CubeMOM
Installation Guide

Copyright

Document version	date	Software version
1.2	03/2025	CubeMOM Release 2.2.x

Contents

Contents

CubeMOM Installation Guide

This document describes how to install CubeMOM on a UNIX or Linux system. Readers of this manual should have basic knowledge of UNIX or Linux systems.

License policy

CubeMOM installer contains a default license file. This is a license granted for evaluation purposes only. You must obtain a commercial license. Please contact Logic Cube Inc for obtaining a commercial license.

Hardware and software requirements

The operating system and minimum hardware requirements for CubeMOM installation are as follows. The operating system can only be installed on a 64-bit architecture.

Operating System (64 bit)	RAM	Disk Space
HP-UX	256 Mega bytes	1 Giga bytes
AIX	256 Mega bytes	1 Giga bytes
Linux - RHEL, centos	256 Mega bytes	1 Giga bytes

Installer

CubeMOM provides a console-based installer. The installer uses commands from the operating system. Therefore, the PATH environment variable must be set so that the installer can use operating system commands.

Preparation before installation

For operational and management convenience, it is recommended to create a separate CubeMOM administrator account.

1. Create CubeMOM administrator account.
2. Copy the installation file to the home directory of the CubeMOM administrator account.
3. Log in with the CubeMOM administrator account.
4. Grant execution permission to the CubeMOM installation file and run it.

Installation steps

The following shows the CubeMOM installation steps. The CubeMOM administrator account is "cubemom" and the bolded characters represent the values you entered.

1 Enter cubemom installation absolute path. If not entered, it will be installed in the default path.

```
   Default path : /home/cubemom/cubemom
   >
```

```
2.1 Enter cubemom host name. ex) HOST01
   >HOST01
```

```
2.2 Enter cubemom host address(IP/host-name/domain). It must be an available address in the current system.
   >192.168.0.9
```

```
3.1 Enter cubemom log absolute path. ex) /log/cubemom
   >/log/cubemom
```

```
3.2 Choose a log date format number. (1:YYYYMMDD, 2:MMDDYYYY, 3:DDMMYYYY)
      Default value : 1
   >1
```

```
4 Enter cubemom "admin" account password. The length is from 0 to 47.
Password :
Confirm  :
```

The following is a messages indicating that the installation was successful and what additional actions need to be taken.

```
The cubemom has been successfully installed. Proceed according to the numbers below.
  1. Add the following environment variables.
     CUBEMOM_HOME=/home/cubemom/cubemom
     CUBEMOM_HOST=HOST01
     PATH=$CUBEMOM_HOME/bin:$CUBEMOM_HOME/ap:$CUBEMOM_HOME/bp
     LD_LIBRARY_PATH=$CUBEMOM_HOME/lib
  2. Log out and log in.
  3. Run the cubemom command interpreter in administrator mode. ex) cmi -admin
  4. After log in with an "admin" account, start cubemom. ex) cmstart
```

Setting the environment

The CubeMOM installer does not automatically add shell environment variables. You must manually add environment variables for the shell type. The following is an example for Bourne Shell (sh), Bourne-Again Shell (bash), and Korn Shell (ksh).

```
### CubeMOM Environment ###
export CUBEMOM_HOME=~/cubemom
export CUBEMOM_HOST=HOST01
export PATH=$CUBEMOM_HOME/bin:$PATH
```

```
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$CUBEMOM_HOME/lib
```

CubeMOM requires additional environment settings to run java programs. The Java version must be 1.8.0 or higher and the CLASSPATH setting and jvm library file (libjvm.so) path must be added to the library path. The path to the jvm library file (libjvm.so) may differ depending on your system.

```
### Java Environment ###
export JAVA_HOME=/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.242.b08-0.el7_7.x86_64
export PATH=$PATH:$JAVA_HOME/bin
export CLASSPATH=$CUBEMOM_HOME/libj/cmapi.jar:$CUBEMOM_HOME/bpj
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$JAVA_HOME/jre/lib/amd64/server
```

Verifying operation

The steps below show how to check that the CubeMOM is working normally.

1. Go to the CubeMOM home directory.
   cd $CUBEMOM_HOME
2. Start the command interpreter in administrator mode and log in with the “admin” account.
   cmi -admin
3. Start CubeMOM.
   admin@HOST01>cmstart
4. Check that the status of all core processes is running.
   admin@HOST01>status -h *.*
   admin@HOST02>status -n *.*
5. Check the error logs of the host and node. There should be no “critical” or “error” logs.

Transport Layer Security (TLS) library

CubeMOM transport layer security features use OpenSSL. The OpenSSL library (version 3.4.0 or higher) is required to use transport layer security features. For OpenSSL installation and related documents, refer to the official website (https://www.openssl.org/).

After installing OpenSSL, you must add the library path to an environment variable. The following is an example of Bourne Shell (sh), Bourne-Again Shell (bash), and Korn Shell (ksh) when the OpenSSL library path is "/usr/local/lib64".

```
# OpenSSL library
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/usr/local/lib64
```

Message sending and receiving test

When installing CubeMOM for the first time, creat nodes and process groups for testing purposes. By using this, you can skip the task of adding objects and explore CubeMOM functions.

Sending and receiving messages can be tested using the “tcp_test” program in the “test” directory. Below is an example of a test. The IP address of the “-ip” option is the address specified during installation.

```
./tcp_test -client -ip 192.168.0.9 -port 5010 -sdrv 1 -header 8:0:2:8:0:1 -mlen 100-300 -print
```

The usage and execution options of “tcp_test” program are as follows.

```
tcp_test <-client | -server> [-ip x.x.x.x] [-port number] [<-send | -recv |-sdrv | -rvsd> count] [-header
        hdr_size:len_offset:len_attr:len_byte:len_inchdr:len_endian] [-sleep n] [-print]
```

Options	Description	
-client	TCP Client	
-server	TCP Server	
-ip	IP address	
-port	Connect (Client) or Listen (Server) port number	
-send	Sending only	
-recv	Receving only	
-sdrv	Receive a message after sending it	
-rvsd	Send a message after receiving it	
-header	Length header info : “hdr_size:len_offset:len_attr:len_byte:len_inchdr:len_endian”	
	hdr_size	1 ~ 1024
	len_offset	0 ~ 1023
	len_attr	1 : Binary 2 : ASCII digit 3 : EBCDIC digit 4 : BCD 5 : ASCII-HEXA-STR 6 : EBCDIC-HEXA-STR
	len_byte	In case of “Binary”, only 2 or 4 or 8 is possible
	len_inchdr	Whether the length value includes the header length (0 or 1)
	len_endian	Meaningful if “Binary” : 0(little-endian), 1(big-endian)
-mlen	Random message length to generate : “from-to”	
-sleep	Waiting time after sending/receiving : 1/1000 of a second	
-print	Printing sent and received messages	