Computational Cluster

User Cheatsheet - R1.3 - 05/12/19

Connecting with Kabré

Establishing an SSH session	Open a terminal program and type:
	`$ ssh user@kabre.cenat.ac.cr`
	Then press enter three times when requesting the creation of SSH keys.
	Exit session:
	`$ exit`

Deploying SSH keys	In your computer, open a terminal and type:
	`$ ssh-keygen -t rsa -C "your_email@example.com"`
	`$ ssh-copy-id user@kabre.cenat.ac.cr`

Copying files	From your computer to Kabré:
	`$ scp files [user]@kabre.cenat.ac.cr:[path]`
	From Kabré to your computer:
	`$ scp [user]@kabre.cenat.ac.cr:[files] [path]`
	These commands must be executed in your computer.
	`$ scp -r user@host:[directory] [directory]`
	Copy all files and directories recursively.

Change your password	`$ ssh user@kabre.cenat.ac.cr` `$ passwd`

Kabré's Queues System

Writing a SLURM job file	`#SBATCH -job-name=<job_name>`
	`#SBATCH -output=<result_name>`
	`#SBATCH -partition=<partition_name>`
	`#SBATCH -ntasks=<multiply X*Y>`
	`#SBATCH -time=<HH:MM:SS>`
	`execute your program here`

Submitting your job	`$ sbatch job.slurm`
Monitoring your jobs	In Kabré, type: `$ watch -n 5 squeue`
Retrieving results	All jobs will generate an output file: `<result_name>`
Interactive jobs	`$ salloc`

Environment Modules

List loaded modules	`$ module list`
List available modules	`$ module avail`
Load a module	`$ module load module_name`
Unload a module	`$ module unload module_name`

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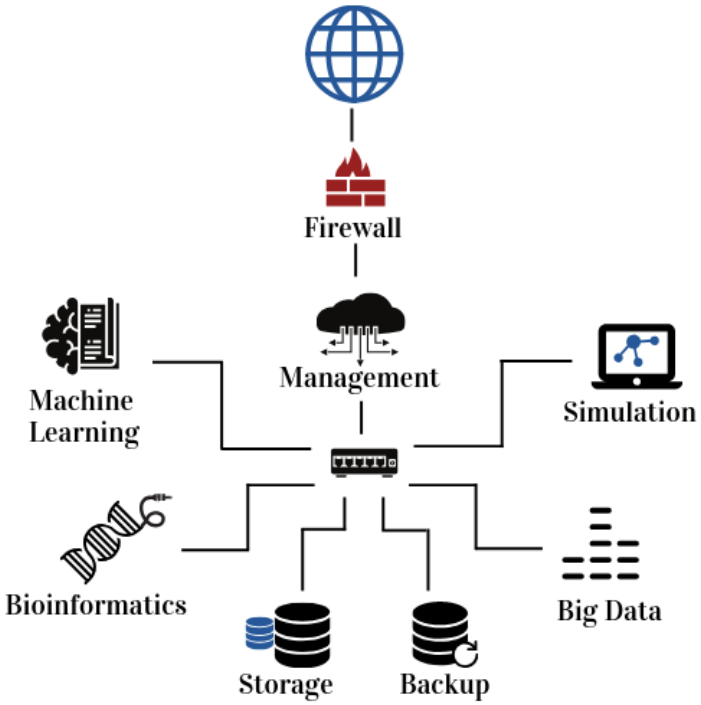
Kabré's composition



Virtualization	Just don't mess up here!
Login-nodes	Don't execute programs here! These nodes are a shared-working area, use them to: ▸ Create and edit files ▸ Create directories and move files ▸ Copy files to and from your computer ▸ Compile code ▸ Submit jobs ▸ Manage your active jobs
Nu (Simulation)	Each blade has 4 Intel Xeon Phi KNL nodes with 64 cores @ 1.3 GHz and 96 GB
Nukwa (Machine Learning)	Nvidia Tesla K40. Hoster has an Intel Xeon with 4 cores @ 3.2 GHz and 16 GB
Andalan (Big Data)	Each blade has 2 Intel Xeon E5-2650 v4 with 12 cores @ 2.20 GHz and 64 GB
Dribe (Bioinformatics)	-

Available Queues

Name	Platform	Number of nodes	Time slot (in hours)
nu	Xeon Phi KNL	1	72
nu-debug	Xeon Phi KNL	1	8
nu-wide	Xeon Phi KNL	12	24
nu-long	Xeon Phi KNL	1	744
nukwa	GPU	1	72
nukwa-debug	GPU	1	8
nukwa-wide	GPU	2	24
nukwa-long	GPU	1	168