

Introduction to MPI



Introduction to MPI



- **MPI**, which stands for Message Passing Interface, is a message-passing system designed to facilitate communication and coordination between parallel processes.
- It is widely used for **parallel programming** and high-performance computing (HPC) applications.



Introduction to MPI



- MPI enables efficient **data exchange** and **synchronization** among processes running on different nodes of a parallel computing system.



Features of MPI



- Message Passing Model
- Parallelism
- Portability
- Scalability
- Process Topologies
- Many More...

Applications of MPI



- Scientific Simulations
- Molecular Dynamics
- Finite Element Analysis
- Data Analysis and Machine Learning

Introduction to MPI



MPI plays a crucial role in addressing the computational challenges posed by modern applications, enabling researchers and developers to harness the power of parallel processing for solving complex problems.

