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# 70-691

TS: Windows HPC Server 2008, Developing

DEMO

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Note: The answer is for reference only, you need to understand all question.

### QUESTION 1

You plan to develop a parallel application by using Windows HPC Server 2008. You plan to use a method to control the calculations performed by each individual process. You need to ensure that different commands can be sent to each process.

Which function should you use?

- A. MPI\_Send
- B. MPI\_Bcast
- C. MPI\_Gather
- D. MPI\_Reduce

**Answer: A**

### Question 2

You plan to develop a parallel application by using Windows HPC Server 2008. You need to implement a method that will send different data to each process in a communicator by using a single call.

Which function should you use?

- A. MPI\_Send
- B. MPI\_Gather
- C. MPI\_Reduce
- D. MPI\_Scatter

**Answer: D**

### Question 3

You plan to develop a parallel application by using Windows HPC Server 2008. The application performs the following tasks: Performs multistep calculations Processes data by using the same code segment that runs on each compute node You need to ensure that each compute process executes the same step simultaneously.

Which type of communication should you use?

- A. Buffered
- B. Collective
- C. Non-blocking
- D. Point-to-point

**Answer: B**

#### Question 4

You plan to develop a parallel application by using Windows HPC Server 2008. You need to ensure that when the application starts, a parameter value is communicated to each process in the cluster by using a single call.

Which function should you use?

- A. MPI\_Send
- B. MPI\_Bcast
- C. MPI\_Gather
- D. MPI\_Reduce

**Answer: B**

#### Question 5

You plan to develop a single program multiple data (SPMD) application by using Windows HPC Server 2008. You use multiple processes to perform intermediate calculations and to provide the results as a single number. You need to ensure that the intermediate results are collected and added together by using a single MPI function.

Which function should you use?

- A. MPI\_Send
- B. MPI\_Bcast
- C. MPI\_Gather
- D. MPI\_Reduce

**Answer: D**

#### Question 6

You develop a parallel application that will be deployed on a Windows HPC Server 2008 cluster. You write the following code segment. (Line numbers are included for reference only.)

```
01 int rank;  
02 MPI_Comm_rank(MPI_COMM_WORLD, &rank);  
03 // declaration of variable hostName  
04 // code to execute  
06 std::cout << "hostname of rank " << rank;  
07 std::cout << ": " << hostName << "\n";
```

You need to ensure that a variable named hostName contains the name of the cluster node that the code runs on.

Which code segment should you add at line 05?

- A. `char *hostName = getenv("MPI_HOSTNAME");`

- B. `char hostName[MPI_MAX_PROCESSOR_NAME]; int resultlen;`  
`MPI_Get_processor_name(&resultlen, hostName);`
- C. `char hostName[MPI_MAX_NAME_STRING]; int resultlen;`  
`MPI_Comm_get_name(MPI_COMM_WORLD, hostName, &resultlen);` Lead your way to certificates!
- D. `char hostName[256]; int resultlen = sizeof(hostName); if (rank == 0)`  
`{ gethostname(hostName, resultlen); }`

**Answer: B**

### Question 7

You develop a parallel application that will be deployed on a Windows HPC Server 2008 cluster. You write the following code segment. (Line numbers are included for reference only.)

```
01 MPI_Init(&argc, &argv);
03 {
04 // program part for rank 0
06 }
06 else
07 {
08 // program part for all other ranks
09 }
10 MPI_Finalize();
```

You need to ensure that the code in the rank 0 section only executes on the process that has a rank of 0. Which code segment should you insert at line 02?

- A. `int size;`  
`MPI_Comm_size(MPI_COMM_WORLD, &size);`  
`if (size > 0)`
- B. `int size;`  
`MPI_Comm_size(MPI_COMM_WORLD, &size);`  
`if (size == 0)`
- C. `int rank`  
`MPI_Comm_rank(MPI_COMM_WORLD, &rank);`  
`if (rank == 0)`
- D. `char hostName[MPI_MAX_PROCESSOR_NAME];`  
`int resultlen;`  
`MPI_Get_processor_name(hostName, &resultlen);`  
`char masterName[] = "rank0";`  
`if (strcmp(masterName, hostName) != 0)`

**Answer: C**