MPI Kick Start

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Installing Open MPI under Linux and Mac OS X

I installed Open MPI under *Debian 5.0* and *Mac OS X 10.6.8*. Here are the steps:

1. Download latest stable release of open mpi from
   http://www.open-mpi.org/software/ompi/v1.4/downloads/openmpi-1.4.4.tar.gz
2. Type these commands to build Open MPI with default settings (if want to change defaults, find and read the Open MPI installation guide)

   tar -xvf openmpi-1.4.4.tar.gz

   ./configure

   make all install
3. Now, go to the directory openmpi-1.4.4/examples to compile the examples

   Type "make"

   Three examples will be build: hello_c.c, ring_c.c and connectivity_c.c

   Run hello_c by typing "mpiexec -n 2 ./hello_c"

If you get the error "mpicc: error while loading shared libraries: libopen-pal.so.0: cannot open shared object file: No such file or directory", run the command "ldconfig" (as root) to update the shared library bindings (for more info: http://linux.die.net/man/8/ldconfig)

How to compile your code with Open MPI:

```
mpicc -g your_code.c -o your_program
```

How to run your code with Open MPI:

```
mpiexec -n NUM_PROCESSORS ./your_program
```

Installing MPICH2 under Windows

I installed MPICH2 under *Windows XP*, here are the steps:

1. Install .NET framework 3.5
2. Install MinGW (I did not try with Cygwin, you may try)
3. Download MPICH2 from http://www.mcs.anl.gov/research/projects/mpich2/
   (I installed "MPICH2 Windows IA32 (binary)")
4. Add C:\Program Files\MPICH2\bin to the PATH (assuming you installed it in the default location)
5. Open command line, and go to C:\Program Files\MPICH2\examples to test your installation
6. Type "mpiexec -n 3 cpi.exe" to run the sample program. You will get a response like this: "user credentials needed to launch process"
7. Type your Windows username and Windows password, the sample program will run.
8. In order not to enter credentials every time you run mpiexec, you can register your username and password by command "mpiexec -register"

How to compile your code with MPICH2:

```
gcc -L"C:\Program Files\MPICH2\lib" -I"C:\Program Files\MPICH2\include"
your_code.c -lmpi
```

How to run your code with MPICH2:

```
mpiexec -n NUM_PROCESSORS ./your_program
```