|  |  |
| --- | --- |
|  | **Madhava HPC Cluster****Name of the equipment:** Madhava HPC Cluster**Make & Model:**Lenovo ThinkSystem (SR-650 and SR-630)**I-Stem Registration ID:** 3245582 **Category of Instrument**High Performance Computing**Application:** Used to perform complex calculations and simulations that require immense computational power.**Description of Instrument**Computing Cluster for parallel computing in Science and Engineering |

**Booking Details**

|  |  |
| --- | --- |
| **Book through I-STEM:** <https://www.istem.gov.in/>**Slot Booking Link**[I-STEM Slot Booking link for Internal User](https://www.istem.gov.in/equipment-info/45582/High-Performance-Computing-Cluster) | **Booking available for**Internal**Requisition form for** [Internals](https://drive.google.com/file/d/1LIoXQdh72steMKVQchsVP-vQGb5dSuZX/view?usp=sharing) |

**Contact Details**

|  |  |  |
| --- | --- | --- |
| **Faculty In-charge:** Dr Raghu C**Email ID:**raghuc@nitc.ac.in**Phone number:** +91-9495066073 | **Technical Staff:** R R Krishna (TA) rrkrishna@nitc.ac.in Sajil N P (TA)sajilnp@nitc.ac.in  | **Department**CCMS (Centre for Computational Modelling and Simulation)**Office Email ID**ccmsadmin@nitc.ac.in**Location**Old Library Building, Central Campus, NIT Calicut**Lab Phone No**0495-2285600 |

**Features and Specifications**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Component** | **Model** | **Processors / GPU** | **Memory** | **Storage** |
| 1 Master Node | Lenovo ThinkSystem SR-650 | 2 × Intel Xeon Gold 5218 16C 2.3GHz Processor | 192 GB |  |
| 31 Compute Nodes | Lenovo ThinkSystem SR-630 | 2 × Intel Xeon Gold 6248 20C 2.5GHz Processor | 192 GB |  |
| 2 GPU Nodes | Lenovo ThinkSystem SR-650 | 2 × Intel Xeon Gold 6248 20C 2.5GHz Processor2 × NVIDIA Tesla V100 PCIe 32GB GPU | 192 GB |  |
| 2 Storage Nodes | Lenovo ThinkSystem SR-630 | 2 × Xeon Silver 4208 8C 2.1GHz Processor |  |  |
| Storage Array | ThinkSystem DE6000H, DE6000S |  |  | 260TB |

**Installed Software**

|  |  |
| --- | --- |
| **Quantum Mechanical Simulation Software** | **VASP** (Vienna Ab initio Simulation Package)**Quantum ESPRESSO****Gaussian****MOLPRO****SIESTA** |
| ****Molecular Dynamics Simulation Software**** | **LAMMPS** (Large-scale Atomic/Molecular Massively Parallel Simulator)**GROMACS** (GROningen MAchine for Chemical Simulations) |
| ****Computational Fluid Dynamics (CFD) Software**** | **OpenFOAM****REEF3D****DIVEMesh** |
| **Data Science and Statistical Computing** | **Anaconda** (Distribution for Python and R)**R** (Programming language for statistical computing) |

**User Charges Rs. (GST Extra)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Internal** | **External Academic****Institutes** | **National R&D Lab** | **Industry** |
|  No Charges | Available only for Internal Users |