitPlugins=lua
```
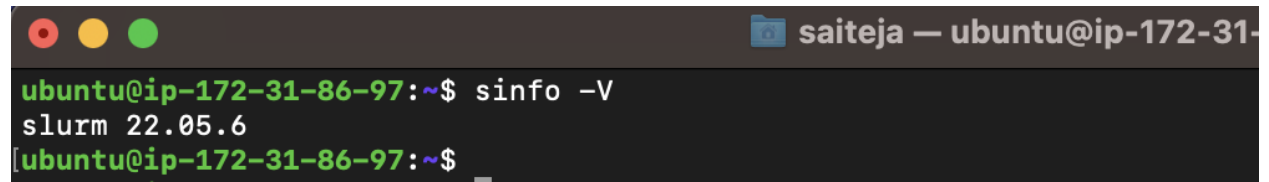
6. Start the slurm controller using following command
   sudo systemctl start slurmctld.service

7. You can validate that the service is running by the following command


```
ubuntu@ip-172-31-86-97:~$ sudo systemctl start slurmctld.service
ubuntu@ip-172-31-86-97:~$ sudo systemctl status slurmctld.service
● slurmctld.service - Slurm controller daemon
     Loaded: loaded (/etc/systemd/system/slurmctld.service; disabled; vendor preset: enabled)
     Active: active (running) since Thu 2023-03-02 21:56:55 PST; 7s ago
   Main PID: 87557 (slurmctld)
      Tasks: 10 (limit: 4620)
     Memory: 3.1M
     CGroup: /system.slice/slurmctld.service
             ├─87557 /a/apps/tb/slurm-green/22.05.6/sbin/slurmctld -D
             └─87558 slurmctld: slurmscriptd

Mar 02 21:56:56 ip-172-31-86-97 slurmctld[87557]: slurmctld: error: get_addr_info: getaddrinfo() failed: Temporary failure in name resolution
Mar 02 21:56:56 ip-172-31-86-97 slurmctld[87557]: slurmctld: error: slurm_set_addr: Unable to resolve "linux31"
Mar 02 21:56:56 ip-172-31-86-97 slurmctld[87557]: slurmctld: error: slurm_get_port: Address family '0' not supported
Mar 02 21:56:56 ip-172-31-86-97 slurmctld[87557]: slurmctld: error: _validate_slurmd_addr: failure on linux31
Mar 02 21:56:56 ip-172-31-86-97 slurmctld[87557]: slurmctld: error: get_addr_info: getaddrinfo() failed: Temporary failure in name resolution
Mar 02 21:56:56 ip-172-31-86-97 slurmctld[87557]: slurmctld: error: slurm_set_addr: Unable to resolve "linux32"
Mar 02 21:56:56 ip-172-31-86-97 slurmctld[87557]: slurmctld: error: slurm_get_port: Address family '0' not supported
Mar 02 21:56:56 ip-172-31-86-97 slurmctld[87557]: slurmctld: error: _validate_slurmd_addr: failure on linux32
Mar 02 21:56:56 ip-172-31-86-97 slurmctld[87557]: slurmctld: No parameter for mcs plugin, default values set
Mar 02 21:56:56 ip-172-31-86-97 slurmctld[87557]: slurmctld: mcs: MCSParameters = (null). ondemand set.
ubuntu@ip-172-31-86-97:~$
```

8. Furthermore this can also be validated by running the command:
   sinfo -V

```
ubuntu@ip-172-31-86-97:~$ sinfo -V
slurm 22.05.6
[ubuntu@ip-172-31-86-97:~$
```