

RUNNING A MPI CLUSTER WITHIN A LAN

PART 5. Running MPI programs

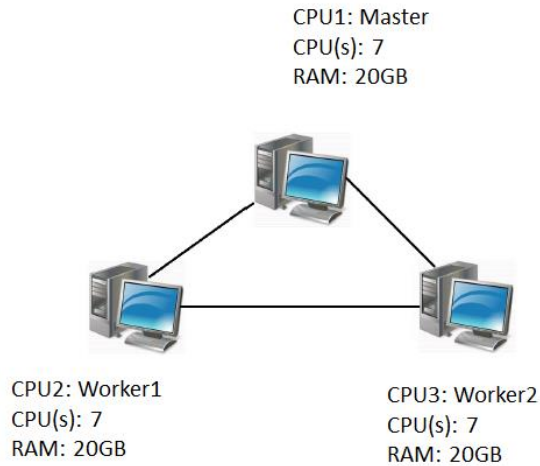


Figure 1. MPI Cluster with 3PCs.

MASTER:

1. Start mpiuser season
\$su - mpiuser
\$ cd /home/mpiuser/cloud
2. Compile and run the first MPI example
\$ nano hello.c

```
/*The Parallel Hello World Program*/
#include <stdio.h>
#include <mpi.h>
#include <stdlib.h>

main(int argc, char **argv){
    int node;

    MPI_Init(&argc,&argv);
    MPI_Comm_rank(MPI_COMM_WORLD, &node);

    printf("Hello World from Node %d\n",node);

    int r=system("lscpu");

    MPI_Finalize();
}
```

Figure 2. Hello World example using MPI.

3. Compile hello program
\$ mpicc hello.c -o hello
4. To run it only in your machine

```
$ mpirun -n 3 ./hello
```

5. To run it within a cluster

```
$ mpirun -n 3 -hosts worker,localhost ./hello
```