

hello_world.c

```
#include <mpi.h>
#include <stdio.h>

int main(int argc, char *argv[]) {

    // Initialize the MPI execution environment
    MPI_Init(&argc, &argv);

    // Get the size of the group associated with communicator MPI_COMM_WORLD
    int world_size;
    MPI_Comm_size(MPI_COMM_WORLD, &world_size);

    // Get the rank of the calling process in the communicator MPI_COMM_WORLD
    int world_rank;
    MPI_Comm_rank(MPI_COMM_WORLD, &world_rank);

    // Get the name of task
    char processor_name[MPI_MAX_PROCESSOR_NAME];
    int name_len;
    MPI_Get_processor_name(processor_name, &name_len);

    // Print a message
    printf("Rank %d of %d (%s)\n",
           world_rank, world_size, processor_name);

    // Terminates MPI execution environment
    MPI_Finalize();
}
```