

Deep Learning

The Mesocenter has a dedicated infrastructure for Deep-Learning. This consists of a server containing GPU Volta 7 cards and a DGX with 4 GPU Volta cards.

The set produces a total power of **85 Tflop/s**

Architecture

Dell PowerEdge R740/R740XD

CPU



- Processor Model: Intel(R) Xeon(R) Silver 4110 CPU @ 2.10GHz
- Number of CPU cores: 16
- Memory: 128G

3xGPU

- Tesla V100
- Connection PCI express 32 Go/s
- Performance 7.8 TeraFLOPS DP
- Performance Deep Learning 112 TeraFLOPS
- Power Consumption 250 Watts
- GPU Memory 16 Go

Project Owner

- Mésocentre & I-SITE (Advances)

Dell C4140



CPU

- Processor Model: Intel(R) Xeon(R) Silver 4110 CPU @ 2.10GHz

- Number of CPU cores: 32
- Memory: 256G

4xGPU

- Tesla V100
- Connection PCI express 32 Go/s
- Performance 7 TeraFLOPS DP
- Performance Deep Learning 112 TeraFLOPS
- Power Consumption 250 Watts
- GPU Memory 32G

Project Owner

- Mésocentre

Nvidia DGX station

CPU



- Processor Model: Intel Xeon E5-2698 v4. 2,2 GHz
- Number of cores: 20cores
- Memory: 256Go DDR4

4xGPU

- Tesla V100
- Total GPU Memory 128 GB total system
- Total NVIDIA Tensor Cores 2,560
- Total NVIDIA CUDA® Cores 20,480
- Storage: Data: 3X 1.92 TB SSD RAID 0, system 1X 1.92 TB SSD

- Connection NVLINK 300 Go/s
- Performance Deep Learning 112 TeraFLOPS x 4
- Performance 7.8 TeraFLOPS x 4
- Power consumption 250 Watts

Project Owner

- I-SITE (Advances)

Software

Unlike the cluster (Centos 6.5), the servers are running **Ubuntu Linux**. Thus, the servers do not share any software with the rest of the cluster. In the other word, there is no `module` command in the servers. Software are installed directly on the servers.

We can find all Deep learning software stack: Tensorflow, keras, ...

How to access



Deep-learning servers are only opened for the authorized users.

- [How to use the Dell server?](#)
- [How to use the DGX?](#)

Links

- <https://github.com/ChristosChristofidis/awesome-deep-learning>
- <https://github.com/jtoy/awesome-tensorflow>

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