

This is a quick guide for Mac users. As we use "mpicc" in terminal to compile codes, IDEs are not necessary (or they are simply used as a text editor).

1. Download setup package (see attached file) and unzip. Keep record of the location of the unzipped folder.
2. Open terminal, and go to the unzipped folder (using "cd" command)
 - use "ls" command to list all the things inside current folder. It may help you locate the folder you want.

3. Type in

```
./configure
```

, press Enter, and wait

4. Type in

```
make all
```

, press Enter, and wait

5. Type in

```
sudo make install
```

, press Enter, enter password and wait

6. type in

```
echo $PATH
```

and make sure the output has "/usr/local/bin" in it. If not, you have to change \$PATH manually (please search for how to do that online)

7. coding in either an IDE (like XCode, CLion, NetBeans...) or a text editor (vim, sublime, ...)

8. use terminal to go to the location of your C code file

9. use **mpicc** to COMPILE your code: (assuming the code is named "source.c", and output is "test.o")

```
mpicc source.c -O2 -o test.o
```

10. use **mpirun** to run your MPI program (assuming it is named test.o):

```
mpirun -n 2 test.o
```

(-n <number> specifies the number of processes)

11. Most i5 cpu for laptops has 2 processors(cores) only. mpirun may report an error if you put a number larger than the number of processors.

You can still run an MPI program with larger number of processes (called **oversubscribing**), by adding a configuration file:

11-1 create a new file in the same location as the C code file (assuming it is called "config") and type one line in it:

```
localhost slots=<number>
```

where <number> is the number of processes you want to run your program with.

11-2 use mpirun like this:

```
mpirun -n <number> --hostfile config test.o
```

"--hostfile" tells mpirun to load a configuration file. "config" is the name of your configuration file you just created.