INSY Cluster

The INSY cluster is a set of (Linux) compute servers ("nodes") connected together to form a single high-performance system. The cluster allows you to run single and parallel computations using multiple CPUs and/or GPUs and/or large amounts of memory for longer times (up to a week). Access to the cluster is granted on request (using your TU Delft NetID account).

SlurmWorkloadManager

The INSY cluster uses the SlurmWorkloadManager ("scheduler") to efficiently manage workloads. All jobs for the cluster have to be submitted as batch jobs into a queue. The scheduler manages and prioritizes the jobs in the queue, allocates resources (CPUs, memory) for the jobs, executes the jobs and enforces the resource allocations. Have a look at the SlurmWorkloadManager page for more information.

RulesAndGuidelines

The available processing power and memory is large, but still limited. You should use the available resources efficiently and fairly, have a look at the RulesAndGuidelines page for some hints.

NodeResources

The compute node are all different (heterogeneous), i.e. they feature different amounts of resources (CPUs, GPUs, Memory, connections). See the NodeResources page for the available resources per node. A job can't use more than the available resources. Real-time resource usage can be seen here and real-time cluster allocation can be seen here.

ConnectingSSH

The cluster can be accessed using an SSH client. The cluster is protected by a firewall, so you have to connect via the TU Delft bastion server linux-bastion.tudelft.nl (student-linux.tudelft.nl for students). From there you can login (again using SSH) to the INSY cluster login nodes (insy-login.hpc.tudelft.nl, insy-login2.hpc.tudelft.nl, sanger.hpc.tudelft.nl). See the ConnectingSSH page for more information on connecting to the cluster.

FileStorageAndTransfer

The INSY cluster has direct access to the TU Delft home, group and bulk storage. You can use mapped network shares or an SCP/SFTP client to transfer files to and from the storage. See the FileStorageAndTransfer page for more information on using the storage.

SoftwareInstallation

The INSY cluster uses the CentOS 7 Linux distribution, which provides the general Linux software. Most common software, including programming languages, libraries and development files for compiling your own software, is installed in the cluster. However, not-so-common programs (such as state-of-the-art research tools) might not be installed. See the SoftwareInstallation page for more information on installing software in the cluster.

KerberosAuthentication

Kerberos is an authentication protocol which uses tickets to authenticate users. TU Delft uses Kerberos tickets for connecting to computers and accessing files. To protect you from misuse, the ticket expires after 10 hours (even when you're still logged in). See the KerberosAuthentication page for more information about the use and renewal of tickets.