

RUNNING A MPI CLUSTER WITHIN A LAN

PART 1. Installing MPI Message Passing Interface standard

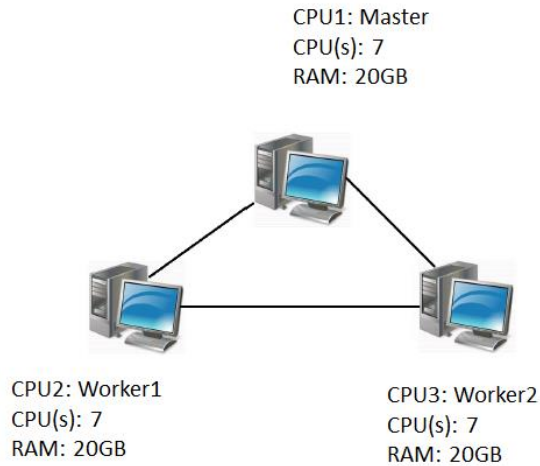


Figure 1. MPI Cluster with 3PCs.

MASTER AND WORKERS:

1. Installing MPICH.

```
$ sudo apt-get update -y  
$ sudo apt-get install -y mpich
```
2. Check that the compiler and run programs were installed

```
$ mpicc --version  
$ mpirun --version
```
3. Compile and run the first MPI example

```
$ nano hello.c
```

```
/*The Parallel Hello World Program*/  
#include <stdio.h>  
#include <mpi.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);  
  
    MPI_Finalize();  
}
```

Figure 2. Hello World example using MPI.

```
$ mpicc hello.c -o hello  
$ mpirun -n 3 ./hello
```