

Recommended hardware and software specifications for SQream DB

SQream Technologies

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This document describes SQream DB software, hardware, and network requirements for an on-premise installation.

1. Hardware requirements

Table 1. SQream hardware requirements

Component	Recommended
Chassis	Rackmount chassis capable of housing 2 or more NVIDIA GPUs. Examples: Dell R730, Dell C4130, Cisco UCS C240 M4, HP DL380g9, Lenovo System x3650 M5, Supermicro SYS-2028U / 6028U, Supermicro SYS-2028GR, Gigabyte G250-G50, Gigabyte G190-H44
CPU	Dual Intel Xeon E5-2600 v4 processor with at least 8C/16HT, (each). Suggested model: Intel Xeon E5-2697 v4
RAM	128 GB RAM per logical GPU
GPU	2x NVIDIA Tesla K80, P40, or P100
Power	2x 1100W redundant PSU
In-machine storage	Hardware RAID card with battery/capacitor backup 2x 100GB SSD (RAID1) for OS 2x 400GB SSD (RAID1) for fast spooling See Storage requirements below for additional information about main database storage.



- SQream DB instances make use of CPU cores, RAM, and temporary spools. Higher allocations will allow for better performance.
- While SQream DB can run on standard desktops or even NVIDIA equipped laptops, this is not recommended. The above requirements are designed for good balanced performance.

2. Storage requirements

In a standalone installation, it is also recommended that you have storage available in the machine. It is recommended to achieve at minimum 600 IOPS in a RAID 5 configuration.

Table 2. SQream storage requirements

Component	Recommended
Main storage (standalone)	10x 600GB SAS 10k or 10x 600GB Balanced SAS SSD in RAID5 or RAID6 configuration
External SAN/NAS (for clustered configuration)	Capable of achieving 500MB/s throughput per GPU



- Recommended file-systems are XFS on LVM, or EXT4 on LVM.
XFS on LVM is required if storage snapshot capabilities are required.
- Set `nobarrier` and `discard` parameters when mounting SSD, and `nobarrier` when mounting other types of drives

3. Software requirements

SQream DB requires a 64 bit Linux installation

Table 3. SQream software requirement

Distro	Recommended
CentOS	7.3
Ubuntu	16.04
Amazon Linux	2017.03

4. Network requirements

Table 4. SQream network requirements

Component	Recommended
Network standalone	10 GbE
Network clustered	SQream DB fabric - 2x 1 GbE, bonded Storage fabric - 40 GbE or InfiniBand

SQream DB has the following setup requirements:

- Allow database end-points (your users, applications) to connect to the SQream DB server instance
- Allow all nodes in the cluster to talk to each other over the SQream protocol: (Default ports 5000-5003) and SQream DB metadata interface (ports 3105-3108)
- We also highly recommend configuring your firewall to prevent other hosts on the Internet from connecting to SQream DB.
- On cloud instances, enhanced networking should be enabled.

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